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

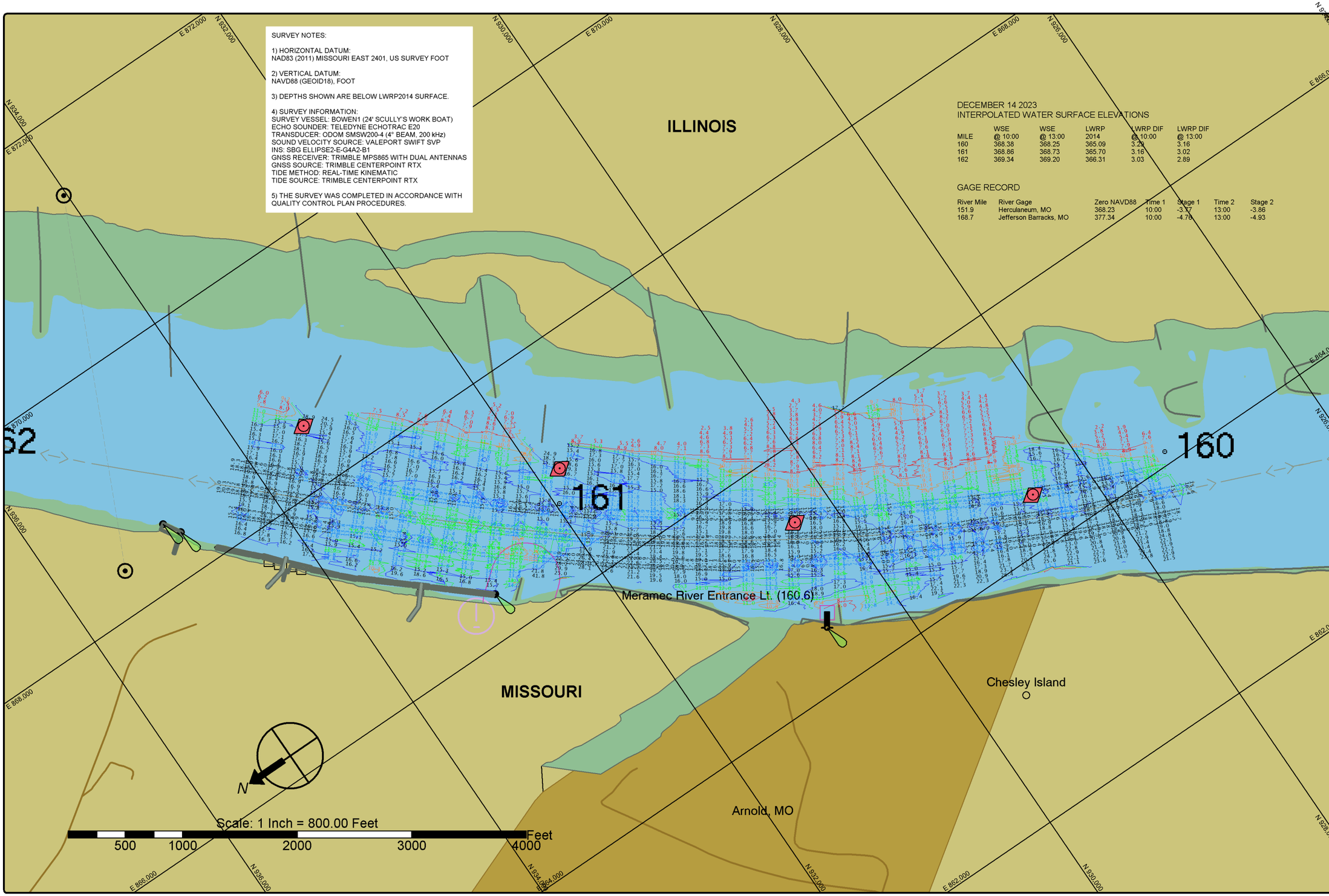
5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

DECEMBER 14 2023
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 10:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 10:00	LWRP DIF @ 13:00
160	368.38	368.25	365.09	3.29	3.16
161	368.86	368.73	365.70	3.16	3.02
162	369.34	369.20	366.31	3.03	2.89

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
151.9	Herculaneum, MO	368.23	10:00	-3.37	13:00	-3.86
168.7	Jefferson Barracks, MO	377.34	10:00	-4.76	13:00	-4.93



St. Louis District

DATES OF SURVEY:
DECEMBER 14, 2023

FILE NO.: 161L1423
REQUEST NO.: W912P923F0086

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

PRE DREDGE SURVEY
RIVER MILES 161.5 - 160.0

SHEET NO.
1 OF 1