



**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 GRID COORDINATES ARE IN U.S. SURVEY FEET.

**NOTES:**

- GAGES USED WERE REFERENCED FROM A CHISELED MARK ON THE STEEL WALL LOCATED ACROSS THE PLAISSANCE RIVER FROM THE BOLLES HARBOR DNR BOAT RAMP, AT APPROXIMATELY CS 2+00N. SET OFF THE NGS BM 14 DTSRR, 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.

DESCRIPTION	AIDS TO NAVIGATION	
	NORTH	EAST
NAV AID 2	135,629	13,393,018
C "11"	135,260	13,392,615
C "9"	135,580	13,392,833
R "10"	135,639	13,392,941

8.0 FT. PROJECT DEPTH CONTOUR

LEGEND	
	FENCE
	SHORELINE
	CONTOUR LINE
	HORIZONTAL CONTROL POINT
	BENCHMARK

**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 SMALL BOAT.

**AUTOMATED EQUIPMENT USED**

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



1.	21 MAY 2008	SOUNDINGS AND CONTOURS	RWP
2.	21 MAY 2008	UPDATE DIRECTIONS AND NOTES	RWP
NO.	DATE	REVISION	BY
<b>U.S. ARMY ENGINEER DISTRICT, DETROIT</b> CORPS OF ENGINEERS DETROIT, MICHIGAN			
DESIGNED BY:*	<b>BOLLES HARBOR, MI</b> CONDITION SOUNDINGS C.S. 9+00S TO C.S. 14+00S -- 1 MAY 2008 C.S. 14+00S TO C.S. 26+00S -- 6 MAY 2008 DETROIT AREA OFFICE		
DRAWN BY:*			
CHECKED BY:*	APPROVAL RECOMMENDED		
SUBMITTED	CHIEF, PROJ. OPNS. SECT. CHIEF, OPS. BRANCH		
APPROVED	SCALE AS SHOWN 1" = 50'		
CHIEF, CONST - OPNS DIVISION	CADD FILE NAME		BOMD6494.DGN
	DRAWING NUMBER		bo10408c.dgn
	SHEET 2 OF 6		