



St. Louis District



**SURVEY NOTES:**

- 1) HORIZONTAL DATUM:  
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT
- 2) VERTICAL DATUM:  
NAVD88 (GEOID18), FOOT
- 3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.
- 4) SURVEY INFORMATION:  
SURVEY VESSEL: BOWEN1 (24' SCULLY S WORK BOAT)  
ECHO SOUNDER: TELEDYNE ECHOTRAC E20  
TRANSDUCER: ODOM SMSW200-4 (4" BEAM, 200 kHz)  
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP  
INS: SBG ELLIPSE2-E-G4A2-B1  
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS  
GNSS SOURCE: TRIMBLE CENTERPOINT RTX  
TIDE METHOD: REAL-TIME KINEMATIC  
TIDE SOURCE: TRIMBLE CENTERPOINT RTX
- 5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

**NOVEMBER 15, 2023  
INTERPOLATED WATER SURFACE ELEVATIONS**

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
68	320.54	320.53	318.24	2.30	2.29
69	321.06	321.05	318.73	2.33	2.32
70	321.59	321.58	319.23	2.36	2.35

**GAGE RECORD**

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
52.1	Cape Girardeau, MO	304.27	9:00	7.64	14:00	7.59
66.3	Moccasin Springs, MO	313.33	9:00	6.31	14:00	6.30
81.9	Grand Tower, IL	321.43	9:00	6.44	14:00	6.42

ILLINOIS

MISSOURI

Hanging Dog Island

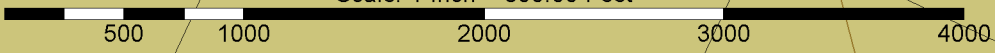
Nashley, Ed

74-5000b L1 (68.7)

FIG. 41

North

Scale: 1 Inch = 800.00 Feet



DATE OF SURVEY:  
NOVEMBER 15, 2023

FILE NO.: 069K1523  
TASK NO.: W912P923F0086

SCALE:  
1" = 800' (ANSI B)

FIELD BOOKS:

Approved: \_\_\_\_\_  
FIELD CARTOGRAPHER

Approved: \_\_\_\_\_  
CIVIL ENGINEERING TECH

Approved: \_\_\_\_\_  
ASST. CHIEF OF SURVEY

Approved: \_\_\_\_\_  
CHIEF OF SURVEY

Date: \_\_\_\_\_

U.S. ARMY CORPS OF ENGINEERS  
ST. LOUIS DISTRICT  
ST. LOUIS, MISSOURI

SURVEYED BY:  
BOWEN ENGINEERING & SURVEYING, P.C.  
2121 MEGAN DRIVE, CAPE GIRARDEAU, MO

UPPER MISSISSIPPI  
RIVER BASIN  
MISSISSIPPI RIVER

PRE DREDGE SURVEY  
RIVER MILES 70.0 - 68.7

SHEET NO.  
1 OF 1