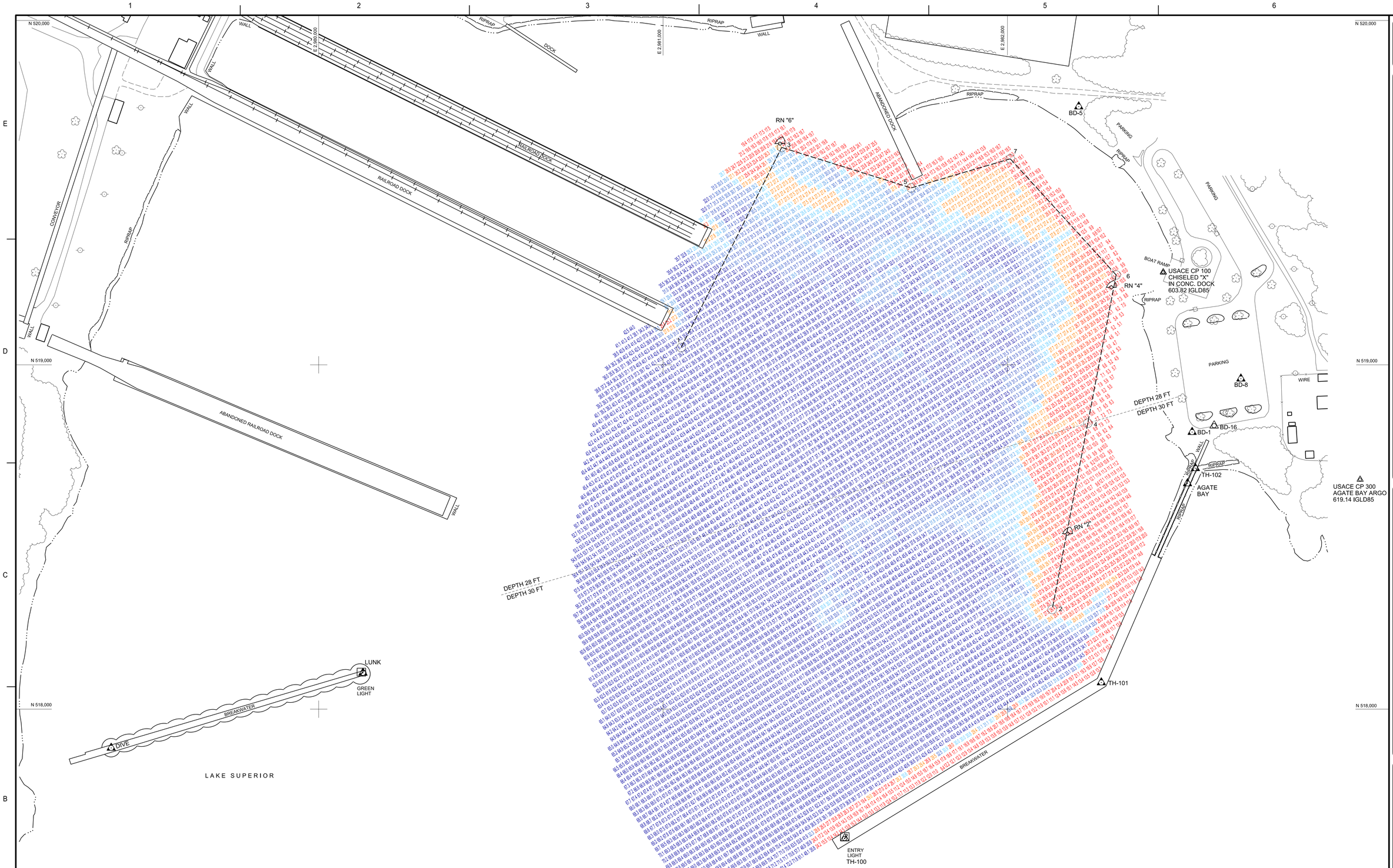

US Army Corps of Engineers Detroit District

LOCATION MAP

28' LEGEND
0.0'
27.0'
28.0'
29.0'
30.0'
31.0'
32.0'
60.0'

30' LEGEND
0.0'
29.0'
30.0'
31.0'
32.0'
33.0'
34.0'
60.0'

NOTES

1) THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON OCTOBER 31, 2019 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THAT TIME.

2) SOUNDING DEPTHS ARE REFERENCED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85) LOW WATER DATUM ELEVATION 601.1 FEET ABOVE MEAN WATER LEVEL AT RIMOUSKI, QUEBEC. WATER LEVEL READINGS WERE OBTAINED WITH RTK GPS VALUES. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.

3) HORIZONTAL POSITIONING IS DETERMINED USING REAL TIME KINEMATIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) CORRECTIONS FROM A BASE STATION LOCATED AT US ARMY CORPS OF ENGINEERS (USACE) CONTROL POINT 300 "AGATE BAY ARGO" LOCATED APPROXIMATELY 250 FEET SOUTHEAST OF THE LIGHTHOUSE, TWO HARBORS, MN.

4) THE GRID COORDINATE SYSTEM SHOWN IS REFERENCED TO THE MINNESOTA STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, NORTH ZONE (2201), NORTH AMERICAN DATUM 1983 (NAD 83), US SURVEY FOOT.

5) THE LOCATION OF NAVIGATION BUOYS REPRESENTS THEIR GENERAL POSITION AND CANNOT BE CONSIDERED FOR NAVIGATION.

6) THE BASE MAP FEATURES DEPICTED ON THIS MAP WERE DIGITIZED FROM EXISTING CHARTS AND ARE OUTDATED AND INACCURATE.

7) THE PROJECT DEPTHS FOR THIS AREA ARE 28.0' AND 30.0'.

8) THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND WITHIN THE 20' x 20' AREA CENTERED AROUND THE TEXT, DERIVED FROM A 1'x1' AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.

LEGEND

- HORIZONTAL CONTROL POINT
- VERTICAL CONTROL POINT
- CHANNEL LINE TURNING POINT
- CHANNEL LINE
- SHORELINE
- PROJECT DEPTH CONTOUR

N

0 100' 200'

COORDINATE TABLE

STA.	DESCRIPTION	COORDINATES	
		NORTHING	EASTING
CHN. PT. 1	CHANNEL LINE	519050.4	2981052.6
CHN. PT. 2	CHANNEL LINE	518289.7	2982130.0
CHN. PT. 3	CHANNEL LINE	519631.3	2981344.4
CHN. PT. 4	CHANNEL LINE	518830.5	2982233.3
CHN. PT. 5	CHANNEL LINE	519513.8	2981720.4
CHN. PT. 6	CHANNEL LINE	519261.0	2982315.6
CHN. PT. 7	CHANNEL LINE	519598.2	2982008.3
TH-100	BRASS DISK	517624.58	2981527.39
TH-101	BRASS DISK	518077.46	2982272.66
TH-102	BRASS DISK	518699.64	2982545.85
AGATE BAY	BRASS DISK	518655.56	2982522.84
AGATE BAY ARGO	BRASS DISK	518666.88	2983024.04
BD-1	BRASS DISK	518804.66	2982536.34
BD-5	BRASS DISK	519749.90	2982207.08
BD-8	BRASS DISK	518959.81	2982677.92
BD-16	BRASS DISK	518823.36	2982600.15
DIVE	BRASS DISK	517887.55	2979397.54
LUNK	BRASS DISK	518105.47	2980128.58
CP 100	CHISELED "X"	519268.73	2982452.39

US Army Corps of Engineers

MARK	DESCRIPTION	DATE	APPR. MARK

SURVEYED: KNC / AYA
DRN BY: AYA
REVIEWED BY: KNC
APPROVED BY:
HOT SCALE: 1" = 100'
IMAGE DATE:
IMAGE SOURCE:
SIZE: ANSI D
DATE OF SURVEY: 31-Oct-19
SUBMITTED BY:
CONTRACT NO.:
DRAWING DATE: 2-Jan-20
FILE NAME: TWH01.dgn

U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT
DETROIT, MI

DULUTH AREA OFFICE
600 LAKE AVENUE SOUTH
DULUTH, MN 55802

TWO HARBORS
MINNESOTA

CONDITION OF CHANNEL
OCTOBER 2019

SHEET IDENTIFICATION
TWH 01
SHEET 1 OF 1