NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 8, NAD83 (NSRS2007) IN U.S. FEET. BASIS OF COORDINATES IS NATIONAL GEODETIC SURVEY (NGS) CONTROL STATIONS "OME A" (PID DF3651), AS N 3,841,096.47 AND E 1,728,070.64 AND "OME B" (PID DF3652), AS N 3,842,264.55' AND E 1,729,661.41'. MONUMENTS ARE SECONDARY AIRPORT CONTROL STATIONS (SACS) AT NOME AIRPORT, ALASKA.

   LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 8, NAD83, IN US SURVEY FEET HOLDING USACE SBC "KMJV-1" AS N 3,837,168.87, E 1,729,283.15 AND USACE SBC "BOOTSTRAP" AS N 3,838,021.15, E 1,730,359.97.

2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST:"946 8756 NOME, NORTON SOUND, ALASKA" PUBLISHED 10/06/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING USACE/NOAA TIDAL BENCH MARK "946 8756 SHEET PILE B" (VM#12149) AS 16.30'.

3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARK "946 8756 G 1992" (PID BBBD24 / VM#12154) AS 15.42 FEET.

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

5. BATHYMETRY WAS COLLECTED AT JUNE 19, 30, AND JULY 1, 2017. SOUNDINGS WERE COLLECTED USING AN "CEE HYDROSYSTEMS CEE ECHO" SOUNDER WITH A 3° SINGLE BEAM TRANSDUCER. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN ODOM DIGIBAR PRO SOUND VELOCITY PROBE. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING A "TRIMBLE R8 RTK" SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "KMJV-1". DATA WAS COLLECTED AND FIELD PROCESSED USING "HYPACK 2017" SOFTWARE, TIDE ELEVATIONS WERE MEASURED USING A "TRIMBLE R8 RTK" SYSTEM.

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

7. MAP SOUNDINGS ARE SORTED AT 12 FEET AND ARE SHOAL BIASED. VOLUME SOUNDINGS ARE SORTED AT 1 FOOT AND ARE SHOAL BIASED.

8. OBST-1 WAS LOCATED BY SEPARATE SURVEY CONDUCTED ON JUNE 5, 2017. SOUNDING WERE COLLECTED USING A R2SONIC 2022 MULTIBEAM ECHO SOUNDER OPERATING AT 200 KHZ. SURFACE VELOCITY WAS MEASURED USING AN AML MICRO X AT THE SONAR HEAD. SOUND VELOCITY THROUGH THE WATER COLUMN WAS MEASURED USING AN AML BASE X2 SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVE MASTER SYSTEM. MULTIBEAM SURVEY DATA WAS COLLECTED AND PROCESSED USING HYPACK 2017 SOFTWARE.

SURVEY CONTROL DATA (US FT)

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
39+71	3,834,957.98	1,729,422.33		BRASS CAP
53+68	3,834,888.51	1,728,762.20		BRASS CAP
BOOTSTRAP	3,838,021.15	1,730,359.97	6.66	BRASS CAP
CELL	3,835,965.94	1,729,122.26	12.90	ALUMINUM MON
DINGO	3,836,890.97	1,732,407.19	19.34	BRASS CAP
KMJV-1	3,837,168.87	1,729,283.15	16.46	BRASS CAP
NH-02	3,838,272.50	1,731,835.01	12.44	BRASS CAP
NH-03	3,837,585.34	1,730,864.94	13.83	BRASS CAP
NH-04	3,837,212.71	1,731,266.48	15.24	BRASS CAP
OME A	3,841,096.47	1,728,070.64		BRASS CAP
OME B	3,842,264.55	1,729,661.41		BRASS CAP
PUMP	3,837,605.19	1,731,831.48	9.17	BRASS CAP
SHEET	3,837,882.85	1,731,533.69		ALUMINUM MON

NAVIGATION AIDS (US FT)

USCG NO.	NORTHING	EASTING	DESCRIPTION
27962	3,834,922	1,729,388	ENTRANCE LIGHT 2
27963	3,834,844	1,728,782	ENTRANCE LIGHT 1
27964	3,836,250	1,729,618	BUOY 1
27965	3,836,070	1,729,925	BUOY 2
27966	3,836,541	1,729,900	BUOY 3

NAVIGATION AIDS (US FT)

USCG NO.	NORTHING	EASTING	DESCRIPTION
27967	3,836,470	1,730,030	BUOY 4
27968	3,838,033	1,730,848	BUOY 5
27969	3,837,935	1,731,111	BUOY 7
27970	3,837,678	1,731,012	BUOY 8
27971	3,837,805	1,731,401	BUOY 9

OBSTRUCTION DATA

ID	NORTHING	EASTING	DEPTH	APPROX SIZE
OBST-1	3,835,639	1,729,243	-21.9	4.25 X 3 X 1

VOLUME COMPUTATIONS

AREA B: TRANSITION -22FT TO -12FT	DEPTH (FT)	CU. YD.
REMOVED TO REQUIRED DEPTH (RD)	VARIES	2,492
REMOVED BETWEEN RD AND MAX PAY DEPTH (MP)	VARIES	1,651
AREA C: INNER ENTRANCE CHANNEL		
REMOVED TO REQUIRED DEPTH (RD)	-12	769
REMOVED BETWEEN RD AND MAX PAY DEPTH (MP)	-13	3,252
REMOVED SIDE SLOPES (SS) SLOUGHING 25' WIDE	VARIES	2,751
AREA D: MANEUVERING AREA		
REMOVED TO REQUIRED DEPTH (RD)	-10	2,631
REMOVED BETWEEN RD AND MAX PAY DEPTH (MP)	-11	1,064
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) 9+00 TO 13+00	VARIES	2,622
REMOVED SIDE SLOPES (SS) SLOUGHING		1,361
AREA F: EAST SEDIMENT TRAP		
REMOVED TO REQUIRED DEPTH (RD)	-22	40,786
REMOVED BETWEEN RD AND MAX PAY DEPTH (MP)	-23	2,366
REMOVED SIDE SLOPES (SS) SLOUGHING 50' TO 67.5' WIDE	VARIES	20,775
TOTAL MAXIMUM VOLUME REMOVED (MP + SS)		82,520
TOTAL OVERDREDGE VOLUME		4,173

STATE OF ALASKA 49TH CORY S. HUGHES LS-13209 REGISTERED PROFESSIONAL LAND SURVEYOR

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

CORY S. HUGHES C.H. (245)

GRAPHIC SCALE IN FEET

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W91WB-13-C-0007
CONTRACTOR ALASKA MARINE EXCAVATION LLC
CITY ANCHOR POINT STATE ALASKA
Recommended: PRIME CONTRACTOR
Approved: CHIEF, CONSTRUCTION SECTION
Date:

REVISION	DATE	DESCRIPTION	BY	APPROVED	REVISION	DATE	DESCRIPTION	BY	APPROVED

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

HUGHES & ASSOCIATES
2970 E.COTTLE LOOP
WASILLA, ALASKA 99654

SURVEYED BY: CSH, LITH & OCA
DRAWN BY: BTH
APPROVED BY: CORY S. HUGHES
SCALE: 1" = 100'
ZONE: AK8

CHECKED BY: CSH
PLOT DATE: 8/17/2017
FILE NAME: 2017 NOME HARBOR POSTDREDGE_20170701_FINAL.DWG

DATE: 17 August 2017
DWG NO: NOM2009
CONTRACT NO.: W91WB-13-C-0007
JOB NO.: XXXX.XX

NOME, ALASKA
NOME HARBOR
NOME POST-DREDGE SURVEY
JUNE 19, 30 AND JULY 1, 2017

SHEET IDENTIFICATION
6-NOM-92-07-57
Sheet 1 of 5

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STATE OF ALASKA 49TH CORY S. HUGHES LS-13869 REGISTERED PROFESSIONAL LAND SURVEYOR

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

CORY S. HUGHES C.H. (245)

100 0 50 100 200 300
GRAPHIC SCALE IN FEET

US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W911KB-13-C-0007
CONTRACTOR ALASKA MARINE EXCAVATION LLC
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR CORPS ENGINEERING SECTION

REVISION	DATE	DESCRIPTION	BY	APPVD	REVISION	DATE	DESCRIPTION	BY	APPVD

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

HUGHES & ASSOCIATES
2970 E COTTLE LOOP
WASILLA, ALASKA 99654

SURVEYED BY: CSH, BTH & DOA
DRAWN BY: BTH
APPROVED BY: CORY S. HUGHES
SCALE: 1" = 100'
DATE: 17 August 2017
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DATE: 17 August 2017
PROJECT: NOME
CONTRACT NO.: W911KB-13-C-0007
JOB NO.: XXXX.XX

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NOME HARBOR
NOME POST-DREDGE SURVEY
JUNE 19, 30 AND JULY 1, 2017

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6-NOM-92-07-57
Sheet 2 of 5