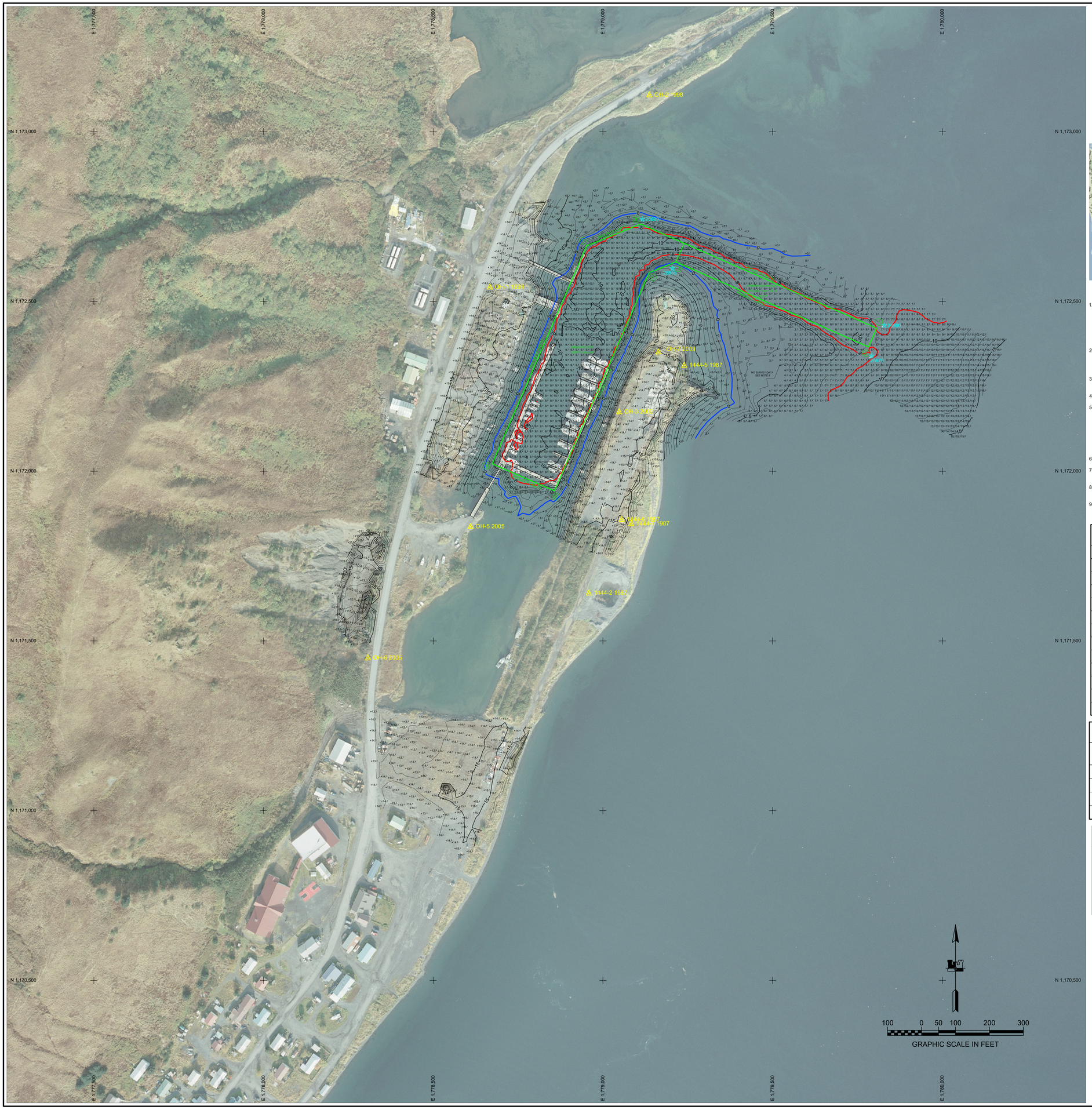
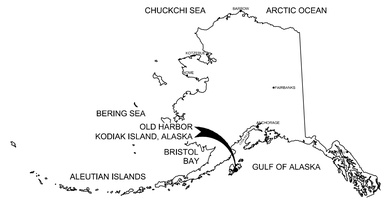
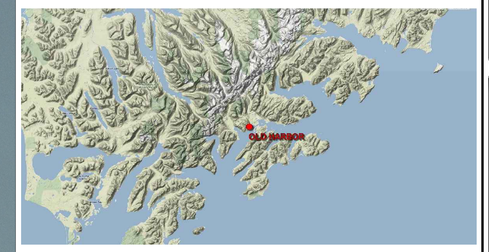




LOCATION/VICINITY MAP(S)



NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83 (CORS96), IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING THE NGS EPOCH 2003.00 OPUS DB PUBLISHED VALUES FOR "OH-1 1998" (PID BBBL02) AS N 1,172,541.61, E 1,778,666.59 AND NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBBL05) AS N 1,169,770.12, E 1,777,807.88.

   LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83, IN US SURVEY FEET HOLDING NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBBL05) AS N 1,169,772.46, E 1,777,811.43.

2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "945 7527, OLD HARBOR,KODIAK ISLAND, ALASKA" PUBLISHED 04/17/2014. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "7527 E 2009 " AS 14.43'.

3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 ELEVATIONS HOLDING NOAA/NOS TIDAL BENCHMARK "7527 E 2009" (PID BBBL05/VM#19477) AS 13.71'.

4. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

5. BATHYMETRY WAS COLLECTED APRIL 1, 2014. SOUNDINGS WERE COLLECTED USING AN "R2SONIC 2024" MULTIBEAM ECHO SOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH A MINOS BASE X SOUND VELOCITY PROBE. POSITIONING AND VESSEL ORIENTATION WERE MEASURED USING A APPLANIX POSMV WAVEMASTER VS SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "OH 1 1998". DATA WERE COLLECTED AND FIELD PROCESSED USING QINSY V 8.1 SOFTWARE. TOPOGRAPHIC DATA WERE COLLECTED USING "TRIMBLE R8" GNSS RECEIVERS. PROJECT BENCHMARK ELEVATIONS WERE DETERMINED VIA DIFFERENTIAL LEVELING USING A "LEICA DNA03."

6. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.

7. MAP SOUNDINGS ARE BINNED AT 15 FEET AND ARE SHOAL BIASED. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE.

8. NO DATA EAST OF ROCK GROIN DUE TO PLANNING SURVEYS AROUND TIDE LEVELS THAT WERE LATER PROVEN TO BE IN ERROR BY 4.82 FEET.

9. HORIZONTAL VALUES FOR NOAA/NOS TIDAL BENCHMARK "7527 D 2009" WERE CHANGED FROM N 1,169,879.45, E 1,777,662.51 TO N 1169882.67, E 1777658.17 AFTER PERFORMING A STATIC OBSERVATION ON BENCH MARK FOR 5.80 HOURS ON APRIL 04, 2014 AND PROCESSING THE DATA WITH NGS OPUS.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
1444-2 1987	1,171,640.28	1,778,958.50	13.03	USACE SAC
1444-5 1987	1,172,311.20	1,779,239.32	13.47	USACE SAC
1444-6 1987	1,171,856.89	1,779,055.10	13.54	USACE SAC
1444-7 1987	1,171,844.44	1,779,083.13	11.59	USACE SAC
7527 D 2009	1,169,882.67	1,777,658.17	15.06	NOAA/NOS TIDAL BM
7527 E 2009	1,169,770.12	1,777,807.88	14.43	NOAA/NOS TIDAL BM
OH-1 1998	1,172,541.61	1,778,666.59	13.09	3.25 INCH DOMED BC
OH-2 1998	1,173,107.61	1,779,136.41	11.34	USACE SBC
OH-3 2002	1,172,174.03	1,779,047.75	13.42	USACE SBC
OH-5 2005	1,171,836.07	1,778,609.95	9.38	3 INCH DOMED BC
OH-6 2005	1,171,449.03	1,778,307.56	12.07	3 INCH DOMED BC
OH-7 2009	1,172,350.46	1,779,163.60	15.26	3.25 INCH DOMED ALCAP ON REBAR

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
26879	1,172,339.30	1,779,792.10	DAY BEACON 1 GREEN SG ON PILE
26880	1,172,429.30	1,779,829.20	DAY BEACON 2 RED TR ON PILE
26885	1,172,597.40	1,779,205.10	DAY BEACON 3 GREEN SG ON PILE
26890	1,172,742.90	1,779,116.10	DAY BEACON 4 RED TR ON PILE

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	1,172,420.99	1,779,806.58
2	1,172,366.10	1,779,782.34
3	1,172,616.52	1,779,215.17
4	1,172,584.40	1,779,135.56

PROJECT LIMITS

CORNER#	NORTHING	EASTING
5	1,171,942.08	1,778,857.31
6	1,172,021.58	1,778,673.79
7	1,172,663.90	1,778,952.04
8	1,172,728.08	1,779,111.06

ENTRANCE CHANNEL VOLUME COMPUTATIONS

PROJECT DEPTH -8.0'	
AVAILABLE TO PROJECT DEPTH (-8.0')	527 cy

BASIN VOLUME COMPUTATIONS

PROJECT DEPTH -8.0'	
AVAILABLE TO PROJECT DEPTH (-8.0')	1,225 cy

STATE OF ALASKA 49TH
(Lewis J. Epps)
09/05/14
No. 3510
PROFESSIONAL LAND SURVEYOR

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THOSOA CERTIFIED HYDROGRAPHER

David R. Neff C.H.(275)

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W911KB-14-D-0013
CONTRACTOR: ETRAC INC.
CITY: SAN RAFAEL STATE: CALIFORNIA
Recommended: MICHAEL E. WHEELER, PROJECT MANAGER
Approved: THOMAS A. SLOAN, CHIEF SURVEY SECTION
Date: 06/05/2014

REVISION	DATE	DESCRIPTION	BY	APPROV	REVISION	DATE	DESCRIPTION	BY	APPROV

DATE: 5 November 2014
UPC: 1000001
CONTRACT NO.: W911KB-14-D-0013
TASK NO.: 0001
Sub

VERIFIED BY: DWG
DRAWN BY: DWG
CHECKED BY: DR/DWG/DWG
APPROVED BY: Thomas A. Sloan, Geomatics Section Chief
PLOT DATE: 5-Nov-2014
SCALE: 1" = 100'
SIZE: ANSI-E
FILE NAME: 0000001WKB.DWG

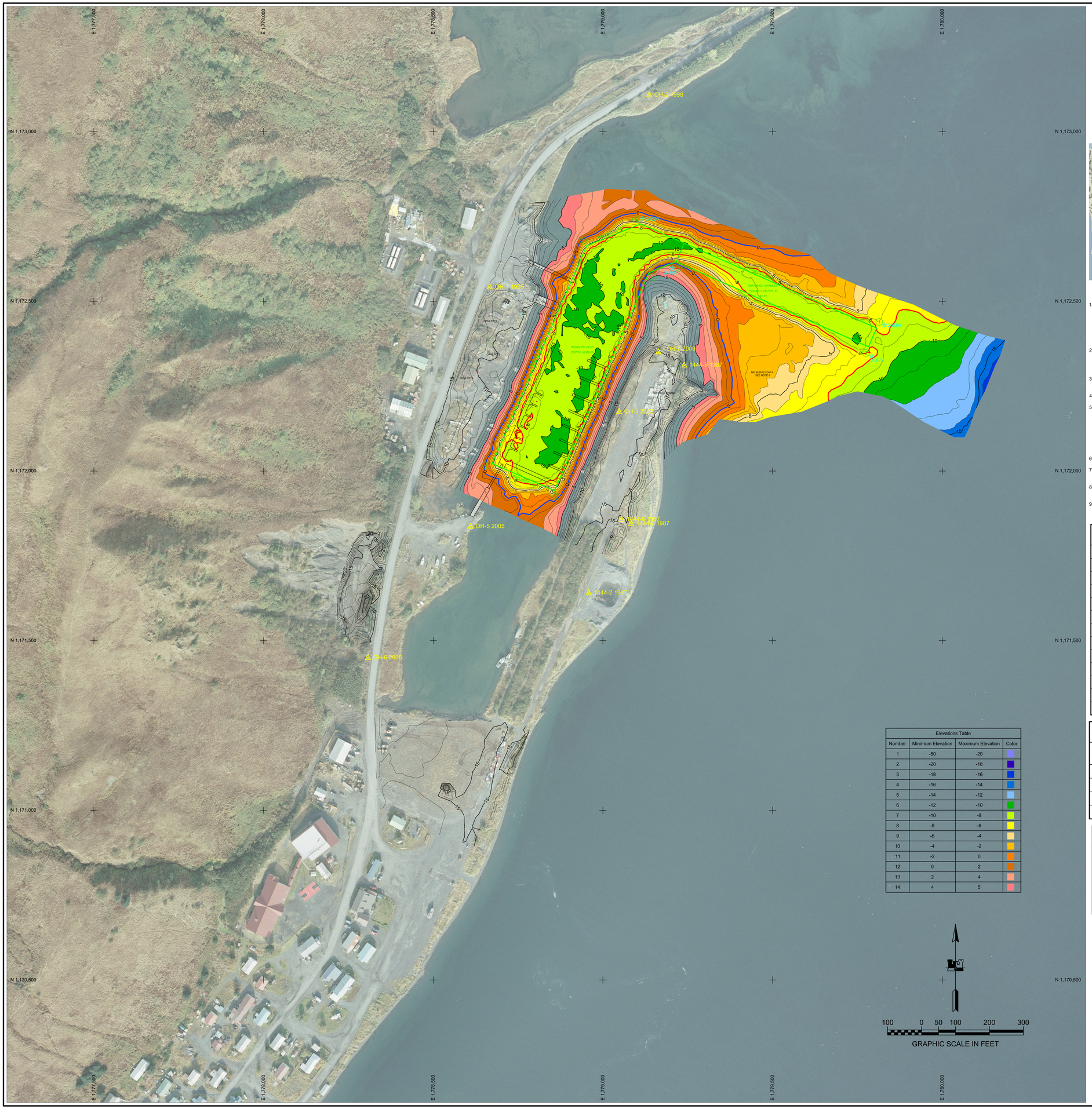
U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

ETRAC INC
637 LINDARO ST.
SAN RAFAEL, CA 94901

KODIAK ISLAND, ALASKA
OLD HARBOR
PROJECT CONDITION SURVEY
MARCH 29 - APRIL 05, 2014

SHEET IDENTIFICATION
5-KOD-92-07-21

Sheet 1 of 2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OH-2 1998
OH-1 1998
OH-3 2002
1444-5 1987
OH-1 2002
OH-1 2002
OH-5 2005
1444-6 1987
1444-7 1987
1444-2 1987
OH-6 2005
BASIN PROJECT
DEPTH -8.0MLLW
ENTRANCE CHANNEL
PROJECT DEPTH -8
MLLW
NO SURVEY DATA
SEE NOTE 8
OAK POST
OAK POST
OAK POST