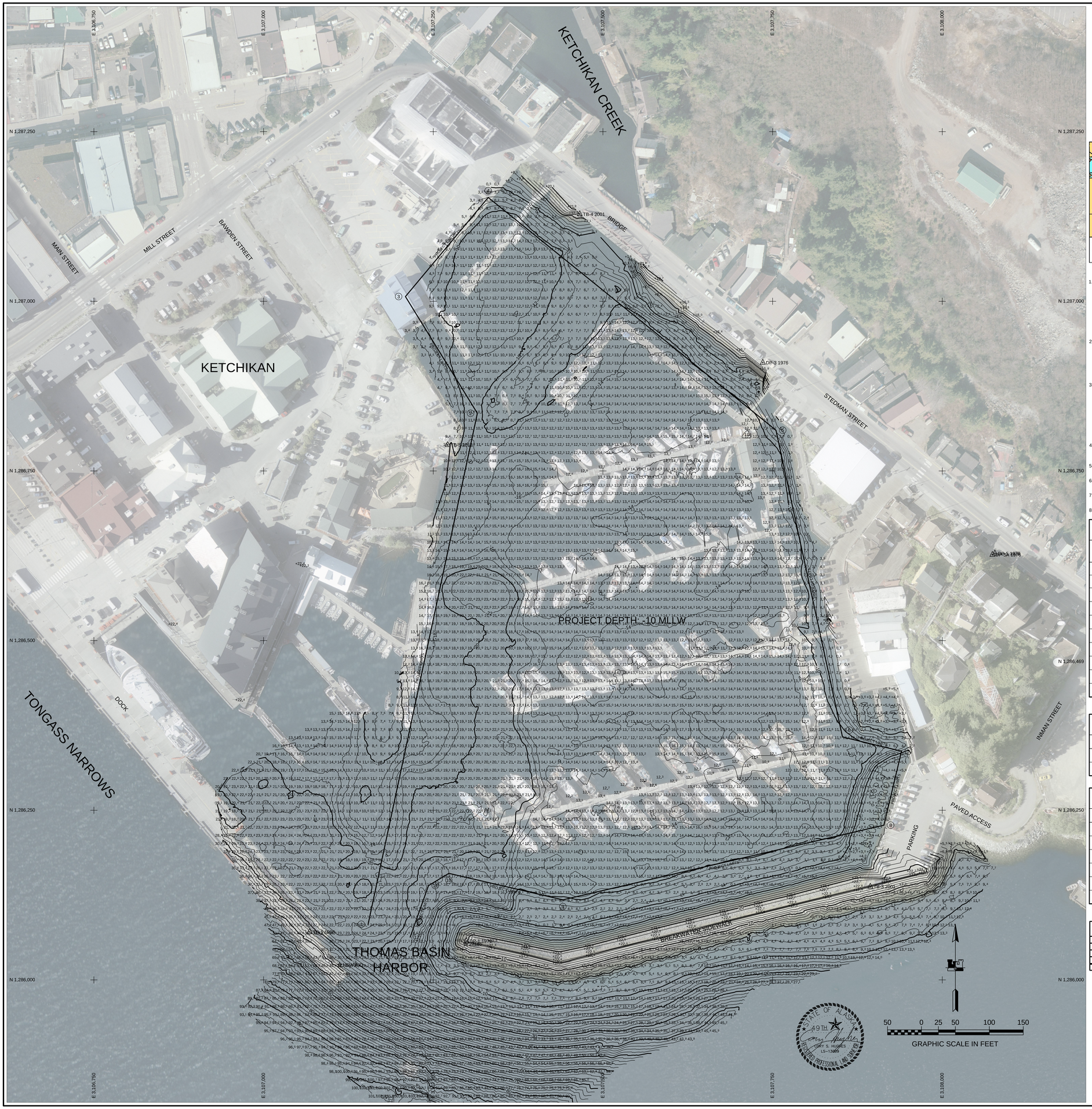
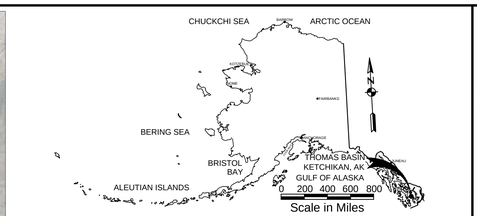
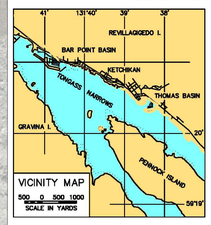




LOCATION/VICINITY MAP(S)



NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK H OLDING THE PUBLISHED NAD83 (CORS) 2010.00 EPOCH VALUES OF NGS CORS STATIONS: "ANNETTE ISLAND 5 CORS ARP" (AIS5 - PID DK6482) AS N 1,188,024.64, E 3,119,193.51 (ALASKA STATE PLANE, ZONE 1, NAD 83) AND "KLAWOCKAIRAK2006 CORS ARP" (AB49 - PID DM7451) AS N 1,368,680.82, E 2,809,739.40 (ALASKA STATE PLANE, ZONE 1, NAD 83) AND "LEVEL ISLAND 6 CORS ARP" (LEV6 - PID DJ3035) N 1,692,090.98, E 2,802,073.47 (ALASKA STATE PLANE, ZONE 1. NAD 83). CORS ST ATIONS STATE PLANE COORDINATES ARE CONVERTED FROM LAT/LONG USING NGS PROGRAM SPCS83(V2.1). RESULTANT COORDINATES AT PRIMARY HARBOR CONTROL HOLD USACE SBC "TB-3" AS N 1,286,137.51, E 3,107,894.00 AND SBC "TB-5 2012 AS N 1,286,788.30, E 3,107,271.14.

2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=O.O'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "9450460, KETCHIKAN, TONGASS NARROWS, ALASKA", PUBLISHED 09/27/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOS TIDAL BENCHMARK "0460 E 2001" AS 53.12' AND NOS TIDAL BENCHMARK "0460 F 2004" AS 53.11'. ALSO PROVIDED ARE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) EQUIVALENTS, HOLDING TB-5 2012 AS 16.83, BASED ON GPS OBSERVATIONS FROM JULY 10 & 15 2012.

3. THE SURVEY WAS CONDUCTED ON JULY 7-15, 2012. HYDROGRAPHIC SOUNDING DATA WAS COLLECTED USING AN ODOM ES3 MULTI-BEAM ECHOSOUNDER (200KHZ, 120-DEGREE SWATH-WIDTH WITH 120, 0.75 DEGREE BEAMS). POSITIONING AND VESSEL ATTITUDE WERE PROVIDED IN REAL TIME USING A TRIMBLE 461 RTK GPS RECEIVER OPERATING ON KINEMATIC CORRECTORS BROADCAST FROM A TRIMBLE 5700 RTK BASE RECEIVER SET AT CONTROL STATION, "TB-3 2001". SOUND VELOCITY PROFILE WAS PROVIDED USING AN ODOM DIGI-BAR PRO, AND WAS PROVIDED IN REAL TIME AT THE SOUNDER HEAD USING AN ODOM DIGI-BAR V. DATA COLLECTION AND NAVIGATION WERE PERFORMED USING HYPACK HYSWEEP (2012) SOFTWARE. MULTI-BEAM SURVEY DATA WAS POST-PROCESSED USING HYPACK HYSWEEP (2012) SOFTWARE.

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5. CONTROL MONUMENT "DP-1 1976" WAS NOT UPDATED DUE TO INACCESSIBILITY.

6. SOUNDING VALUES SHOWN ARE IN U.S. SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

7. THIS DRAWING IS INDICATIVE OF GENERAL SEAFLOOR CONDITIONS ON THE DATES OF SURVEY.

8. THIS SURVEY WAS CONDUCTED BY HUGHES AND ASSOCIATES, WASILLA, AK.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW ELEV	DESCRIPTION
0460 E 2001	[redacted]	[redacted]	53.12	NOS BENCH MARK
0460 F 2004	[redacted]	[redacted]	53.11	NOS BENCH MARK
DP-1 1976	1,286,057.25	3,107,299.01	21.30	USACE SBC, FOUND SEE NOTE 4
DP-3 1976	1,286,909.68	3,107,735.62	21.79	USACE SBC, FOUND IN GOOD COND
DP-5 1978	1,286,628.48	3,108,077.52	35.69	USACE SBC, FOUND IN GOOD COND
DP-5A 1976	1,286,626.52	3,108,073.89	35.76	USACE SBC, FOUND IN GOOD COND
TB-1 1998	1,286,070.56	3,107,068.03	21.91	USACE SBC, FOUND IN GOOD COND
TB-3 2001	1,286,137.51	3,107,894.00	22.63	USACE SBC, FOUND IN GOOD COND
TB-4 2001	1,287,128.46	3,107,465.89	21.77	USACE SBC, FOUND IN GOOD COND
TB-5 2012	1,286,788.30	3,107,271.14	20.60	SBC SET THIS SURVEY

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
22165	1,286,053.00	3,107,298.00	THOMAS BASIN ENTRANCE LIGHT 2 FL. RED
NEW AID	1,286,022.00	3,107,112.00	CITY DOCK LIGHT / GREEN

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	1,286,082.00	3,107,154.00
2	1,286,835.00	3,107,315.00
3	1,287,007.00	3,107,209.00
4	1,287,153.00	3,107,331.00
5	1,286,810.00	3,107,755.00
6	1,286,358.00	3,107,853.00

PROJECT LIMITS

CORNER#	NORTHING	EASTING
7	1,286,337.00	3,107,940.00
8	1,286,228.00	3,107,914.00
9	1,286,118.00	3,107,441.00
10	1,286,157.00	3,107,273.00
11	1,286,139.00	3,107,243.00
12	1,286,063.00	3,107,216.00

VOLUME COMPUTATIONS

PROJECT DEPTH -10.0'	
AVAILABLE TO PROJECT DEPTH (-10.0')	4,561 cy
AVAILABLE BETWEEN PROJECT DEPTH (-10.0') AND MAX PAY DEPTH (-11.0')	1,561 cy
AVAILABLE ALONG SIDE SLOPES	2,514 cy
TOTAL MATERIAL AVAILABLE	8,636 cy

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W911KB-10-D-0005
CONTRACTOR: HUGHES AND ASSOCIATES, INC.
CITY: WASILLA STATE: ALASKA
Recommended: ** CHIEF, CONSTRUCTION Approved: ** CHIEF, BRANCH CONTROL Date: ****

REVISION	DATE	DESCRIPTION	BY	APPVD	REVISION	DATE	DESCRIPTION	BY	APPVD

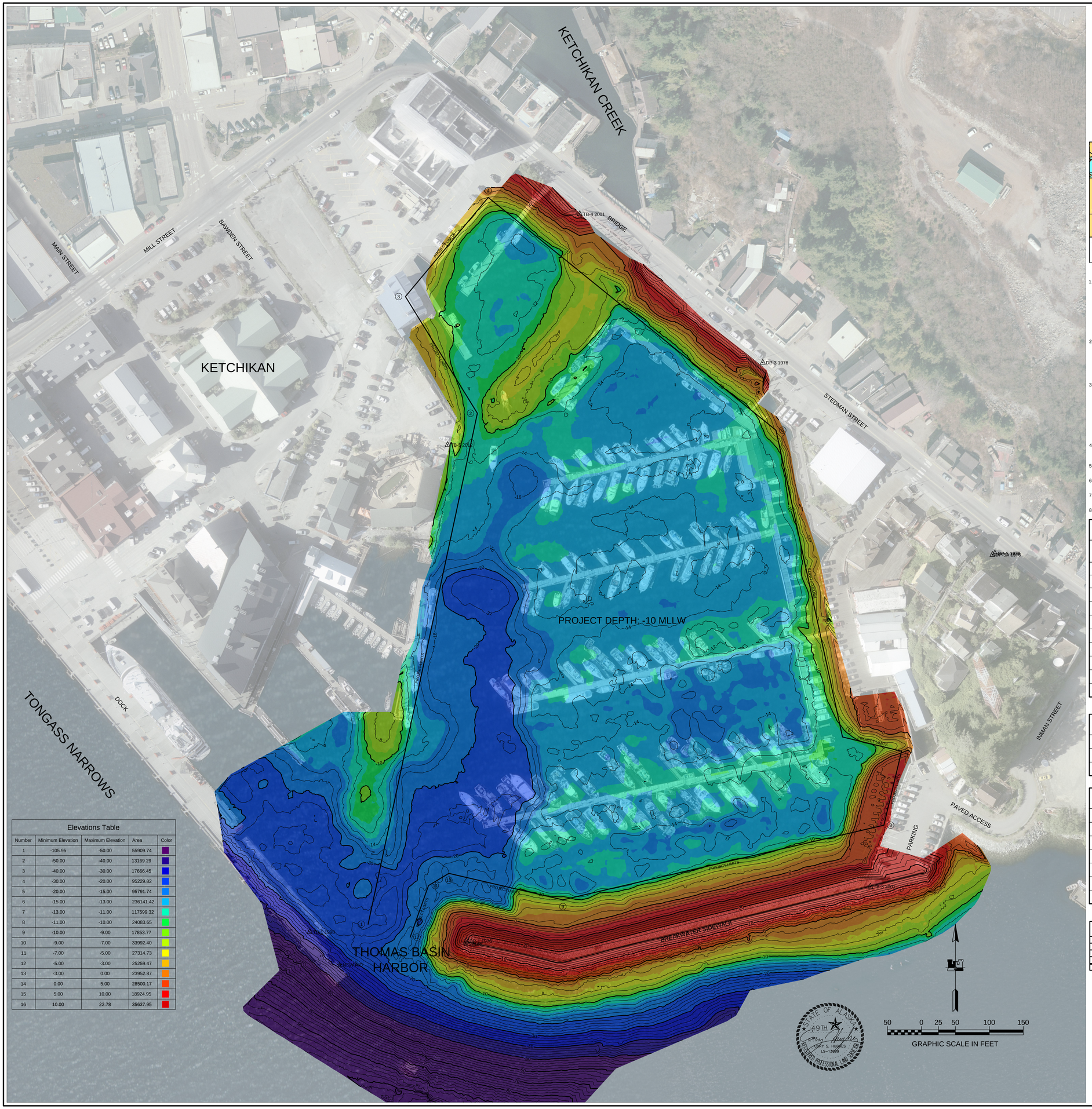
DATE: 31 January 2013
SURVEY NO.: 2012-1
CONTRACT NO.: W911KB-10-D-0005
FIELD DATE: 07/07 to 07/15
FILE NAME: THOMAS BASIN 2012 VCS - FINAL 1.31.13.DWG
SCALE: 1" = 50'
SIZE: 24X36
DRAWN BY: AN/BTH
CHECKED BY: JSH
APPROVED BY:

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

HUGHES AND ASSOCIATES, INC.
290 E. HARVEST LOOP
WASILLA, AK 99654

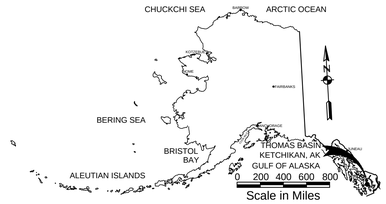
KETCHIKAN, ALASKA
THOMAS BASIN HARBOR
PROJECT CONDITION SURVEY
JULY 7-14, 2012

SHEET IDENTIFICATION
V-101
Sheet 1 of 2



Elevations Table

Number	Minimum Elevation	Maximum Elevation	Area	Color
1	-105.95	-50.00	55909.74	
2	-50.00	-40.00	13169.29	
3	-40.00	-30.00	17666.45	
4	-30.00	-20.00	95229.82	
5	-20.00	-15.00	95791.74	
6	-15.00	-13.00	236141.42	
7	-13.00	-11.00	117599.32	
8	-11.00	-10.00	24083.65	
9	-10.00	-9.00	17853.77	
10	-9.00	-7.00	33992.40	
11	-7.00	-5.00	27314.73	
12	-5.00	-3.00	25259.47	
13	-3.00	0.00	23952.87	
14	0.00	5.00	28500.17	
15	5.00	10.00	18924.95	
16	10.00	22.78	35637.95	



LOCATION/VICINITY MAP(S)

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US Army Corps of Engineers
ALASKA DISTRICT

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CITY: WASILLA STATE: ALASKA
Recommended: ** CHIEF, CONSTRUCTION SECTION
Approved: ** CHIEF, BRANCH SECTION
Date: ----

NUMBER	DATE	DESCRIPTION	BY	APPRO	REVISION	DATE	DESCRIPTION	BY	APPRO

DATE: 31 January 2013
SURVEY NO.: 2012-1
CONTRACT NO.: W911KB-10-D-0005
CHECKED BY: JSH
COORD SYS & UTC & (YR) PS: NAD83 (2011) UTM 5
PLOT DATE: 2/1/2013
FILE NAME: THOMAS BASIN 2012 PCS - FINAL 1_31_13.DWG
SCALE: 1:1
SIZE: 24X36
SURVEYED BY: AN/BTH
DRAWN BY: CTW
APPROVED BY:

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
CEPOA-EP-C-TM
JBER, ALASKA 99506-0898

HUGHES AND ASSOCIATES, INC.
825 ALYESKA LOOP
WASILLA, AK 99654

KETCHIKAN, ALASKA
THOMAS BASIN HARBOR
PROJECT CONDITION SURVEY
JULY 7 - 14, 2012

SHEET IDENTIFICATION

V-102

Sheet 2 of 2