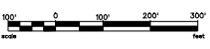
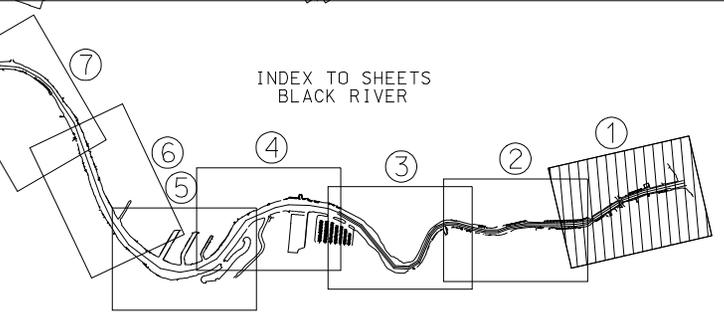


**LEGEND**  
 THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THE TIME.  
**LOW WATER DATUM**  
 ELEVATIONS AND PROJECT DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM, (1985) WHEN LAKE ERIE IS AT ELEVATION 569.2 FT., LAKE ST. CLAIR AT 572.3 FT. AND LAKE HURON AT 577.4 FT. ABOVE MEAN WATER LEVEL AT RIMOUSKI, QUEBEC.  
**GRID COORDINATES**  
 GRIDS SHOWN ARE BASED ON NATIONAL GEODETIC SURVEY PROJECTION TABLES, STATE OF MICHIGAN, SOUTH ZONE (2113), LAMBERT PROJECTION, 1983 NORTH AMERICAN DATUM.

**DIRECTIONS**  
 ALL DIRECTIONS ARE GRID AZIMUTHS REFERRED TO NORTH ZERO.  
**PROJECT DEPTHS**  
 PROJECT DEPTHS ARE AS INDICATED ABOVE.  
 THE AUTOMATED ELECTRONIC SURVEY WAS CONDUCTED BY FRED LECHE, PARTY CHIEF, ABOARD THE USACE SURVEY LAUNCH 3045.  
**AUTOMATED EQUIPMENT USED**  
 POSITIONING: STARLINK DGPS  
 DATA PROCESSOR: DELL PC  
 SOFTWARE: COASTAL OCEANOGRAPHICS  
 PLOTTER: ENCAD CADJET 2  
 SONIC SOUNDER: INNERSPACE 448

**NOTES:**  
 1. GAGES USED WERE REFERENCED FROM GAGE BOARD SET ON FILING AT THE MOUTH OF THE BLACK RIVER ON THE NORTH SIDE NEAR AN OLD RAILROAD TRESTLE  
 2. POSITIONS WERE DETERMINED BY GPS REFERENCE BEACON 838, LOCATED AT FORT WAYNE DETROIT, MICHIGAN - FREQUENCY 319 KHZ x 200 BPS  
 3. TRANSDUCER FREQUENCY USED TO MEASURE DEPTH DATA WAS 208 KHZ AND THE BEAM ANGLE WAS 3.0 DEGREES.



**CENTERLINE TURNING POINTS**

STATION	EAST	NORTH
0	13,644,545.21	542,751.44
1	13,643,666.80	543,413.36
2	13,645,147.24	543,713.33
3	13,642,098.74	544,045.61
4	13,641,872.03	544,242.04

**CONTROL POINTS (CORPSSCON)**

STATION	EAST	NORTH
BEARD	13,645,646.11	545,945.26
MON 7	13,642,238.09	544,119.44
QUAY	13,643,614.68	543,641.49
TIME	13,643,028.82	543,688.85
42	13,644,110.95	542,723.78
43	13,643,261.60	543,428.31
44	13,642,029.61	543,862.39

**CHANNEL LINE TURNING POINTS**

STATION	EAST	NORTH
1	13,644,925.40	542,678.13
2	13,644,188.63	542,826.23
3	13,644,183.07	542,985.84
4	13,644,103.25	543,026.07
5	13,644,069.89	543,034.49
6	13,643,639.15	543,371.59
7	13,643,119.59	543,671.56
8	13,643,114.34	543,692.28
9	13,643,017.21	543,723.07
10	13,642,993.99	543,709.47
11	13,642,879.06	543,836.02
12	13,642,267.53	543,958.22
13	13,642,172.21	543,988.42
14	13,642,075.80	544,001.06
15	13,641,836.81	544,206.40
46	13,641,907.25	544,277.68
47	13,642,123.68	544,090.15
48	13,642,186.97	544,051.55
49	13,642,282.29	544,021.34
50	13,642,304.48	544,032.96
51	13,643,019.36	543,806.31
52	13,643,037.15	543,779.89
53	13,643,132.47	543,749.48
54	13,643,153.24	543,767.60
55	13,643,694.45	543,455.13
56	13,644,561.01	542,824.74

**NAVIGATIONAL AIDE**

STATION	EAST	NORTH
NAV AIDE NO. 1	13,644,460.6	542,942.8

**CONTROL POINTS (G.P.S.)**

STATION	EAST	NORTH
CROSS POINT	13641916.2350	544090.8060
PWIC	13643356.3360	543676.6500
Z-43	13644130.8570	542903.5050

**LEGEND:**  
 — CHANNEL LIMITS  
 — UNDERGROUND LINE  
 - - - SHORE LINE S/L

**NOTES:**  
 1. THE GRID COORDINATE SYSTEM SHOWN IS REFERENCED TO THE MICHIGAN STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, SOUTH ZONE (2113), NORTH AMERICAN DATUM 1983 (NAD 83), US FOOT.

NO.	DATE	REVISION	BY
U.S. ARMY ENGINEER DISTRICT, DETROIT CORPS OF ENGINEERS DETROIT, MICHIGAN			
DESIGNED BY:	<b>BLACK RIVER, MI</b> CONDITION SOUNDINGS C.S. 0+00 TO C.S. 32+00 02 JUL 2002 DETROIT AREA OFFICE		
DRAWN BY:			
CHECKED BY:			
REVIEWED BY:			
SUBMITTED BY:			
APPROVED BY:	DATE	SCALE AS SHOWN	1" = 100'
SHIP, PROJ., GNS, SEC	DATE	CADD FILE NAME	
SHIP, COMB - GNS DIVISION	DATE	DRAWING NUMBER	BRP1026-590
		SHEET 1 OF 7	