

AK" PUBLISHED 07/14/2014. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED TO A TILTED-PLANE MLLW DATUM HOLDING NOAA/NOS TIDAL BENCH MARKS: "945 0987 BM 1" (VM#14026) AS 14.43 FT., "945 0997 LYN" (VM#20876) AS 10.59 FT., AND "945 0998 TIDAL 3" (VM#20878) AS

VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARKS: "945 0987 BM1" (VM#14026) AS 12.94 FT, "945 0997 LYN" (PID BBCV41/VM#20876) AS 9.43 FT, AND "945 0998 TIDAL 3" (PID BBCV62/VM#20878) AS

BATHYMETRY WAS COLLECTED MARCH 31 AND APRIL 1. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER OPERATING AT 200KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITIONING AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV OCEANMASTER V5 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 GPS RECEIVER SET AT CONTROL STATION "TIDAL 3". SURVEY DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS

MOBILE TERRESTRIAL LASER SCANNING DATA WAS COLLECTED USING A REIGL VZ400 LASER SCANNER. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV OCEANMASTER V5 RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 GPS RECEIVER SET AT CONTROL STATION

MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. CONTOURS ARE BASED ON 12 FEET

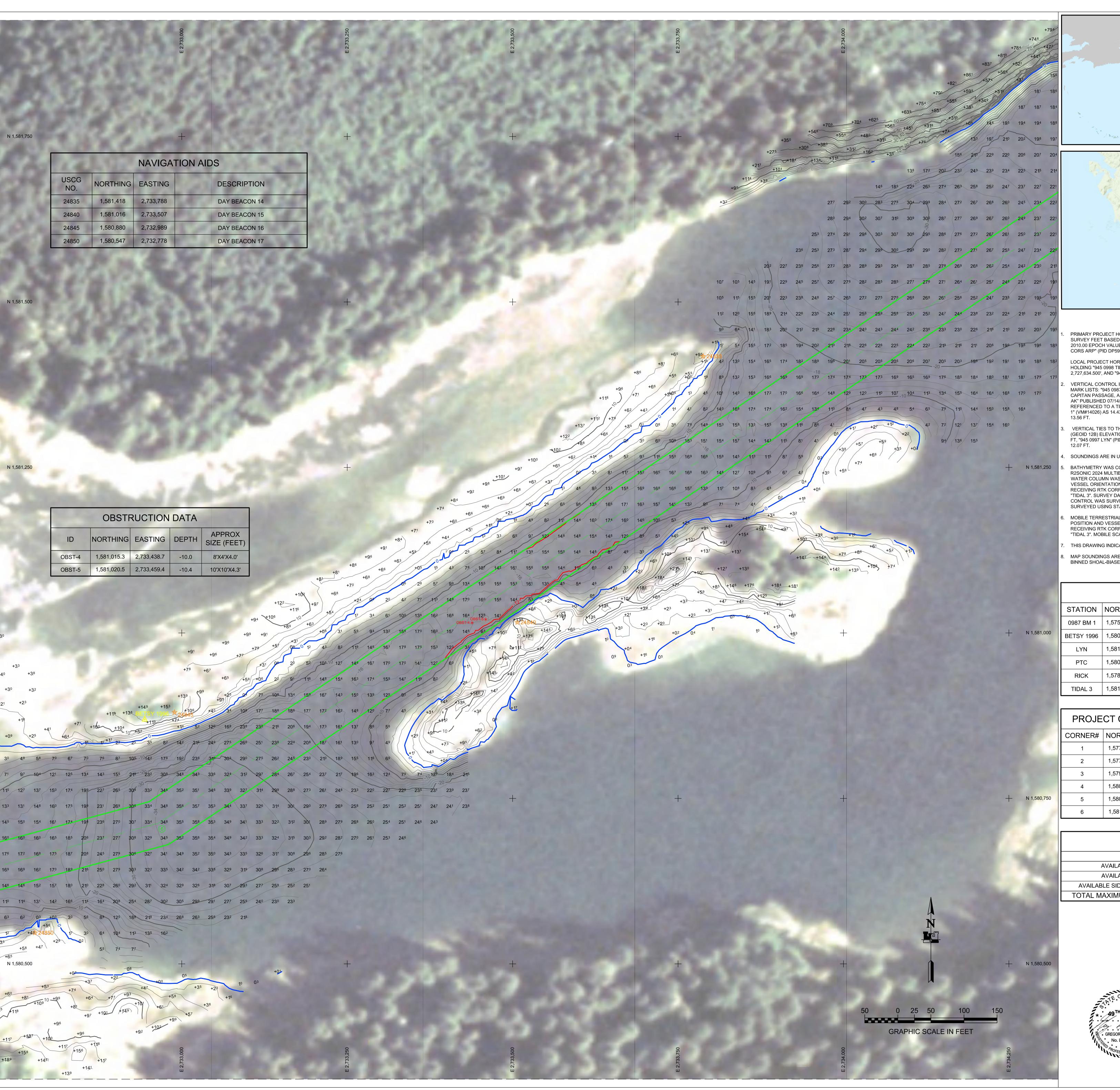
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SURVEY CONTROL DATA						
ı	STATION	NORTHING	EASTING	MLLW	DESCRIPTION	
ı	0987 BM 1	1,575,471.98	2,727,634.50	14.43	3.5" USCS DOMED BC	
١	BETSY 1996	1,580,869.08	2,732,943.94	14.72	DOMED SBC	
í	LYN	1,581,415.92	2,754,466.05	10.59	3.5" USACE DOMED BC	
ı	PTC	1,580,391.15	2,741,998.01	12.27	1" PIPE WITH TACK	
	RICK	1,578,763.46	2,729,012.51	14.34	3" DOMED SBC	
	TIDAL 3	1,581,007.62	2,737,111.44	13.56	3.5" USCS DOMED BC	

	PROJECT CENTERLINE			PROJECT CENTERLINE		
в	CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
0	1	1,577,302.17	2,727,990.18	7	1,582,013.12	2,735,743.96
и	2	1,577,760.13	2,728,747.65	8	1,580,909.56	2,739,084.66
ú	3	1,579,124.63	2,729,625.06	9	1,580,502.23	2,740,770.21
9	4	1,580,499.83	2,732,171.49	10	1,579,579.97	2,742,779.60
П	5	1,580,712.58	2,732,965.17	11	1,579,407.64	2,744,265.08
	6	1,581,798.91	2,734,585.78			

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į	VOLUME COMPUTATIONS						
	AREA A: CHANNEL	MLLW=0	CU. YD.				
	AVAILABLE TO PROJECT DEPTH (PD)	-12.0	2,371				
	AVAILABLE TO MAX PAY DEPTH (MP)	-13.0	4,949				
ı	AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	10,592				
	TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		15.541				

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THSOA

IDENTIFICATION 1-DRP-92-07-02





US Army Corps of Engineers ® ALASKA DISTRIC



NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, (2011)(2010.00), IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 2010.00 EPOCH VALUES OF NGS CORS STATIONS: "KLAWOCKAIRAK2006 CORS ARP" (PID DM7451); "ATLIN CORS ARP" (PID DP5991); "JUNEAU WAAS 1 CORS ARP" (DF4367).

LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN US SURVEY FEET HOLDING "945 0998 TIDAL 3" AS N 1,581,007.620', E 2,737,111.435', "945 0987 BM 1" AS N 1,575,471.975', E 2,727,634.500', AND "945 0997 LYN" AS N 1,581,415.916', E 2,754,466.054'.

VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0 FT), BASED ON THE NOAA/NOS TIDAL BENCH MARK LISTS: "945 0987 SHAKAN STRAIT (NORTHEAST END), AK" PUBLISHED 04/26/2011, "945 0997 EL CAPITAN PASSAGE, ALASKA" PUBLISHED 07/14/2014, AND "945 0998 DRY PASS, EL CAPITAN PASSAGE, AK" PUBLISHED 07/14/2014. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED TO A TILTED-PLANE MLLW DATUM HOLDING NOAA/NOS TIDAL BENCH MARKS: "945 0987 BM 1" (VM#14026) AS 14.43 FT., "945 0997 LYN" (VM#20876) AS 10.59 FT., AND "945 0998 TIDAL 3" (VM#20878) AS 13.56 FT.

3. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 (GEOID 12B) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARKS: "945 0987 BM1" (VM#14026) AS 12.94 FT, "945 0997 LYN" (PID BBCV41/VM#20876) AS 9.43 FT, AND "945 0998 TIDAL 3" (PID BBCV62/VM#20878) AS

SOUNDINGS ARE IN US SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

BATHYMETRY WAS COLLECTED MARCH 31 AND APRIL 1. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER OPERATING AT 200KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITIONING AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV OCEANMASTER V5 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 GPS RECEIVER SET AT CONTROL STATION "TIDAL 3". SURVEY DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND DIFFERENTIAL LEVELING.

MOBILE TERRESTRIAL LASER SCANNING DATA WAS COLLECTED USING A REIGL VZ400 LASER SCANNER. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV OCEANMASTER V5 RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 GPS RECEIVER SET AT CONTROL STATION "TIDAL 3". MOBILE SCANNING WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE.

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

MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. CONTOURS ARE BASED ON 12 FEET BINNED SHOAL-BIASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE.

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í	STATION	NORTHING	EASTING	MLLW	DESCRIPTION	
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P	PROJECT CENTERLINE			PROJECT CENTERLINE			
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	VOLUME COMPUTATIONS					
	AREA A: CHANNEL	MLLW=0	CU. YD.			
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	TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		15,541			



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



SHEET IDENTIFICATION

1-DRP-92-07-02

