

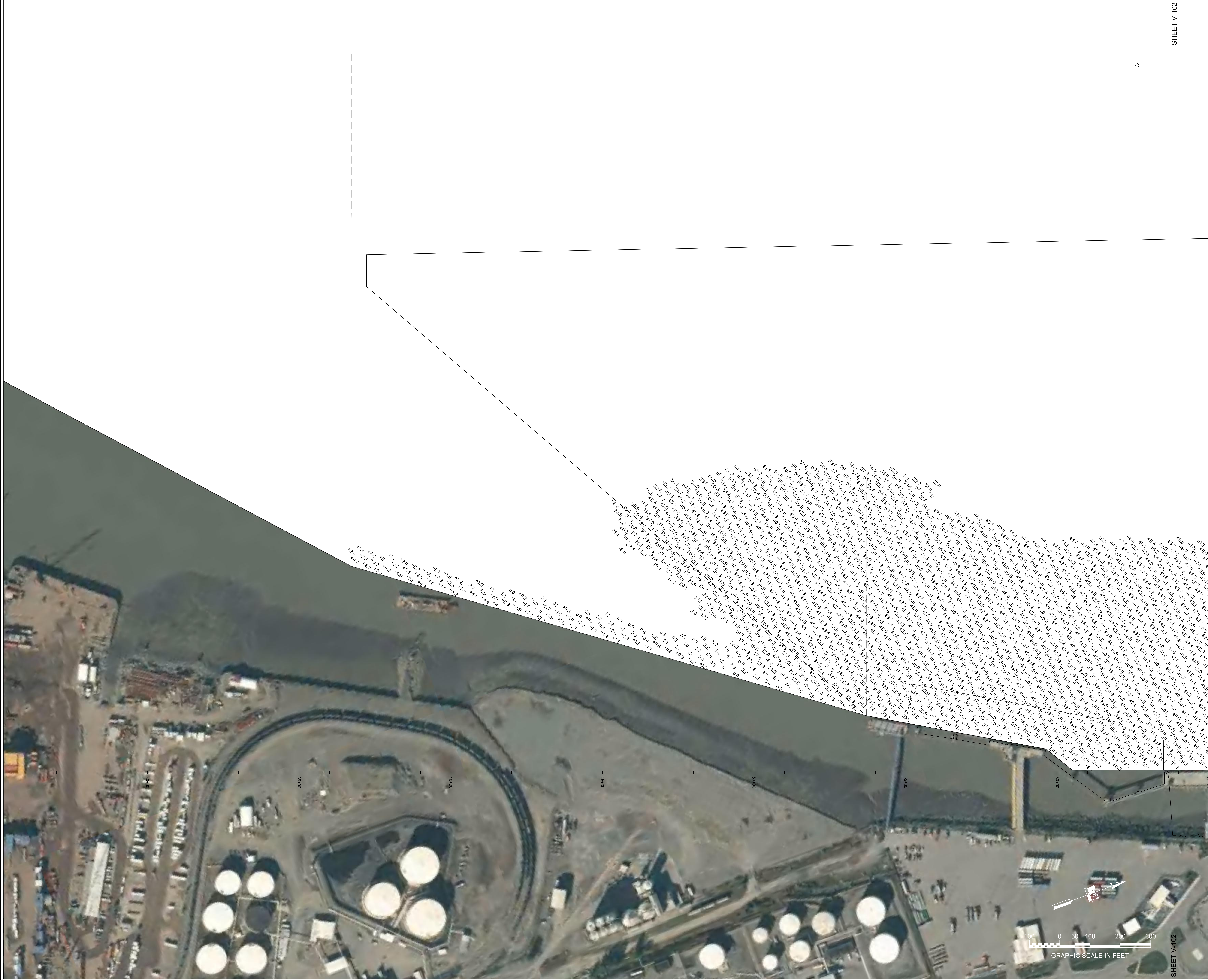
CONTRACT NO. W14H6-5-C-006
 CONTRACTOR: MANISH CONSTRUCTION CO.
 CITY: SEATTLE STATE: WASHINGTON
 DATE: 04/25/17
 RECOMMENDED BY: [Signature] DATE: 04/25/17
 APPROVED BY: [Signature] DATE: 04/25/17

| NO. | REVISION | DATE | DESCRIPTION |
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| DATE | BY | DESCRIPTION |
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DATE: 04/25/17
 CHECKED BY: J. ANDERSON
 DRAWN BY: J. ANDERSON
 SCALE: 1" = 100'
 FILE NAME: PRE_DREDGING_SURVEY_POA
 U.S. ARMY CORPS OF ENGINEERS
 ALASKA DISTRICT
 JBER, ALASKA 99506-0998

ANCHORAGE, ALASKA
 2015-2017 MAINTENANCE DREDGING, PORT OF ANCHORAGE
 HYDROGRAPHIC SURVEY
 PRE 20170416_17_POA
 SHEET IDENTIFICATION
 V-101
 Sheet 1 of 5



SHEET V-102

SHEET V-102



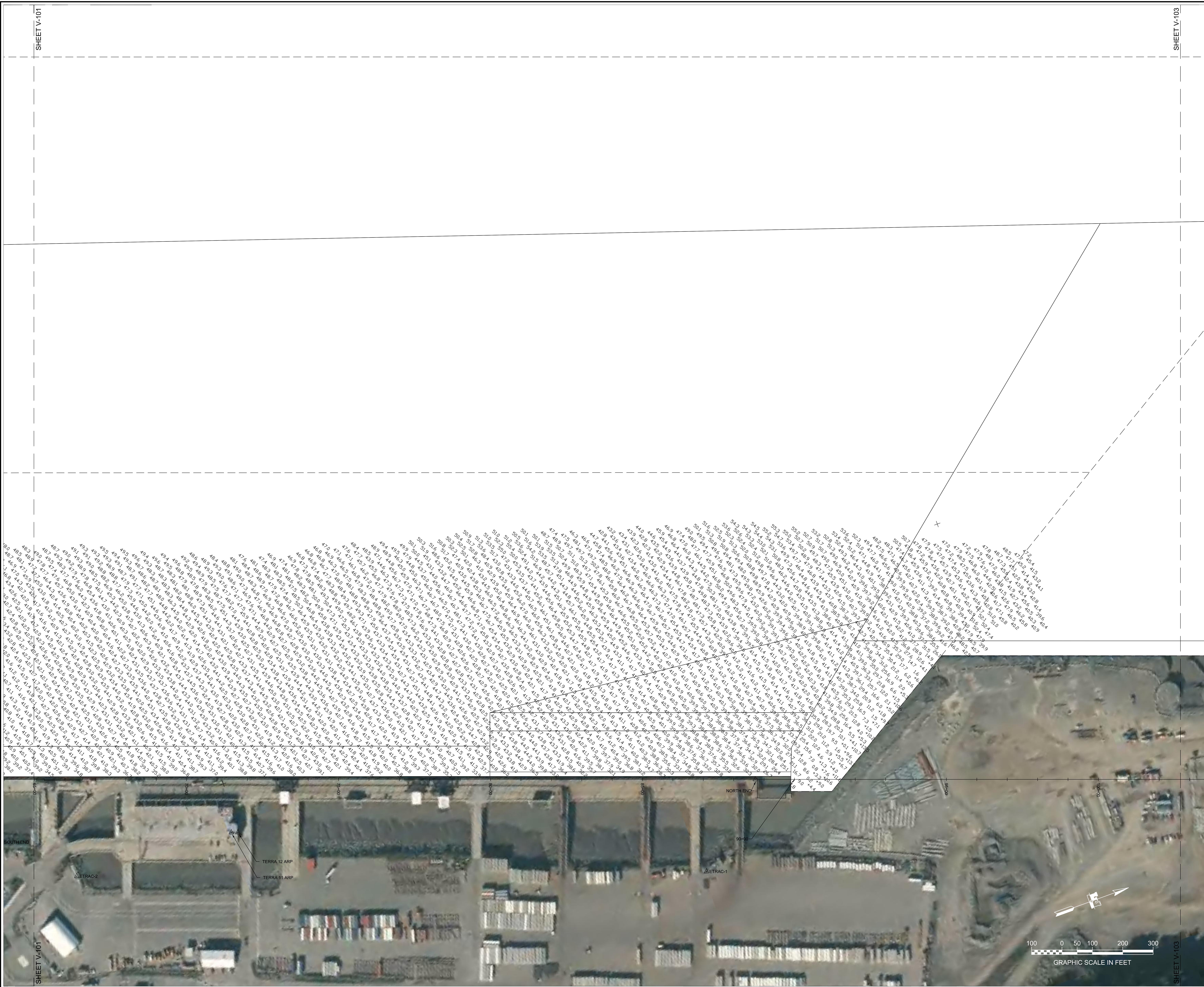
CONTRACT NO. W1198-15-006
 CONTRACTOR MANISH CONSTRUCTION CO.
 CITY SEATTLE STATE WASHINGTON
 DATE
 RECOMMENDED BY APPROVAL DATE
 DATE

| NO. | DESCRIPTION | DATE | BY | REVISION |
|-----|-------------|------|----|----------|
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DATE 08/02/2017
 LDC JACOBSON
 CHECKED BY JACOBSON
 DRAWN BY WITHEISS-COONE
 DATE 08/02/2017
 SCALE 1"=200'
 JOB NO. 15-006
 PROJECT NAME PORT OF ANCHORAGE
 SHEET TITLE HYDROGRAPHIC SURVEY

ANCHORAGE, ALASKA
 2015-2017 MAINTENANCE DREDGING, PORT OF ANCHORAGE
 HYDROGRAPHIC SURVEY
 PRE 20170416_17_POA
 SHEET IDENTIFICATION
 V-102
 Sheet 2 of 5

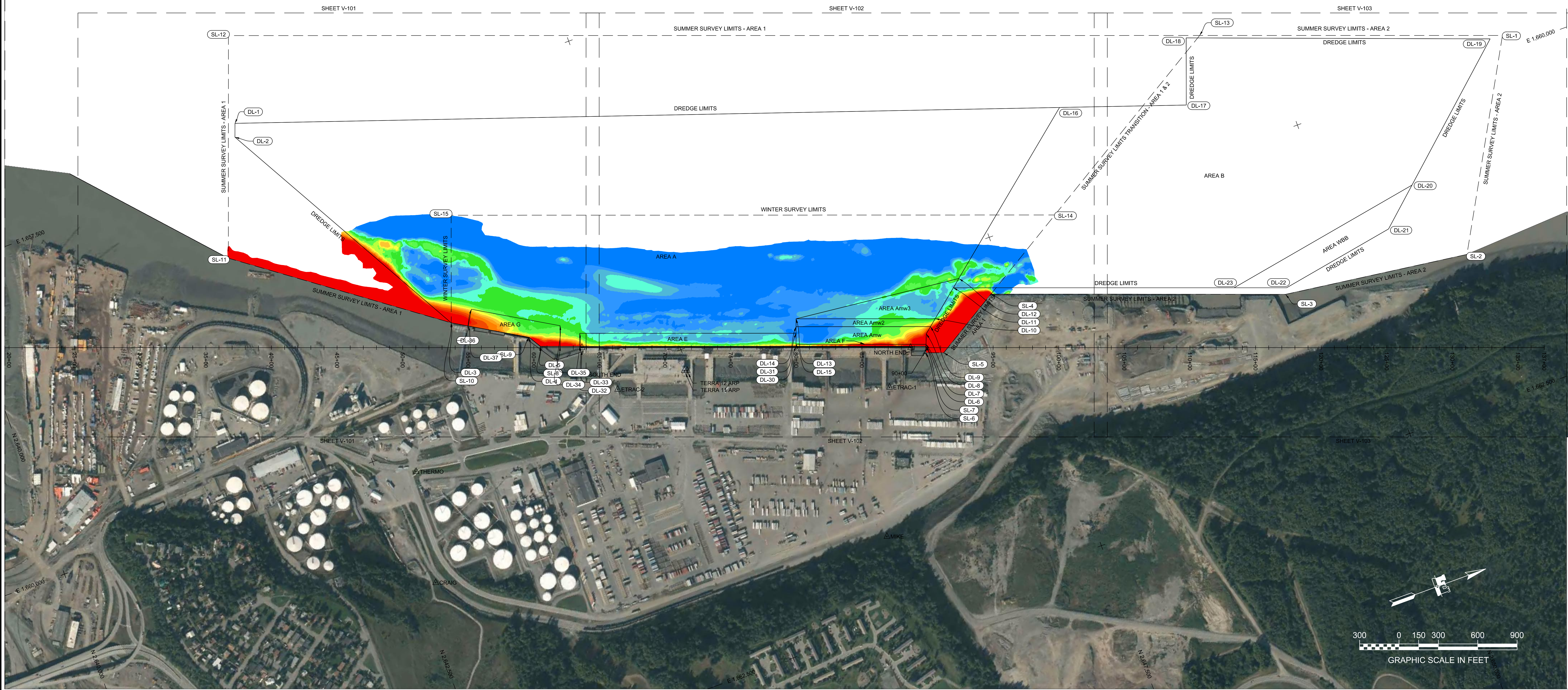
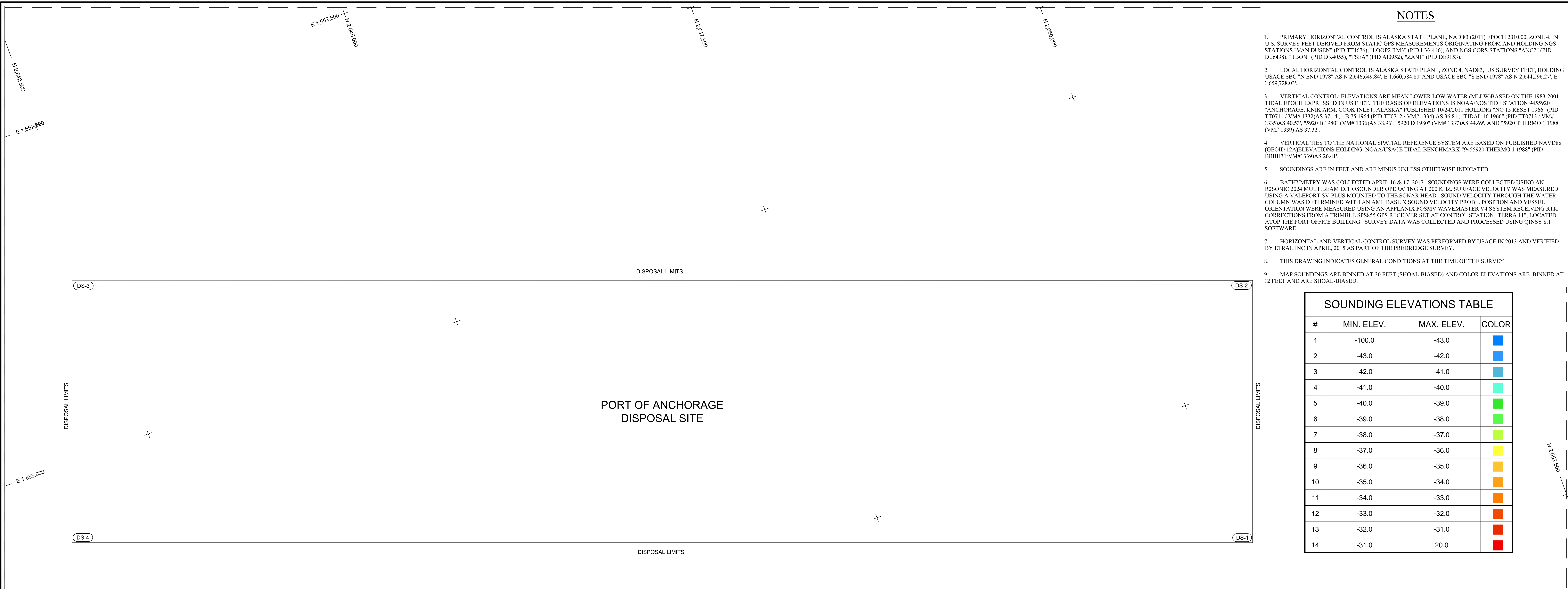


NOTES

1. PRIMARY HORIZONTAL CONTROL IS ALASKA STATE PLANE, NAD 83 (2011) EPOCH 2010.00, ZONE 4, IN U.S. SURVEY FEET DERIVED FROM STATIC GPS MEASUREMENTS ORIGINATING FROM AND HOLDING NGS STATIONS "VAN DUSEN" (PID T14650), "LORENZ" (PID U3446), AND NGS CORS STATIONS "ANCZ" (PID DL6498), "TBN" (PID DK4055), "TSEA" (PID A10952), "ZANI" (PID DE9153).
2. LOCAL HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, US SURVEY FEET, HOLDING USACE SBC "N END 1978" AS N 2,646,649.84, E 1,660,584.80 AND USACE SBC "S END 1978" AS N 2,644,296.27, E 1,659,728.03.
3. VERTICAL CONTROL: ELEVATIONS ARE MEAN LOWER LOW WATER (MLLW) BASED ON THE 1983-2001 TIDAL EPOCH EXPRESSED IN US FEET. THE BASIS OF ELEVATIONS IS NOAA NOS TIDE STATION 9455920 "ANCHORAGE, KNIK ARM, COOK INLET, ALASKA" PUBLISHED 10/20/11 HOLDING "NO 15 RESET 1966" (PID T10711 / VMF 1332) AS 37.14, " B 75 1964 (PID T10712 / VMF 1334) AS 36.81, " TIDAL 16 1966" (PID T10713 / VMF 1335) AS 40.53, "5920 B 1980" (VMF 1336) AS 38.96, "5920 D 1980" (VMF 1337) AS 44.69, AND "5920 THERMO 1 1988 (VMF 1339) AS 37.37".
4. VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID 12) ELEVATIONS HOLDING NOAA-USACE TIDAL BENCHMARK "9455920 THERMO 1 1988" (PID BBBH31/VMF1339) AS 26.41'.
5. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
6. BATHYMETRY WAS COLLECTED APRIL 16 & 17, 2017. SOUNDINGS WERE COLLECTED USING AN RESONIC 3024 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SURFACE VELOCITY WAS MEASURED USING A VALEPORT SV-PLUS MOUNTED TO THE SONAR HEAD. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSNAV WAVEMASTER V4 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPSS5 GPS RECEIVER SET AT CONTROL STATION "TERRA 11", LOCATED ATOP THE PORT OFFICE BUILDING. SURVEY DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE.
7. HORIZONTAL AND VERTICAL CONTROL SURVEY WAS PERFORMED BY USACE IN 2013 AND VERIFIED BY ETAC INC IN APRIL, 2015 AS PART OF THE PREDREDGE SURVEY.
8. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
9. MAP SOUNDINGS ARE BINNED AT 30 FEET (SHOAL-BIASED) AND COLOR ELEVATIONS ARE BINNED AT 12 FEET AND ARE SHOAL-BIASED.

| SOUNDING ELEVATIONS TABLE | | | |
|---------------------------|------------|------------|-------------|
| # | MIN. ELEV. | MAX. ELEV. | COLOR |
| 1 | -100.0 | -43.0 | Blue |
| 2 | -43.0 | -42.0 | Light Blue |
| 3 | -42.0 | -41.0 | Light Green |
| 4 | -41.0 | -40.0 | Green |
| 5 | -40.0 | -39.0 | Light Green |
| 6 | -39.0 | -38.0 | Light Green |
| 7 | -38.0 | -37.0 | Light Green |
| 8 | -37.0 | -36.0 | Yellow |
| 9 | -36.0 | -35.0 | Yellow |
| 10 | -35.0 | -34.0 | Orange |
| 11 | -34.0 | -33.0 | Orange |
| 12 | -33.0 | -32.0 | Red |
| 13 | -32.0 | -31.0 | Red |
| 14 | -31.0 | 20.0 | Red |

PORT OF ANCHORAGE DISPOSAL SITE



US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W15MFKC0006
CONTRACTOR: MARSH CONSTRUCTION CO.
CITY: SEATTLE STATE: WASHINGTON
DATE: 04/25/17
APPROVED: [Signature] DATE: 04/25/17
REVISIONS: [Table with columns: NO., DESCRIPTION, DATE, BY, APPROVED]

DATE: 2017
CHECKED BY: J. ANDERSON
DRAWN BY: J. ANDERSON
SCALE: AS SHOWN
JOB NO.: W15MFKC0006
JOB TITLE: PORT OFFICE BUILDING
FILE NAME: [Name]
JOB: [Name]

ANCHORAGE, ALASKA
2015 - 2017 MAINTENANCE DREDGING, PORT OF ANCHORAGE
HYDROGRAPHIC SURVEY
PRE 20170416_17_POA

SHEET IDENTIFICATION
V-104
Sheet 4 of 5