



NOTES

- HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, IN FEET, NORTH AMERICAN DATUM OF 1983, HOLDING USACE SBC "NL-4 1977" AS N 1,693,712.00 E 2,946,153.16 AND BC "WH-2 2001" AS N 1,694,551.96 E 2,946,343.53.
- VERTICAL CONTROL IS IN FEET BASED ON MEAN LOWER LOW WATER (MLLW = 0.0), HOLDING BC "WH-2 2001" AS 21.50' ABOVE MLLW WATER.
- SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- THE PROJECT PROVIDES FOR A FEDERALLY MAINTAINED ENTRANCE CHANNEL AND BASIN AREA OF ONE ACRE, WITH A PROJECT DEPTH OF -5' MLLW NEAR THE NORTHWEST END, PROJECT DEPTHS OF -20' MLLW FOR 200 FT. AT THE NORTHERN END, AND -30' MLLW FOR THE REMAINING 700 FT.
- BATHYMETRY WAS COLLECTED JULY 2-7, 2004. SOUNDINGS WERE COLLECTED USING AN "INTEGRA 448" SOUNDING WITH A 3" SINGLE BEAM TRANSDUCER. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN ODOM DIGIBAT PRO SOUND VELOCITY PROBE, AND VERIFIED WITH A BAR CHECK AT 10' INCREMENTS TO PROJECT DEPTH. POSITIONING AND VESSEL ATTITUDE WERE MEASURED USING A TRIMBLE 5700 RTK\* SYSTEM AND A TSS MOTION REFERENCE UNIT. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING "WH-2 2001". DATA WAS COLLECTED AND FIELD PROCESSED USING "HYPAK MAX VERSION 02.12A" SOFTWARE. TIDE ELEVATIONS WERE MEASURED USING A TRIMBLE 5700 RTK\* SYSTEM AND VERTICAL CONTROL WAS VERIFIED THROUGH CONVENTIONAL DIFFERENTIAL LEVELING TECHNIQUES.
- THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
CG-2 1959	1,693,452.67	2,946,498.84	13.30	U.S. COAST GUARD SBC
BM-6 1954	1,696,367.07	2,944,513.29	38.32	USACGS SBC
LARG-2 1922	1,693,964.55	2,925,897.82	19.71	USACGS SBC
JD-1 1977	1,695,637.76	2,945,226.43	15.66	USACE SBC
JD-2 1977	1,695,779.79	2,944,876.13	21.24	USACE SBC
NL-1 1977	1,694,521.18	2,944,940.56	14.05	USACE SBC
NL-2 1977	1,694,429.21	2,945,781.19	13.74	USACE SBC
NL-3 1977	1,693,954.34	2,945,864.91	12.46	USACE SBC
NL-4 1977	1,693,712.00	2,946,153.16	13.28	USACE SBC
NL-5 1977	1,693,630.18	2,946,552.85	13.48	USACE SBC
NL-6 1977	1,692,817.92	2,946,314.45	10.99	USACE SBC
NL-7 1977	1,693,054.19	2,945,648.88	17.55	USACE SBC
NL-8 1977	1,693,348.73	2,945,442.52	10.56	USACE SBC
NL-9 1977	1,693,741.56	2,945,268.61	14.82	USACE SBC
NL-10 1977	1,693,859.91	2,945,207.24	13.10	USACE SBC
NL-11 1977	1,694,239.31	2,944,835.79	19.14	USACE SBC
1304-1 1985	1,693,890.03	2,946,046.62	19.75	USACE SBC
1304-2 1985	1,692,538.46	2,946,153.30	25.01	USACE SBC
1304-1 1986	1,694,140.33	2,944,812.91	28.23	USACE SBC
WH-1 1998	1,694,295.97	2,945,929.40	22.84	USACE DOMED BC
WH-2 2001	1,694,551.96	2,946,343.53	21.50	3 1/4" DOMED BC

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1,694,154	2,945,570	10	1,693,412	2,946,070
2	1,693,508	2,946,005	11	1,693,276	2,946,182
3	1,693,667	2,946,234	12	1,693,068	2,945,873
4	1,693,857	2,946,323	13	1,693,232	2,945,758
5	1,694,311	2,946,123	14	1,693,205	2,945,705
6	1,694,442	2,946,421	15	1,693,518	2,945,480
7	1,693,904	2,946,822	16	1,693,568	2,945,554
8	1,693,835	2,946,445	17	1,693,962	2,945,288
9	1,693,587	2,946,330			

NAVIGATION AIDS

DESCRIPTION	USCG No.	NORTHING	EASTING
BREAKWATER LIGHT 2	22630	1,694,511	2,944,840
DAYBEACON 4	22640	1,693,410	2,946,153
DAYBEACON 5	22645	1,693,699	2,946,222
DAYBEACON 6	22650	1,693,587	2,946,353
DAYBEACON 7	22655	1,693,834	2,946,279
DAYBEACON 8	22660	1,693,803	2,946,484

CONTRACT NO. W911KB04-D-0007  
 CONTRACTOR HUGHES AND ASSOCIATES  
 CITY PALMER STATE ALASKA

ALASKA DISTRICT  
 CORPS OF ENGINEERS  
 ANCHORAGE, ALASKA

WRANGELL, ALASKA  
 WRANGELL HARBOR  
 JULY 7, 2004  
 PROJECT CONDITION SURVEY

RECOMMENDED: DATE: APPROVED: DATE:  
 PROJECT MANAGER: DATE OPERATIONS-BUSINESS BRANCH: DATE:  
 SURVEY NO. SCALE: 1" = 50'

2154-04 SHEET 1 OF 1

VOLUME COMPUTATIONS

Project Depth -10' MLLW

Between PROJECT DEPTH	8523 (cubic yards)
and MAXIMUM PAY LINE (-11' MLLW)	2177 (cubic yards)
SIDESLOPES (3:1)	3638 (cubic yards)
TOTAL	14,338 (cubic yards)

