



NOTES

- HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, NAD83, IN US SURVEY FEET, HOLDING USACE STANDARD BRASS CAP MONUMENT "DP-3 1976" AS N 1,286,917.71 E 3,107,731.75 AND USACE DOMED BRASS CAP MONUMENT "TB-3 2001" AS N 1,286,145.62 E 3,107,890.43.
- VERTICAL CONTROL IS BASED ON MEAN-LOWER-WATER, IN US SURVEY FEET (MLLW = 0.0'), HOLDING USACE STANDARD BRASS CAP MONUMENT "DP-3 1976" AS 21.80' ABOVE MLLW WATER AND USACE DOMED BRASS CAP MONUMENT "TB-3 2001" AS 22.70'.
- SOUNDINGS ARE IN US SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
- THIS SURVEY INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
- SOUNDING OPERATIONS WERE COLLECTED MAY 28, 2007 USING AN INERSPACE 448 ECHO SOUNDER WITH A 200 KHZ 3 DEGREE BEAM-WIDTH, 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 WAS PROVIDED USING A TRIMBLE 5700 RECEIVER OPERATING ON RTK CORRECTIONS BROADCAST FROM A TRIMBLE 5700 BASE STATION SET AT USACE DOMED BRASS CAP MONUMENT "TB-3 2001". NAVIGATION, DATA COLLECTION AND DATA PROCESSING WERE PERFORMED USING HYPAACK MAX 6.2 INTEGRATED SOFTWARE. TIDE CORRECTIONS WERE PROVIDED BY TRIMBLE 5700 RTK GPS RECEIVER AND CHECKED THROUGH CONVENTIONAL METHODS.
- HORIZONTAL CONTROL WAS SURVEYED MAY 25-26, 2007 USING BOTH STATIC AND REAL-TIME KINEMATIC GPS EQUIPMENT AND TECHNIQUES. ALL BREAKWATERS, BASINS, HARBOR LEADLINE SOUNDINGS AND SURROUNDING AREAS WERE SURVEYED USING A TRIMBLE 5700 RTK SURVEY ROVER.

| CONTROL DATA | | | |
|--------------|--------------|--------------|------------------------|
| STATION | NORTHING | EASTING | DESCRIPTION |
| DP-1, 1976 | 1,286,057.25 | 3,107,299.01 | 21.30 USACE SBC |
| DP-2, 1976 | 1,287,204.51 | 3,107,368.50 | 20.98 OBLITERATED |
| DP-3, 1976 | 1,286,917.71 | 3,107,731.75 | 21.80 USACE SBC |
| DP-4, 1976 | 1,286,139.78 | 3,107,896.88 | 22.26 OBLITERATED |
| TB-1, 1998 | 1,286,078.25 | 3,107,084.50 | 21.88 USACE DOMED BC |
| TB-3, 2001 | 1,286,145.62 | 3,107,890.43 | 22.70 USACE DOMED BC |
| TB-4, 2001 | 1,287,136.38 | 3,107,461.90 | 21.75 USACE DOMED BC |
| NO 30 1922 | ----- | ----- | 26.53 USCGS BENCH MARK |
| BM 39 1974 | ----- | ----- | 32.46 NOS BENCH MARK |

| PROJECT LIMITS | | | | | |
|----------------|-----------|-----------|--------|-----------|-----------|
| CORNER | NORTHING | EASTING | CORNER | NORTHING | EASTING |
| 1 | 1,286,082 | 3,107,154 | 7 | 1,286,337 | 3,107,940 |
| 2 | 1,286,835 | 3,107,315 | 8 | 1,286,228 | 3,107,914 |
| 3 | 1,287,007 | 3,107,209 | 9 | 1,286,118 | 3,107,441 |
| 4 | 1,287,153 | 3,107,331 | 10 | 1,286,157 | 3,107,273 |
| 5 | 1,286,810 | 3,107,755 | 11 | 1,286,139 | 3,107,243 |
| 6 | 1,286,358 | 3,107,853 | 12 | 1,286,063 | 3,107,216 |

| NAVIGATION AIDS | | | |
|---------------------------------------|----------|-----------|-----------|
| DESCRIPTION | USCG NO. | NORTHING | EASTING |
| THOMAS BASIN ENTRANCE LIGHT 2 FL. RED | 22165 | 1,286,053 | 3,107,298 |
| CITY DOCK LIGHT (NEW AID) | GREEN | 1,286,022 | 3,107,112 |

| VOLUME COMPUTATIONS | |
|--|--------------------|
| Project Depth -10' MLLW | 3811 (cubic yards) |
| PROJECT DEPTH (-10' MLLW) | 1573 (cubic yards) |
| BETWEEN PROJECT DEPTH and MAXIMUM PAY LINE (-11' MLLW) | 2268 (cubic yards) |
| SIDELOPES (±1) | 8052 (cubic yards) |
| TOTAL | 8052 (cubic yards) |

CONTRACT NO. W911KB04-D-0007

CONTRACTOR: HUGHES & ASSOCIATES
CITY: WASILLA STATE: ALASKA

ALASKA DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

SURVEYED: HUGHES & ASSOCIATES
DRAWN: CSH/EJC
CHECKED: JSH
SUBMITTED: JSH

KETCHIKAN, ALASKA
THOMAS BASIN
MAY 24-28, 2007
PROJECT CONDITION SURVEY

RECOMMENDED: _____ APPROVED: _____ DATE: _____
PROJECT MANAGER: _____ CHIEF OPERATIONS-RESEARCH BRANCH

SURVEY NO. 2450-07 SCALE: 1" = 50'
SHEET 1 OF 1

