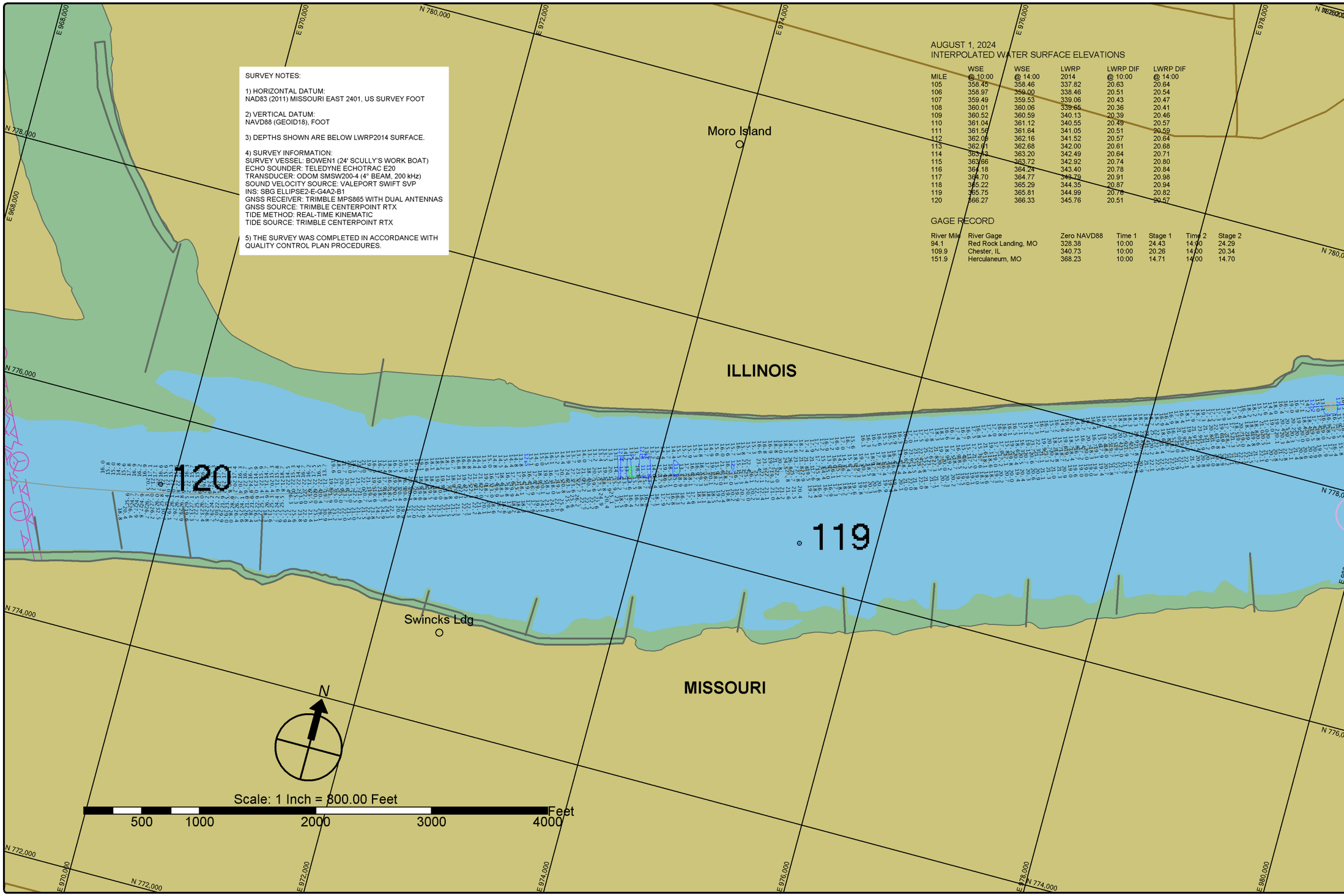


SURVEY NOTES:

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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
105	358.45	358.46	337.82	20.63	20.64
106	358.97	359.00	338.46	20.51	20.54
107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
110	361.04	361.12	340.55	20.49	20.57
111	361.56	361.64	341.05	20.51	20.59
112	362.09	362.16	341.52	20.57	20.64
113	362.61	362.68	342.00	20.61	20.68
114	363.13	363.20	342.49	20.64	20.71
115	363.66	363.72	342.92	20.74	20.80
116	364.18	364.24	343.40	20.78	20.84
117	364.70	364.77	343.79	20.91	20.98
118	365.22	365.29	344.35	20.87	20.94
119	365.75	365.81	344.99	20.76	20.82
120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
109.9	Chester, IL	340.73	10:00	20.26	14:00	20.34
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k0124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

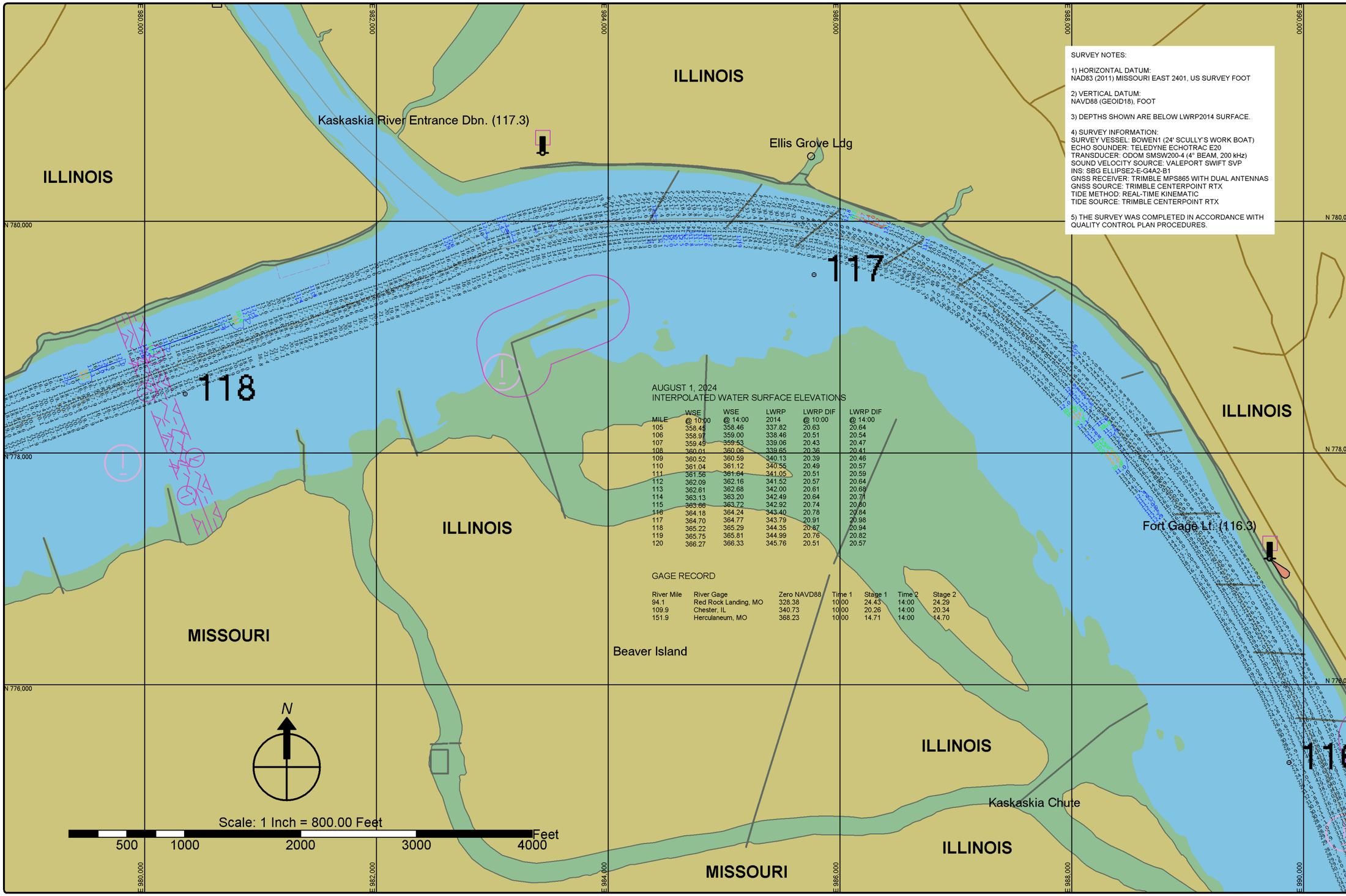
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 118.2 - 120.1

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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
105	358.45	358.46	337.82	20.63	20.64
106	358.97	359.00	338.46	20.51	20.54
107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
110	361.04	361.12	340.55	20.49	20.57
111	361.56	361.64	341.05	20.51	20.59
112	362.09	362.16	341.52	20.57	20.64
113	362.61	362.68	342.00	20.61	20.68
114	363.13	363.20	342.49	20.64	20.71
115	363.66	363.72	342.92	20.74	20.80
116	364.18	364.24	343.40	20.78	20.84
117	364.70	364.77	343.79	20.91	20.98
118	365.22	365.29	344.35	20.87	20.94
119	365.75	365.81	344.99	20.76	20.82
120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
109.9	Chester, IL	340.73	10:00	20.26	14:00	20.34
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

Approved: FIELD CART/COMPUTER
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 116.0 - 118.2

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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
105	358.45	358.46	337.82	20.63	20.64
106	358.97	359.00	338.46	20.51	20.54
107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
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112	362.09	362.16	341.52	20.57	20.64
113	362.61	362.68	342.00	20.61	20.68
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118	365.22	365.29	344.35	20.87	20.94
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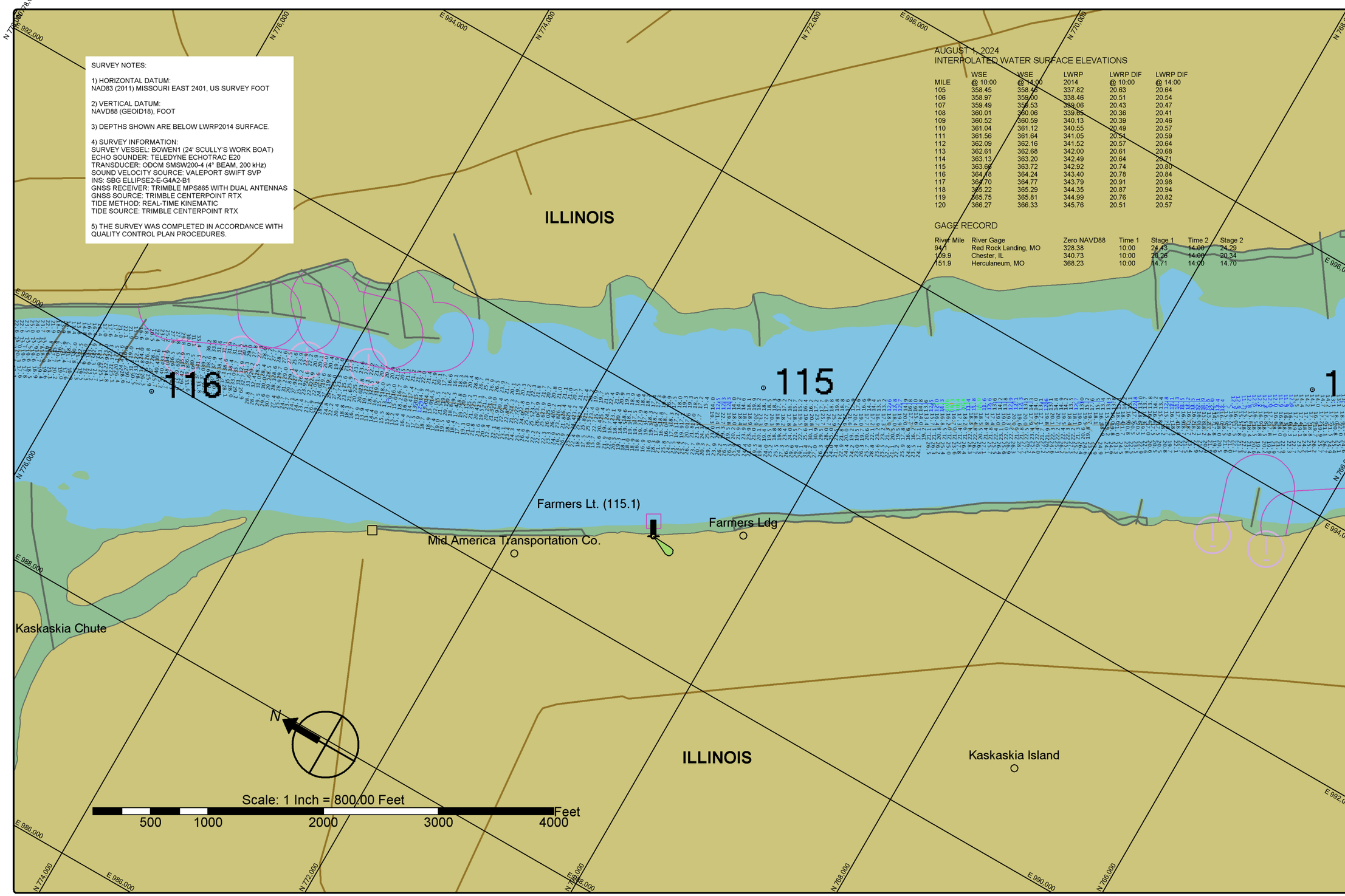
120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
109.9	Chester, IL	340.73	10:00	20.26	14:00	20.34
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70



St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
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 114.0 - 116.0

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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
105	358.45	358.46	337.82	20.63	20.64
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108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
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113	362.61	362.68	342.00	20.61	20.68
114	363.13	363.20	342.49	20.64	20.71
115	363.66	363.72	342.92	20.74	20.80
116	364.18	364.24	343.40	20.78	20.84
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119	365.75	365.81	344.99	20.76	20.82
120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
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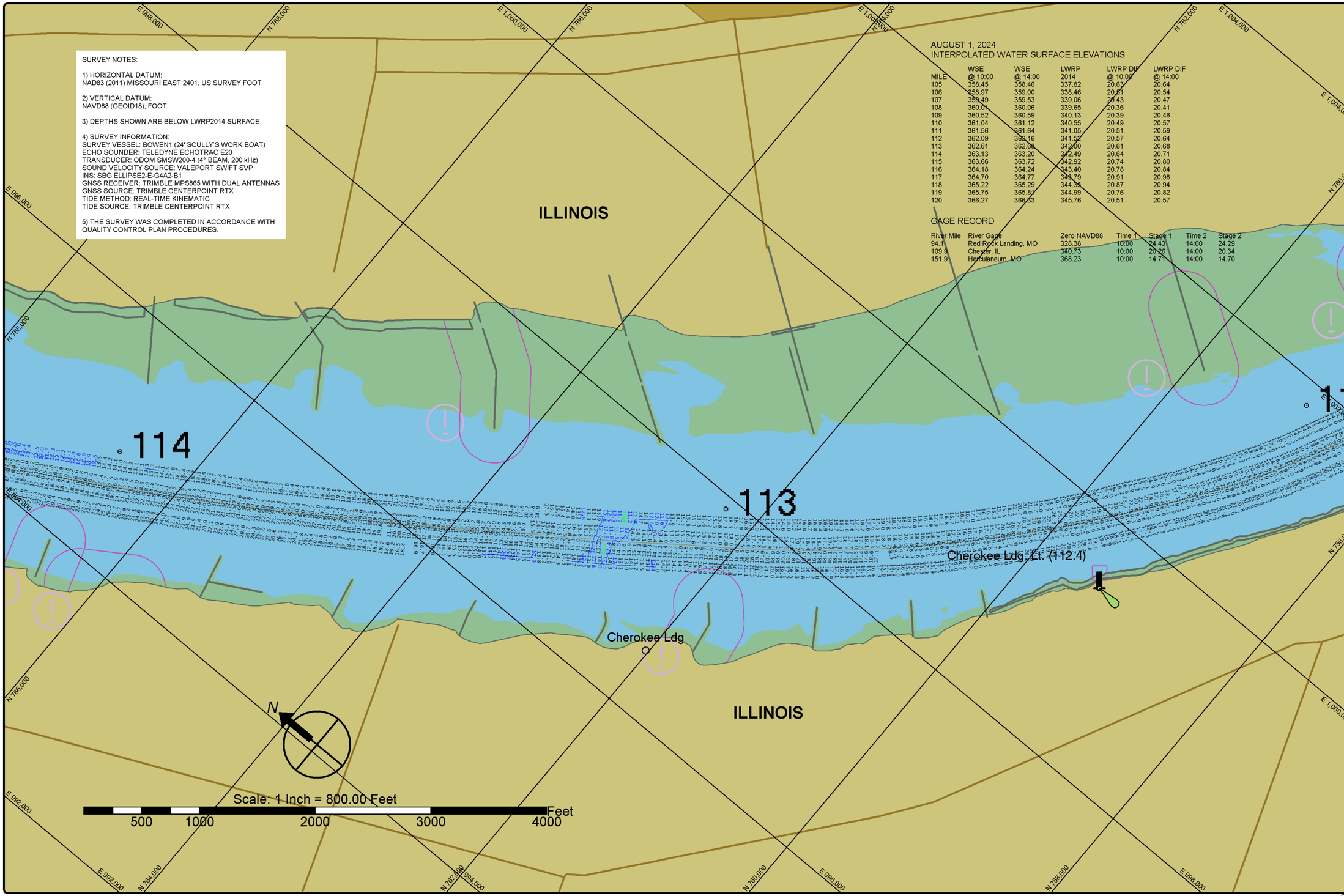
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70



St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
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 112.0 - 114.0

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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
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108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
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112	362.09	362.16	341.52	20.57	20.64
113	362.61	362.68	342.00	20.61	20.68
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115	363.66	363.72	342.92	20.74	20.80
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120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
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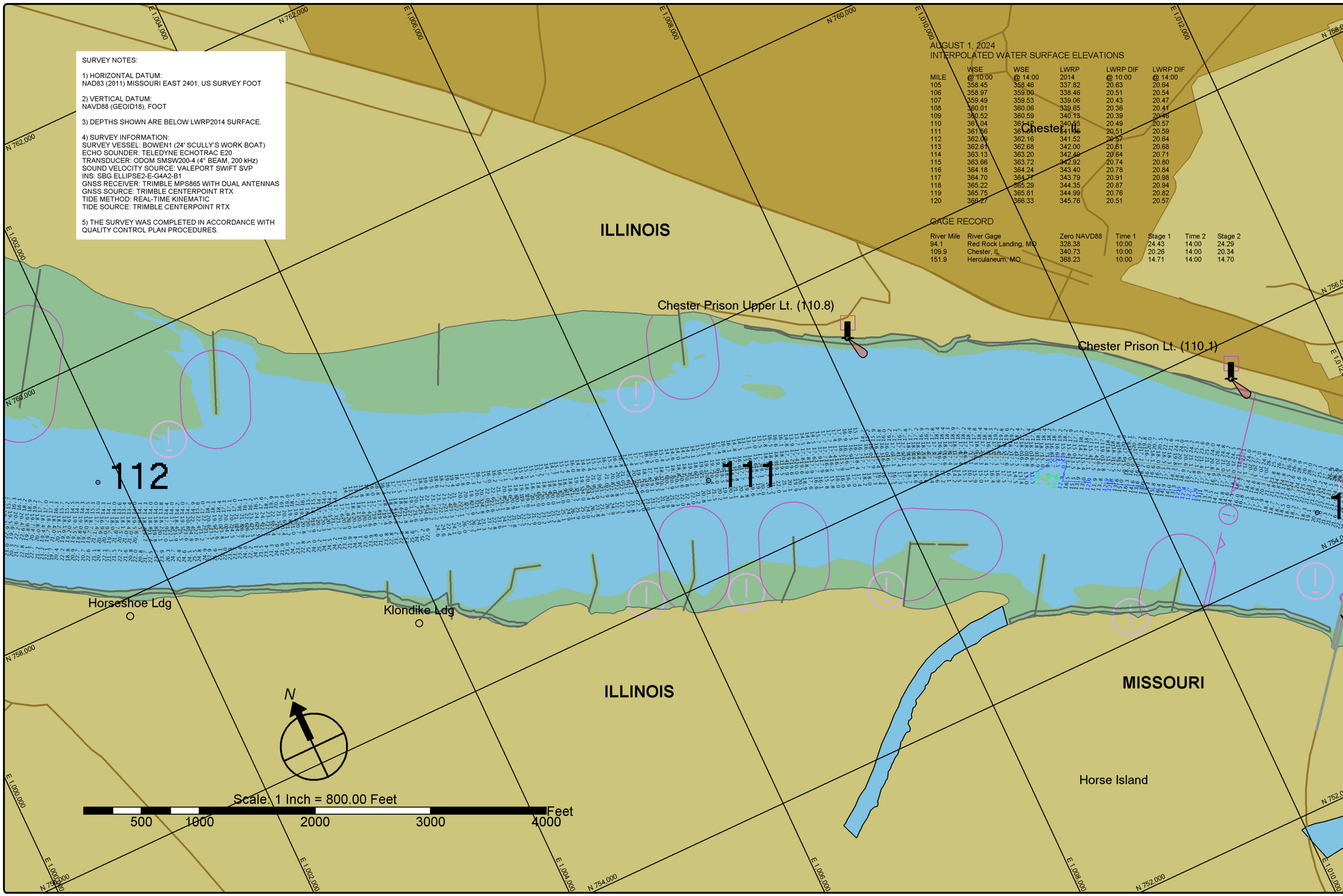
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70



St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
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 110.0 - 112.0

SHEET NO.
1 OF 1

SURVEY NOTES:

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

2) VERTICAL DATUM:
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SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
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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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
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GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
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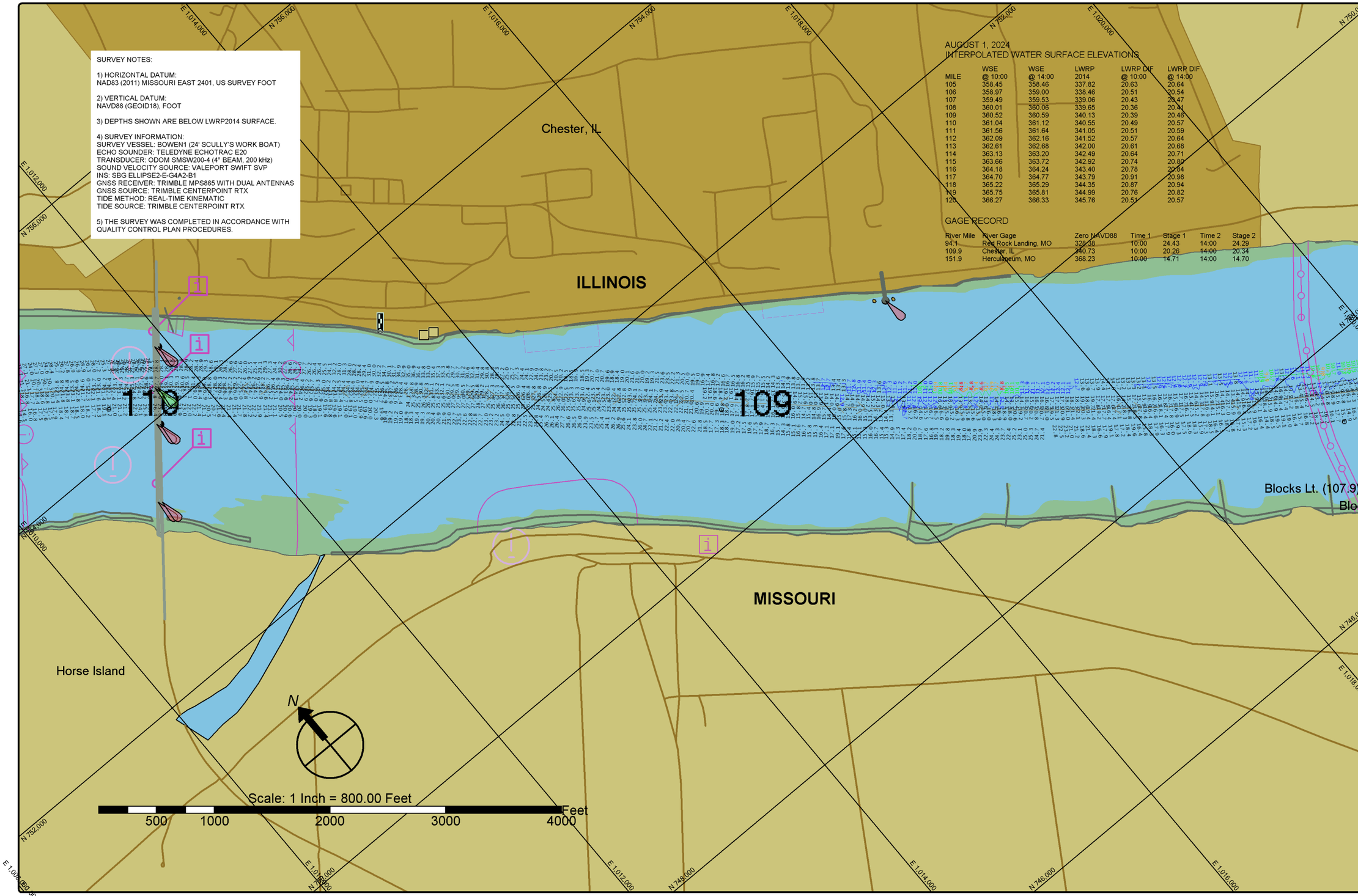
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70



St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

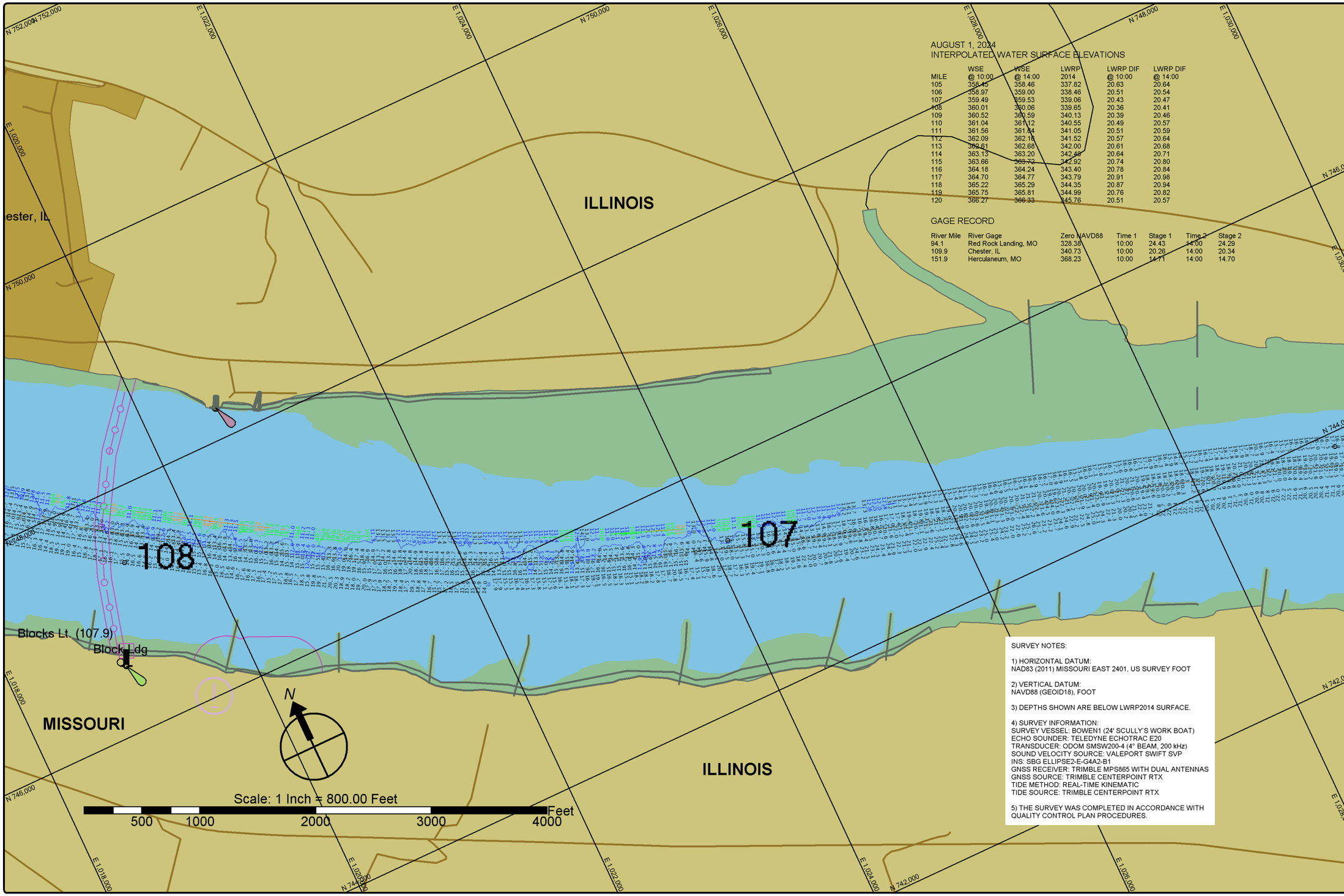
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 108.0 - 110.0

SHEET NO.
1 OF 1



AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
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119	365.75	365.81	344.99	20.76	20.82
120	366.27	366.33	345.76	20.51	20.57

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
109.9	Chester, IL	340.73	10:00	20.26	14:00	20.34
151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70

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.

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
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 106.0 - 108.0

SHEET NO.
1 OF 1

SURVEY NOTES:

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NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

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GNSS SOURCE: TRIMBLE CENTERPOINT RTX
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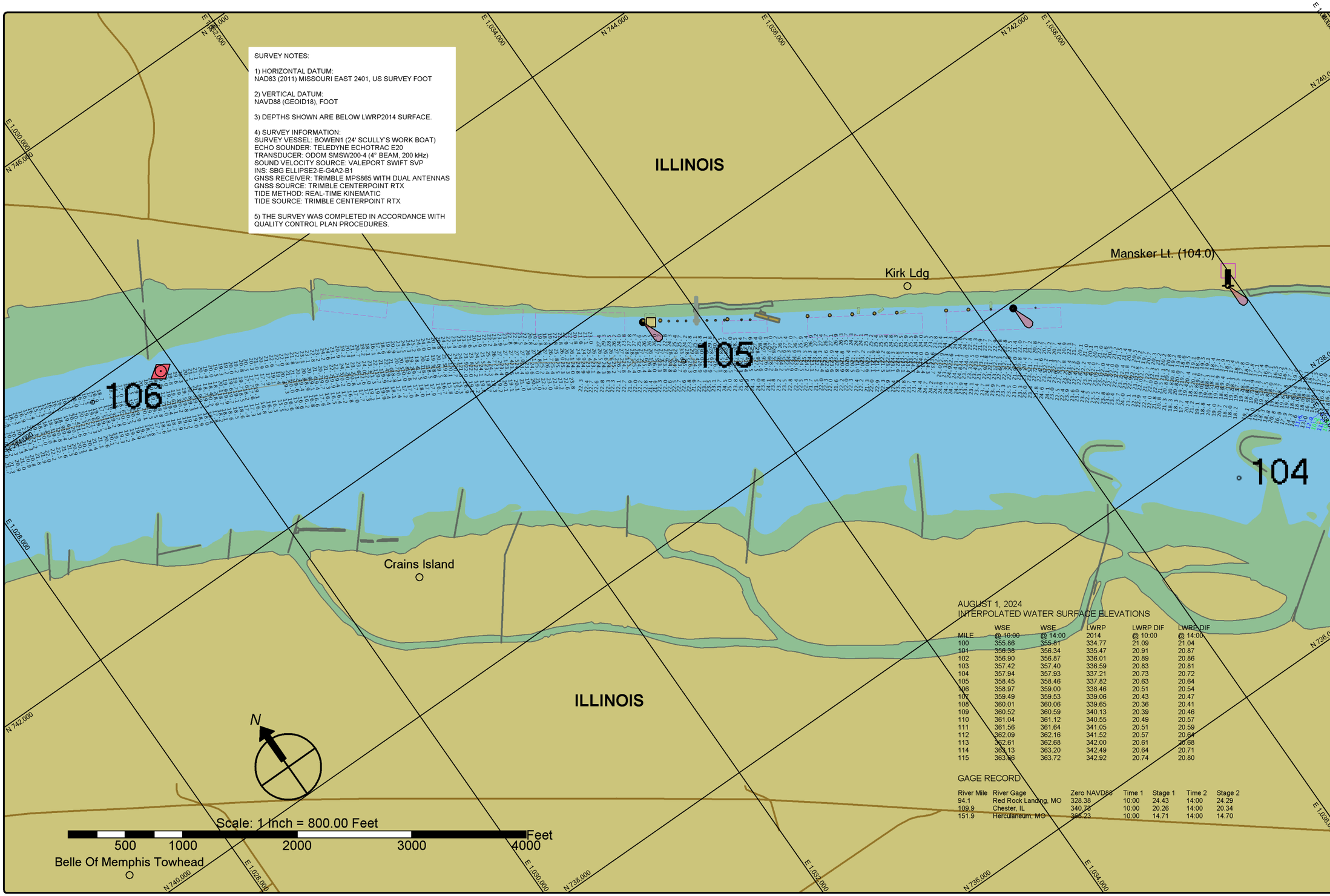


AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
100	355.86	355.81	334.77	21.09	21.04
101	356.38	356.34	335.47	20.91	20.87
102	356.90	356.87	336.01	20.89	20.86
103	357.42	357.40	336.59	20.83	20.81
104	357.94	357.93	337.21	20.73	20.72
105	358.45	358.46	337.82	20.63	20.64
106	358.97	359.00	338.46	20.51	20.54
107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
110	361.04	361.12	340.55	20.49	20.57
111	361.56	361.64	341.05	20.51	20.59
112	362.09	362.16	341.52	20.57	20.64
113	362.61	362.68	342.00	20.61	20.68
114	363.13	363.20	342.49	20.64	20.71
115	363.66	363.72	342.92	20.74	20.80

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
109.9	Chester, IL	340.23	10:00	20.26	14:00	20.34
151.9	Herculaneum, MO	365.23	10:00	14.71	14:00	14.70

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

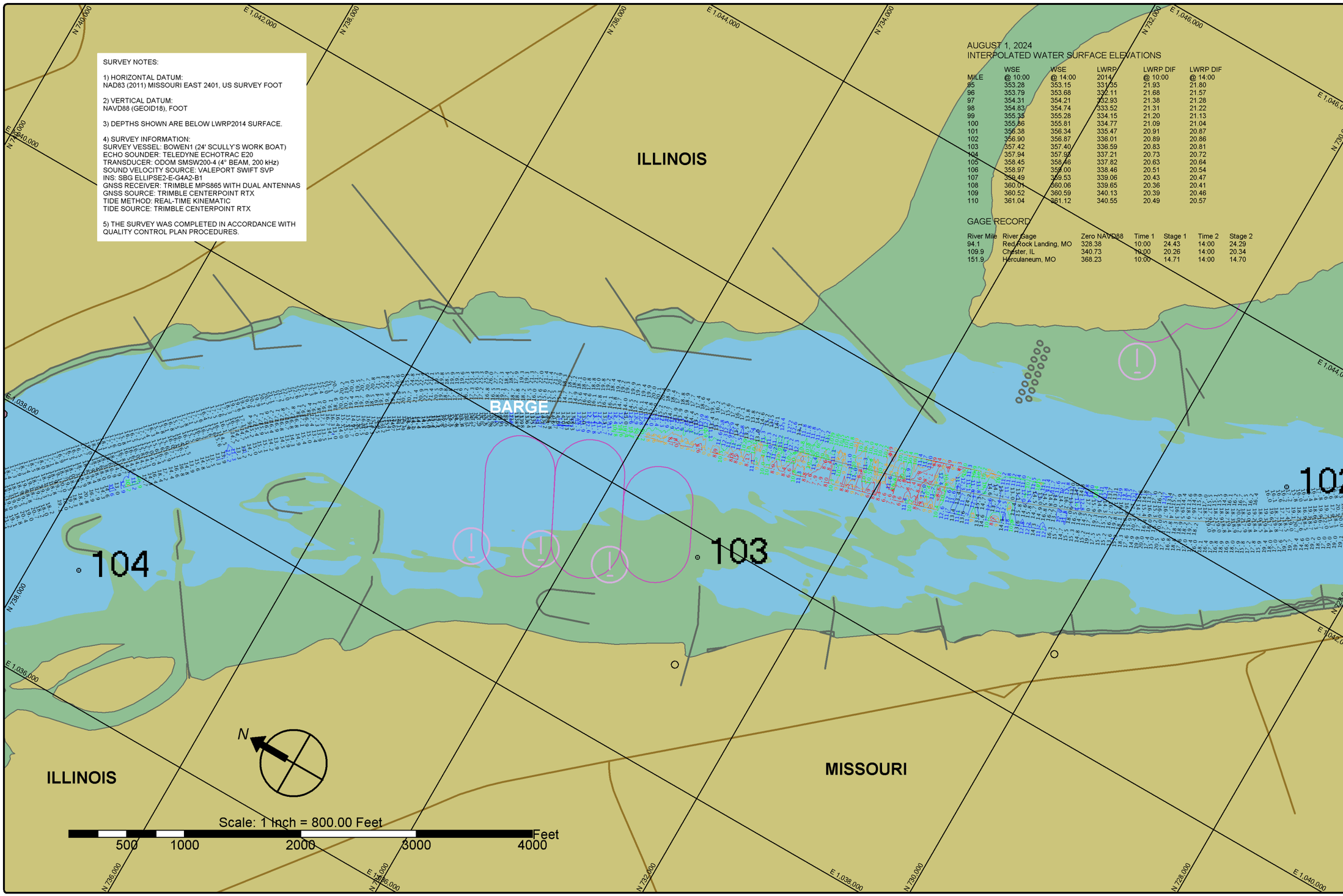
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 103.9 -106.0

SHEET NO.
1 OF 1



SURVEY NOTES:

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NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

2) VERTICAL DATUM:
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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.

AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
95	353.28	353.15	331.35	21.93	21.80
96	353.79	353.68	332.11	21.68	21.57
97	354.31	354.21	332.93	21.38	21.28
98	354.83	354.74	333.52	21.31	21.22
99	355.35	355.28	334.15	21.20	21.13
100	355.86	355.81	334.77	21.09	21.04
101	356.38	356.34	335.47	20.91	20.87
102	356.90	356.87	336.01	20.89	20.86
103	357.42	357.40	336.59	20.83	20.81
104	357.94	357.92	337.21	20.73	20.72
105	358.45	358.46	337.82	20.63	20.64
106	358.97	359.00	338.46	20.51	20.54
107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
110	361.04	361.12	340.55	20.49	20.57

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River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
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151.9	Herculaneum, MO	368.23	10:00	14.71	14:00	14.70

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095k6124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

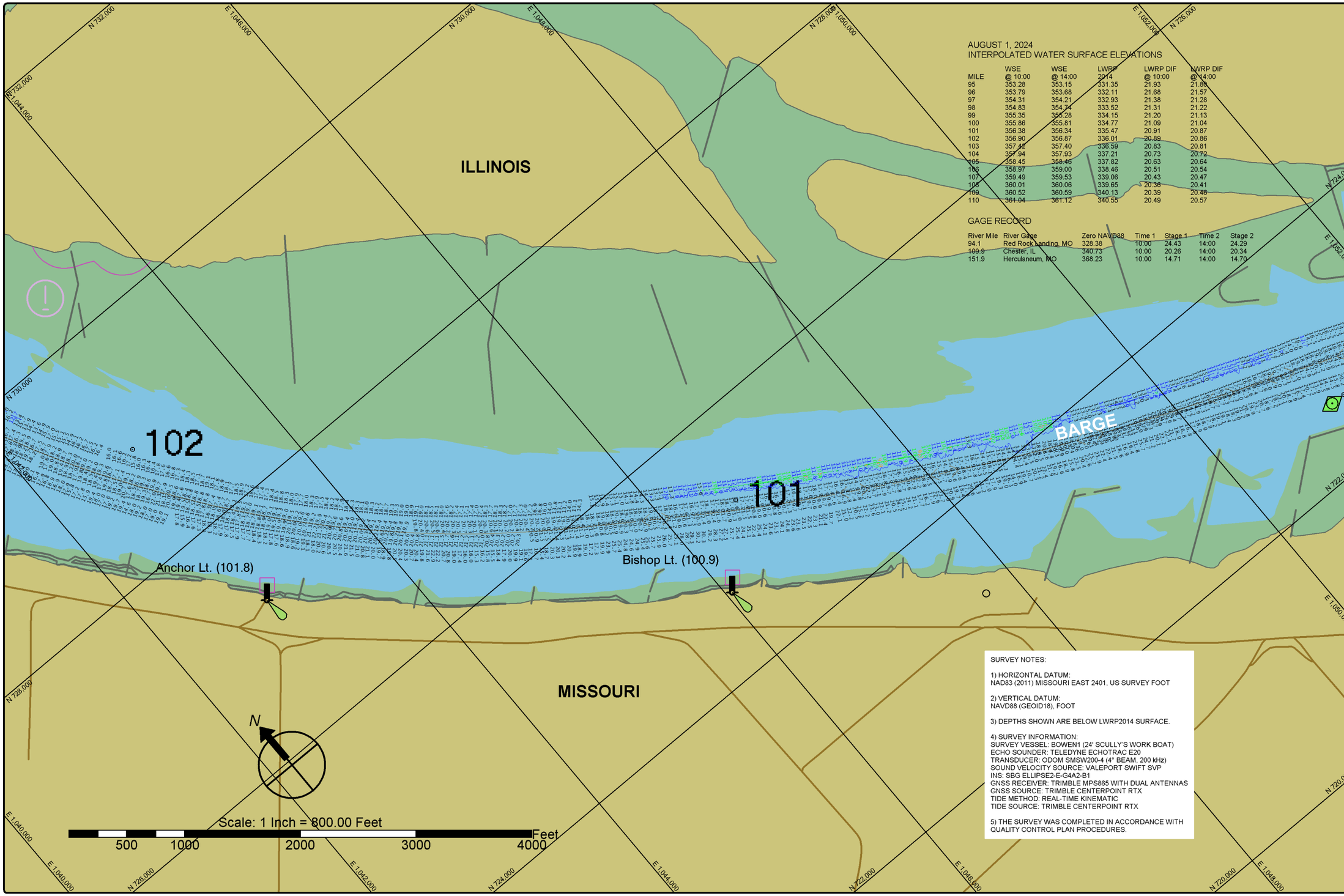
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

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 102.9 - 103.9

SHEET NO.
1 OF 1



AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
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96	353.79	353.68	332.11	21.68	21.57
97	354.31	354.21	332.93	21.38	21.28
98	354.83	354.74	333.52	21.31	21.22
99	355.35	355.28	334.15	21.20	21.13
100	355.86	355.81	334.77	21.09	21.04
101	356.38	356.34	335.47	20.91	20.87
102	356.90	356.87	336.01	20.89	20.86
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107	359.49	359.53	339.06	20.43	20.47
108	360.01	360.06	339.65	20.36	20.41
109	360.52	360.59	340.13	20.39	20.46
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GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
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SURVEY NOTES:

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

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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.

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095K6124
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 100.0 - 102.0

SHEET NO.
1 OF 1

SURVEY NOTES:

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

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AUGUST 1, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 14:00
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107	359.49	359.53	339.06	20.43	20.47
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GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	10:00	24.43	14:00	24.29
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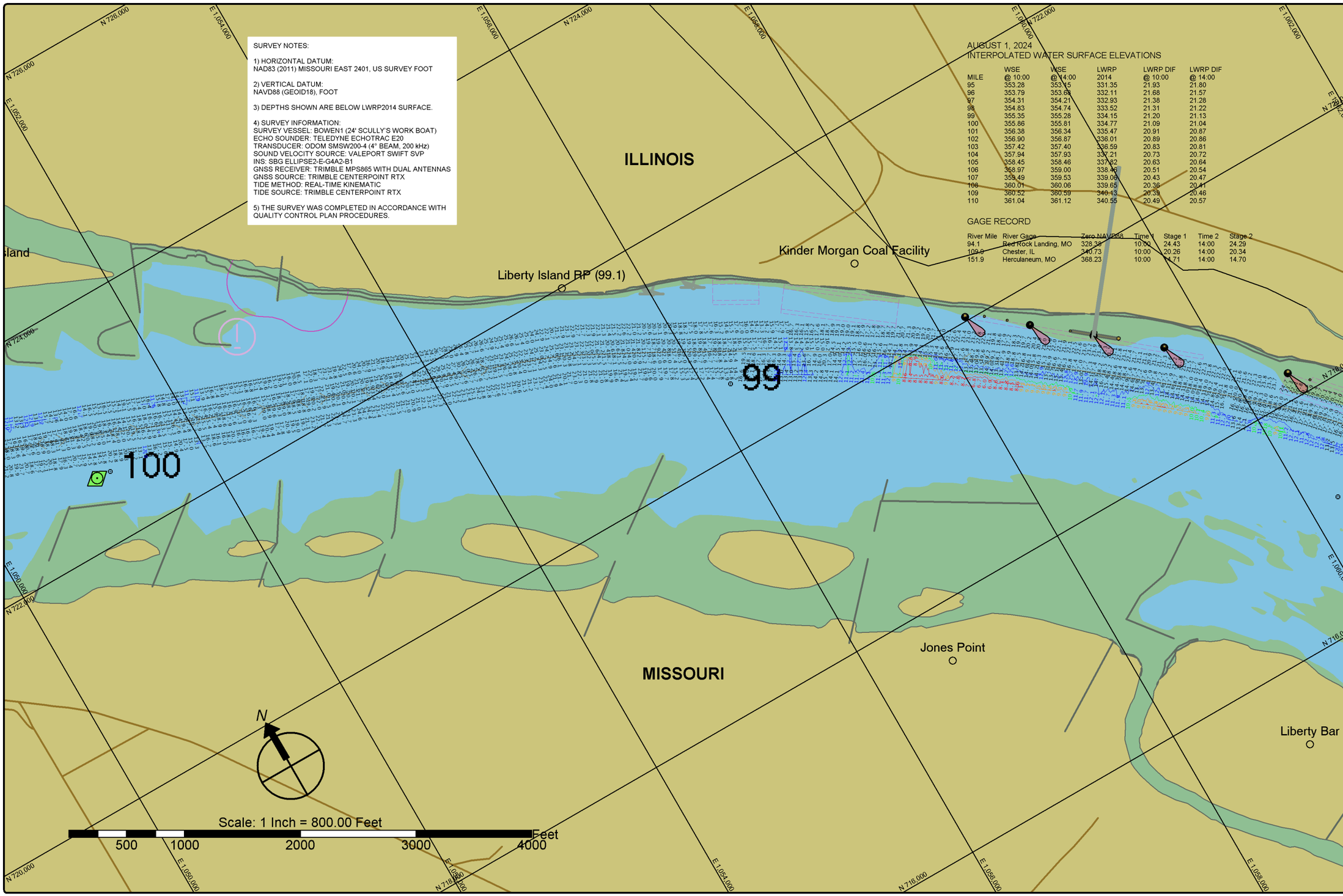

St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

FILE NO.: 120_095K6124
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

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Approved: ASST CHIEF OF SURVEY
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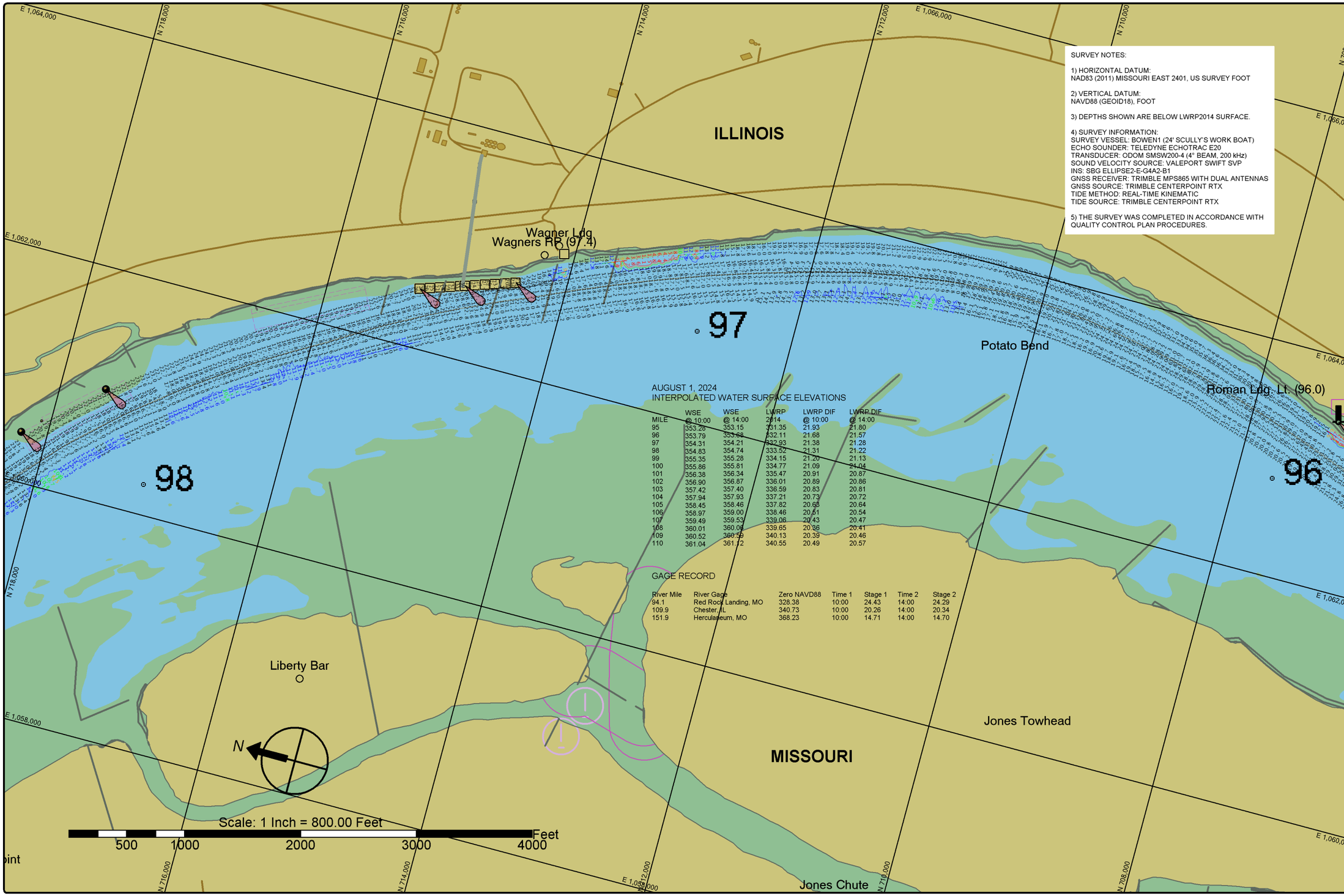
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

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 98.0 - 100.0

SHEET NO.
1 OF 1



SURVEY NOTES:

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AUGUST 1, 2024
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St. Louis District

DATES OF SURVEY:
AUGUST 1, 2024

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Approved: ASST CHIEF OF SURVEY
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Date:

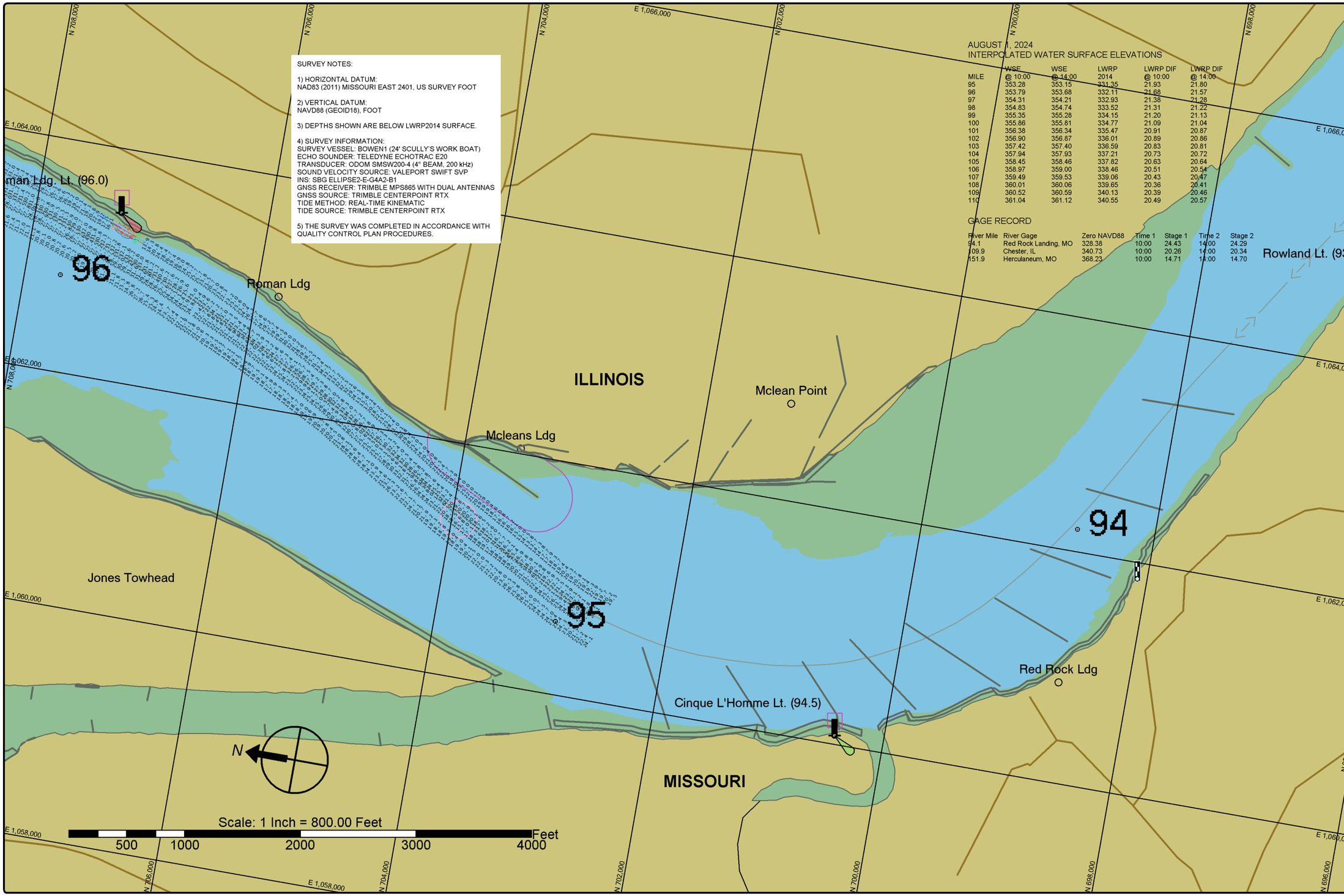
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

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 95.8 - 98.0

SHEET NO.
1 OF 1



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St. Louis District

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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 93.5 - 95.8

SHEET NO.
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