

LEGEND

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THE TIME.

LOW WATER DATUM

ELEVATIONS AND PROJECT DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM, (1985). THE LOW WATER DATUM FOR BOLLES HARBOR IS 569.2 FT. ABOVE MEAN SEA LEVEL.

GRID COORDINATES

GRIDS SHOWN ARE BASED ON NATIONAL GEODETIC SURVEY PROJECTION TABLES, STATE OF MICHIGAN, SOUTH ZONE (2113), LAMBERT PROJECTION, 1983 NORTH AMERICAN DATUM.

ALL COORDINATES ARE IN U.S. SURVEY FEET.

DIRECTIONS

ALL DIRECTIONS ARE GRID AZIMUTHS REFERRED TO NORTH ZERO.

PROJECT DEPTHS

PROJECT DEPTHS ARE AS INDICATED. ALL DEPTHS ARE IN U.S. SURVEY FEET.

THE AUTOMATED ELECTRONIC SURVEY WAS CONDUCTED BY ROBERT W. POLAK AND ROBERT, R. SCHLIEWE ABOARD THE USACOE SURVEY SMALL BOAT.

AUTOMATED EQUIPMENT USED

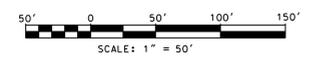
POSITIONING: TRIMBLE DGPS
 SOFTWARE: COASTAL OCEANOGRAPHICS
 SONIC SOUNDER: INNSPACE 448

- NOTES:**
- GAGES USED WERE REFERENCED FROM A CHISELED MARK ON STEEL WALL LOCATED ACROSS FROM BOLLES HARBOR DNR BOAT RAMP, AT APPROXIMATELY C.S. 2+00N, SET OFF NGS B.M. 140TSRR, PID -- MC0305.
 - POSITIONS WERE DETERMINED BY GPS REFERENCE BEACON 838, LOCATED AT FORT WAYNE DETROIT, MICHIGAN - FREQUENCY 319 KHZ, 200 BPS
 - TRANSDUCER FREQUENCY USED TO MEASURE DEPTH DATA WAS 208 KHZ AND THE BEAM ANGLE WAS 3.0 DEGREES.

CHANNEL CONTROL DATA			
STATION NUMBER	DESCRIPTION	COORDINATES	
		NORTH	EAST
A	CHANNEL LINE	136.893.4156	13.392.392.4152
1	CHANNEL LINE	137.268.0063	13.392.251.7156
2	CHANNEL LINE	137.387.3878	13.392.210.2491
3	CHANNEL LINE	137.464.4191	13.392.034.5988
24	CHANNEL LINE	137.585.3230	13.392.032.8052
25	CHANNEL LINE	137.474.4008	13.392.277.5273
26	CHANNEL LINE	137.300.8223	13.392.346.1738
B	CHANNEL LINE	136.919.6795	13.392.467.9857
0	CENTERLINE	137.284.4981	13.392.308.8454
1	CENTERLINE	137.430.8513	13.392.248.0801
2	CENTERLINE	137.524.8711	13.392.033.2020
S1	CENTERLINE	136.909.1000	13.392.432.4000

AIDS TO NAVIGATION			
DESCRIPTION	COORDINATES		ELEV.
	NORTH	EAST	
NAV AID 1	136.767	13.392.337	

LEGEND	
- x - x -	FENCE
- - - - -	SHORELINE
~~~~~	CONTOUR LINE
△	HORIZONTAL CONTROL POINT
⊠	BENCHMARK



1.	12 MAY 2008	PLACE SOUNDINGS & UPDATE SHEET	R.W.P.
NO.	DATE	REVISION	BY
<b>U.S. ARMY ENGINEER DISTRICT, DETROIT CORPS OF ENGINEERS DETROIT, MICHIGAN</b>			
DESIGNED BY:	<b>BOLLES HARBOR, MI CONDITION SOUNDINGS</b>		
DRAWN BY:	C.S. 8+00 S TO C.S. 6+00 N 24 APR 2008 -- C.S. 0+00 TO C.S. 6+00N 01 MAY 2008 -- C.S. 0+00 TO C.S. 8+00S		
CHECKED BY:	DETROIT AREA OFFICE		
SUBMITTED	APPROVAL RECOMMENDED		
CHIEF, PROJ. OPNS. SECT.	CHIEF, DIS. BRANCH		
APPROVED	SCALE AS SHOWN 1" = 50'		
CHIEF, CONST. - OPNS. DIVISION	CADD FILE NAME	BOMD3A94.DGN	
	DRAWING NUMBER	bol0108c.dgn	
	SHEET 1 OF 6		