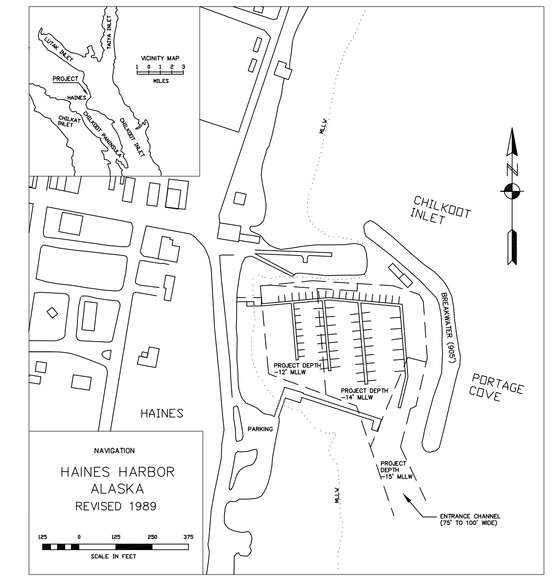
CORPS OF ENGINEERS

U. S. ARMY



NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, IN FEET, NORTH AMERICAN DATUM OF 1983, HOLDING USACE SBC "HH–1" AS N 2,707,593.91, E 2,353,755.38 AND USACE SBC "HH–21 2000" AS N 2,707,157.46, E 2,353,377.94.

2. VERTICAL CONTROL IS IN FEET BASED ON MEAN LOWER LOW WATER (MLLW = 0.0'), HOLDING BENCH MARK "HH–1" AS 25.93 FEET.

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

4. BATHYMETRY WAS COLLECTED JUNE 17–19, 2004. SOUNDINGS WERE COLLECTED USING AN "INNERSPACE 448" SOUNDER WITH A 3' SINGLE BEAM TRANSDUCER. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN ODOM DIGIBAR 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 "HH–1 1977". DATA WAS COLLECTED AND FIELD PROCESSED USING "HYPACK 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.

5. THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
HH–1	2,707,593.91	2,353,755.38	25.93	USACE SBC 1977
HH–5	2,706,582.14	2,353,458.88	24.93	USACE SBC 1977
HH–6	2,706,919.63	2,354,070.93	25.93	USACE SBC 1977
HH–7	2,707,203.61	2,354,150.49	26.39	USACE SBC 1977
HH–8	2,707,418.89	2,354,138.83	25.08	USACE SBC 1977
HH–9	2,707,489.41	2,354,104.16	25.85	USACE SBC 1977
NUKDIK	2,710,708.90	2,356,237.91	–	USCGS SBC, GOOD CONDITION
HH–20 1997	2,707,551.64	2,353,404.56	32.50	FND 3 1/4" BC IN CONC. SIDEWALK
HH–21 1997	2,707,157.46	2,353,377.94	33.91	FND 3 1/4" BC IN CONC. SIDEWALK
HH–22 2000	2,707,104.71	2,353,548.29	26.96	FND 3 1/4" DBC IN DOCK SURFACE
HH–23 2000	2,706,657.65	2,353,359.27	35.86	FND 3 1/4" BC IN CONC. SIDEWALK

PROJECT LIMITS

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	2,706,921	2,353,870	12	2,707,439	2,354,056
2	2,707,058	2,353,829	13	2,707,418	2,354,069
3	2,707,102	2,353,723	14	2,707,222	2,354,079
4	2,707,182	2,353,528	15	2,707,207	2,354,075
5	2,707,491	2,353,508	16	2,707,228	2,354,003
6	2,707,493	2,353,548	17	2,707,055	2,354,033
7	2,707,501	2,353,698	18	2,707,040	2,354,012
8	2,707,476	2,353,699	19	2,706,913	2,353,977
9	2,707,461	2,353,838	20	2,706,716	2,354,049
10	2,707,487	2,353,840	21	2,706,668	2,353,947
11	2,707,474	2,353,968			

☆ NAVIGATION AIDS ☆

DESCRIPTION	USCG No.	NORTHING	EASTING
HAINES SMALL BOAT HARBOR LIGHT 2	23910	2,706,924.6	2,354,070.5

VOLUME COMPUTATIONS

Project Depth –11' MLLW			Project Depth –14' MLLW		
PROJECT DEPTH	(–11' MLLW)	323 (cubic yards)	PROJECT DEPTH	(–14' MLLW)	2298 (cubic yards)
Between PROJECT DEPTH and MAXIMUM PAY LINE	(–12' MLLW)	151 (cubic yards)	Between PROJECT DEPTH and MAXIMUM PAY LINE	(–15' MLLW)	2927 (cubic yards)
TOTAL		474 (cubic yards)	TOTAL		5225 (cubic yards)
Project Depth –12' MLLW			Project Depth –15' MLLW		
PROJECT DEPTH	(–12' MLLW)	1528 (cubic yards)	PROJECT DEPTH	(–15' MLLW)	397 (cubic yards)
Between PROJECT DEPTH and MAXIMUM PAY LINE	(–13' MLLW)	2046 (cubic yards)	Between MINIMUM PAY LINE and MAXIMUM PAY LINE	(–16' MLLW)	247 (cubic yards)
TOTAL		3574 (cubic yards)	TOTAL		644 (cubic yards)
SIDE SLOPES		9486 CUBIC YARDS			
TOTAL (Entire Project)		19403 (cubic yards)			

CONTRACT NO. W911KB04–D–0007

CONTRACTOR HUGHES AND ASSOCIATES

CITY PALMER STATE ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: CSH/REH

DRAWN: CSH/REH

CHECKED: JSH

SUBMITTED:

HAINES, ALASKA
HAINES HARBOR
JUNE 19, 2004
PROJECT CONDITION SURVEY

RECOMMENDED: PROJECT MANAGER

APPROVED: CHIEF OPERATIONS–READINESS BRANCH

DATE:

SURVEY NO. 2151–04

SCALE: 1"= 50'

SHEET 1 OF 1