

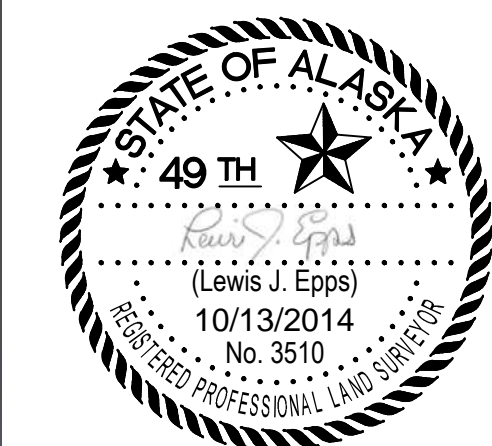
1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83 (CORES), IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING NGSC EPOCH 2003 CORES 11 CENTER VALUES (NAD83) AND A STATIC GPS NETWORK (EPSG:31466) WITH A "NADPOINT", "AK 2004 CORES ARP" (NGS PID 76363) AND "PORT HEIDEN AK 2007 CORES ARP" (NGS PID D6447).
2. LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83, IN US SURVEY FEET HOLDING USACE SBC "KCH-1 1998" IN AK 366 998.71, E, 1.572 568.92.
3. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0), BASED ON THE NOAA/NO'S TIDAL BENCH MARK "195 9861 KING COVE, DEEP PASSAGE, PACIFIC OCEAN, ALASKA" PUBLISHED 11/21/2011. THIS BENCHMARK IS BASED ON THE BATHYMETRY DATA SET REFERENCED BY HOLDING NOAA'S TIDAL BENCH MARK "KCH-1 1998" IN AK 366 998.71 AND 1.572 568.92. TIDAL BENCH MARK "KCH-1 1998" IS 9.64 AND NOAA'S TIDAL BENCH MARK "KCH-2 1998" IS 12.72."
4. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (EPOCH 12A) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARK "KCH-1 1998" (PID BBB025/VNM/17383) AS 9.08".
5. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
6. BATHYMETRY WAS COLLECTED JULY 27-28, 2014. SOUNDINGS WERE COLLECTED USING AN RSONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS DETERMINED WITH A MINOS BEA X-SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE DETERMINED USING AN APR-ROCK GPS/INS SYSTEM. SYSTEM DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS PROCESSING AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
7. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL-BASED. CONTOURS ARE BINNED AT 12 FEET BINNED SHOAL-BASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE SOUNDINGS.

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
BNH-1 2010	384,599.33	1,572,114.07	15.74	3 INCH DOMED SBC IN ROCK
BNH-2 2010	384,808.29	1,571,519.59	14.95	3 INCH DOMED SBC IN ROCK
BNH-3 2010	385,824.89	1,572,274.91	17.88	3 INCH DOMED SBC IN CONC.
CITY 1995	386,702.08	1,572,123.29	12.49	1-1/2 INCH FLAT SAC
FIRE 1995	386,561.62	1,571,377.40	12.51	1-1/2 INCH FLAT SAC
KCH-1 1998	386,998.71	1,572,568.92	9.84	3 INCH DOMED SBC
KCH-2 1998	387,255.25	1,571,705.42	12.72	3 INCH DOMED SBC
KCH-4 2002	386,303.11	1,571,560.49	10.70	3-1/2 INCH DOMED SAC
KCH-5 2006	385,708.58	1,571,759.69	16.33	3 INCH FLAT SBC IN ROCK
KCH-6 2006	385,666.77	1,572,613.48	12.47	3 INCH FLAT SBC IN ROCK
RED 1995	386,912.57	1,572,714.92	6.94	1-1/2 INCH FLAT SAC

USCG NO.	NORTHING	EASTING	DESCRIPTION
27185	386,625	1,572,635	KING COVE HARBOR ENTRANCE LIGHT 1
27190	386,913	1,572,724	KING COVE HARBOR ENTRANCE LIGHT 2

PROJECT LIMITS			PROJECT LIMITS		
CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
1	386,810.57	1,572,745.98	5	386,222.44	1,571,923.92
2	387,021.94	1,572,337.24	6	386,933.09	1,572,291.31
3	387,274.51	1,571,848.82	7	386,721.78	1,572,699.99
4	386,475.05	1,571,435.43			

ENTRANCE CHANNEL	
AVAILABLE TO PROJECT DEPTH (-15.0)	90 CU. YD.
AVAILABLE TO MAX PAY (-16.0)	280 CU. YD.
BASIN	
AVAILABLE TO PROJECT DEPTH (-15.0)	1,083 CU. YD.
AVAILABLE TO MAX PAY (-16.0)	4,032 CU. YD.
TOTAL AVAILABLE	5,485 CU. YD.



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

David R. Neff C.H. (275)