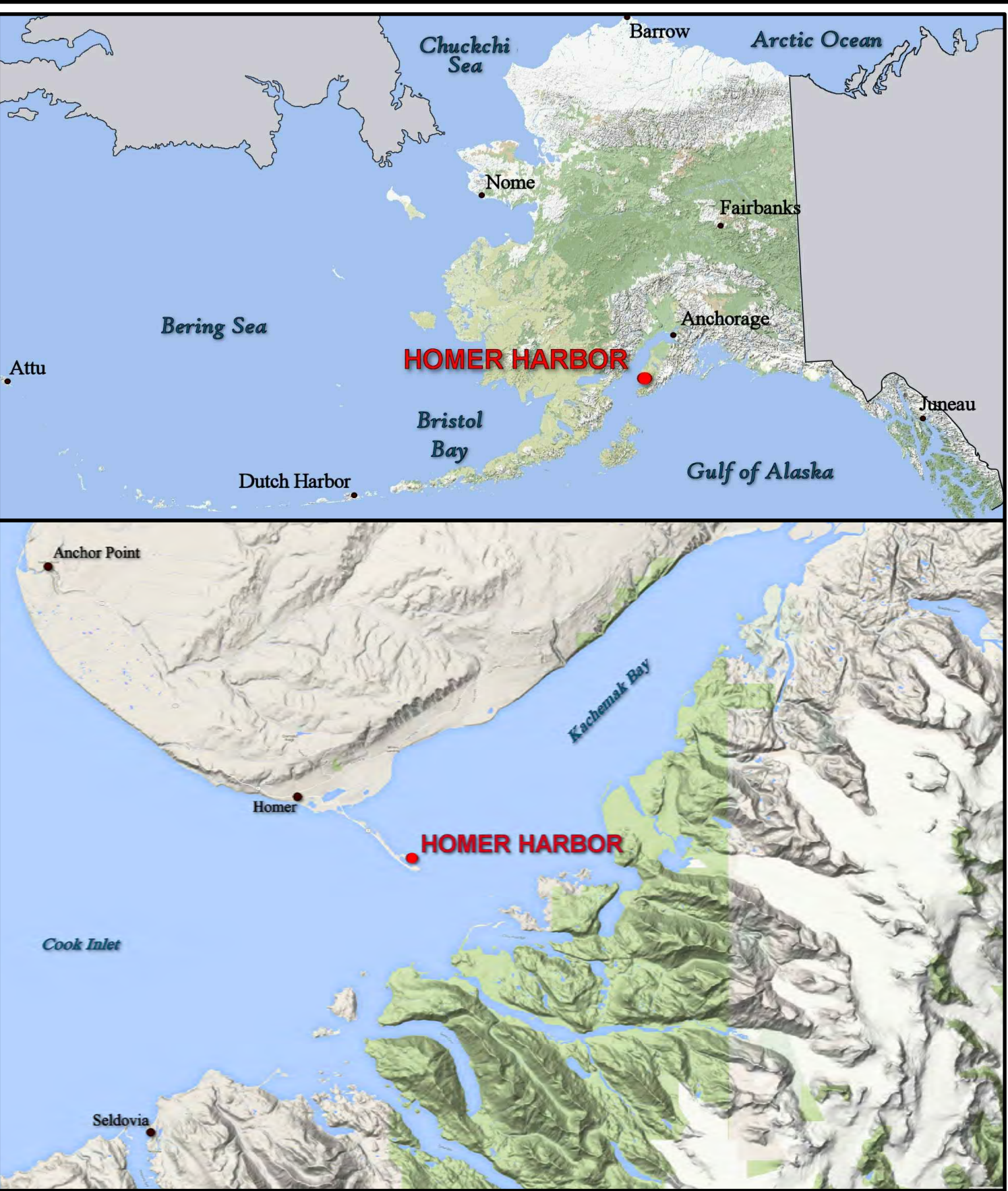


ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-105.0	-26.0	
2	-26.0	-25.0	
3	-25.0	-24.0	
4	-24.0	-23.0	
5	-23.0	-22.0	
6	-22.0	-21.0	
7	-21.0	-20.0	
8	-20.0	-19.0	
9	-19.0	-18.0	
10	-18.0	-17.0	
11	-17.0	-16.0	
12	-16.0	-15.0	
13	-15.0	-14.0	
14	-14.0	-13.0	
15	-13.0	-12.0	
16	-12.0	9.7	

PROJECT LIMITS CURVE DATA			
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE
C2	172.88'	149.28'	049°28'29.9"
C3	185.63'	338.77'	104°33'41.9"
C4	95.61'	174.50'	104°34'21.5"
C5	160.18'	208.51'	074°34'49.9"
C6	104.07'	191.44'	105°23'39.2"

PROJECT LIMITS		
CORNER#	NORTHING	EASTING
7	2,049,519.03	1,377,882.50
8	2,049,207.15	1,377,883.23
9	2,049,313.35	1,377,517.38
10	2,049,705.59	1,376,903.13
11	2,050,281.01	1,376,002.56
12	2,050,544.76	1,375,589.76
13	2,050,893.93	1,375,219.67
14	2,051,074.98	1,375,335.41
15	2,051,159.30	1,375,389.23
16	2,051,420.46	1,375,556.10
17	2,050,887.56	1,376,390.12
18	2,050,312.15	1,377,290.69
19	2,050,626.40	1,376,223.25
20	2,050,542.13	1,376,169.40
21	2,050,096.16	1,377,152.69
22	2,050,011.48	1,377,098.58
23	2,049,957.99	1,377,876.49
24	2,049,707.99	1,377,696.69
25	2,049,954.10	1,379,383.98
26	2,049,539.77	1,379,277.46
CG1	2,049,621.31	1,379,028.43
CG2	2,049,755.11	1,378,885.74
CG3	2,049,654.76	1,378,791.65
CG4	2,049,481.24	1,378,801.18
CG5	2,049,433.37	1,378,852.25
CG6	2,049,385.49	1,378,903.32
CG7	2,049,396.89	1,378,818.05
CG8	2,049,526.07	1,378,746.64
PC1A	2,049,852.14	1,378,351.33
PC2A	2,049,766.26	1,378,304.02
PC3A	2,049,989.06	1,378,221.58
PC4A	2,049,947.63	1,378,141.68
PC6A	2,049,758.41	1,377,752.69
PL-32	2,050,341.61	1,378,668.97
PL-33	2,050,254.64	1,376,619.37
PRC3B/5A	2,050,041.53	1,377,932.63
PT1B	2,049,896.45	1,378,269.64
PT2B	2,049,855.01	1,378,189.75
PT4B	2,049,974.64	1,377,992.85
PT5B	2,050,025.58	1,377,739.19
PT6B	2,049,593.40	1,377,766.24

VOLUME COMPUTATIONS		
AREA A: OUTER ENTRANCE CHANNEL	MLLW (FT)	CU.YD
REMOVED TO DREDGE DEPTH (DD)	-20.0	21
REMOVED BETWEEN DD AND MAX PAY DEPTH (MP)	-21.0	39
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	19
AREA B: USCG BASIN AREA		
REMOVED TO DD	-22 TO -26	320
REMOVED BETWEEN DD AND MP	-23 TO -27	25
REMOVED SS	VARIES	740
AREA C: INNER CHANNEL AREA		
REMOVED TO DD	-20.0	590
REMOVED BETWEEN DD AND MP	-21.0	69
REMOVED SS	VARIES	1420
AREA D: MANEUVERING AREA (NOT DREDGED)		
AREA E: MANEUVERING AREA (NOT DREDGED)		
AREA F: MANEUVERING AREA (NOT DREDGED)		
TOTAL MAXIMUM VOLUME REMOVED (MP + SS)	VARIES	3243
DREDGED AREA OVERDREDGE (AREA A, B, & C)	VARIES	100
SIDE SLOPE AREA OVERDREDGE (AREA A, B, & C)	VARIES	118



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NGS CORRS STATIONS: "KENA 5 CORRS ARP" (KENA 5 - PID DJ3029), "ANCHORAGE CORRS ARP" (TSEA - PID A0962).
 - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, IN US SURVEY FEET HOLDING MONUMENT "HOMER BASIN 7 1965" AS N 2,049,712.22, E 1,377,964.36 AND USACE SBC "BL-2-A" AS N 2,049,765.61, E 1,378,015.52.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA'S TIDAL BENCH MARK LIST FOR STATION "345 5557 HOMER, ALASKA, PUBLISHED ON 11/2002". THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING SBC "BL-2-A" AS 32.53'.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 ELEVATIONS HOLDING USACE STANDARD BRASS CAP "HOMER BASIN 7 1965" (PID BBDX21) AS 26.08'.
 - SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE NEGATIVE UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED SEPTEMBER 10, 2017. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBeam ECHOSOUNDER OPERATING AT 400 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X2 SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLIX POS MV SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING HOMER "BL-2-A". POST-PROCESSING KINEMATICS CORRECTIONS USING POSPAC MMS 8.1 SOFTWARE WERE APPLIED TO DATA FOLLOWING ACQUISITION. DATA WAS COLLECTED AND PROCESSED USING HYPACK 2017 SOFTWARE. HORIZONTAL CONTROL AND VERTICAL CONTROL WAS VERIFIED DURING THE PRE SURVEY. TIDE ELEVATIONS WERE MEASURED USING A TRIMBLE R8 RTK SYSTEM.
 - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
AUDREY	2,051,507.88	1,375,406.60	33.33	1-1/2 IN ALUMINUM CAP (FOUND)
BL-2-A 1989	2,049,793.81	1,378,015.52	32.53	USACE SBC (FOUND)
BM NO 6 1965			27.28	US&GC SBC (NOT FOUND)
BOLL 1996	2,050,682.88	1,375,195.75	35.51	3-1/4 IN FLAT BRASS CAP (FOUND)
C 103 1965			26.95	US&GC SBC (NOT FOUND)
HB-08 2009	2,050,150.78	1,377,830.73	31.93	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HB-09 2009	2,051,199.61	1,375,120.24	32.04	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HOMER BASIN 4 1965	2,050,038.11	1,378,340.09	31.29	USACE SBC (NOT SEARCH)
HOMER BASIN 5 1965	2,049,940.32	1,378,344.30	30.86	USACE SBC (FOUND, NOT GPS SUITABLE)
HOMER BASIN 6 1965	2,049,887.28	1,378,073.96	31.24	USACE SBC (FOUND)
HOMER BASIN 7 1965	2,049,712.22	1,377,964.36	31.49	USACE SBC (FOUND)

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
26210	2,049,940	1,378,351	HOMER BREAKWATER LIGHT 2
26216	2,049,932	1,378,484	SOUTH LIGHTED MOORING BUOY

OBSTRUCTION IDENTIFIED IN 2015 SURVEY				
POINT	NORTHING	EASTING	APPROXIMATE DIMENSIONS	ELEVATION [FT MLLW]
OBST-1	2,049,999.55	1,378,206.74	7.0'x 3.7'x2.8'	-18
OBST-2	2,050,060.01	1,377,988.53	5.4'x 4.5'x1.7'	-19.7
OBST-3	2,049,935.22	1,378,201.00	4.9'x 2.8'x2.1'	-20.2
OBST-4	2,049,977.06	1,378,080.24	4.8'x 3.2'x2.6'	-16.9

OBSTRUCTION IDENTIFIED IN 2017 SURVEY				
POINT	NORTHING	EASTING	APPROXIMATE DIMENSIONS	ELEVATION [FT MLLW]
OBST-5	2,050,408.82	1,376,457.46	8.4'x 3.0'x1.6'	-14.2
OBST-6	2,050,281.55	1,376,791.11	9.2'x 7.1'x2.7'	-12.1
OBST-7	2,049,908.41	1,377,315.59	7.1'x3.2'x1.6'	-18.4
OBST-8	2,049,972.34	1,377,366.67	11.2'x 6.0'x.9'	-18.6
OBST-9	2,051,079.04	1,375,309.96	3.8'x 3.8'x2.6'	-9.3
OBST-10	2,050,751.35	1,375,979.40	3.8'x 2.7'x1.1'	-11.6
OBST-11	2,050,671.74	1,376,070.56	6.0'x 3.0'x1.7'	-10.9
OBST-12	2,049,862.17	1,378,295.83	8.4'x 5.7'x3.5'	-17.9
OBST-13	2,049,739.30	1,378,817.19	4.7'x 2.0'x2.6'	-17.5
OBST-14	2,049,827.53	1,378,786.35	7.3'x4.8'x3.4'	-17
OBST-15	2,050,655.65	1,376,121.46	3.5'x3.1'x1.2'	-11.7

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W11H017-C-0007

CONTRACTOR: ALASKA MARINE ENGINEERING

CITY: ANCHORAGE

STATE: ALASKA

DATE: 10/20/2017

APPROVED: [Signature]

DESIGNED: [Signature]

DRAWN: [Signature]

CHECKED: [Signature]

IN CHARGE: [Signature]

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99504-0888

HUGHES & ASSOCIATES
2001 COTTE LOOP
WASILLA, ALASKA 99654

HOMER, ALASKA
HOMER HARBOR
POST DREDGE SURVEY
SEPTEMBER 10, 2017

SHEET IDENTIFICATION

2-HOM-92-07-62

Sheet 4 of 6

