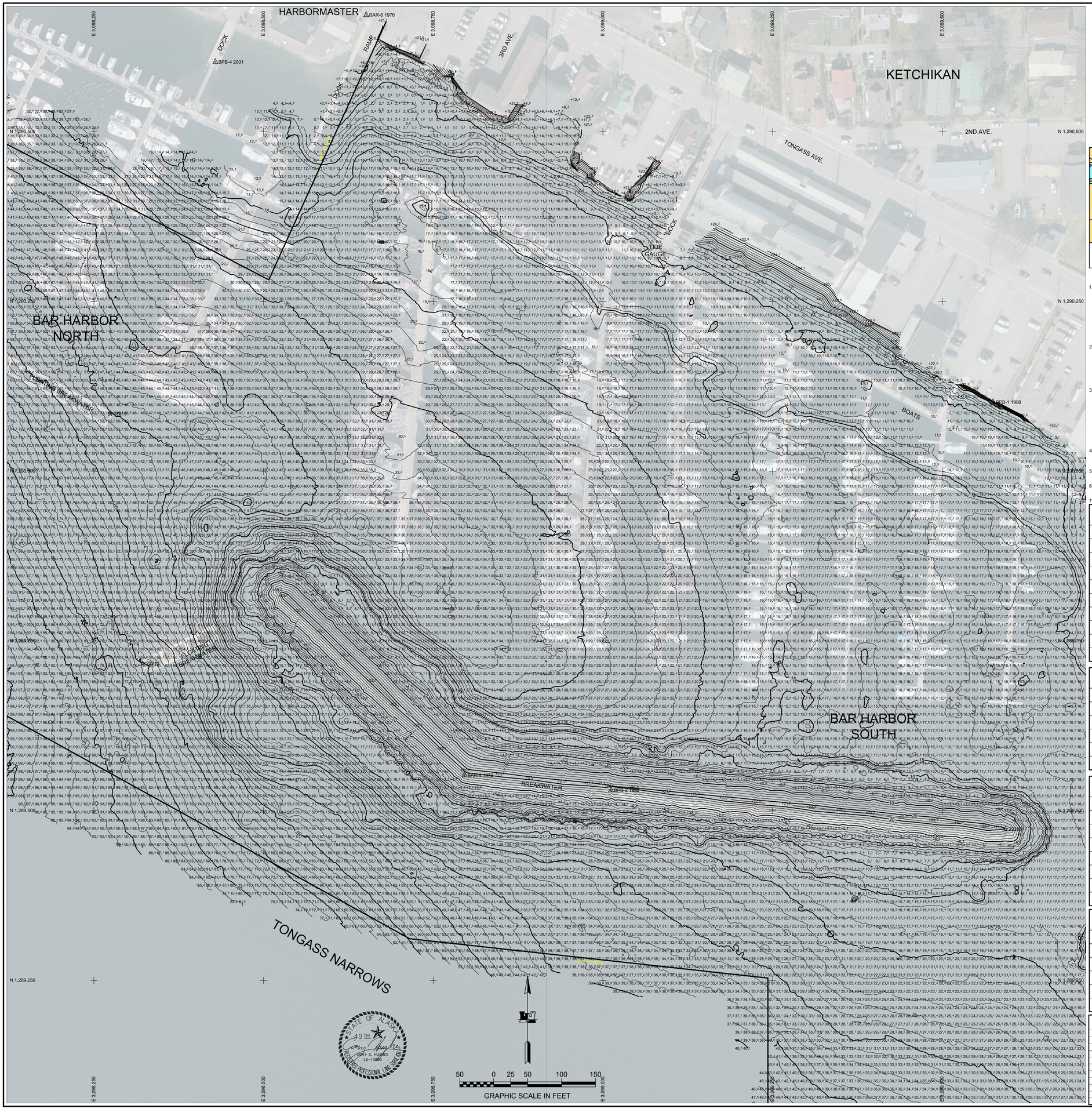
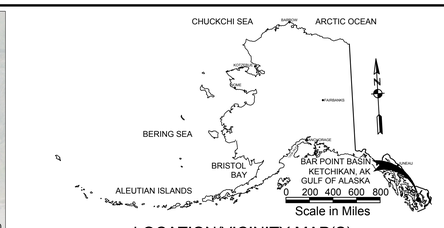
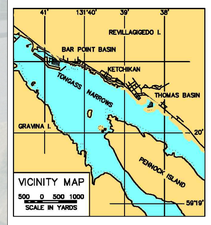
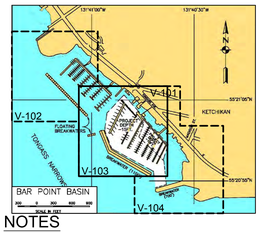



## LOCATION/VICINITY MAP(S)




## NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 1, NAD83, IN U.S. SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 (CORS) 2010 EPOCH VALUES OF NGS CORS STATIONS: "ANNETTE ISLAND 5 CORS ARP" (AIS5 - PID DK6482) AS N 1,188,024.64, E 3,119,193.51 (ALASKA STATE PLANE, ZONE 1, NAD 83) AND "PORTALEXANAK2005" (AB48 - PID DL6695) AS N 1,612,437.44, E 2,486,560.66 (ALASKA STATE PLANE, ZONE 1, NAD 83) AND "LEVEL ISLAND 6 CORS ARP" (LEV6 - PID DJ3035) N 1,692,090.98, E 2,802,073.47 (ALASKA STATE PLANE, ZONE 1, NAD 83). CORS ST ATIONS STATE PLANE COORDINATES ARE CONVERTED FROM LAT/LONG USING NGS PROGRAM SPCS83(V2.1). RESULTANT COORDINATES AT PRIMARY HARBOR CONTROL HOLD USACE SBC "BPB-3 2001" AS N 1,289,759.16, E 3,099,834.79 AND SBC "BPB-6 2012" AS N 1,291,023.25, E 3,097,826.80.
2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.O'), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST: "9450460, KETCHIKAN, TONGASS NARROWS, ALASKA", PUBLISHED 09/27/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOS TIDAL BENCHMARK "0460 E 2001" AS 53.12' AND NOS TIDAL BENCHMARK "0460 F 2004" AS 53.11'. ALSO PROVIDED ARE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) EQUIVALENTS, HOLDING" BPB-6 2012" AS 18.63', BASED ON GPS OBSERVATIONS FROM JULY 6 & 13 2012.
3. THE SURVEY WAS CONDUCTED ON JULY 6-15, 2012. HYDROGRAPHIC SOUNDING DATA WAS COLLECTED USING AN ODOM ES3 MULTI-BEAM ECHOSOUNDER (200KHZ, 120-DEGREE SWATH-WIDTH WITH 120, 0.75 DEGREE BEAMS). POSITIONING AND VESSEL ATTITUDE WERE PROVIDED IN REAL TIME USING A TRIMBLE 461 RTK GPS RECEIVER OPERATING ON KINEMATIC CORRECTORS BROADCAST FROM A TRIMBLE 5700 RTK BASE RECEIVER SET AT CONTROL STATION, "BPB-3 2001". SOUND VELOCITY PROFILE WAS PROVIDED USING AN ODOM DIGI-BAR PRO, AND WAS PROVIDED IN REAL TIME AT THE SOUNDER HEAD USING AN ODOM DIGI-BAR V. DATA COLLECTION AND NAVIGATION WERE PERFORMED USING HYPACK HYSWEEP (2012) SOFTWARE. MULTI-BEAM SURVEY DATA WAS POST-PROCESSED USING HYPACK HYSWEEP (2012) SOFTWARE.
4. PLAN VIEW SOUNDING SELECTION IS THE POINT NEAREST CENTER IN A 12 FOOT BINNED MATRIX. CONTOUR AND VOLUME SOUNDING SELECTION IS THE AVERAGE VALUE IN A 3 FOOT BINNED MATRIX.
5. CONTROL MONUMENT "BPB - 4 2001" WAS NOT UPDATED DUE TO INACCESSIBILITY.
6. SOUNDING VALUES SHOWN ARE IN U.S. SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
7. THIS DRAWING INDICATES THE GENERAL CONDITIONS AT THE TIME OF THE SU RVEY.

## SURVEY CONTROL DATA

| STATION | NORTHING | EASTING | ELEV | DESCRIPTION |
|---|---|---|---|---|
| BAR-2 1972 | 1,289,295.61 | 3,099,769.18 | 21.04 | USACE SBC, FOUND IN GOOD COND |
| BAR-4 1972 | 1,289,552.31 | 3,098,796.18 | 21.14 | USACE SBC, FOUND IN GOOD COND |
| BAR-6 1976 | 1,290,671.95 | 3,098,651.22 | 21.42 | SEARCHED FOR NOT FOUND |
| BPB-1 1998 | 1,290,101.69 | 3,099,574.62 | 22.22 | USACE SBC, FOUND IN GOOD COND |
| BPB-2 1998 | 1,289,530.10 | 3,099,011.94 | 19.41 | USACE SBC, FOUND IN GOOD COND |
| BPB-3 2001 | 1,289,759.16 | 3,099,834.79 | 22.90 | USACE SBC, FOUND IN GOOD COND |
| BPB-4 2001 | 1,290,602.71 | 3,098,428.97 | 23.08 | INACCESSIBLE NOT UPDATED |
| BPB-5 2012 | 1,290,782.60 | 3,098,218.46 | 23.41 | SBC SET THIS SURVEY |
| BPB-6 2012 | 1,291,023.25 | 3,097,826.80 | 22.58 | SBC SET THIS SURVEY |

## NAVIGATION AIDS

| USCG NO. | NORTHING | EASTING | DESCRIPTION |
|---|---|---|---|
| 22200 | 1,289,303.00 | 3,099,772.00 | SOUTH ENTRANCE LIGHT 2S FL. RED |
| 22205 | 1,289,473.00 | 3,099,593.00 | SOUTH ENTRANCE DAYBEACON 3S GRN |
| 22210 | 1,289,717.00 | 3,098,322.00 | ENTRANCE LIGHT 2 FL. RED |
| 22215 | 1,290,085.00 | 3,098,274.00 | ENTRANCE DAYBEACON 3 GRN |
| 22220 | 1,290,548.00 | 3,097,433.00 | NORTH ENTRANCE LIGHT 2N FL. RED |

## PROJECT LIMITS

| CORNER# | NORTHING | EASTING |
|---|---|---|
| 1 | 1,289,357.00 | 3,099,723.00 |
| 2 | 1,289,447.00 | 3,099,837.00 |
| 3 | 1,289,732.00 | 3,099,690.00 |
| 4 | 1,290,027.00 | 3,099,688.00 |
| 5 | 1,290,565.00 | 3,098,666.00 |
| 6 | 1,290,481.00 | 3,098,622.00 |
| 7 | 1,290,203.00 | 3,099,152.00 |

## PROJECT LIMITS

| CORNER# | NORTHING | EASTING |
|---|---|---|
| 8 | 1,290,015.00 | 3,099,150.00 |
| 9 | 1,290,433.00 | 3,098,597.00 |
| 10 | 1,289,880.00 | 3,098,566.00 |
| 11 | 1,289,622.00 | 3,098,832.00 |
| 12 | 1,289,532.00 | 3,099,667.00 |
| 13 | 1,289,427.00 | 3,099,668.00 |

## SURVEY LIMITS

| CORNER# | NORTHING | EASTING |
|---|---|---|
| 21 | 1,290,662.03 | 3,098,680.60 |
| 22 | 1,290,281.94 | 3,098,507.67 |
| 23 | 1,290,936.92 | 3,097,241.41 |
| 24 | 1,290,315.54 | 3,096,898.08 |
| 25 | 1,289,311.52 | 3,098,715.20 |

## SURVEY LIMITS

| CORNER# | NORTHING | EASTING |
|---|---|---|
| 26 | 1,289,253.50 | 3,099,243.12 |
| 27 | 1,288,709.60 | 3,099,243.12 |
| 28 | 1,288,709.60 | 3,099,767.58 |
| 29 | 1,289,334.30 | 3,100,556.02 |

## VOLUME COMPUTATIONS

| | |
|---|---|
| PROJECT DEPTH -10.0' | |
| AVAILABLE TO PROJECT DEPTH (-10.0') | 3,137 cy |
| AVAILABLE BETWEEN PROJECT DEPTH (-10.0') AND MAX PAY DEPTH (-11.0') | 1,787 cy |
| TOTAL MATERIAL AVAILABLE | 4,924 cy |
| PROJECT DEPTH -15.0' | |
| AVAILABLE TO PROJECT DEPTH (-15.0') | 1,564 cy |
| AVAILABLE BETWEEN PROJECT DEPTH (-15.0') AND MAX PAY DEPTH (-16.0') | 1,805 cy |
| TOTAL MATERIAL AVAILABLE | 3,369 cy |
| AVAILABLE ALONG SIDE SLOPES (3:1) | 15,341 cy |

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO.
CONTRACTOR
CITY
STATE
Recommended: CHIEF, SURVEY SECTION
Approved: CHIEF, HYDRAULIC DESIGN
Date: ----------

| REVISION | DATE | REVISION | BY | APPD | DESCRIPTION | BY | APPD | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|

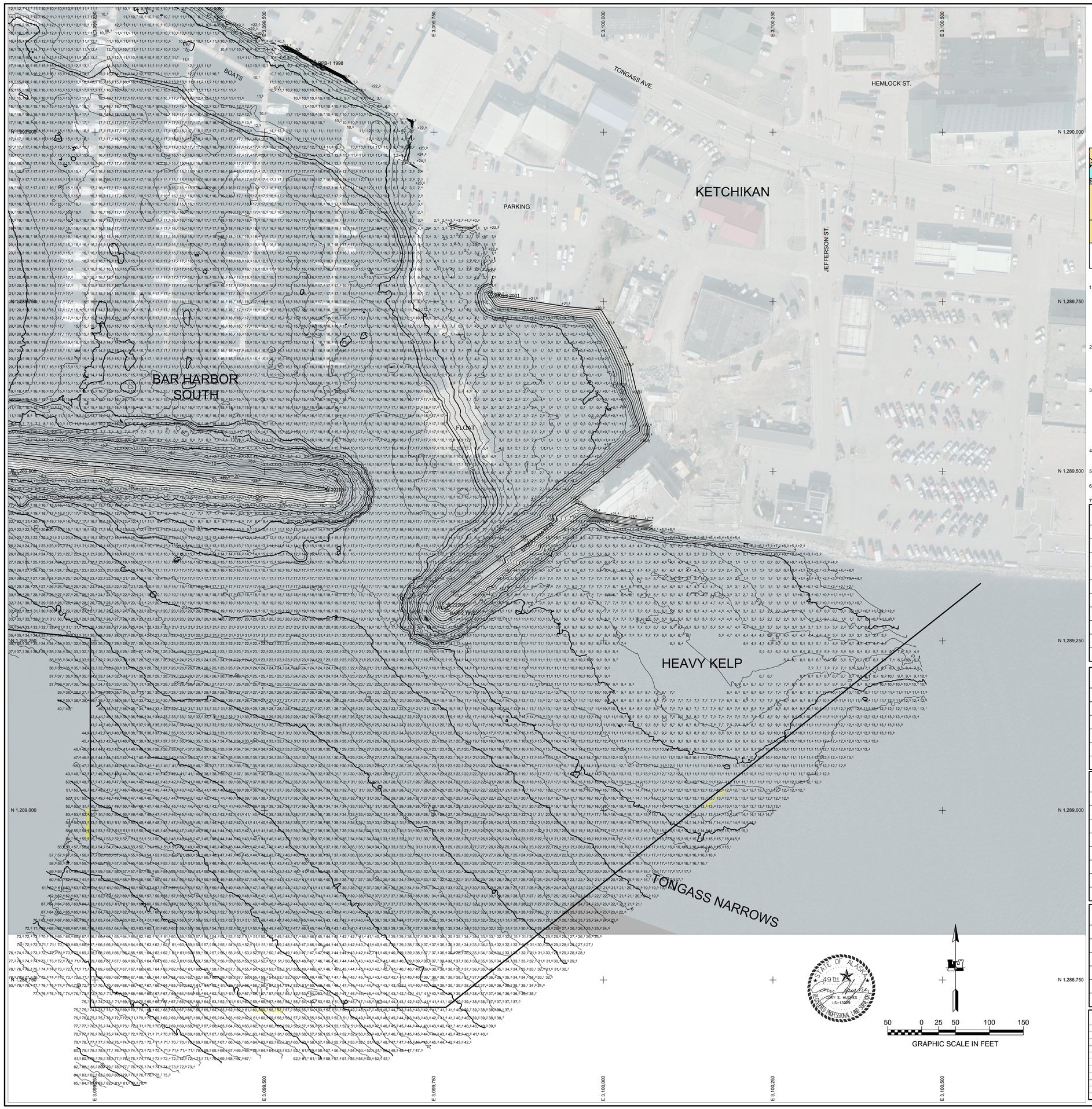
DATE: 31 January 2013
SURVEY NO: 9911165-10-0-0005
CONTRACT NO: W911KB-10-D-0005
CHECKED BY: JAH
DSIGN BY: JAH
APPROVED BY:
SURVEYED BY: AN,JHTL
PLOT DATE: 1/31/13
SCALE: 1"=2,400'
SIZE: 24X36
FILE NAME: J:\Jobs\2012\FCS_FINAL_31_13.DWG

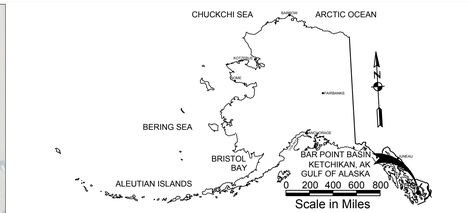
U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

HUGHES & ASSOCIATES, INC.
3670 ADMIRALTY LAKE
WASILLA, AK 99654

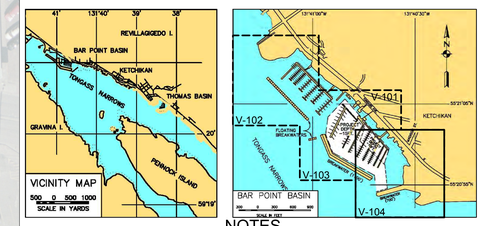
KETCHIKAN, ALASKA
BAR POINT BASIN
PLAN VIEW
JULY 6-15, 2012

SHEET IDENTIFICATION
V-103
Sheet 3 of 7




## LOCATION/VICINITY MAP(S)

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| 7 | 1,290,203.00 | 3,099,152.00 |

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| 28 | 1,288,709.60 | 3,099,767.58 |
| 29 | 1,289,334.30 | 3,100,556.02 |

## VOLUME COMPUTATIONS

| | |
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| PROJECT DEPTH -10.0' | |
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| AVAILABLE BETWEEN PROJECT DEPTH (-10.0') AND MAX PAY DEPTH (-11.0') | 1,787 CY |
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| AVAILABLE TO PROJECT DEPTH (-15.0') | 1,564 CY |
| AVAILABLE BETWEEN PROJECT DEPTH (-15.0') AND MAX PAY DEPTH (-16.0') | 1,805 CY |
| TOTAL MATERIAL AVAILABLE | 3,369 CY |
| AVAILABLE ALONG SIDE SLOPES (3:1) | 15,341 CY |

US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO.:
CONTRACTOR:
STATE:
CITY:
Recommended: CHIEF, DESIGN SECTION
Approved: CHIEF, DESIGN SECTION
Date:

| SYMBOL | DATE | DESCRIPTION | BY | APPRO | REVISIONS | DATE | DESCRIPTION | BY | APPRO |
|---|---|---|---|---|---|---|---|---|---|

DATE: 31 January 2013
SURVEY NO.: W91NB-10-D-0005
CONTRACT NO.: W91NB-10-D-0005
CONVERSION: CORS & UPCT & (PG) #'s: 1972 & 1976
PLOT DATE: 7/31/13
FILE NAME: [illegible]2012TOS_FINAL_L3_V_13.DWG
SCALE: 1" = 50'
SIZE: ANSI E
DESIGNED BY: ANJETL
DRAWN BY: CW
CHECKED BY: GH
APPROVED BY:

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

HUGHES & ASSOCIATES, INC.
2000 A STREET, SUITE 202
WASILLA, AK 99654

KETCHIKAN, ALASKA
BAR POINT BASIN
PLAN VIEW
JULY 6-15, 2012

SHEET IDENTIFICATION
V-104
Sheet 4 of 7