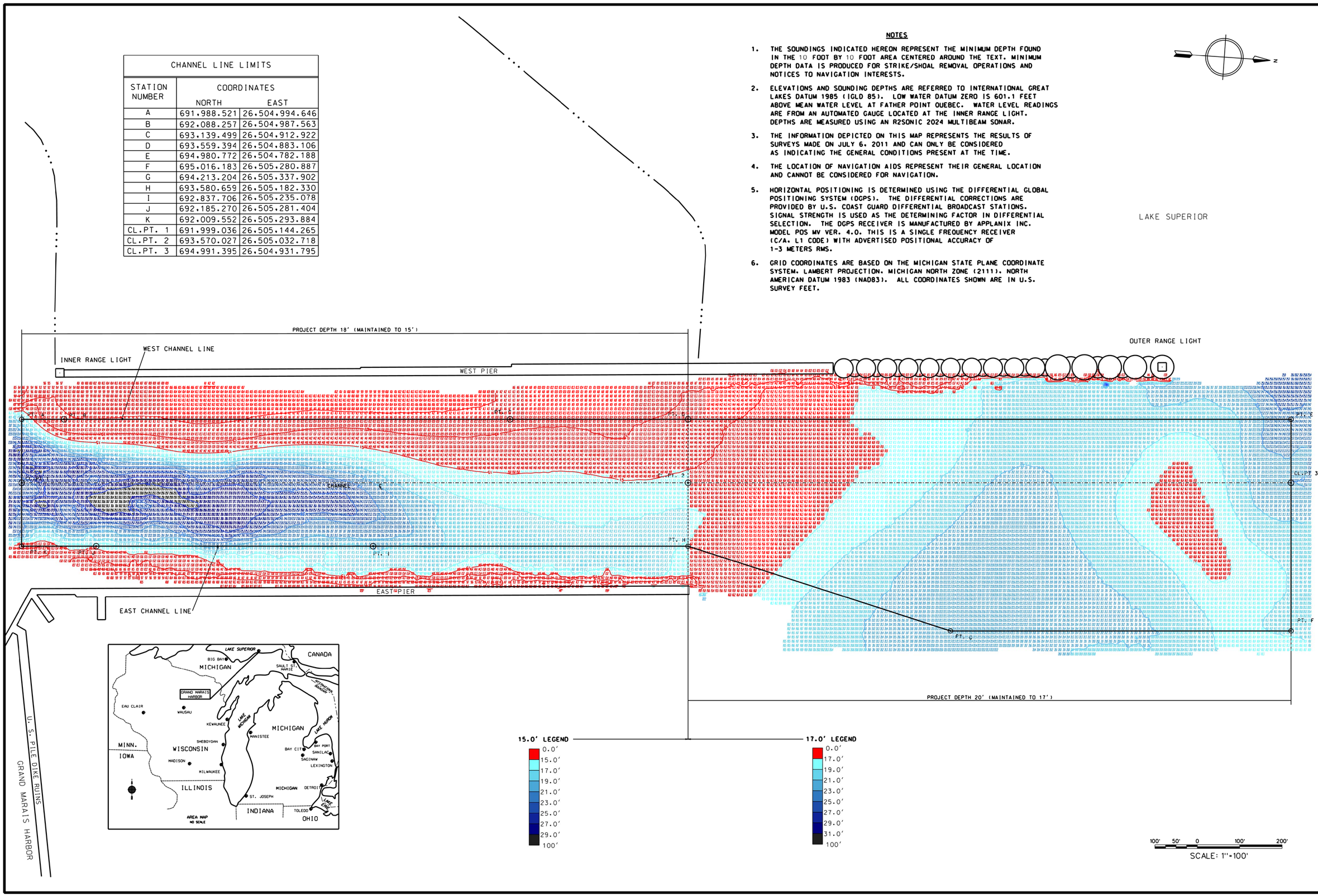
CHANNEL LINE LIMITS		
STATION NUMBER	COORDINATES NORTH	COORDINATES EAST
A	691,988.521	26,504,994.646
B	692,088.257	26,504,987.563
C	693,139.499	26,504,912.922
D	693,559.394	26,504,883.106
E	694,980.772	26,504,782.188
F	695,016.183	26,505,280.887
G	694,213.204	26,505,337.902
H	693,580.659	26,505,182.330
I	692,837.706	26,505,235.078
J	692,185.270	26,505,281.404
K	692,009.552	26,505,293.884
CL.PT. 1	691,999.036	26,505,144.265
CL.PT. 2	693,570.027	26,505,032.718
CL.PT. 3	694,991.395	26,504,931.795

NOTES

1. THE SOUNDINGS INDICATED HEREON REPRESENT THE MINIMUM DEPTH FOUND IN THE 10 FOOT BY 10 FOOT AREA CENTERED AROUND THE TEXT. MINIMUM DEPTH DATA IS PRODUCED FOR STRIKE/SHOAL REMOVAL OPERATIONS AND NOTICES TO NAVIGATION INTERESTS.
2. ELEVATIONS AND SOUNDING DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM 1985 (IGLD 85). LOW WATER DATUM ZERO IS 601.1 FEET ABOVE MEAN WATER LEVEL AT FATHER POINT QUEBEC. WATER LEVEL READINGS ARE FROM AN AUTOMATED GAUGE LOCATED AT THE INNER RANGE LIGHT. DEPTHS ARE MEASURED USING AN R2SONIC 2024 MULTIBEAM SONAR.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON JULY 6, 2011 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THE TIME.
4. THE LOCATION OF NAVIGATION AIDS REPRESENT THEIR GENERAL LOCATION AND CANNOT BE CONSIDERED FOR NAVIGATION.
5. HORIZONTAL POSITIONING IS DETERMINED USING THE DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS). THE DIFFERENTIAL CORRECTIONS ARE PROVIDED BY U.S. COAST GUARD DIFFERENTIAL BROADCAST STATIONS. SIGNAL STRENGTH IS USED AS THE DETERMINING FACTOR IN DIFFERENTIAL SELECTION. THE DGPS RECEIVER IS MANUFACTURED BY APPLANIX INC. MODEL POS MV VER. 4.0. THIS IS A SINGLE FREQUENCY RECEIVER (C/A. L1 CODE) WITH ADVERTISED POSITIONAL ACCURACY OF 1-3 METERS RMS.
6. GRID COORDINATES ARE BASED ON THE MICHIGAN STATE PLANE COORDINATE SYSTEM. LAMBERT PROJECTION. MICHIGAN NORTH ZONE (2111). NORTH AMERICAN DATUM 1983 (NAD83). ALL COORDINATES SHOWN ARE IN U.S. SURVEY FEET.



US Army Corps of Engineers
Detroit District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

Survey Date: July 6, 2011
Rev.
Design file name:
Plot date: 7-14-11
Drawing code:
Plot scale: 1"=100'

Surveyed by: J. Mrozek
Dwn by: J. Mrozek
Chkd by: M.B.
Reviewed by:
Chief, Fdn. Mgmt.
Scanned by:
Chief, SOR Section
File name:

Approval Recommended:
Area Eng. Sec. Office
Approved by:
District Engineer

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
DETROIT, MICHIGAN

SOO AREA OFFICE
GRAND MARAIS HARBOR
FEDERAL NAVIGATION CHANNEL

GRAND MARAIS HARBOR
FY 2011
CONDITION SURVEY

Sheet reference number:
GMH-01
Sheet 1 of 3