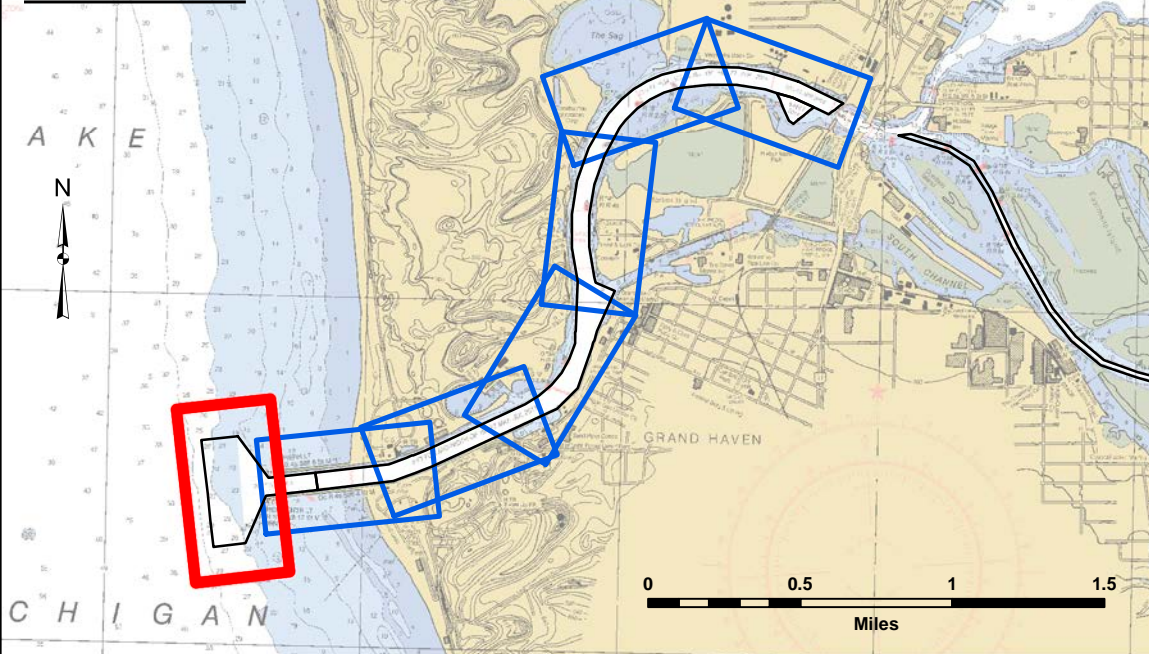


SHEET INDEX



VICINITY MAP

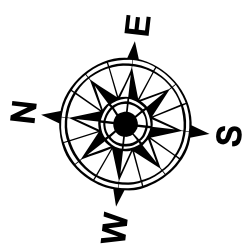


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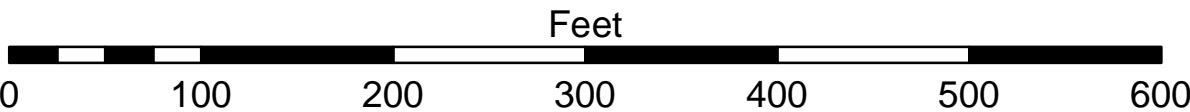
- Cable Submarine
- - Cable Overhead
- Placement Area
- Beacon, General
- Contour Lines
- Channel_Limits

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



- NOTES:
1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF THE SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
 2. GRIDS SHOWN ARE BASED ON THE NATIONAL GEODETIC SURVEY PROJECTION TABLES, STATE OF MICHIGAN, SOUTH ZONE (2113), LAMBERT PROJECTION, 1983 NORTH AMERICAN DATUM, US SURVEY FOOT.
 3. ALL SOUNDINGS ARE REFERENCED TO I.G.L.D. 85 FOR LAKE MICHIGAN, ELEVATION 577.5 FT. ABOVE MEAN SEA LEVEL AT RIMOUSKI, QUEBEC.
 4. VERTICAL WATER LEVEL READINGS WERE TAKEN FROM A FIXED GAGE MARK ALONG THE SHEET STEEL WALL IN THE GRAND HAVEN GOVERNMENT BASIN, MI.
 5. PROJECT DEPTH = 23.0-21.0 FEET
 6. POSITIONING: APPLANIX POS MV, CORRECTIONS: MARINSTAR GNSS G2+ SONAR: ODOM CV300 SOFTWARE: HYPACK 2021 VESSEL: LAUNCH 3058
- 2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS
- ** SHOALEST SOUNDING PER QUARTER PER REACH.



US Army Corps of Engineers
District: CELRE

DISCLAIMER: The data presented in this map represents the results of data collected by the US Army Corps of Engineers for a specific project. The Corps of Engineers activity and indicates the general existing conditions. The user is responsible for the results of any application of the data for other than its intended purpose.

DISCLAIMER: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were provided. The recipient may not transfer these data to others without also transferring the Disclaimer.

U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

Surveyed By:

Submitted:

Plotted By:

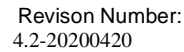
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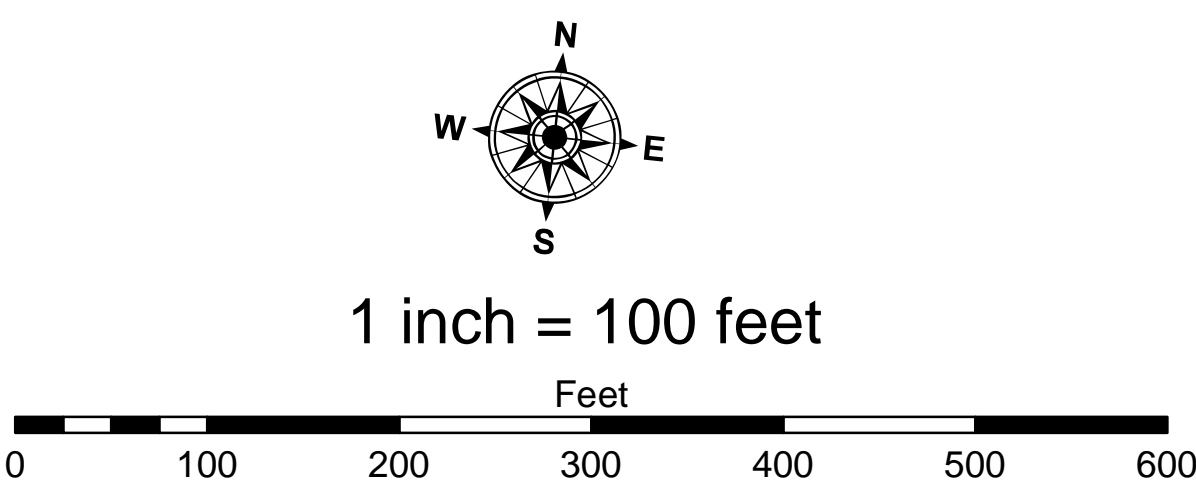
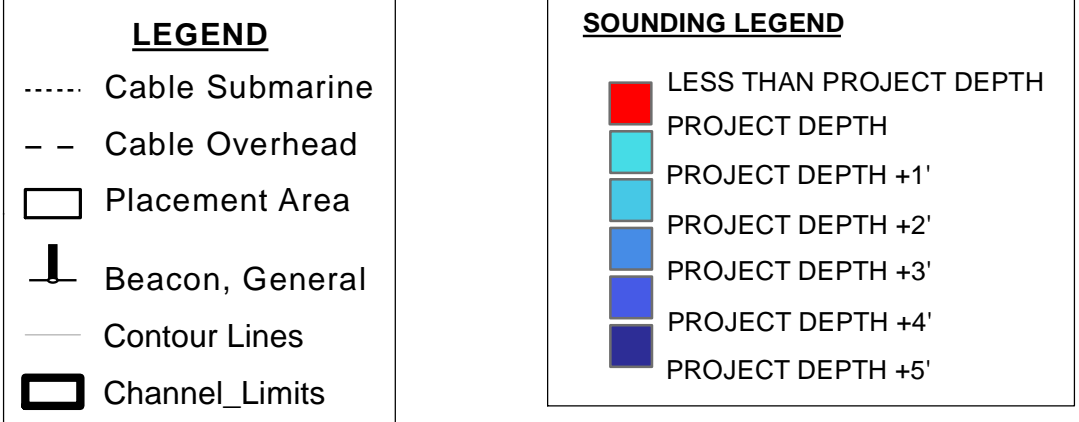
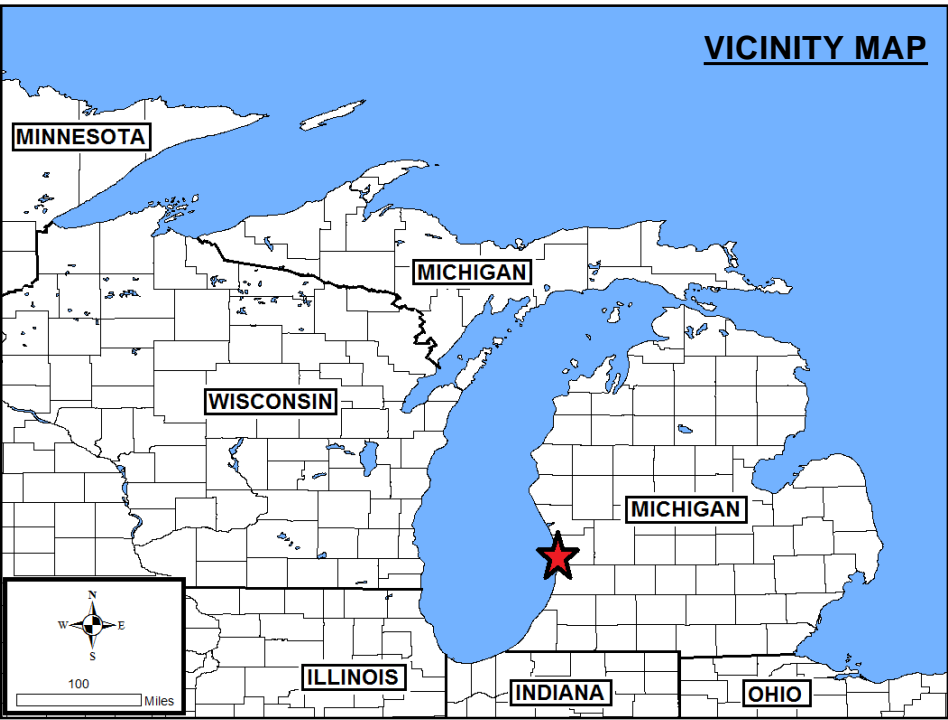
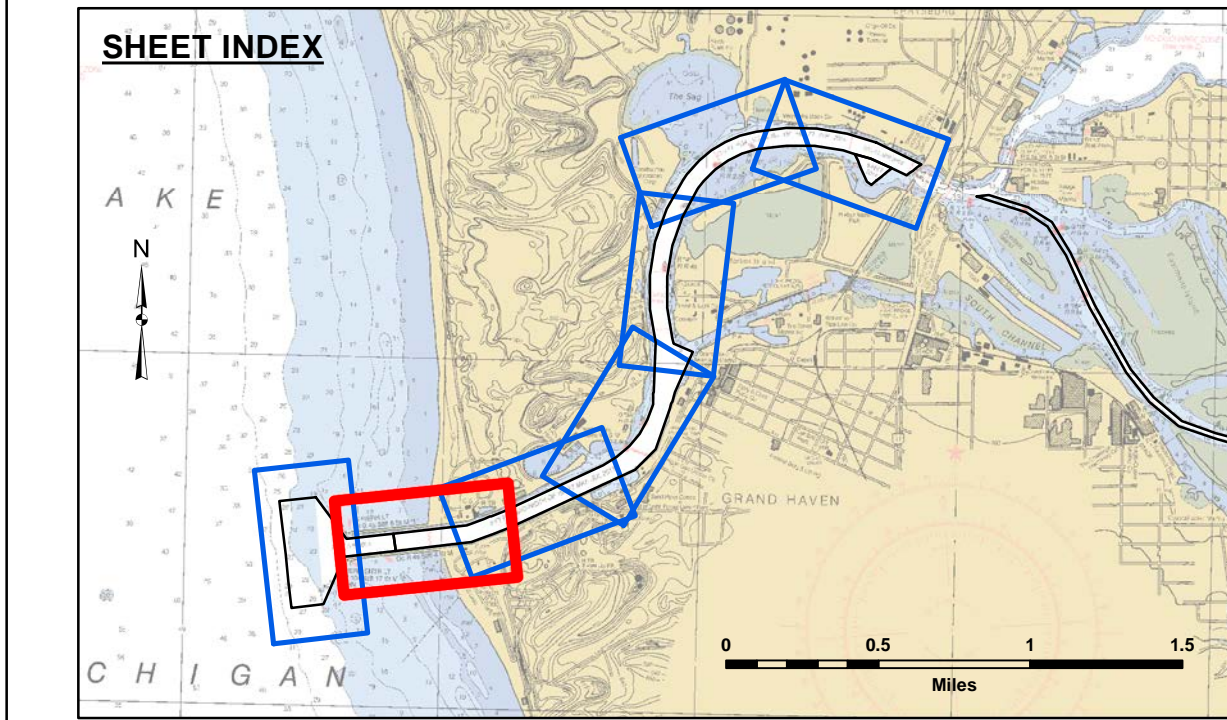
Checked By:

Grand Haven, MI
Grand Haven Harbor
GR_01_HVN_2023114_CS
14 November 2023

Sheet
Reference
Number
1 of 7

Revision Number:
4.2-2020MAY20





NOTES:

1. THE SOUNDINGS INDICATED HEREON ARE GENERALIZED DEPTHS AND ARE NOT REPRESENTATIVE OF THE FULL DATASET. THE SOUNDINGS REPRESENT THE MINIMUM DEPTH FOUND WITHIN THE 10 FOOT BY 10 FOOT AREA CENTERED ON THE TEXT. DERIVED FROM A 1 FOOT BY 1 FOOT AVERAGE DATASET AT CELL CENTER. THIS MAP SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.
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5. PROJECT DEPTH = 23.0-21.0 FEET
6. POSITIONING: APPLANIX POS MV CORRECTIONS: MARINSTAR GNSS G2+ SONAR: RZSONIC 2024 MULTIBEAM ECHOSOUNDER SOFTWARE: HYPACK 2021 VESSEL: LAUNCH 3058
- 2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS
- ** SHORTEST SOUNDING PER QUARTER PER REACH.



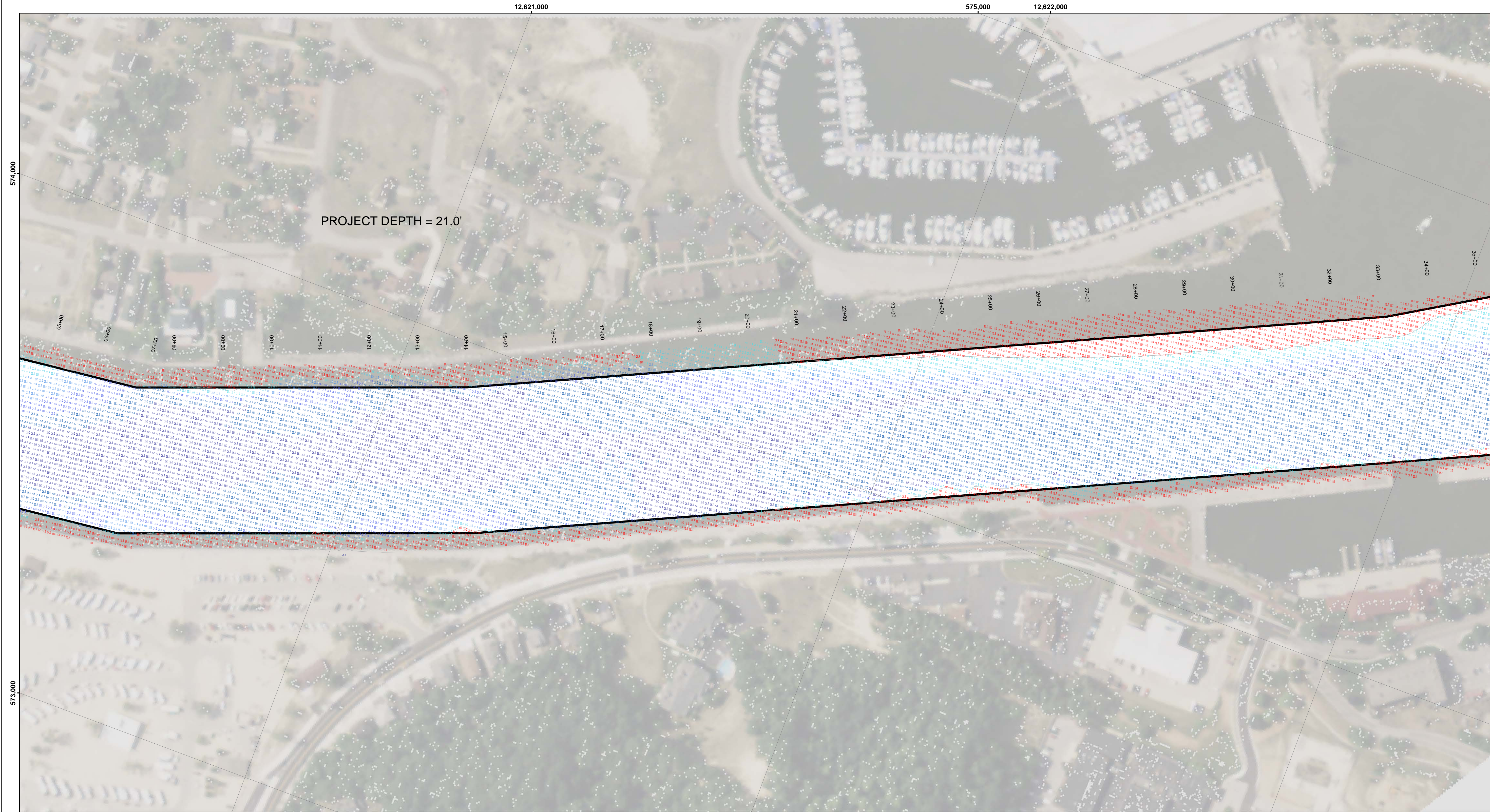
DISCLAIMER: The data presented in this map is for informational purposes only and does not constitute a warranty of accuracy. The user is responsible for the results of any application of the data for other than its intended purpose.

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Submitted:	Surveyed By:
Recommended:	Plotted By:
Approved:	Checked By:

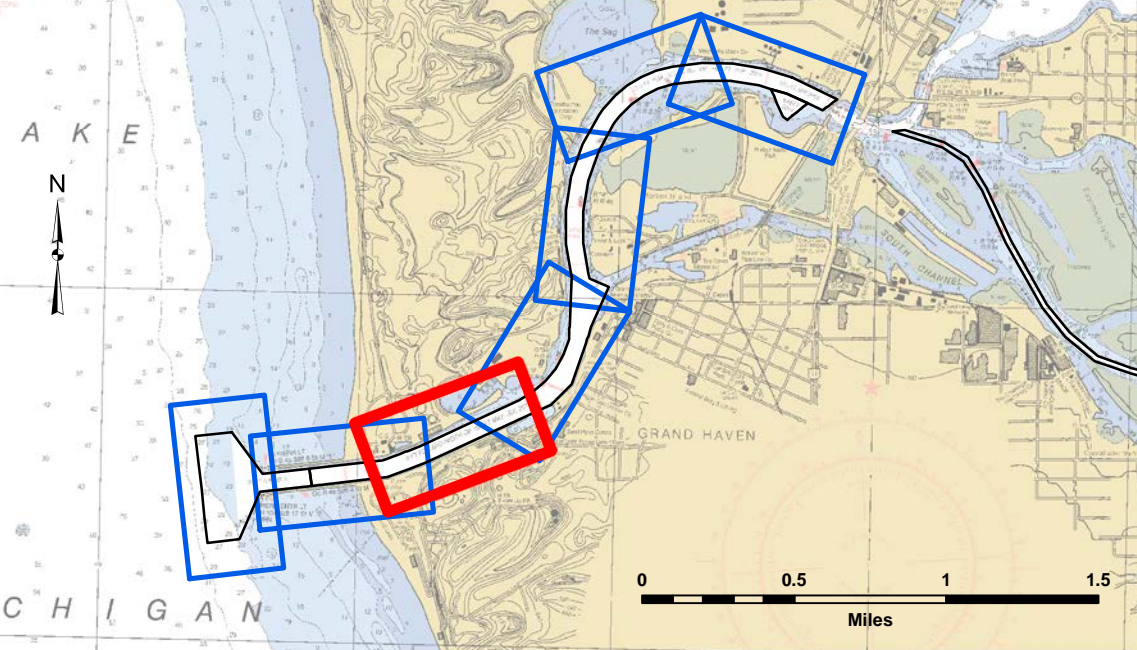
Grand Haven, MI
Grand Haven Harbor
GR_01_HVN_20230314_CS
14 March 2023

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PROJECT DEPTH = 21.0'

SHEET INDEX



VICINITY MAP

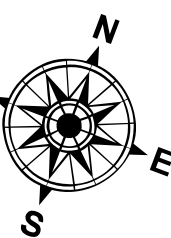


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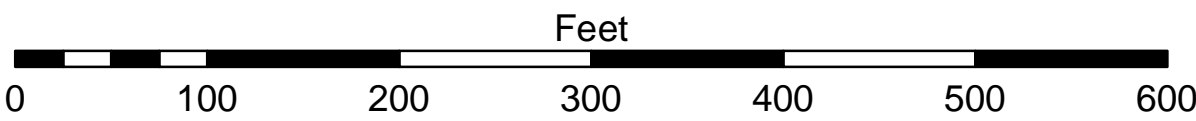
- Cable Submarine
- - - Cable Overhead
- Placement Area
- ⊥ Beacon, General
- Contour Lines
- Channel Limits

SOUNDING LEGEND

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



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 5. PROJECT DEPTH = 23.0-21.0 FEET
 6. POSITIONING: APPLANIX POS MVV
CORRECTIONS: MARINSTAR GNSS G2+
SONAR: RZSONIC 2024 MULTIBEAM ECHOSOUNDER
SOFTWARE: HYPOCHACK 2021
VESSEL: LAUNCH 3058
 - 2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS
 - ** SHALLOEST SOUNDING PER QUARTER PER REACH.

Grand Haven, MI
Grand Haven Harbor
GR_01_HVN_20230314_CS
14 March 2023

Sheet
Reference
Number
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Revision Number:
4.2-20240420



US Army Corps
of Engineers
District: CELRE

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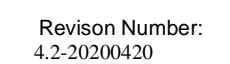
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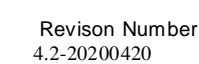
Surveyed By:
Plotted By:
Checked By:
Submitted:
Recommended:
Approved:

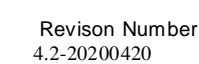
U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

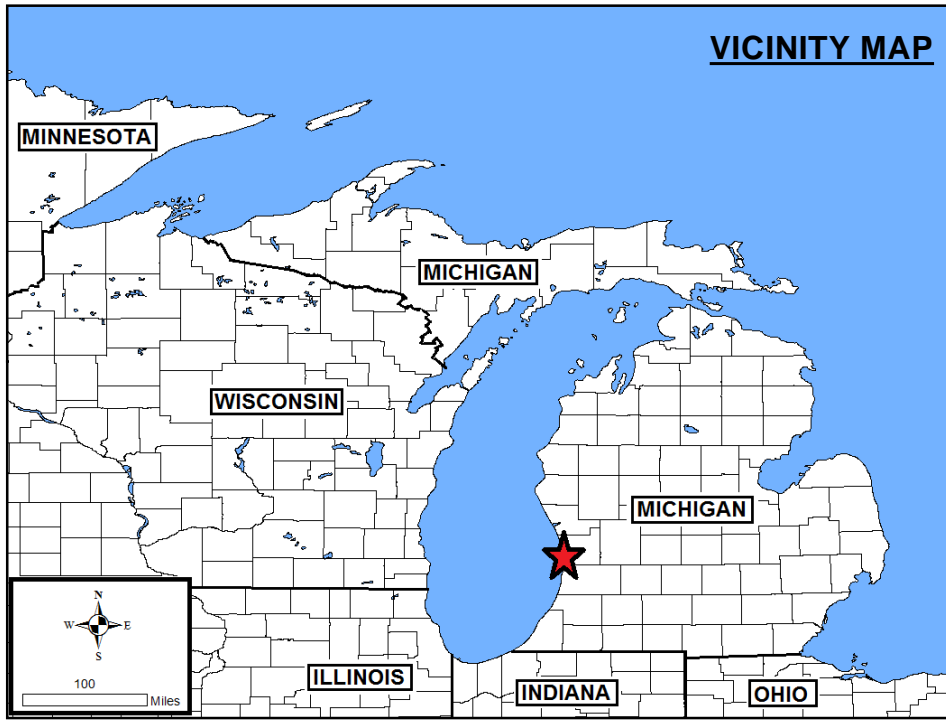
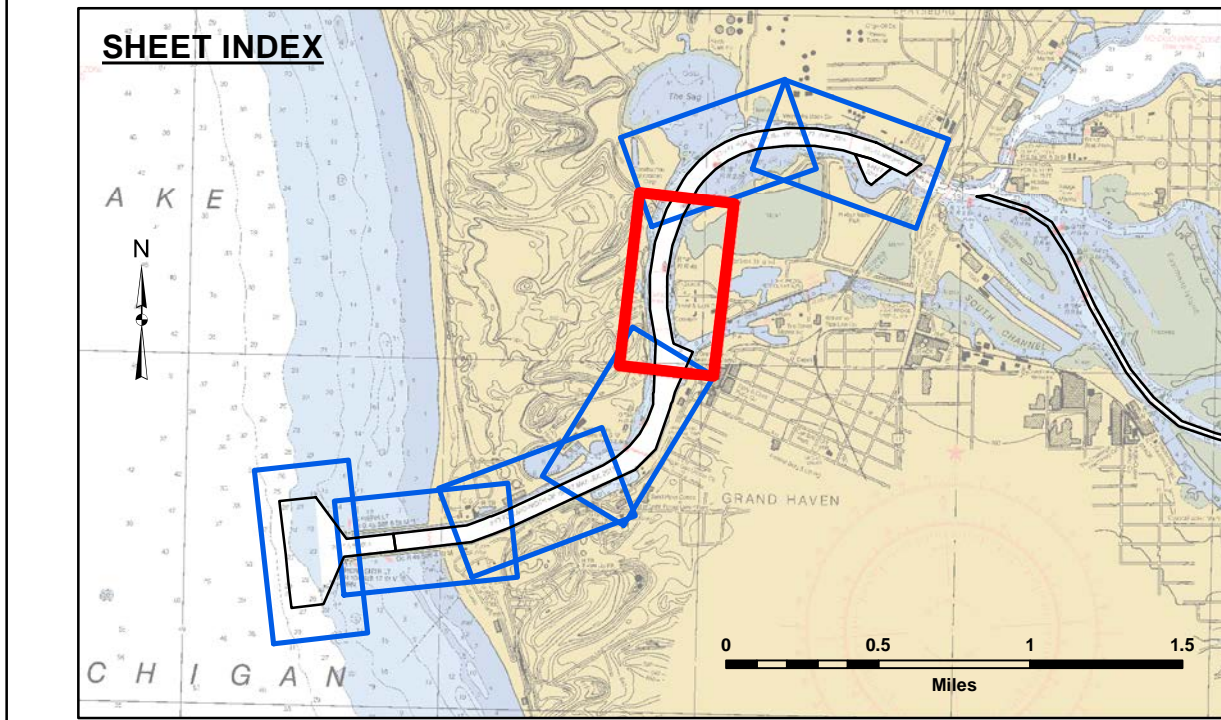
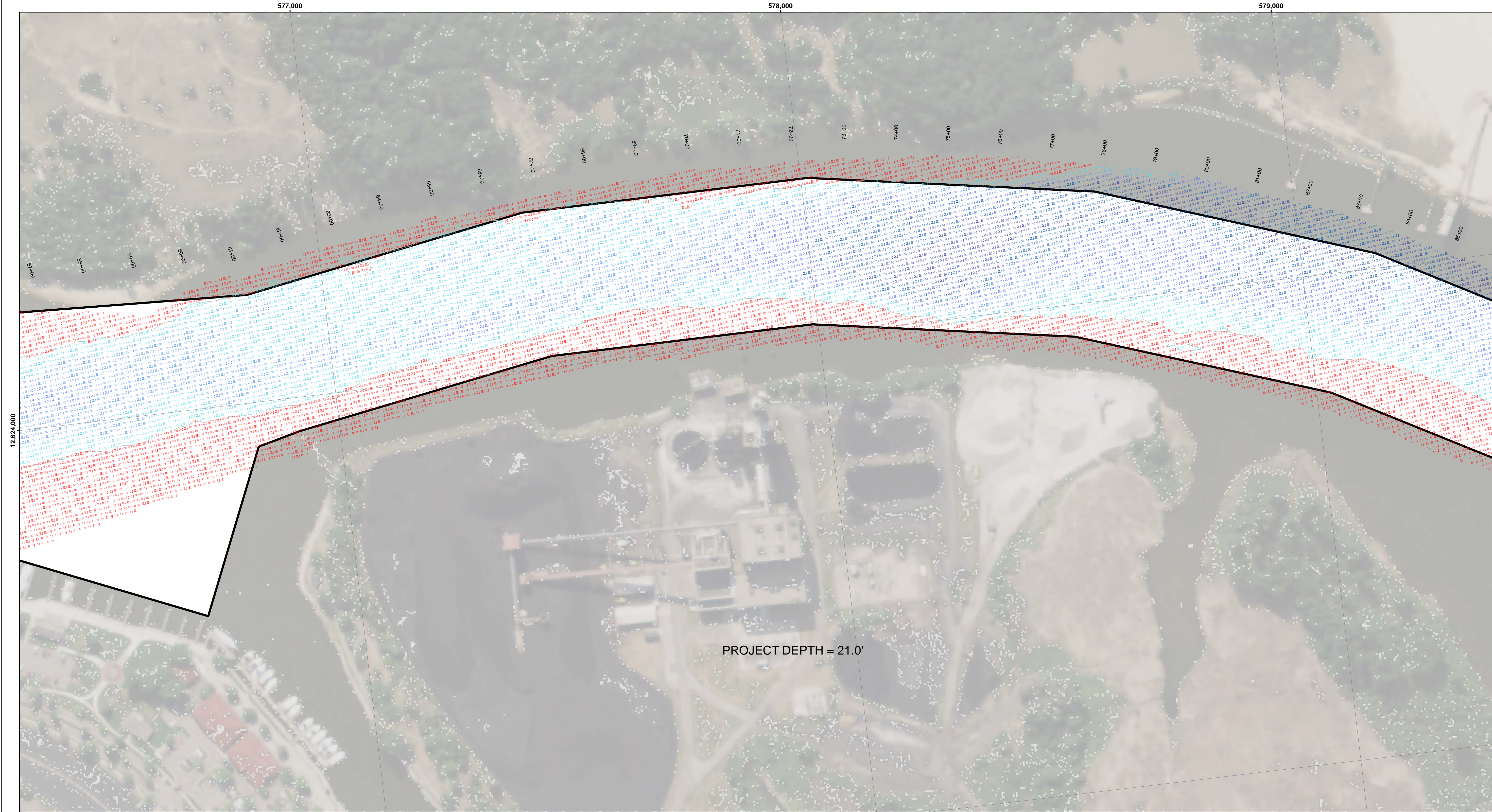
Chief, Survey Section

Chief, Technical Services

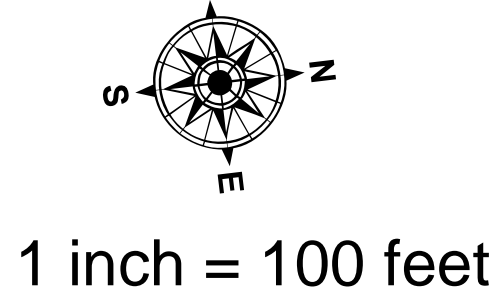
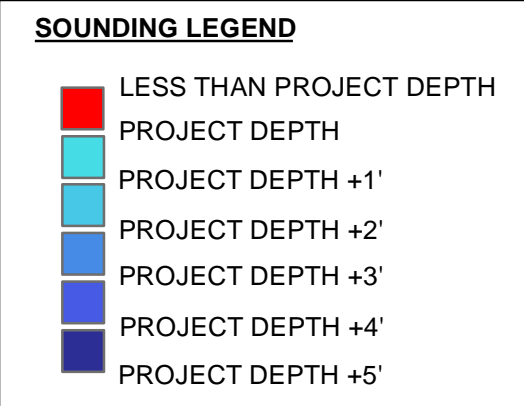








- LEGEND**
- Cable Submarine
 - Cable Overhead
 - Placement Area
 - ⊥ Beacon, General
 - Contour Lines
 - Channel Limits



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2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

** SHALLOWEST SOUNDING PER QUARTER PER REACH.



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U.S. ARMY CORPS OF ENGINEERS
DETROIT DISTRICT

Surveyed By: _____

Plotted By: _____

Checked By: _____

Submitted: _____

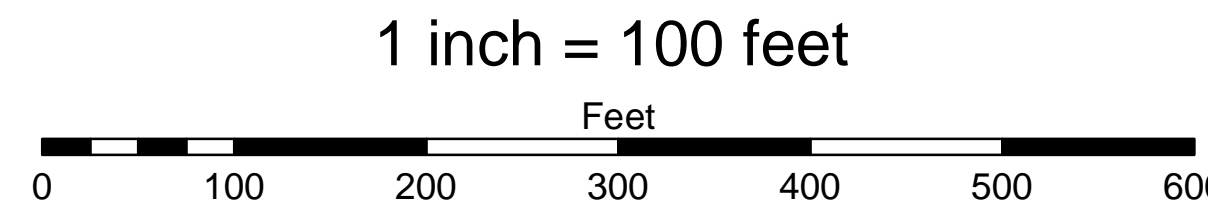
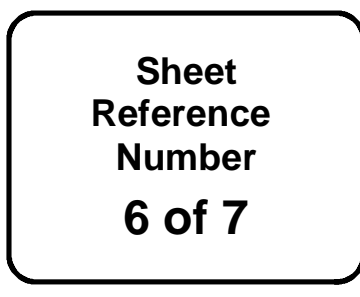
Recommended: _____

Approved: _____

Grand Haven, MI
Grand Haven Harbor
GR_01_HVN_20230314_CS
14 March 2023

Sheet Reference Number
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Revision Number: 4.2-20230314



NOTES:

1. THE SOUNDINGS INDICATED HEREON ARE GENERALIZED DEPTHS AND ARE NOT REPRESENTATIVE OF THE FULL DATASET. THE SOUNDINGS REPRESENT THE MINIMUM DEPTH FOUND AT THE 10 FOOT BY 10 FOOT AREA CENTERED ON THE TEXT T, DERIVED FROM A 1 FOOT BY 1 FOOT AVERAGE DATASET AT CELL CENTER. THIS MAP SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SLOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.
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6. POSITIONING: APPLINX POS MV
CORRECTIONS: MARINSTAR GNSS G2+
SONAR: ZEPHYRUS 2021 MULTIBEAM ECHOSOUNDER
SOFTWARE: HYPACK 2021
VESSEL: LAUNCH 3058

2010 AERIAL PHOTOGRAPHY DATA SOURCE: USGS

** SHOALEST SOUNDING PER QUARTER PER REACH.

