46°42'50" N
92°2'0" W
92°1'50" W
92°1'40" W
92°1'30" W
92°1'20" W
N 46°43'40"
W 92°2'10"
N 46°42'40"
W 92°2'20"
N 46°42'30"
92°2'20" W
92°2'10" W
92°2'0" W
92°1'50" W
92°1'40" W
92°1'30" W
92°1'20" W
46°42'50" N
46°42'10" N

PROJECT DEPTH 27.0'

PROJECT DEPTH 27.0'

US Army Corps of Engineers
District: CELRE

REVISION HISTORY

U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

Surveyed By: _____
Plotted By: _____
Checked By: _____

Submitted: _____
Recommended: Chief, Survey Section _____
Approved: Chief, Technical Services _____

DISCLAIMER
Review and the most current available date (CHART) prior to use. Reasonable effort is made to assure the accuracy of the data and the reliability of the bathymetric and navigation information, but the data is furnished "As Is" without warranty of any kind, either expressed or implied. The United States shall be under no liability for the accuracy or adequacy of this data nor for any determination made thereof. These data belong to the Government. Therefore the Government retains ownership and intellectual property rights in the data. Users of this data agree to hold harmless the United States Government for any damages resulting from its use. Any user who receives these data from the Government agrees to indemnify the Government for any third party claims against the Government arising from the use of the data by the user.

Distribution Liability: The data represents the results of data acquisition and processing to the specifications and conventions in effect at the time of the survey and as such reflects the general existing conditions. It cannot be warranted for navigation purposes beyond the specific survey requirements. The user is responsible for the results obtained from the use of this data. The Government assumes no liability for the use of any of the application of the data for other than its intended purpose.

Duluth - Superior Harbor, MN
Duluth Harbor
DH_01_DSH_20260929_CS_14
29 September 2026

Sheet Reference Number
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SHEET INDEX

0 0.5 1 1.5 Miles

VICINITY MAP

MINNESOTA
MICHIGAN
WISCONSIN
MICHIGAN
ILLINOIS
INDIANA
OHIO

LEGEND

- Cable Submarine
- Cable Overhead
- Contour Lines
- Channel Limits

SOUNDING LEGEND

- LESS THAN PROJECT DEPTH
- PROJECT DEPTH
- PROJECT DEPTH +1'
- PROJECT DEPTH +2'
- PROJECT DEPTH +3'
- PROJECT DEPTH +4'
- PROJECT DEPTH +5'

1 Inch = 100 Feet

Feet
0 100 200 300 400 500 600

NOTES:

1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED AT THE TIME OF THE SURVEY WITHIN THE 10' X 10' AREA CENTERED ON THE TEXT, DERIVED FROM A 1' X 1' 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.

2. ALL 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 REAL TIME KINEMATIC (RTK) GLOBAL POSITIONING SYSTEM (GPS) VALUES THAT HAVE BEEN VERIFIED TO MATCH AUTOMATED NOAA GAGE 9099064 LOCATED AT DULUTH, MINNESOTA. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.

3. HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION LOCATED AT US ARMY CORPS OF ENGINEERS (USACE) CONTROL POINT 100 "CHIMNEY" LOCATED ON THE WAREHOUSE CHIMNEY AT THE USACE VESSEL YARD, 901 MINNESOTA AVENUE, DULUTH, MN. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POS/MV VER. 4.0.

4. THE GRID SHOWN REFERENCES LATITUDE/LONGITUDE DISPLAYED AS DEGREES, MINUTES, SECONDS IN 10-SECOND INCRIMENTS. THE SURVEY DATA REPRESENTED HEREIN IS PROJECTED TO THE MINNESOTA STATE PLANE, NORTH ZONE (2201), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.

5) AERIAL PHOTOGRAPHY DATA SOURCE: VANTOR, MICROSOFT