

**LEGEND**

- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**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:**
- 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/SOAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INTERESTS.
  - 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. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.
  - HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POS/MV VER. 4.0.
  - THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.
  - THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.
  - IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY

**US Army Corps of Engineers**  
District: CELRE

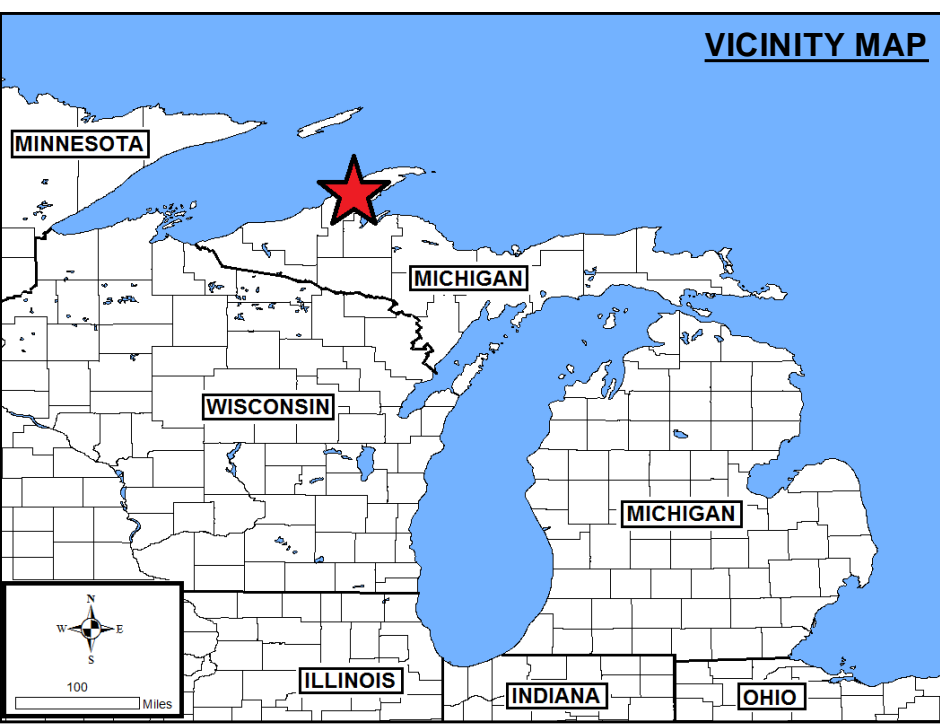
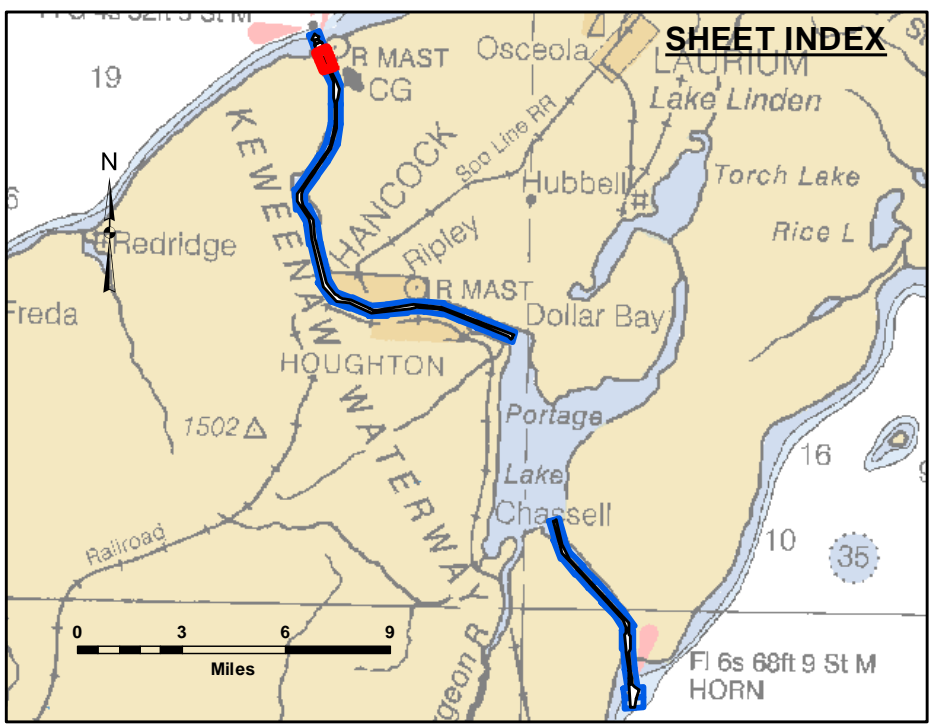
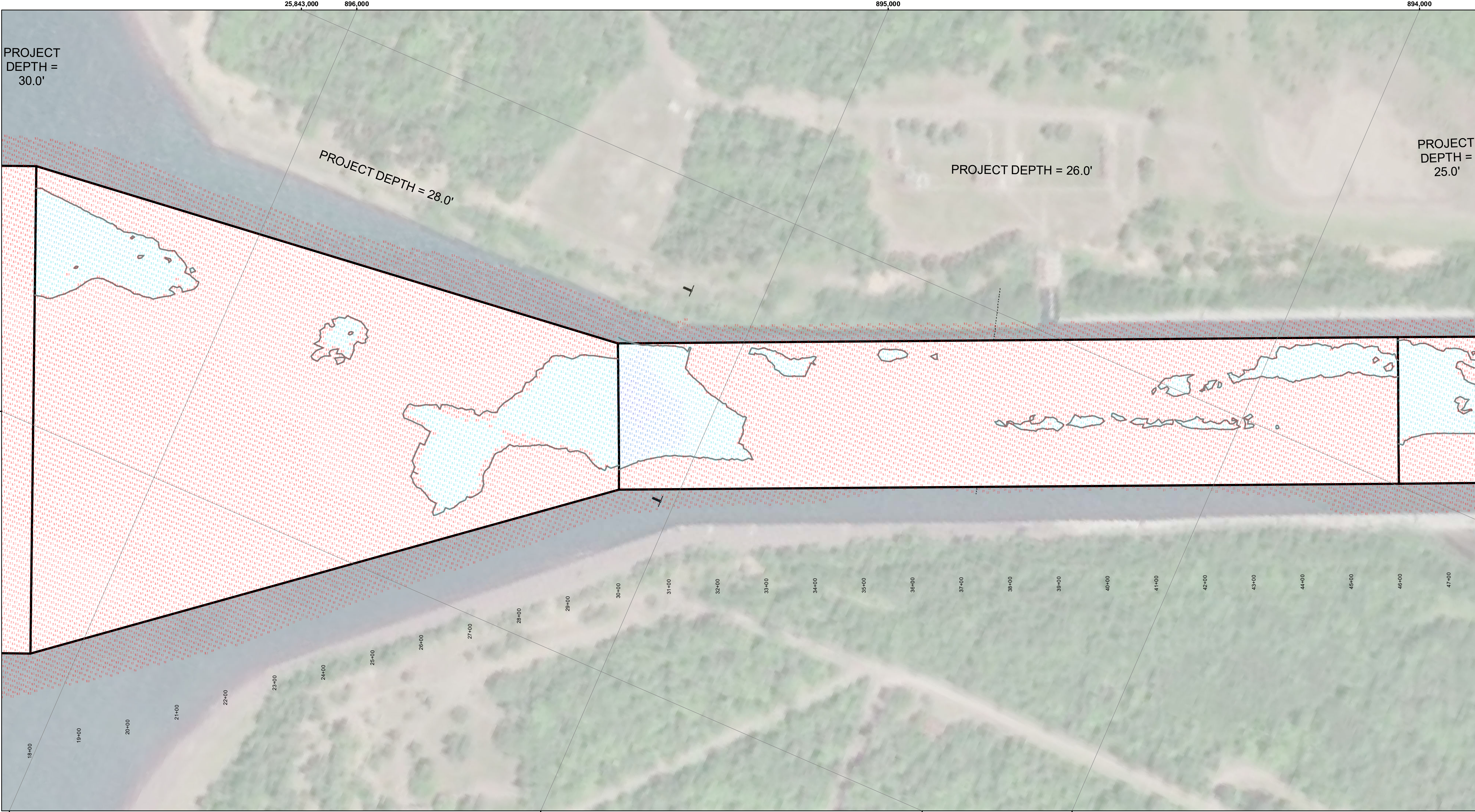
DISCLAIMER: The data represents the results of data collection and processing for a specific US Army Corps of Engineers activity and indicates the general existing conditions. The data is not intended to be used for any purpose other than the intended purpose of any of the application of the data for other than its intended purpose. The user is responsible for the results of any of the application of the data for other than its intended purpose. The user is responsible for the results of any of the application of the data for other than its intended purpose. The user is responsible for the results of any of the application of the data for other than its intended purpose.

U.S. ARMY CORPS OF ENGINEERS DETROIT DISTRICT		
Submitted:	Surveyed By:	
Recommended:	Plotted By:	
Approved:	Chief, Survey Section	
	Chief, Technical Services	

**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20211019\_CS**  
**19 October 2021**

**Sheet Reference Number**  
**1 of 37**



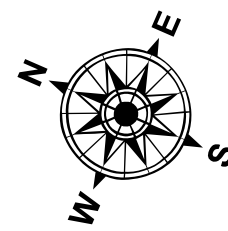


**LEGEND**

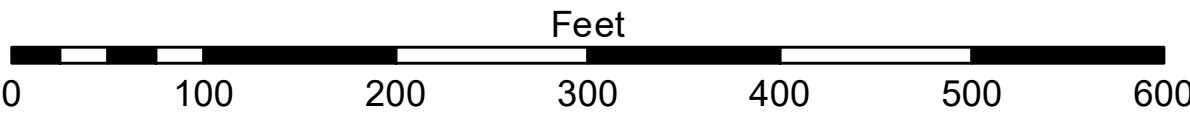
- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**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 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/SOAL 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. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.
  3. HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POS/MV VER. 4.0.
  4. THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.
  5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.
  6. IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY



DISCLAIMER: The data represents the results of data collection and processing for a specific project. The U.S. Army Corps of Engineers activity and indicates the general existing conditions. The data is not intended for use in any other manner than the intended purpose of any of the application of the data for other than its intended purpose.

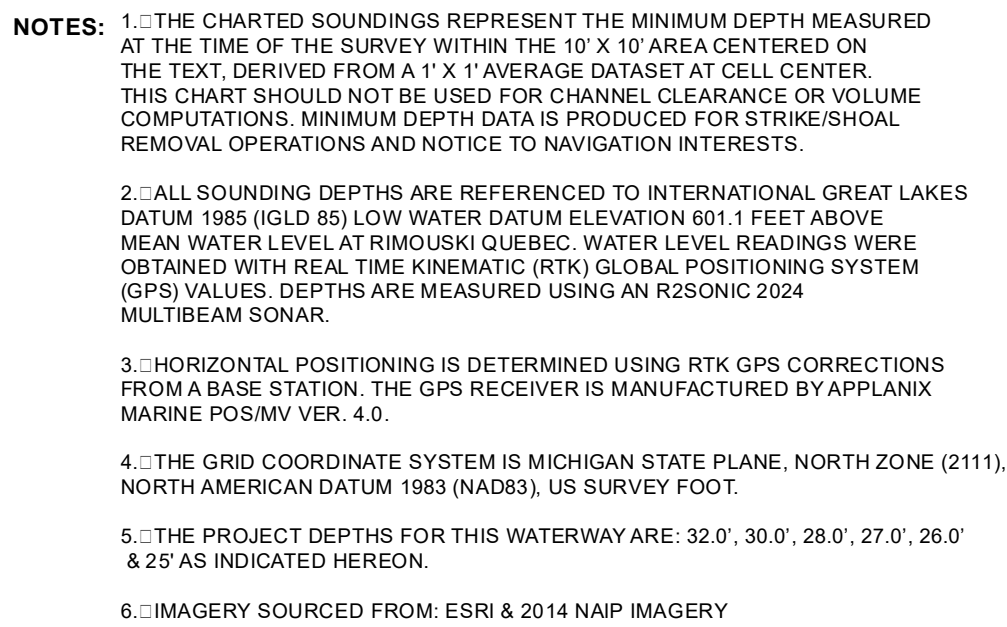
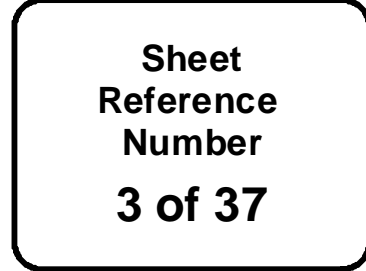
ACCESS LIMITATIONS: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were provided. The recipient may not transfer these data to others without also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

U.S. ARMY CORPS OF ENGINEERS DETROIT DISTRICT		
Submitted:	Surveyed By:	
Recommended:	Plotted By:	
Approved:	Checked By:	

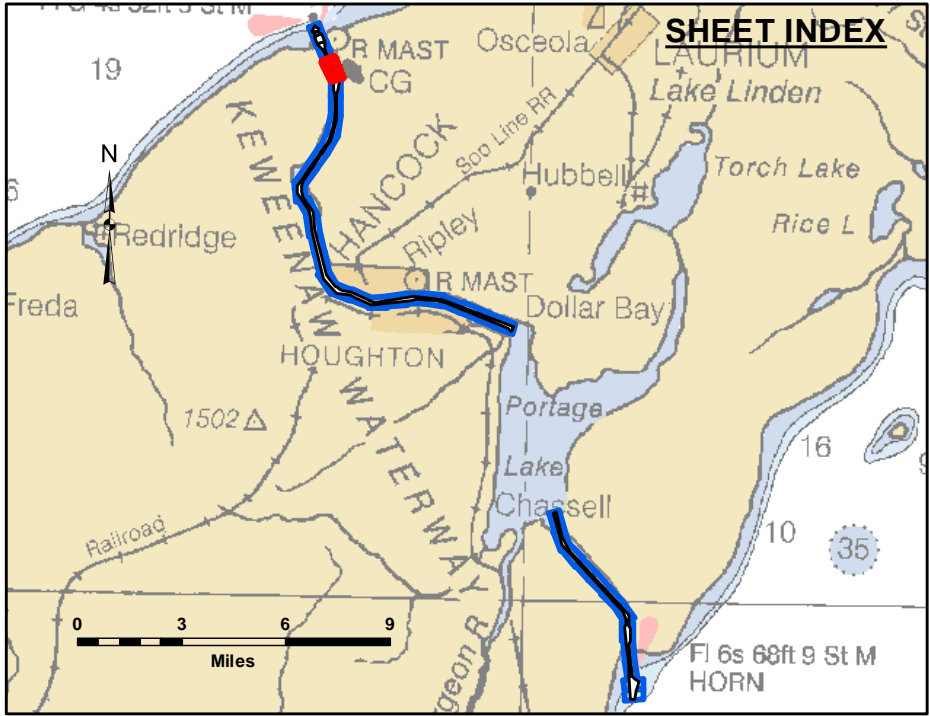
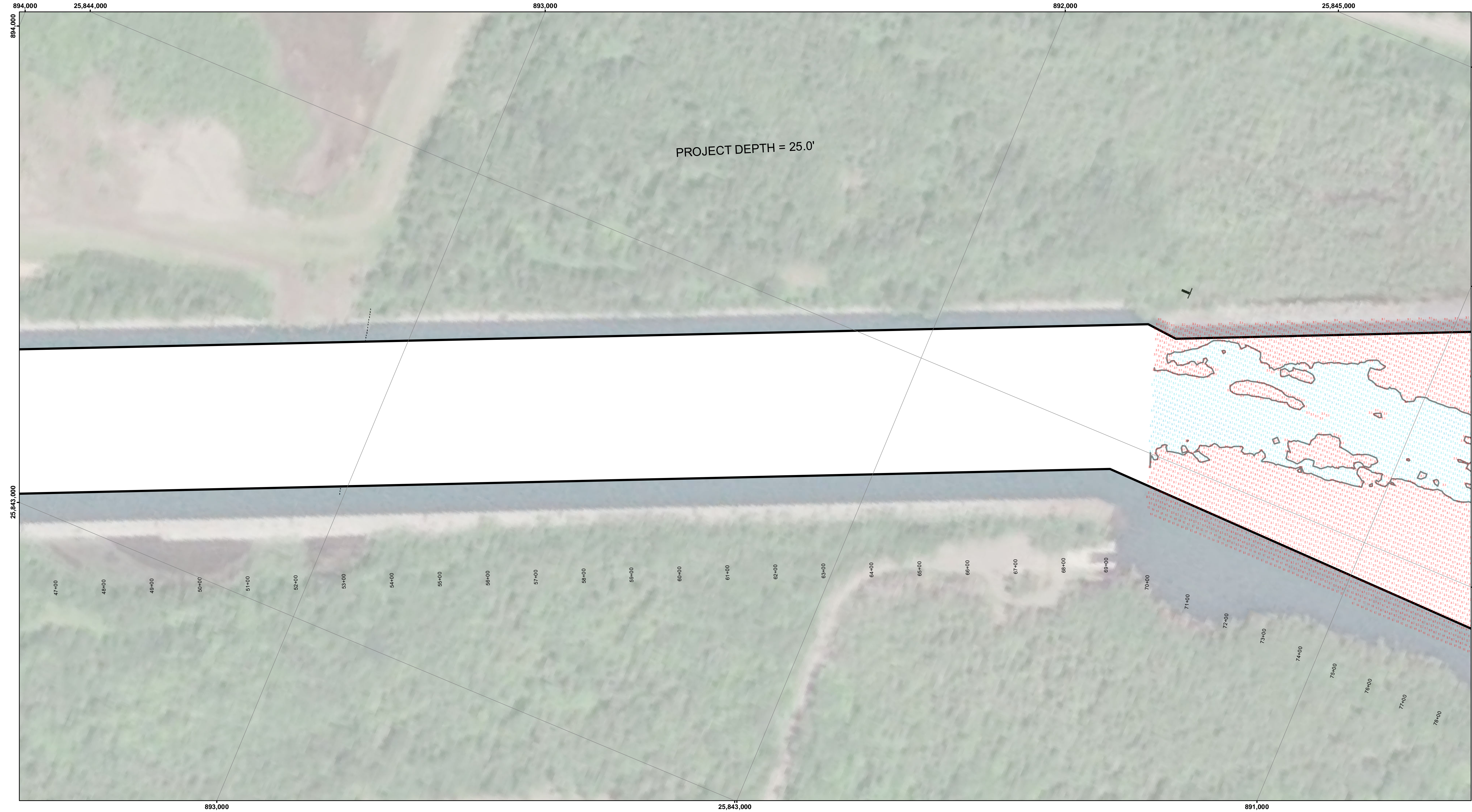
**Keweenaw Waterway, MI**  
**Keweenaw Waterway**  
**KW\_01\_NAW\_20211019\_CS**  
**19 October 2021**

**Sheet**  
**Reference**  
**Number**  
**2 of 37**







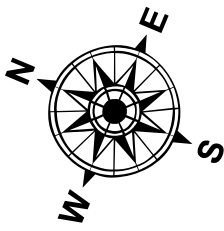


**LEGEND**

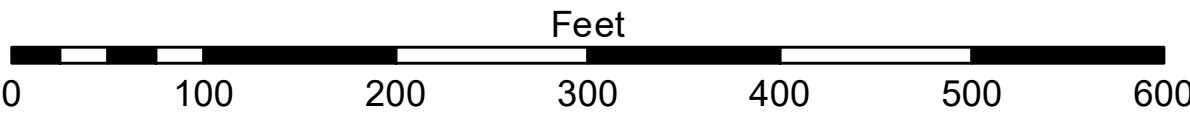
- ..... Cable Submarine
- - Cable Overhead
- Channel\_Limits
- Contour Lines

**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 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/SOAL 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. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.
  3. HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POS/MV VER. 4.0.
  4. THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.
  5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.
  6. IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY

Keweenaw Waterway, MI  
Keweenaw Waterway  
KW\_01\_NAW\_20211021\_CS  
21 October 2021

Sheet  
Reference  
Number  
3 of 37

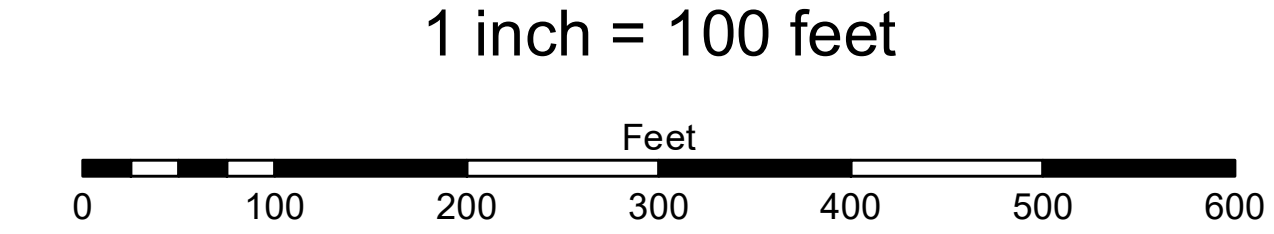
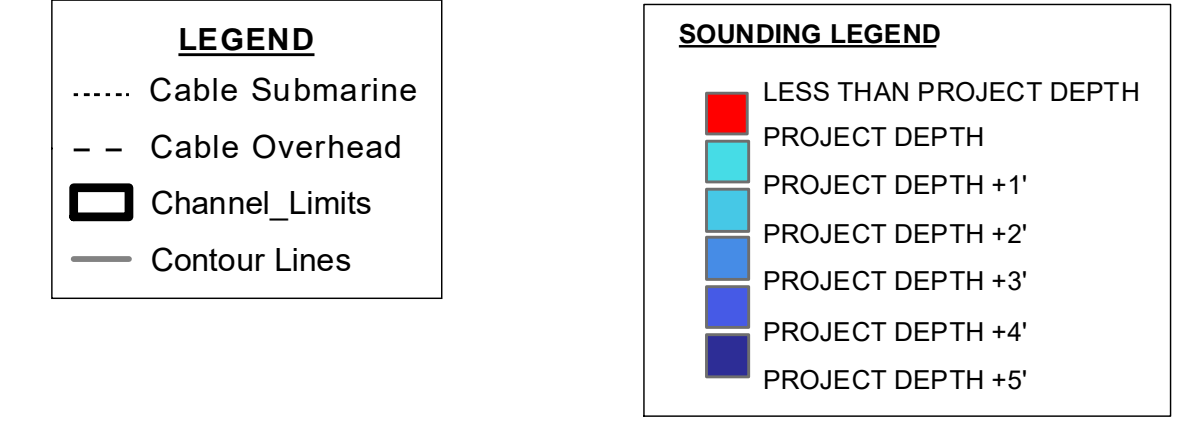
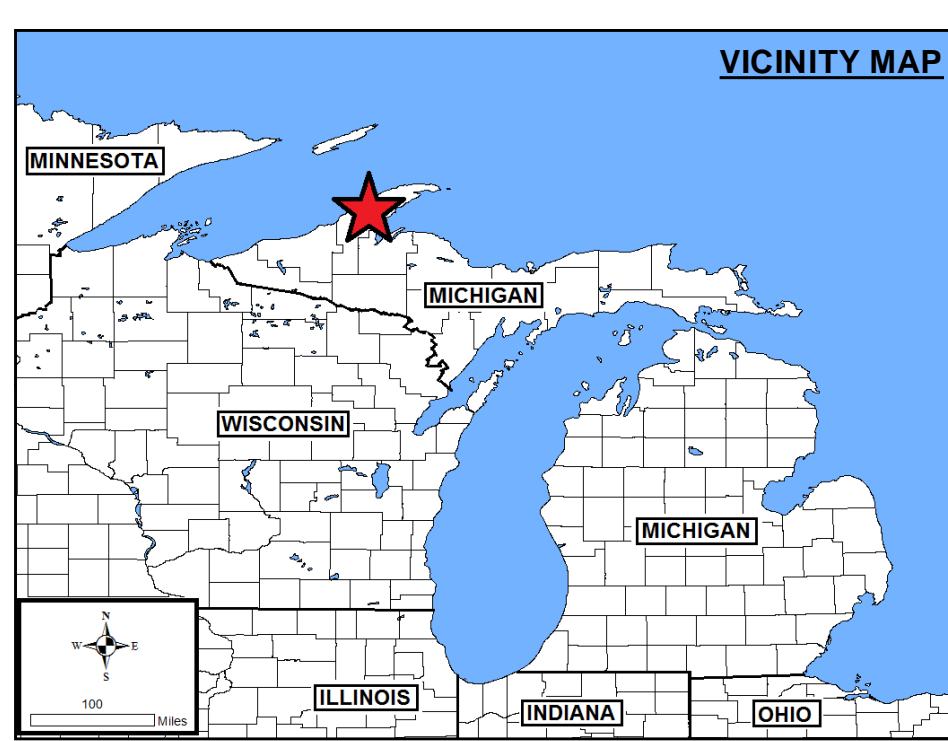
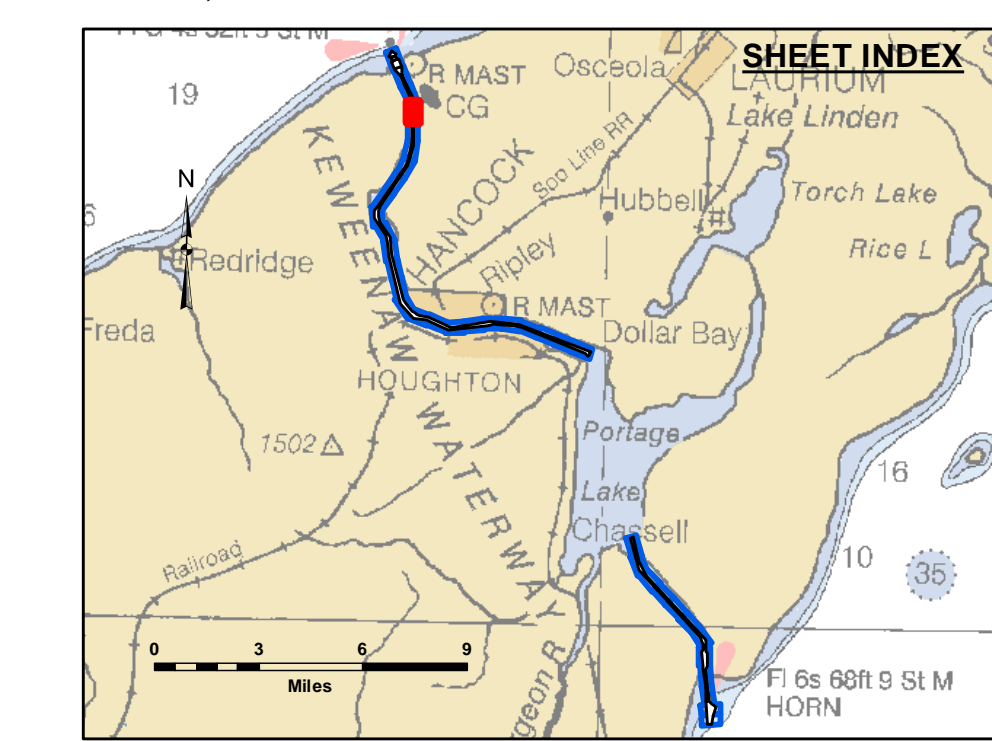
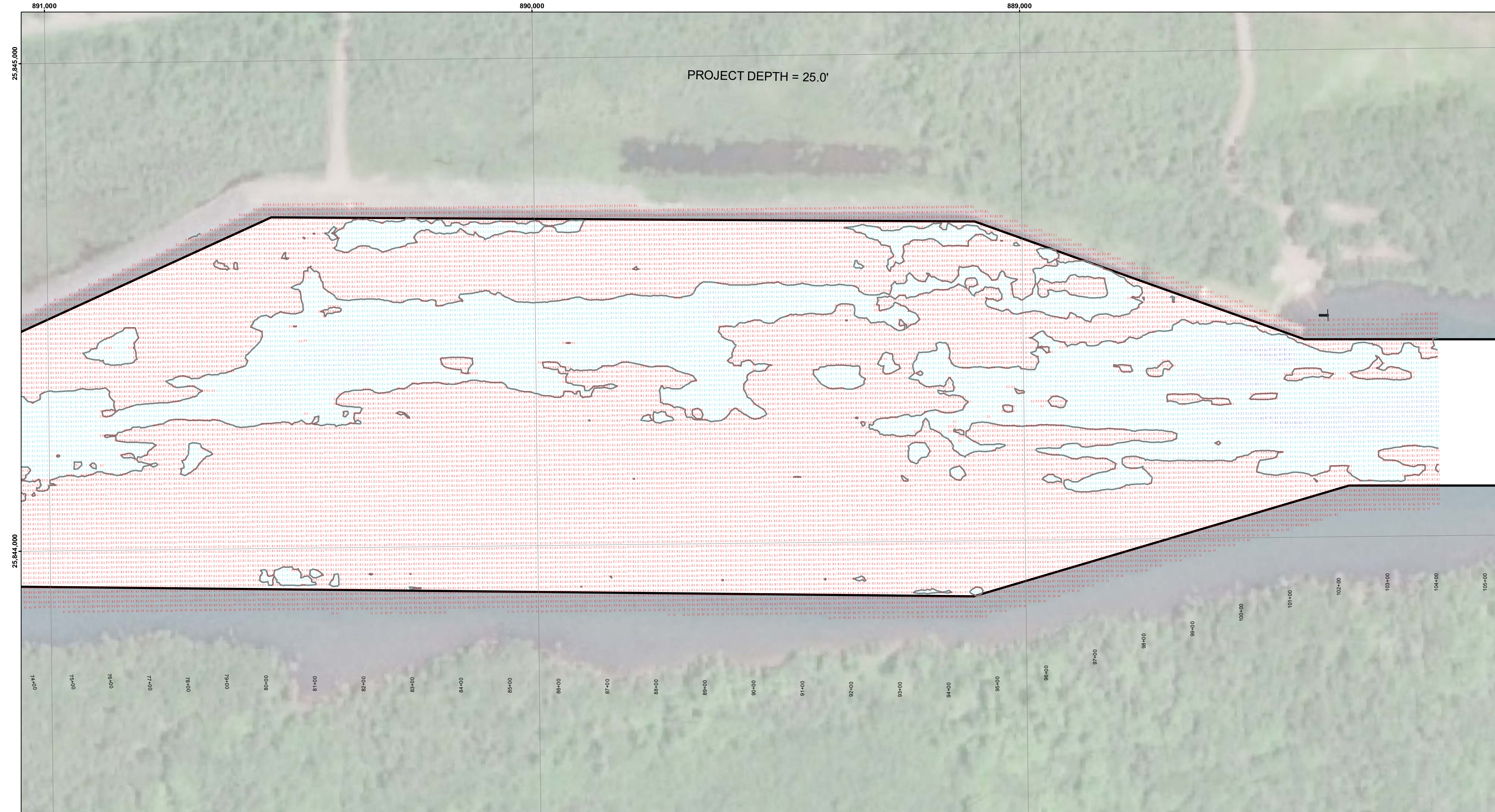
  
**US Army Corps  
of Engineers**  
District: CELRE

**DISCLAIMER:** The data presented in the results of data collection is for informational purposes only. The US Army Corps of Engineers activity and indicates the general existing conditions. The user is responsible for the results of the application of the data for other than its intended purpose. The user is responsible for the results of the application of the data for other than its intended purpose.

**ACCESS LIMITS:** 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 this Disclaimer.

U.S. ARMY CORPS OF ENGINEERS DETROIT DISTRICT		
Submitted:	Surveyed By:	
Recommended:	Plotted By:	
Approved:	Checked By:	





NOTES: 1. THE CHARTED SOUNDINGS REPRESENT THE MINIMUM DEPTH MEASURED AT THE TIME OF THE SURVEY WITHIN THE 10' X 10' CELL CENTERED ON THE TEXT. DERIVED FROM A 'X' AVERAGE DATASET AT CELL CENTER. THIS CHART SHOULD NOT BE USED FOR CHANNEL CLEARANCE OR VOLUME COMPUTATIONS. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SOAL REMOVAL OPERATIONS AND NOTICE TO NAVIGATION INSTRUSTS.

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 RENOUSK QUEBEC. WATER LEVEL READINGS WERE OBTAINED WITH REAL TIME KINEMATIC (RTK) GLOBAL POSITIONING SYSTEM (GPS) VALUES. DEPTHS ARE MEASURED USING AN RZSONIC 2024 MULTIBEAM SONAR.

3. HORIZONTAL POSITIONING IS DETERMINED USING RTK GPS CORRECTIONS FROM A BASE STATION. THE GPS RECEIVER IS MANUFACTURED BY APPLANIX MARINE POSMVY VER. 4.0.

4. THE GRID COORDINATE SYSTEM IS MICHIGAN STATE PLANE, NORTH ZONE (2111), NORTH AMERICAN DATUM 1983 (NAD83), US SURVEY FOOT.

5. THE PROJECT DEPTHS FOR THIS WATERWAY ARE: 32.0', 30.0', 28.0', 27.0', 26.0' & 25' AS INDICATED HEREON.

6. IMAGERY SOURCED FROM: ESRI & 2014 NAIP IMAGERY

Keweenaw Waterway, MI  
Keweenaw Waterway  
KW\_01\_NAW\_20211021\_CS  
21 October 2021

Sheet  
Reference  
Number  
4 of 37



Public Use Liability: The data represents the results of data collection and processing for a specific US Army Corps of Engineers activity and indicates the general existing conditions of the project area. The user is responsible for the results accuracy, specifications. The user is responsible for the results of any of the application of the data for other than its intended purpose.

DISCLAIMER: The United States Government (unlike these data and the recipient accepts and uses them with the e grees of responsibility for any particular purpose of the data. The data is not intended for use in any way that would be under no liability whatsoever to any person by reason of any use of the data. These data belong to the Government. Therefore the Government provides data. The recipient may not transfer these data to others without also transferring this Disclaimer.

Surveyed By:  
Plotted By:  
Checked By:

U.S. ARMY CORPS OF ENGINEERS  
DETROIT DISTRICT  
Submitted:  
Recommended:  
Approved: