



VOLUME COMPUTATIONS		
AREA A: DILLINGHAM HARBOR	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	0.0	70,177
AVAILABLE TO MAX PAY DEPTH (MP)	-2.0	87,832
AVAILABLE SIDE SLOPES (SS) AT 8:1 (H:V)	VARIES	38,701
TOTAL VOLUME AVAILABLE (MP+SS)		126,533



- NOTES**
1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 (2011). IN US SURVEY FEET BASED ON NGS PUBLISHED VALUES, HOLDING US&GS STATION "DILLINGHAM 1947" (PID UV7691) AS N 1,849,383.08', E 1,551,809.45' AND US&GS AZIMUTH MARK "DILLINGHAM AZ MK 1947" (PID UV7690) AS N 1,841,347.21', E 1,553,844.91'.
 2. LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 6, NAD83 (2011). IN US SURVEY FEET HOLDING USACE DOMED BC "1277-3 1984" AS N 1,840,427.98', E 1,550,887.60'.
 3. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0), BASED ON THE NOAA/NO TIDAL BENCH MARK LIST: 946 5374, SNAG POINT, NUSHAGAK BAY, DILLINGHAM, ALASKA, PUBLISHED 04/29/2013. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NO TIDAL BENCH MARK "5374 D 2007" (VMH18354) AS 60.45'.
 4. LOCAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID 12B) ELEVATIONS HOLDING NOAA BENCHMARK "946 5374 B 2007" (PID BBF17VMH18352) AS 18.46'.
 5. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 6. BATHYMETRY WAS COLLECTED MAY 9, 2019. SOUNDINGS WERE COLLECTED USING AN ECHOSOUND ECHO SOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X2 SOUND VELOCITY PROBE. POSITION AND TIDES WERE PROVIDED IN REAL TIME USING A TRIMBLE R9 RTK GPS RECEIVER OPERATING ON KINEMATIC CORRECTIONS BROADCAST FROM A TRIMBLE R9 RTK BASE RECEIVER SET AT CONTROL STATION "1277-3". DATA WAS COLLECTED AND PROCESSED USING HYPACK 2019 INTEGRATED SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING RTK GNSS EQUIPMENT 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, CONTOURS, COLOR RELIEF, AND VOLUME COMPUTATIONS ARE BASED ON A 10 FOOT SORT.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
1277-1 1984	1,841,622.39	1,550,745.71	32.11	3.25 INCH USACE SBC
1277-2 1984	1,840,494.00	1,550,879.74	30.86	3.25 INCH USACE SBC
1277-3 1984	1,840,427.98	1,550,887.60	30.21	3.25 INCH USACE SBC
5374 A 2007			25.62	NOAA/NO TIDAL BM
5374 B 2007			24.87	NOAA/NO TIDAL BM
DILL 1998	1,840,505.33	1,550,874.26	29.80	3.25 INCH FLAT ALCAP
DILLINGHAM 1947	1,849,383.08	1,551,809.45		3.5 INCH USCGS SBC
DILLINGHAM AZ MK	1,841,347.21	1,553,844.91		2 INCH USCGS IRON PIPE
PICKEL 1998	1,841,509.51	1,550,437.81	28.82	3.25 INCH FLAT ALCAP
WDS-2-2001	1,841,419.33	1,549,910.66	22.77	3.25 INCH DOMED ALCAP

DREDGE LIMITS		
CORNER#	NORTHING	EASTING
DL-1	1,840,656.89	1,550,430.66
DL-2	1,840,645.10	1,550,447.69
DL-3	1,840,669.87	1,550,654.63
DL-4	1,841,364.89	1,550,571.44
DL-5	1,841,318.54	1,550,184.21

DREDGE LIMITS		
CORNER#	NORTHING	EASTING
DL-6	1,840,930.19	1,550,305.22
DL-7	1,840,662.40	1,550,337.15
DL-8	1,840,535.05	1,550,329.96
DL-9	1,840,531.77	1,550,369.82
DL-10	1,840,653.73	1,550,376.57

SURVEY LIMITS		
CORNER#	NORTHING	EASTING
SL-1	1,840,423.95	1,550,449.36
SL-2	1,840,458.17	1,550,413.54
SL-3	1,840,564.87	1,550,408.42
SL-4	1,840,610.25	1,550,787.66
SL-5	1,841,437.06	1,550,688.69
SL-6	1,841,461.80	1,550,593.75
SL-7	1,841,405.12	1,550,578.98
SL-8	1,841,432.20	1,550,396.29
SL-9	1,841,432.01	1,550,133.89

SURVEY LIMITS		
CORNER#	NORTHING	EASTING
SL-10	1,841,362.83	1,550,065.66
SL-11	1,840,909.22	1,550,207.01
SL-12	1,840,362.44	1,550,272.21
SL-13	1,840,166.00	1,550,359.57
SL-14	1,839,293.60	1,550,359.57
SL-15	1,839,293.60	1,551,455.40
SL-16	1,840,166.00	1,551,455.40
SL-17	1,840,166.00	1,550,808.47

DISPOSAL LIMITS		
CORNER#	NORTHING	EASTING
DS-1	1,839,502.58	1,551,238.87
DS-2	1,839,739.66	1,551,159.55
DS-3	1,839,644.47	1,550,875.05
DS-4	1,839,407.39	1,550,954.38

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACOW/NOAA CERTIFIED HYDROGRAPHER

Cory Hughes

CORY S. HUGHES C.H. (245)



US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W010617-0-0005

CONTINGENT ALASKA MARINE EDUCATION

CITY AND/OR POINT

STATE ALASKA

APPROVED: _____

DATE: _____

DESIGNED: _____

BY: _____

DATE: _____

DESCRIPTION: _____

BY: _____

DATE: _____

DESCRIPTION: _____

BY: _____

DATE: _____

DESCRIPTION: _____

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99506-0988

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

APPROVED BY: _____

FILE NAME: _____

DATE: _____

SIZE: _____

SCALE: _____

DATE: _____

FILE NAME: _____

DATE: _____

SIZE: _____

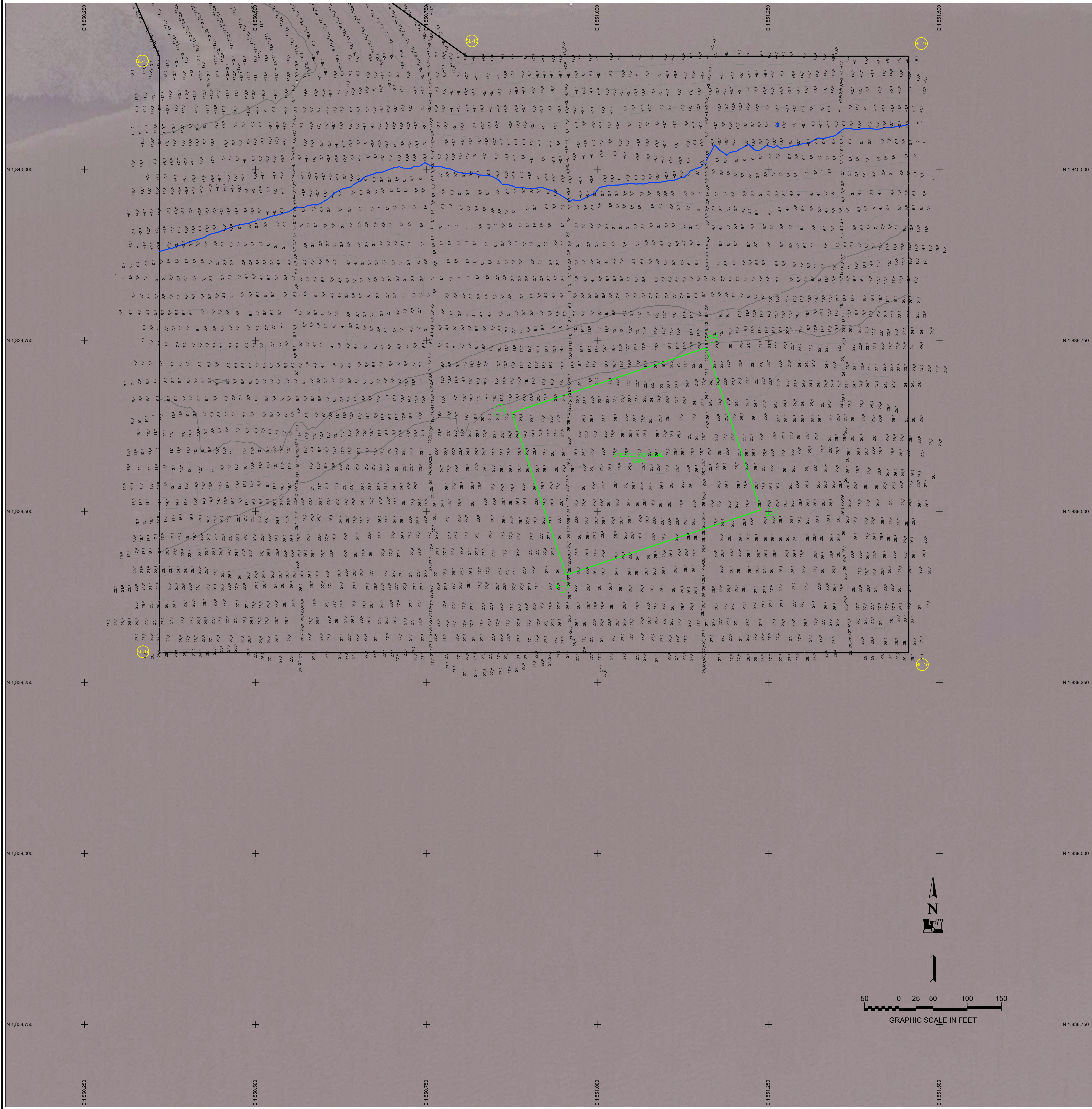
SCALE: _____

DILLINGHAM, ALASKA
DILLINGHAM HARBOR
PRE DREDGE SURVEY
MAY 8 & 9, 2019

SHEET IDENTIFICATION

5-DIL-92-07-48

Sheet 1 of 4



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Cory Hughes

CORY S. HUGHES CH. (245)



US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W19HST7C-0005

CONTINUATION: ALASKA MARINE ELEVATION

CITY AND/OR POINT: STATE: ALASKA

Recommended: Approved: Date:

DATE: 12 MAY 2019

FILE NAME: 190220019

SIZE: 11" x 17"

DATE: 12 MAY 2019

FILE NAME: 190220019

SIZE: 11" x 17"

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FILE NAME: 190220019

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DILLINGHAM, ALASKA

DILLINGHAM HARBOR

PRE DREDGE SURVEY

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