





**PROJECT LIMITS CURVE DATA (FT)**

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	87.54	95.52	62°31'07"	N74°41'44"E	90.85
C2	94.61	306.99	185°55'05"	N44°57'02"W	188.96

**ELEVATION COLOR LEGEND**

#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-65.0	-30.0	Blue
2	-30.0	-28.0	Dark Blue
3	-28.0	-26.0	Light Blue
4	-26.0	-24.0	Light Cyan
5	-24.0	-22.0	Light Green
6	-22.0	-20.0	Green
7	-20.0	-18.0	Yellow-Green
8	-18.0	-16.0	Yellow
9	-16.0	-14.0	Light Orange
10	-14.0	-12.0	Orange
11	-12.0	-10.0	Light Red
12	-10.0	-8.0	Red
13	-8.0	-6.0	Dark Red
14	-6.0	-4.0	Red-Orange
15	-4.0	-2.0	Orange-Red
16	-2.0	6.0	Red



**NOTES**

- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NGS CORS STATIONS: "SANDPOINT\_AK 2004 CORS ARP" (AB07 - PID DL7635), "PORT HEIDEN AK 2007 CORS ARP" (AC40 - PID DL6447) AND "PILOT POINT AK 2007 CORS ARP" (AC52 - PID DL7671)
- VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0 FT), BASED ON THE NOAA'S TIDAL BENCH MARK LIST "CHIGNIK ANCHORAGE BAY, ALASKA", PUBLISHED 03/22/2005. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA'S TIDAL BENCH MARK "945 8917 COR 4" (VM#13156) AS 18.81 FT.
- VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATION HOLDING USCGS STANDARD BENCH MARK BRASS CAP, "945 8917 COR 4 1964" (NGS PID BBDW14), AS 17.17.
- SOUNDINGS ARE IN US SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- BATHYMETRY WAS COLLECTED MAY 26, 2017. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBeam ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITIONING AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSV OCEANMASTER V5 SYSTEM. DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
- MOBILE TERRESTRIAL LASER SCANNING DATA WAS COLLECTED USING A RIEGL VZ400 LASER SCANNER. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSV OCEANMASTER V5 RECEIVING RTK CORRECTIONS FROM A TRIMBLE SP855 GPS RECEIVER SET AT CONTROL STATION "CHIG-2". MOBILE SCANNING WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. STATIC SCANNING DATA WAS COLLECTED AND PROCESSED USING RIEGL RISCAN PRO 1.8 SOFTWARE.
- THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
- MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. CONTOURS AND SOUNDINGS ARE BASED ON 12 FEET BINNED SHOAL - BIASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE.

**SURVEY CONTROL DATA**

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
CHIG-1 2004	842,276.72	1,563,296.54	16.64	USACE SBC
CHIG-2 2004	841,021.81	1,563,477.47	17.13	USACE SBC
CHIG-3 2010	841,847.01	1,563,253.55	18.28	3.25 INCH SBC
CHIG-4 2010	841,134.45	1,563,047.13	18.81	3.25 INCH SC

**PROJECT LIMITS**

CORNER#	NORTHING	EASTING
1	841,663.97	1,562,953.88
2	841,913.98	1,562,992.29
3	841,937.96	1,563,079.92
4	842,059.51	1,563,195.01
5	842,019.53	1,563,482.15
6	841,769.92	1,563,448.69
7	841,786.39	1,563,330.57

**PROJECT LIMITS**

CORNER#	NORTHING	EASTING
8	841,920.12	1,563,197.07
9	842,127.10	1,563,285.08
10	842,076.32	1,563,655.08
11	842,072.63	1,563,664.07
12	841,534.11	1,563,551.12
13	841,589.15	1,563,156.07
14	841,651.54	1,563,180.76

**NAVIGATION AIDS**

USCG NO.	NORTHING	EASTING	DESCRIPTION
27061	842,018	1,563,012	HARBOR ENTRANCE LIGHT 1 FI G 4S
27062	841,857	1,563,270	HARBOR ENTRANCE LIGHT 2

**VOLUME COMPUTATIONS**

AREA	AVAILABLE TO PROJECT DEPTH (PD)	AVAILABLE TO MAX PAY DEPTH (MP)	AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	MLLW=0	CU. YD.
AREA A: ENTRANCE CHANNEL	-19.5	39	VARIES		
AREA B: LOCAL BASIN	-16.5	19	VARIES		
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)					3,055



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

David R. Neff C.H. (275)

**US Army Corps of Engineers - ALASKA DISTRICT**

CONTRACT NO. W110544E0011.0041  
 CONTRACTOR: ETAC INC.  
 CITY: WASILLA, STATE: ALASKA  
 PROJECT: CHIGNIK HARBOR, ALASKA  
 SHEET: 5-CHI-92-07-03

**CHIGNIK, ALASKA**  
**CHIGNIK HARBOR**  
**PROJECT CONDITION SURVEY**  
**MAY 24 - MAY 30, 2017**

SHEET IDENTIFICATION  
 5-CHI-92-07-03  
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