

**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 SMSV200-4 (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.

MARCH 4, 2024  
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 11:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 11:00
70	324.48	324.46	319.23	5.25	5.23
71	325.02	325.54	319.86	5.16	5.14
72	325.56	325.54	320.40	5.16	5.14
73	326.10	326.08	321.22	4.88	4.86
74	326.64	326.62	321.79	4.85	4.83
75	327.18	327.15	322.04	5.14	5.11

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
66.3	Moccasin Springs, MO	313.43	9:00	9.16	11:00	9.14
81.9	Grand Tower, IL	321.43	9:00	9.47	11:00	9.44

APPROVED BY		DATE

**DATES OF SURVEY:**  
MARCH 4, 2024

**FILE NO.:** 075\_070C0424  
**REQUEST NO.:** W912P23F086

**SCALE:**  
1" = 800' (ANSI B)

**FIELD BOOKS:**

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

**Approved:** \_\_\_\_\_  
CIVIL ENGINEERING TECHNICIAN

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

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

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

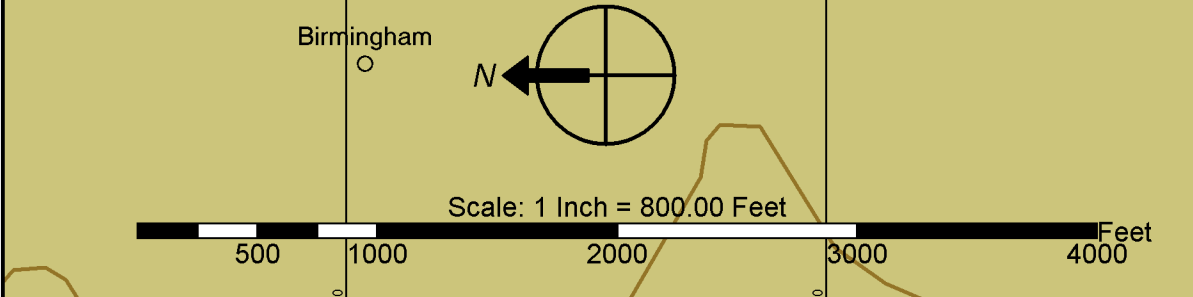
U.S. ARMY CORPS OF ENGINEERS  
ST. LOUIS DISTRICT  
ST. LOUIS, MISSOURI

SURVEYED BY:  
BOWEN ENGINEERING AND SURVEYING, P.C.  
2121 MEGAN DRIVE  
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER  
BASIN  
MISSISSIPPI RIVER  
CHANNEL PATROL  
RIVER MILES 74.7 - 76.8

**SHEET NO.**

1 OF 1



DATE	TIME	WSE	LWRP	DIF
3/4/24	9:00	324.48	319.23	5.25
3/4/24	9:00	325.02	319.86	5.16
3/4/24	9:00	325.56	320.40	5.16
3/4/24	9:00	326.10	321.22	4.88
3/4/24	9:00	326.64	321.79	4.85
3/4/24	9:00	327.18	322.04	5.14
3/4/24	11:00	324.46	319.23	5.23
3/4/24	11:00	325.54	319.86	5.14
3/4/24	11:00	325.54	320.40	5.14
3/4/24	11:00	326.08	321.22	4.86
3/4/24	11:00	326.62	321.79	4.83
3/4/24	11:00	327.15	322.04	5.11

**SURVEY NOTES:**

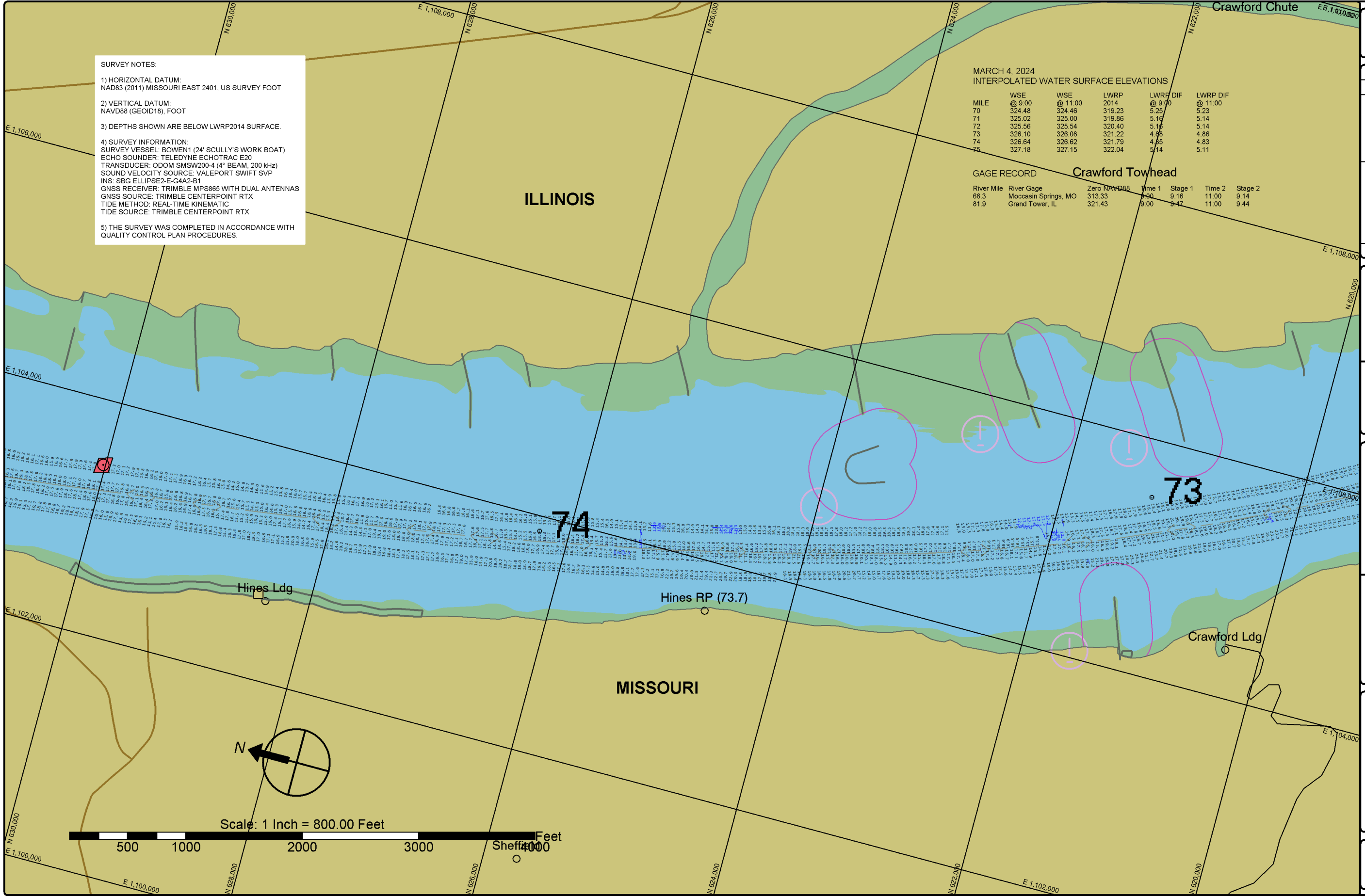
- 1) HORIZONTAL DATUM:  
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TRANSDUCER: ODOM SMSM200-4 (4" BEAM, 200 Khz)  
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP  
INS: SBG ELLIPSE2-E-G4A2-B1  
GNSS RECEIVER: TRIMBLE MPSS865 WITH DUAL ANTENNAS  
GNSS SOURCE: TRIMBLE CENTERPOINT RTX  
TIDE METHOD: REAL-TIME KINEMATIC  
TIDE SOURCE: TRIMBLE CENTERPOINT RTX
- 5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

**MARCH 4, 2024  
INTERPOLATED WATER SURFACE ELEVATIONS**

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74	326.64	326.62	321.79	4.85	4.83
75	327.18	327.15	322.04	5.14	5.11

**GAGE RECORD Crawford Towhead**

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
66.3	Moccasin Springs, MO	313.33	9:00	9.16	11:00	9.14
81.9	Grand Tower, IL	321.43	9:00	3.47	11:00	9.44



**APPROVED BY:**  
 FIELD SUPERVISOR: \_\_\_\_\_  
 CIVIL ENGINEERING TECHNICIAN: \_\_\_\_\_  
 ASST. CHIEF OF SURVEY: \_\_\_\_\_  
 CHIEF OF SURVEY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**APPROVED BY:**  
 U.S. ARMY CORPS OF ENGINEERS  
 ST. LOUIS, MISSOURI  
 SURVEYED BY:  
 BOWEN ENGINEERING AND SURVEYING, P.C.  
 2121 MEDIAN DRIVE  
 CAPE GIRARDEAU, MO 63701

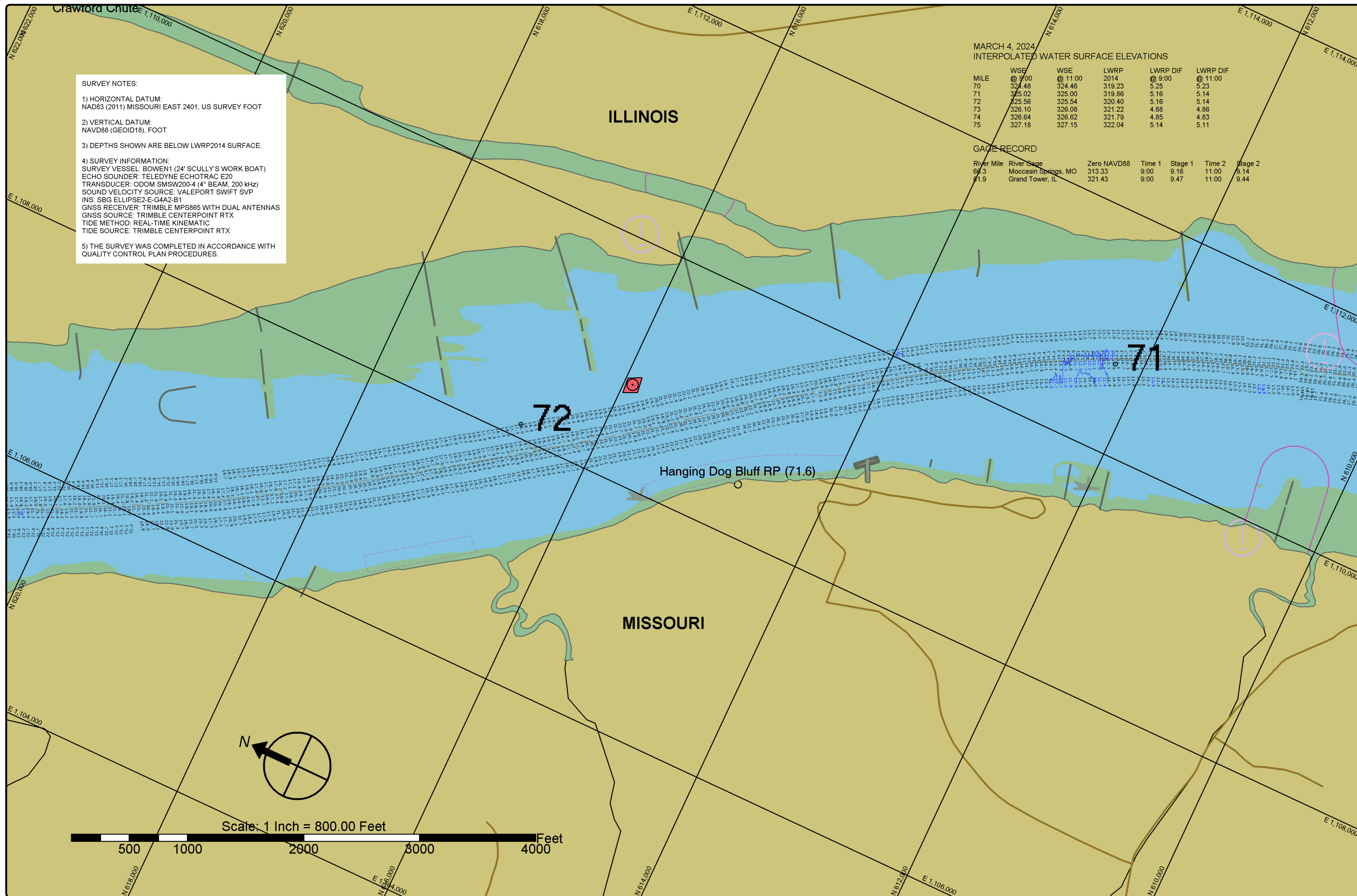
**DATES OF SURVEY:**  
 MARCH 4, 2024

**SCALE:**  
 1" = 800' (ANSI B)

**FIELD BOOKS:**  
 FILE NO.: 075\_070C0424  
 REQUEST NO.: W912P03086

**UPPER MISSISSIPPI RIVER  
 BASIN  
 MISSISSIPPI RIVER  
 CHANNEL PATROL  
 RIVER MILES 72.7 - 74.7**

**SHEET NO.**  
 1 OF 1



**SURVEY NOTES:**  
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 SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP  
 INS: SBG ELLIPSE2-E-G4A2-B1  
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 GNSS SOURCE: TRIMBLE CENTERPOINT RTX  
 TIDE METHOD: REAL-TIME KINEMATIC  
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**MARCH 4, 2024  
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**GAGE RECORD**

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
69.3	Moccasin Springs, MO	313.33	9:00	9:16	11:00	9.14
61.9	Grand Tower, IL	321.43	9:00	9:47	11:00	9.44

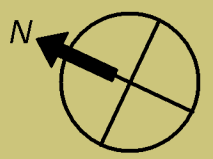
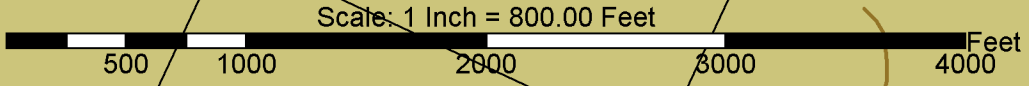

**DATES OF SURVEY:**  
 MARCH 4, 2024  
**SCALE:**  
 1" = 800' (ANSI B)  
**FIELD BOOKS:**  
 \_\_\_\_\_  
 \_\_\_\_\_

Approved: \_\_\_\_\_  
 FIELD COORDINATOR  
 Approved: \_\_\_\_\_  
 CIVIL ENGINEERING TECHNICIAN  
 Approved: \_\_\_\_\_  
 ASST. CHIEF OF SURVEY  
 Approved: \_\_\_\_\_  
 CHIEF OF SURVEY  
 Date: \_\_\_\_\_

U.S. ARMY CORPS OF ENGINEERS  
 ST. LOUIS, MISSOURI  
 SURVEYED BY:  
 BOWEN ENGINEERING AND SURVEYING, P.C.  
 2121 MEGAN DRIVE  
 CAPE GIRARDEAU, MO 63701

**UPPER MISSISSIPPI RIVER  
 BASIN  
 MISSISSIPPI RIVER  
 CHANNEL PATROL  
 RIVER MILES 70.7 - 72.7**

**SHEET NO.**  
 1 OF 1



St. Louis District





St. Louis District

**SURVEY NOTES:**

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ILLINOIS

Hanging Dog Island

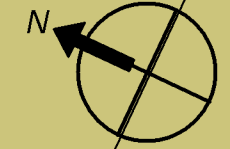
70

69

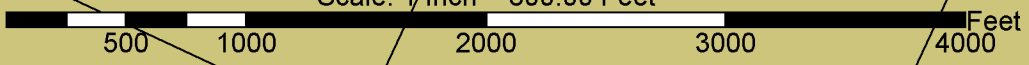
Teatable Lt. (68.7)

Neelys Ldg

MISSOURI



Scale: 1 Inch = 800.00 Feet



DATES OF SURVEY:  
MARCH 4, 2024

FILE NO.: 075\_070C0424  
REQUEST NO.: W912P03P0086

SCALE:  
1" = 800' (ANSI B)

FIELD BOOKS:

Approved: FIELD CARTOGRAPHER

Approved: CIVIL ENGINEERING TECHNICIAN

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 AND SURVEYING, P.C.  
2121 MEGAN DRIVE  
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER  
BASIN  
MISSISSIPPI RIVER  
CHANNEL PATROL  
RIVER MILES 68.7 - 70.7

SHEET NO.