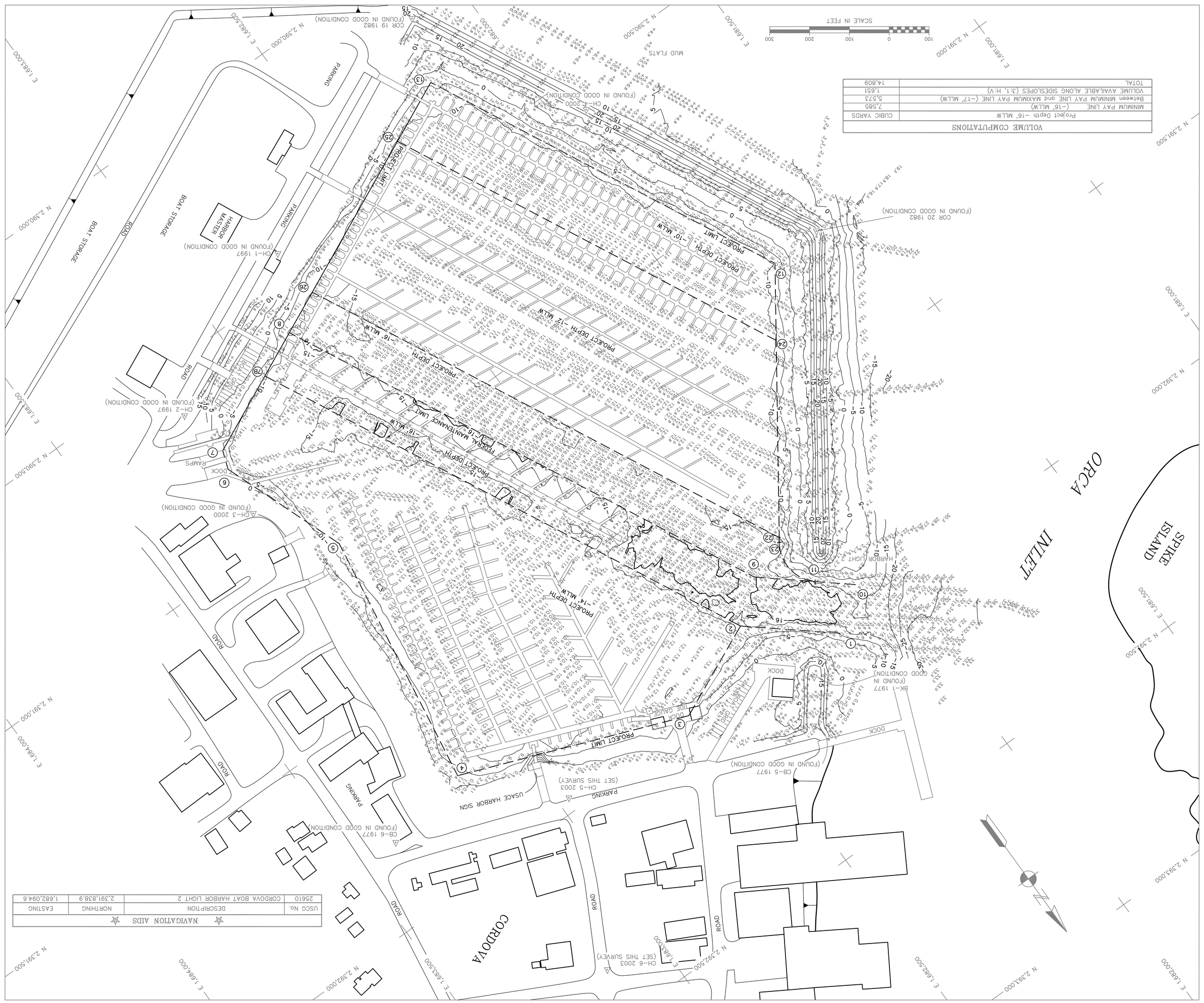
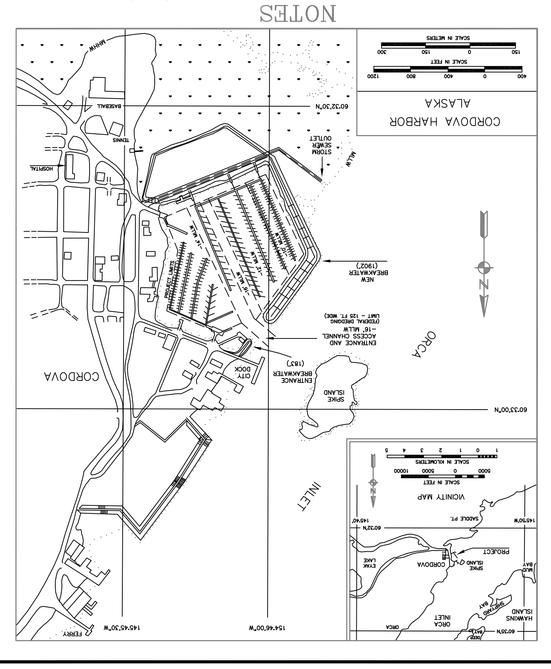


VOLUME COMPUTATIONS	
Project Depth -16' MLLW	CUBIC YARDS
MINIMUM PAY LINE (-16' MLLW)	7,585
Between MINIMUM PAY LINE and MAXIMUM PAY LINE (-17' MLLW)	5,573
VOLUME AVAILABLE ALONG SIDESLOPES (3:1, H:V)	1,651
TOTAL	14,809

NAVIGATION AIDS			
USCG No.	DESCRIPTION	NORTHING	EASTING
25610	CORDOVA BOAT HARBOR LIGHT 2	2,391,838.9	1,682,094.6

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 3, NAD83(CORS), IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING NGS EPOCH 2002.00 CORS LT PHASE CENTER VALUES FOR "CP HINCHINBROOK 3" (NGS PID AJ7956), "OLENALLEN" (NGS PID AH2493) AND "POTATO POINT 3" (NGS PID AJ7945). (SEE NOTE 7 BELOW)
2. VERTICAL CONTROL IS MEAN LOWER LOW WATER DATUM, IN US SURVEY FEET (MLLW=0.0') HOLDING USCGS TIDAL BENCH MARK "NO 13 1970" AS 21.53', AND NOAA/NOS TIDAL BENCH MARK "4050 H 1982" AS 30.33'. TIDAL DATUM IS BASED ON THE 1983–2001 TIDAL EPOCH FROM NOAA/NOS TIDAL BENCH MARK LIST, "9454050 CORDOVA, ORCA INLET, PRINCE WILLIAM SOUND, ALASKA", PUBLISHED 05/16/2003.
3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
5. SOUNDING OPERATIONS WERE CONDUCTED ON JUNE 17–18, 2003 USING AN ODOM HYDROTRAC PRECISION DEPTH SOUNDER WITH A 200KHZ, 3 DEGREE BEAM-WIDTH, SINGLE-BEAM TRANSDUCER. POSITIONING WAS PROVIDED USING A TRIMBLE 4000SSI RECEIVER OPERATING ON RTCM CORRECTIONS BROADCAST FROM A TRIMBLE 4000SSE BASE STATION SET AT USACE DOMED BC "CH-2 1997". NAVIGATION, DATA COLLECTION AND DATA PROCESSING WERE PERFORMED USING HYPACK MAX INTEGRATED SOFTWARE. SOUNDINGS WERE CORRECTED FOR TIDE USING WATER SURFACE DATA COLLECTED WITH A ENDECO TPPE 1029 WATER LEVEL RECORDER SET BY TERRA SURVEYS FOR THIS SURVEY.
6. VERTICAL CONTROL WAS SURVEYED JUNE 13–14, 2003 USING OPTICAL INSTRUMENTS AND DIFFERENTIAL LEVELING TECHNIQUES. HORIZONTAL CONTROL WAS SURVEYED JUNE 14, 2003 USING BOTH STATIC AND REAL-TIME-KINEMATIC GPS EQUIPMENT AND TECHNIQUES. UPLAND TOPOGRAPHY WAS SURVEYED JUNE 18–19, 2003 USING CONVENTIONAL EQUIPMENT AND TECHNIQUES.
7. HORIZONTAL CONTROL VALUES WERE TRANSFORMED INTO THE NGS CORS EPOCH 2003 DATUM HOLDING USACE SBC "COR 19 1982" AS N 2,390,148.08, E 1,682,142.65 AND USACE SBC "CB-5 1977" AS N 2,392,179.77, E 1,682,368.00. MONUMENTS OF RECORD WHICH WERE NOT SURVEYED ARE DENOTED IN THE CONTROL TABLE WITH AN ASTERISK (*).
8. UNSURVEYED CONTROL MONUMENTS, PLAT FEATURES, GRID TICS, PROJECT LIMITS AND AIDS TO NAVIGATION WERE TRANSFORMED FROM NAD83(1986) TO NAD83(CORS) USING A FIXED SCALE, LEAST SQUARES TRANSFORMATION WITHIN TRIMBLE GEOMATICS OFFICE SOFTWARE (V1.60).



CONTROL DATA			
STATION	NORTHING	EASTING	ELEV.	DESCRIPTION
BK-1 1977	2,392,080.49	1,682,294.54	16.75	USACE SBC
CB-6 1977	2,391,801.14	1,683,389.76	39.90	USACE SBC
CB-5 1977	2,392,179.77	1,682,368.00	17.31	USACE SBC
CH-1 1997	2,390,428.73	1,682,762.05	21.09	USACE DOMED BC
CH-2 1997	2,390,621.55	1,683,190.94	21.80	USACE DOMED BC
CH-3 2000	2,390,921.64	1,683,194.88	18.70	USACE DOMED BC
CH-4 2000	2,390,590.00	1,681,922.58	22.34	USACE DOMED BC
CH-5 2003	2,391,965.51	1,682,971.62	20.07	SET USACE DOMED BC
CH-6 2003	2,392,371.66	1,683,146.52	22.61	SET USACE DOMED BC
COR 19 1982	2,390,148.08	1,682,142.65	22.22	USACE SBC
COR 20 1982	2,391,176.10	1,681,632.86	21.84	USACE SBC

PROJECT LIMITS				
CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	2,392,029.55	1,682,177.94	10	2,391,953.36	1,682,074.36
2	2,391,966.49	1,682,369.08	11	2,391,888.20	1,682,151.69
3	2,391,976.87	1,682,606.33	12	2,391,181.09	1,681,764.63
4	2,391,756.67	1,683,165.11	13	2,390,305.77	1,682,198.61
5	2,391,109.58	1,683,064.29	22	2,391,745.51	1,682,159.89
6	2,390,794.87	1,683,180.93	23	2,391,755.46	1,682,166.86
7	2,390,748.96	1,683,164.19	24	2,391,339.69	1,681,875.70
7B	2,390,659.20	1,682,968.63	25	2,390,376.70	1,682,353.14
8	2,390,607.03	1,682,854.98	26	2,390,558.19	1,682,748.55
9	2,391,789.67	1,682,268.64			

CONTRACTOR TERRA SURVEYS, LLC
CONTRACT NO. DACW85-01-D-0001
CITY PALMER STATE ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: WKR/CCY
DRAWN: LES
CHECKED: KDW
SUBMITTED:

CORDOVA, ALASKA
CORDOVA HARBOR
PROJECT CONDITION SURVEY
JUNE 13–19, 2003

RECOMMENDED: APPROVED:
DATE:
PROJECT MANAGER CHIEF OPERATIONS–HYDRAULICS BRANCH

SURVEY NO. 2079–03
SCALE: 1" = 100'
SHEET 1 OF 1