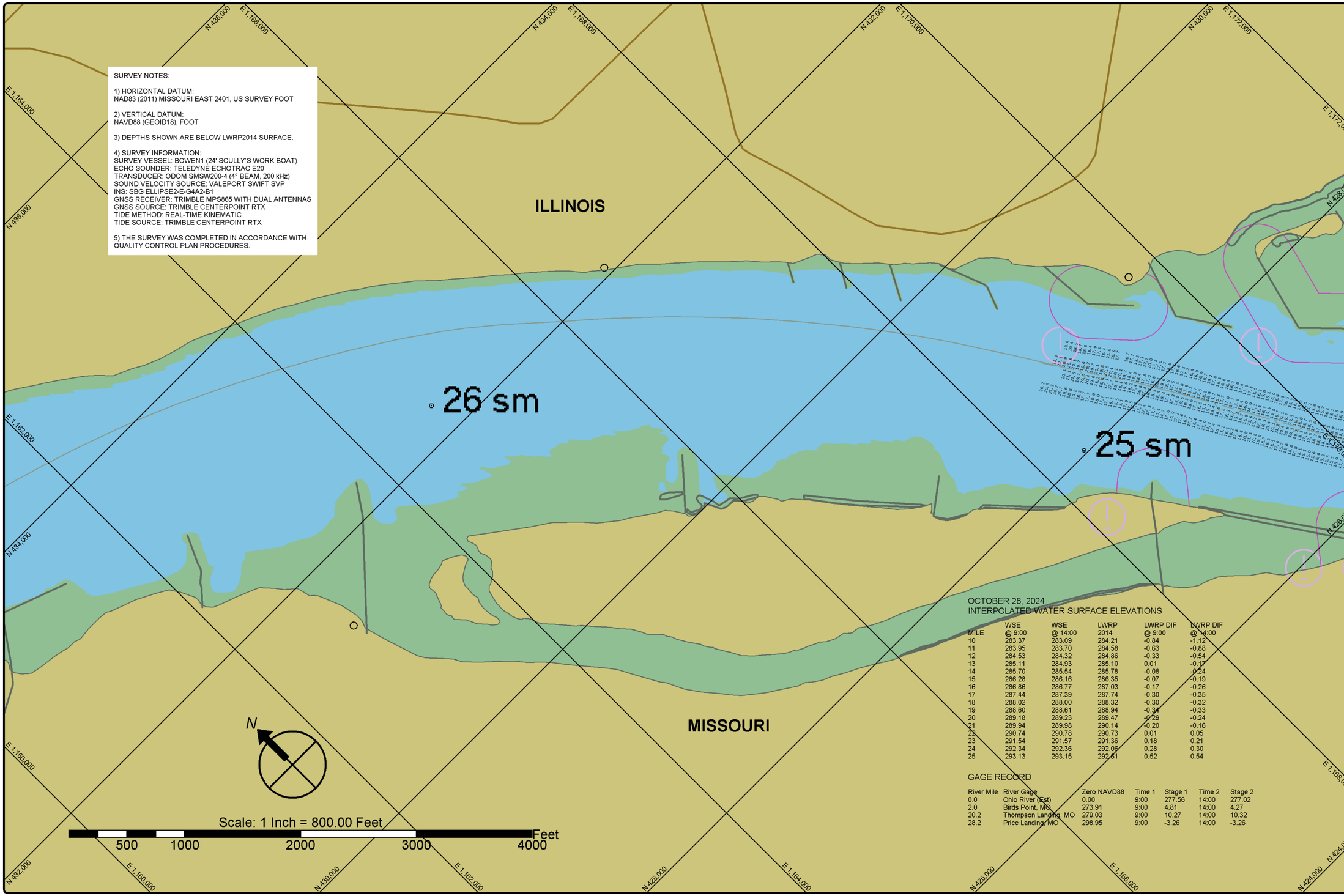


SURVEY NOTES:

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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

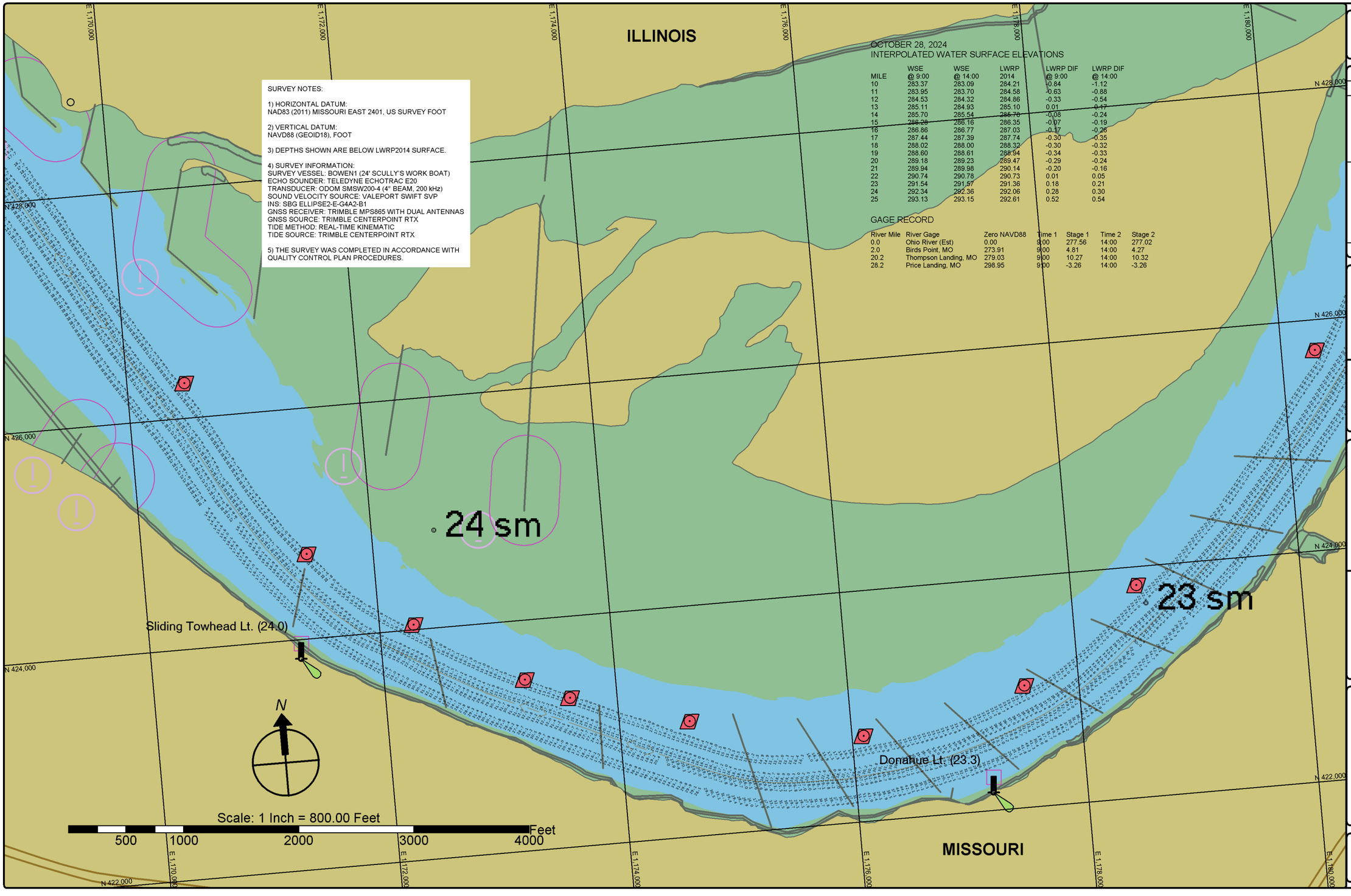
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 24.6 - 26.6

SHEET NO.
1 OF 1



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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 22.5 - 24.6

SHEET NO.
1 OF 1

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

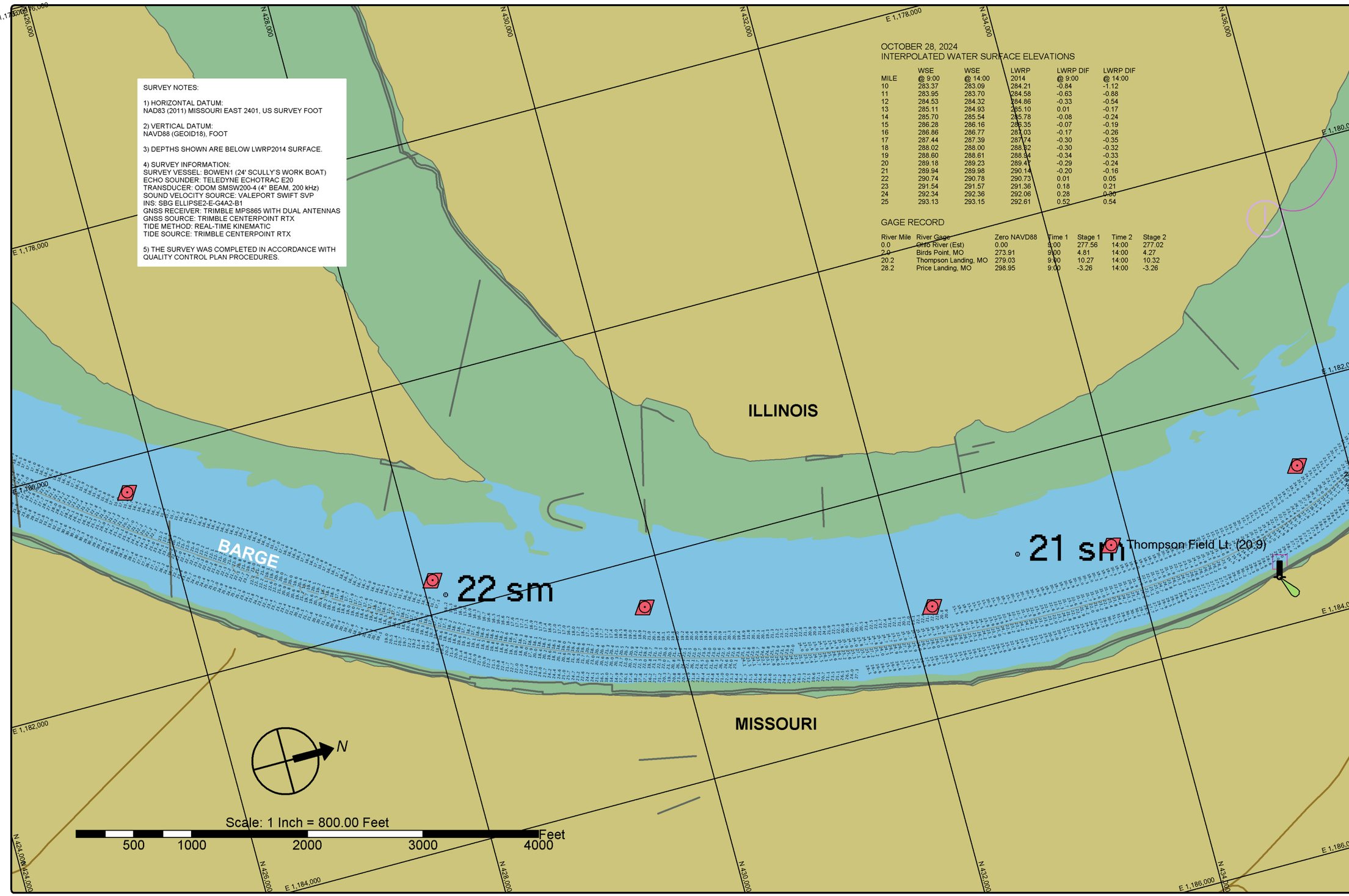
5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26



St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

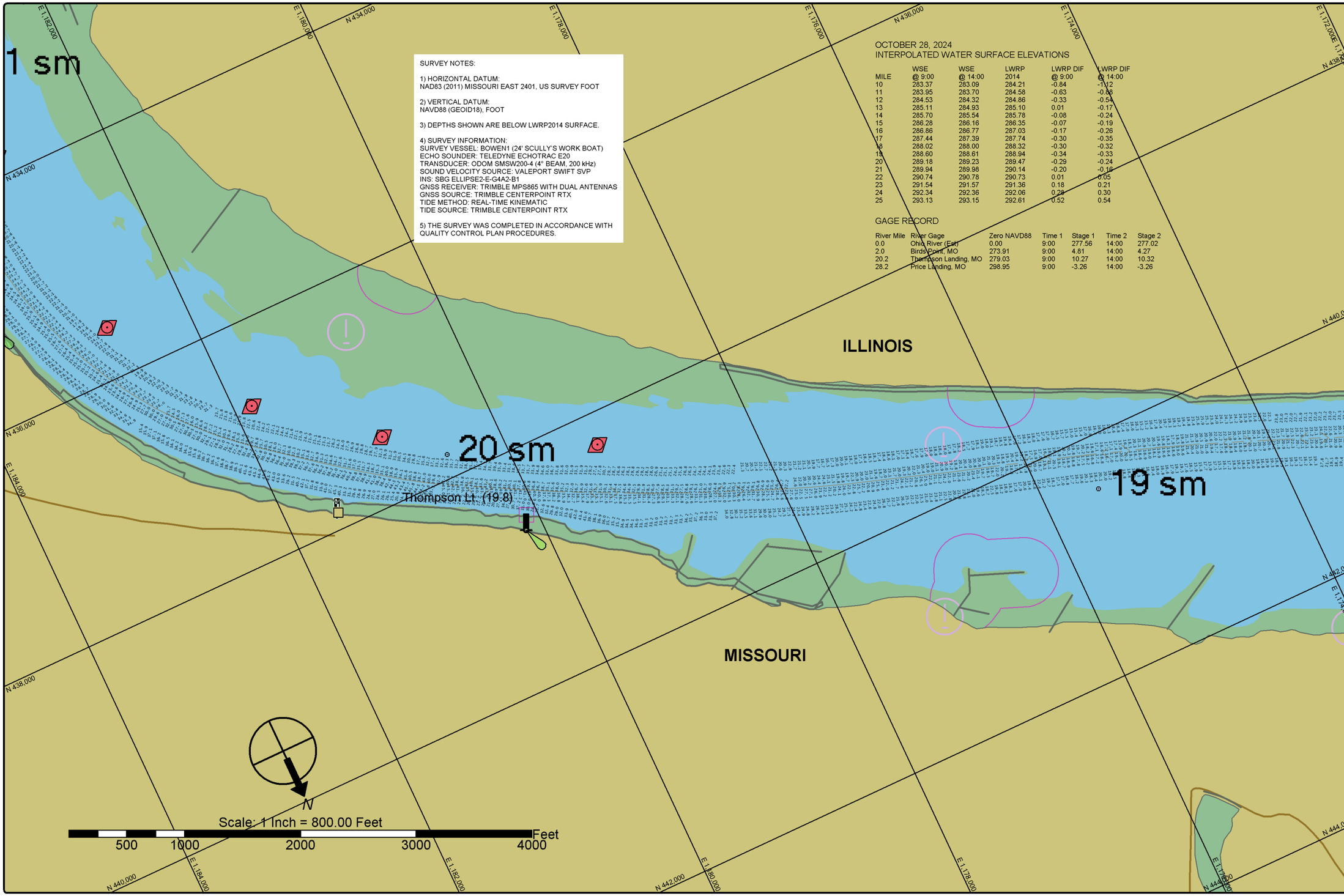
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 20.5 - 22.5

SHEET NO.
1 OF 1



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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 18.7 - 20.5

SHEET NO.
1 OF 1

SURVEY NOTES:

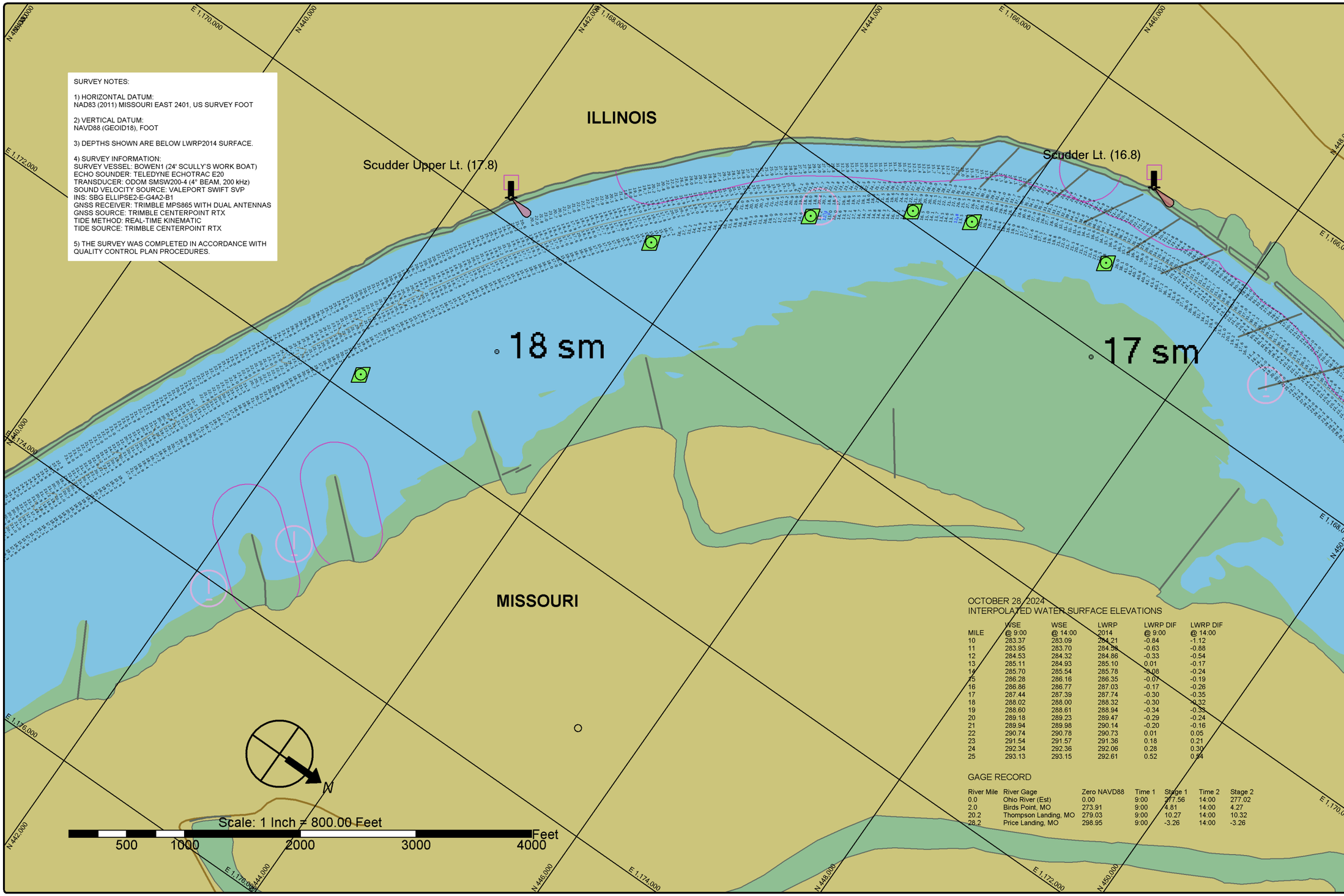
1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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.



OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 16.4 - 18.7

SHEET NO.
1 OF 1

SURVEY NOTES:

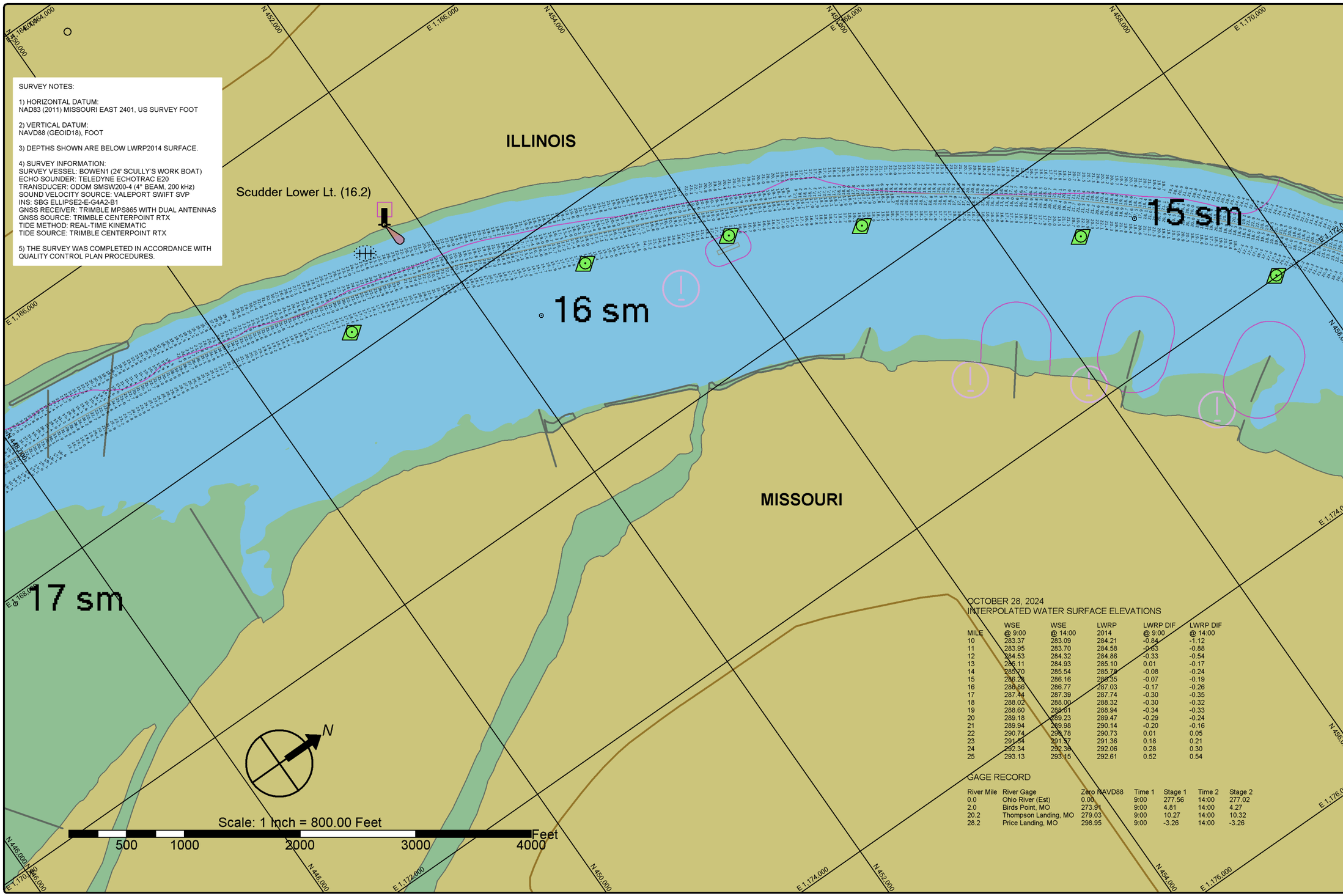
1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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.



OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.86	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2834
REQUEST NO.: W912P924F0029

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 MEDIAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 14.7 - 16.4

SHEET NO.
1 OF 1

SURVEY NOTES:

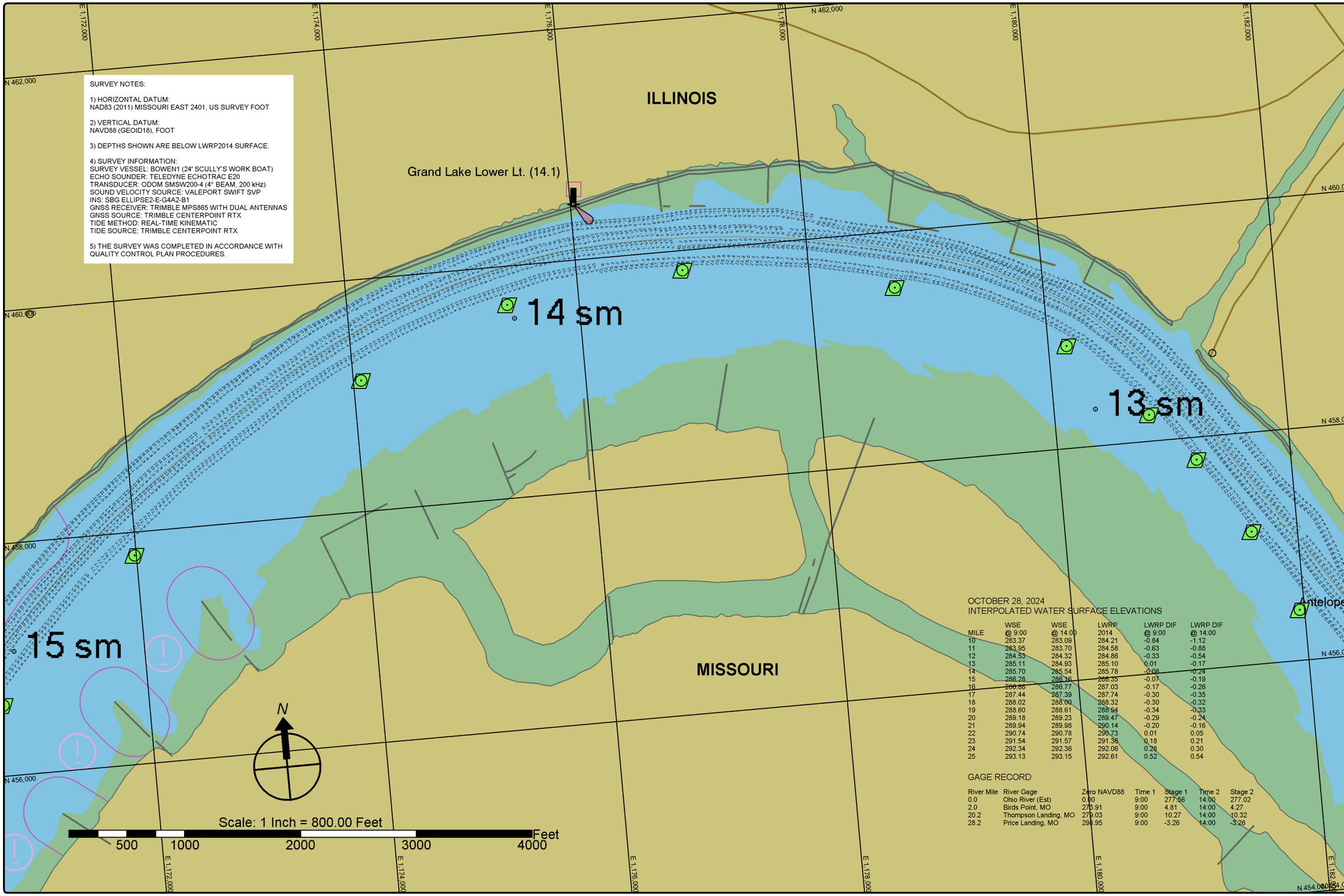
1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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.



OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19
16	286.85	286.77	287.03	-0.17	-0.26
17	287.44	287.39	287.74	-0.30	-0.35
18	288.02	288.00	288.32	-0.30	-0.32
19	288.60	288.61	288.94	-0.34	-0.33
20	289.18	289.23	289.47	-0.29	-0.24
21	289.94	289.98	290.14	-0.20	-0.16
22	290.74	290.78	290.73	0.01	0.05
23	291.54	291.57	291.36	0.18	0.21
24	292.34	292.36	292.06	0.28	0.30
25	293.13	293.15	292.61	0.52	0.54

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

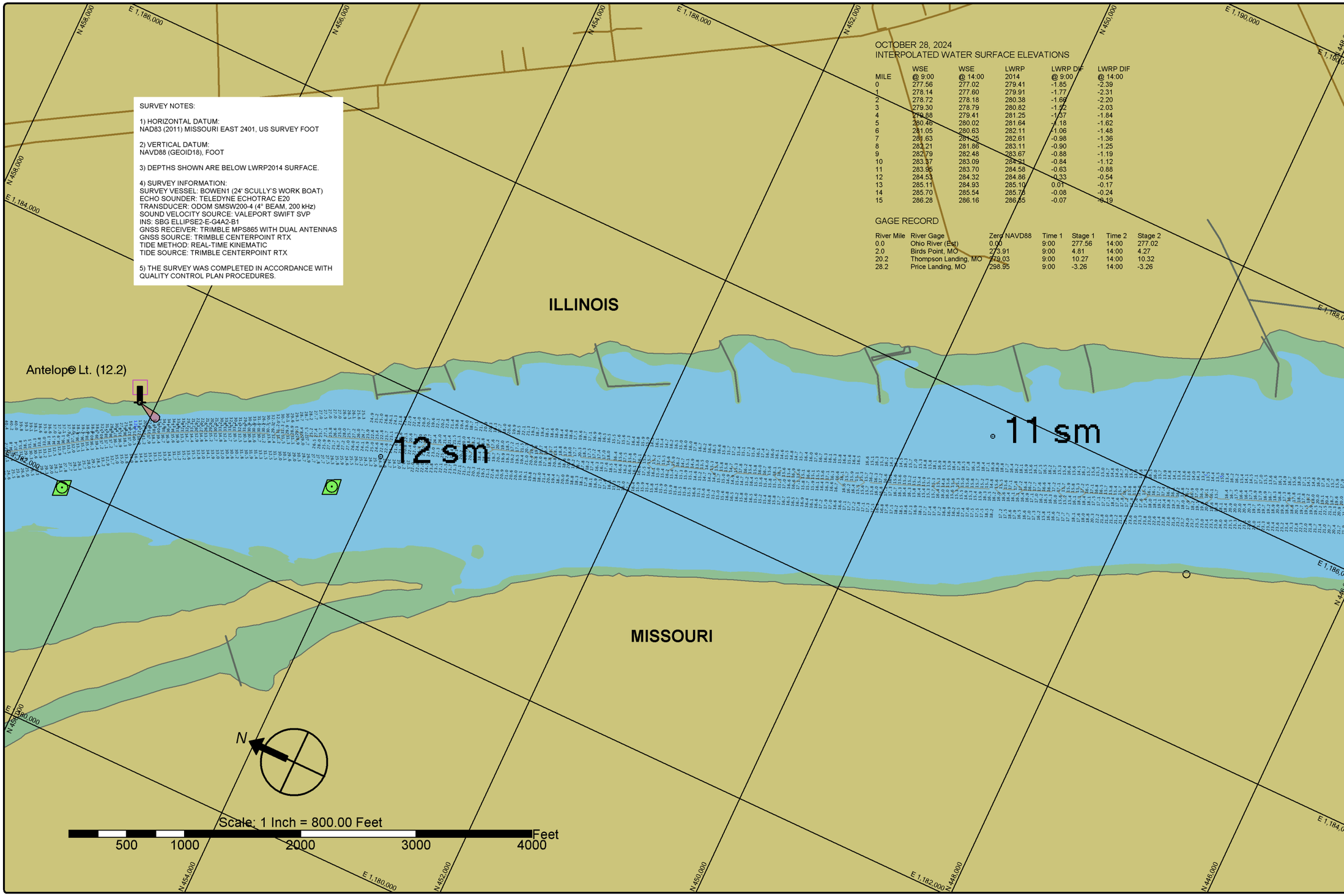
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 12.5 - 14.7

SHEET NO.
1 OF 1



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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.60	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.79	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 MEDIAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 10.5 - 12.5

SHEET NO.
1 OF 1

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

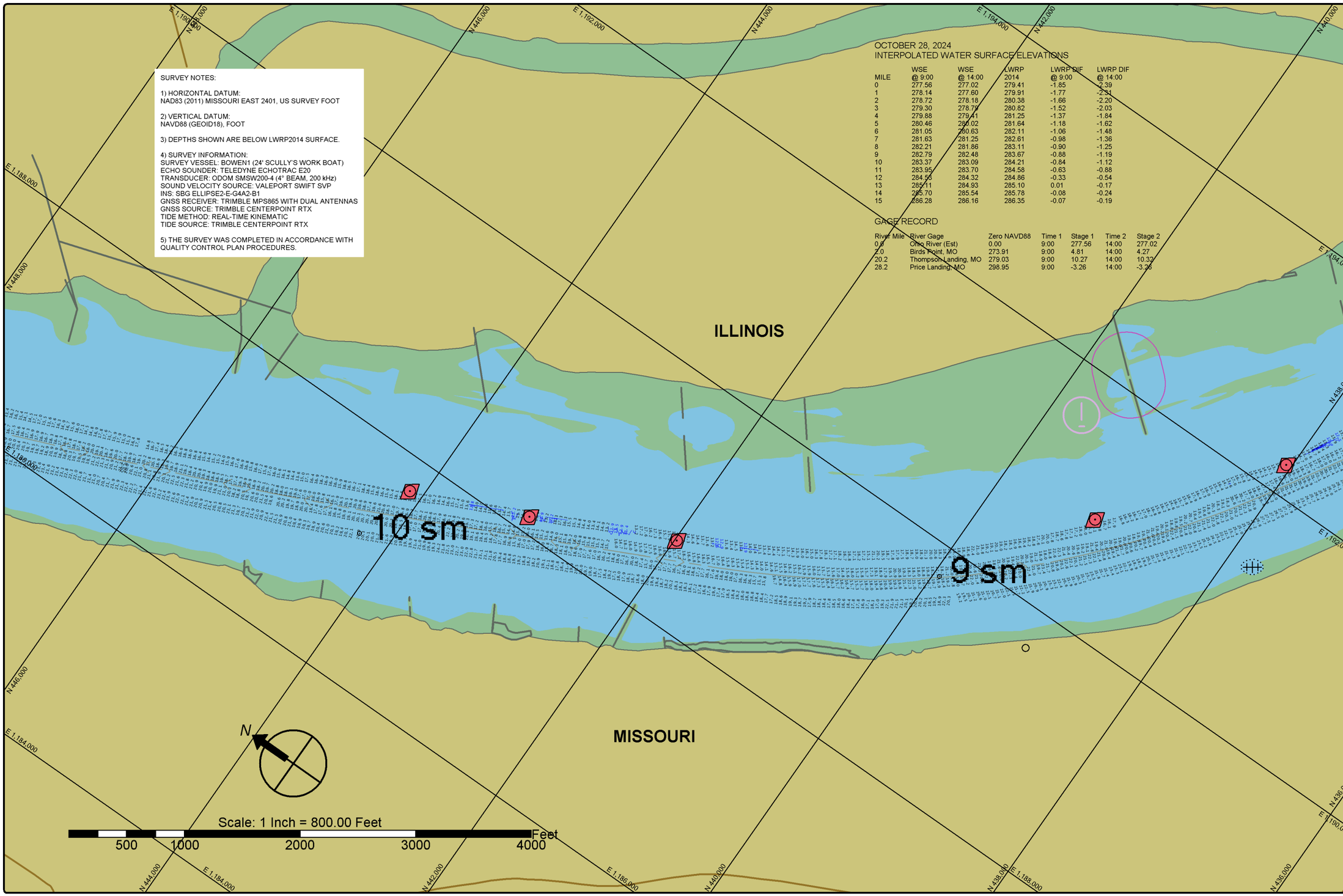
5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.60	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.75	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26



St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 8.3 - 10.5

SHEET NO.
1 OF 1

SURVEY NOTES:

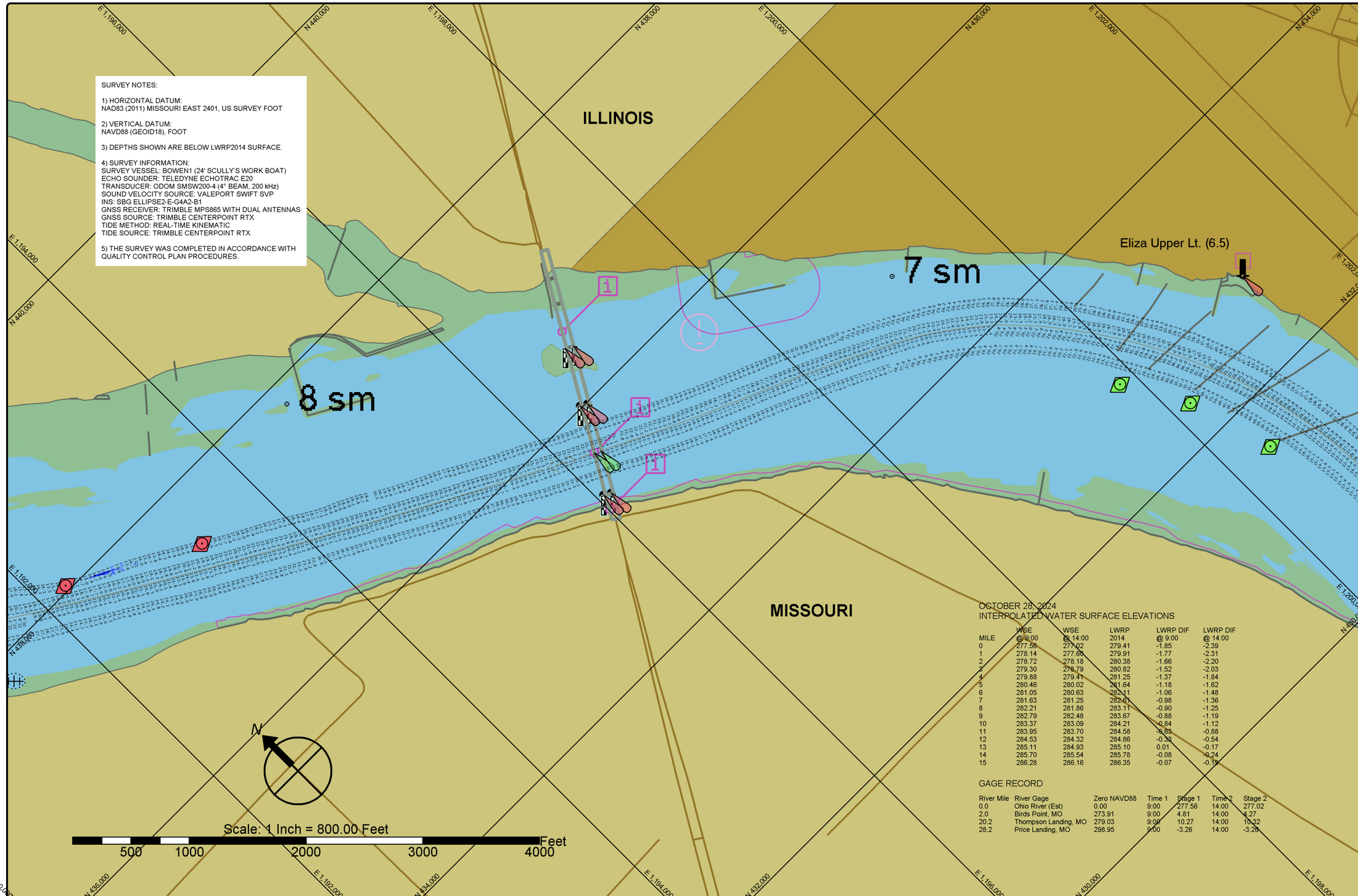
1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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.



OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.60	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.79	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

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 6.2 - 8.3

SHEET NO.
1 OF 1

SURVEY NOTES:

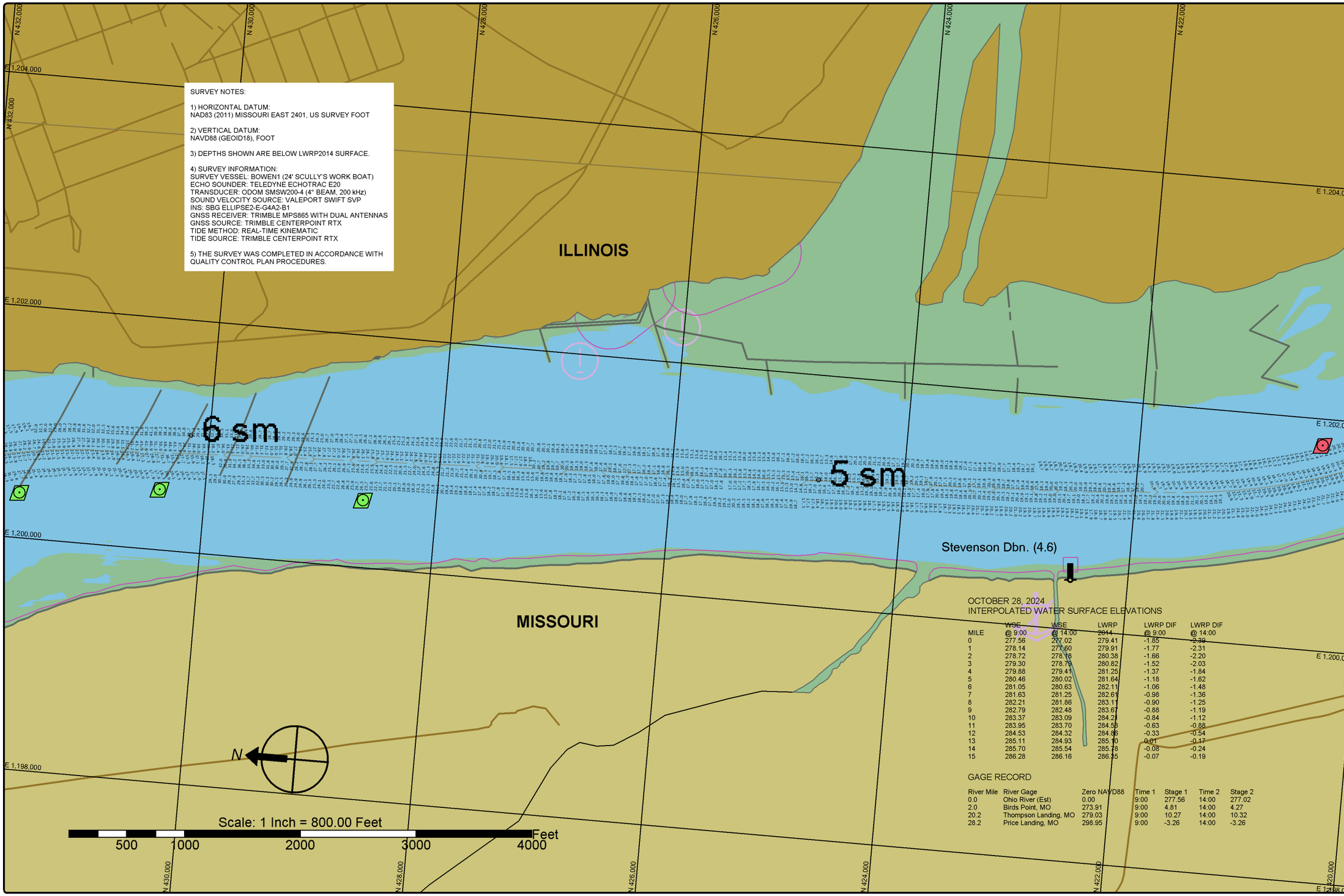
1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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.



OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.60	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.79	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2834
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

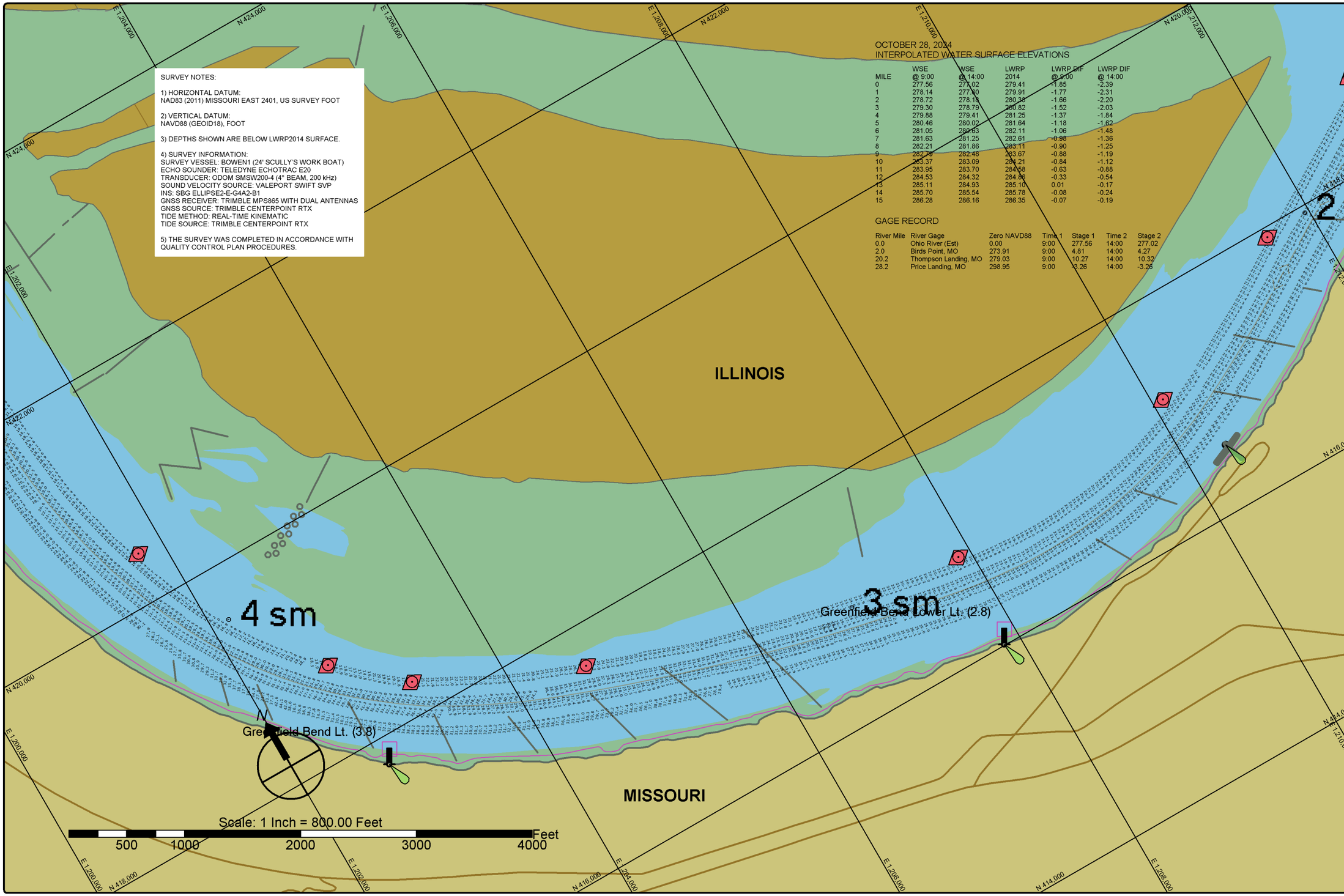
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 4.2 - 6.2

SHEET NO.
1 OF 1



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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.80	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.79	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2824
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

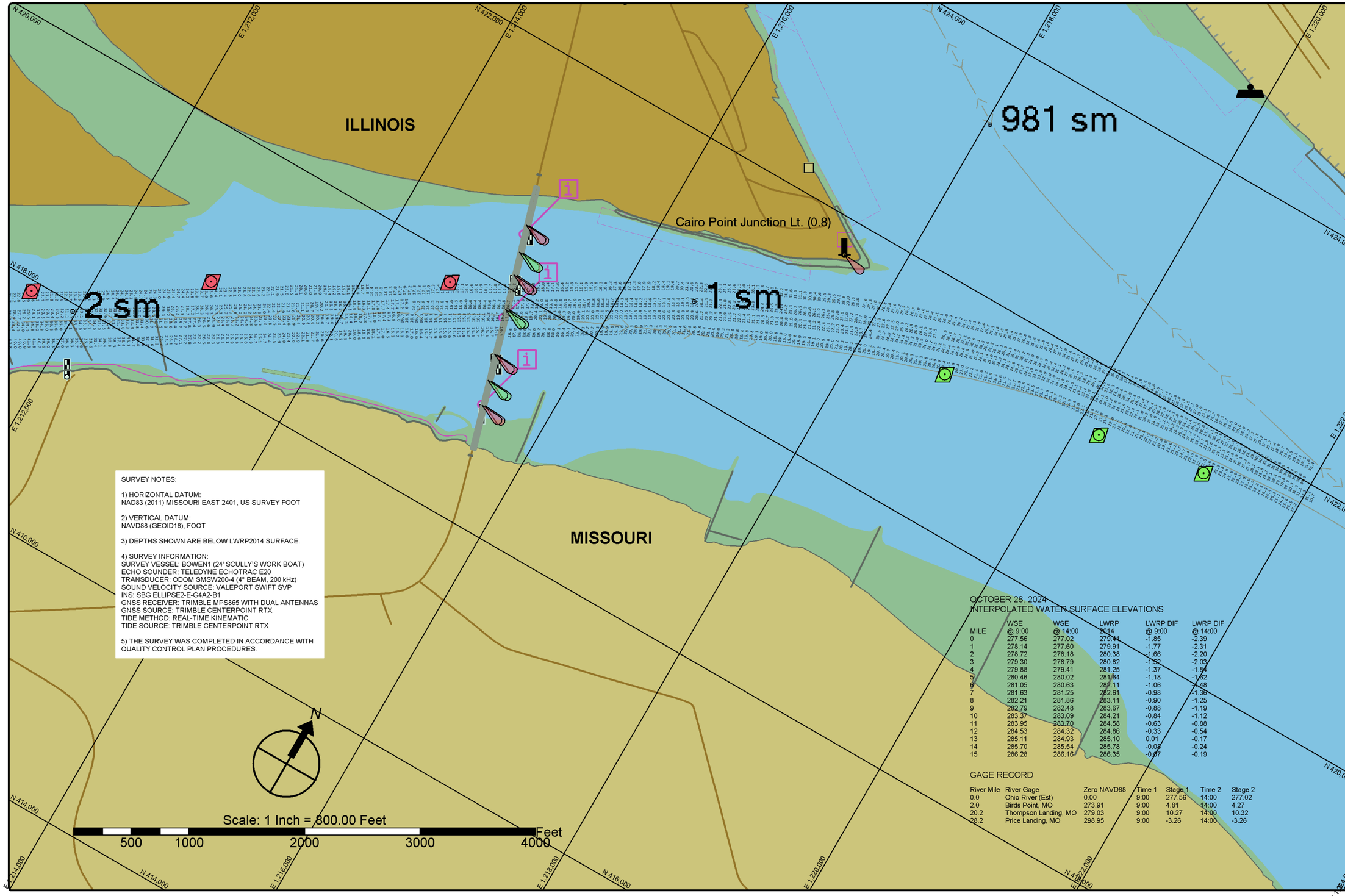
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 2.0 - 4.2

SHEET NO.
1 OF 1



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.

OCTOBER 28, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
0	277.56	277.02	279.41	-1.85	-2.39
1	278.14	277.60	279.91	-1.77	-2.31
2	278.72	278.18	280.38	-1.66	-2.20
3	279.30	278.79	280.82	-1.52	-2.03
4	279.88	279.41	281.25	-1.37	-1.84
5	280.46	280.02	281.64	-1.18	-1.62
6	281.05	280.63	282.11	-1.06	-1.48
7	281.63	281.25	282.61	-0.98	-1.36
8	282.21	281.86	283.11	-0.90	-1.25
9	282.79	282.48	283.67	-0.88	-1.19
10	283.37	283.09	284.21	-0.84	-1.12
11	283.95	283.70	284.58	-0.63	-0.88
12	284.53	284.32	284.86	-0.33	-0.54
13	285.11	284.93	285.10	0.01	-0.17
14	285.70	285.54	285.78	-0.08	-0.24
15	286.28	286.16	286.35	-0.07	-0.19

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
0.0	Ohio River (Est)	0.00	9:00	277.56	14:00	277.02
2.0	Birds Point, MO	273.91	9:00	4.81	14:00	4.27
20.2	Thompson Landing, MO	279.03	9:00	10.27	14:00	10.32
28.2	Price Landing, MO	298.95	9:00	-3.26	14:00	-3.26

St. Louis District

DATES OF SURVEY:
OCTOBER 28, 2024

FILE NO.: 025_000J2834
REQUEST NO.: W912P924F0029

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 0 - 2.0

SHEET NO.
1 OF 1