

**JULY 22, 2020
INTERPOLATED WATER SURFACE ELEVATIONS**

MILE	WSE @ 11:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 11:00	LWRP DIF @ 14:00
185.3	404.54	404.65	395.64	8.90	9.01
194.4	404.54	404.65	395.81	8.73	8.84

WATER SURFACE ELEVATION CALCULATIONS WERE COMPLETED BY TRANSFERRING THE L&D 27 UPPER GAGE READING TO MILE 194.4 (THE CONFLUENCE OF THE MISSISSIPPI RIVER MAIN CHANNEL AND THE UPPER END OF THE CHAIN OF ROCKS CANAL).

1. SOUNDED JULY 22, 2020 BY BOWEN ENGINEERING AND SURVEYING.
 2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
 3. VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- Depths shown are below LWRP2014 SURFACE
 Red solid contours are 9' below LWRP2014 SURFACE
 Green dashed contours are 12' below LWRP2014 SURFACE
 Blue dashed contours are 14' below LWRP2014 SURFACE



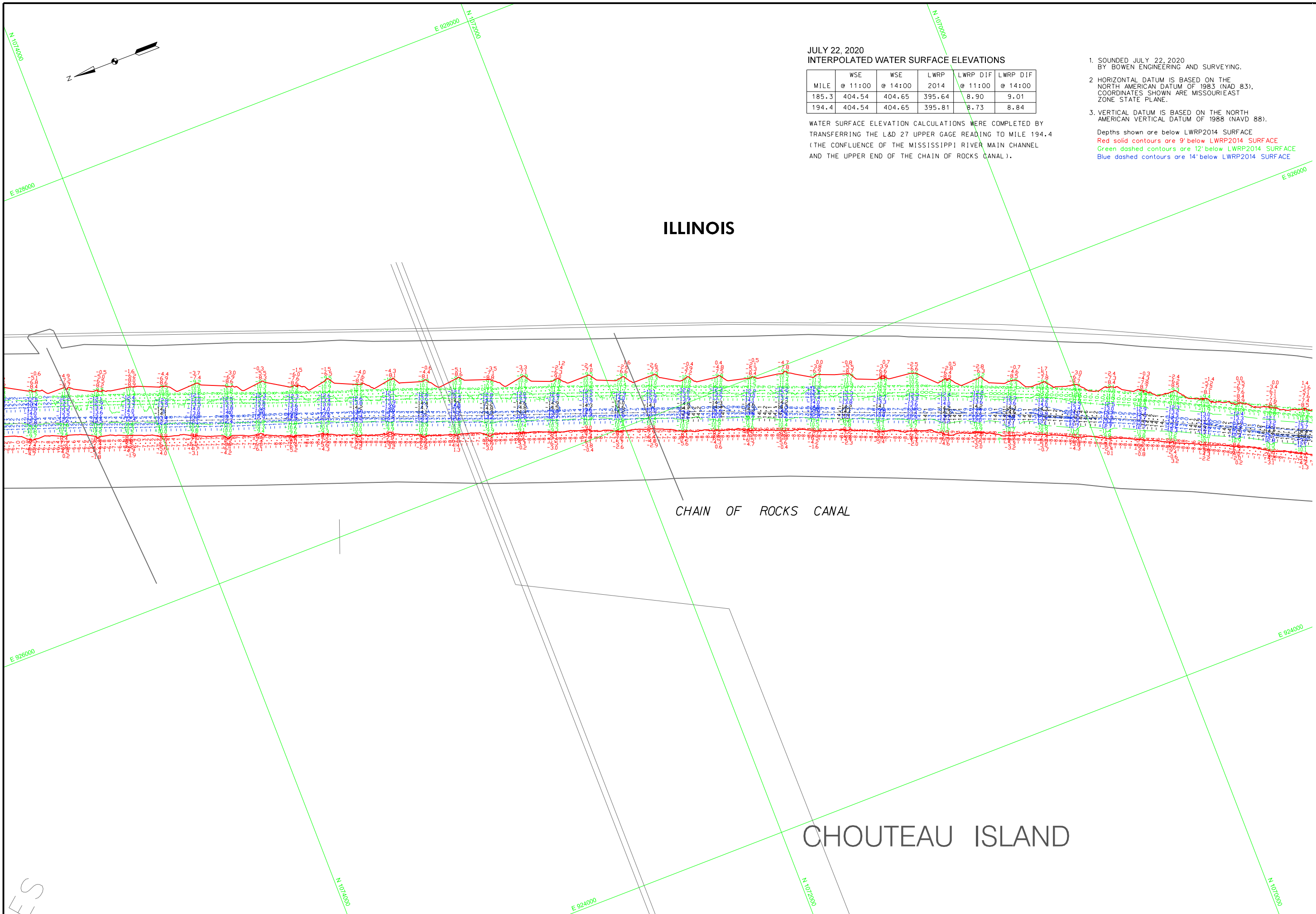
MILE	MEL PRICE	L&D TW	CHAIN OF ROCKS UPPER	L&D 27 UPPER
ZERO N.A.V.D.	395.04	313.58	313.58	349.49
MILE	200.5	395.04	395.04	395.3
LWRP 2014	396.30	396.30	X	395.64
22 JUL 2020	10,991,000	10,954,100	X	55,051,000
				55,051,000

U.S. ARMY ENGINEER DIVISION	Survey Date:	Reviewed by:
CORPS OF ENGINEERS	JULY 22, 2020	
ST. LOUIS, MISSOURI		
UPPER MISSISSIPPI RIVER BASIN	Drawn by: Bowen Engineering	Reviewed by: Bowen Engineering
MISSISSIPPI RIVER	Submitted: Bowen Engineering	Approved: Bowen Engineering

120 METERS
60
0
200
400 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYING AND IS NOT TO BE USED AS A BASIS FOR DESIGN OR CONSTRUCTION WITHOUT THE CONSULTATION OF THE ENGINEER.

PRE DREDGE SURVEY
RIVER MILES 194.4 - 192.5



**JULY 22, 2020
INTERPOLATED WATER SURFACE ELEVATIONS**

MILE	WSE @ 11:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 11:00	LWRP DIF @ 14:00
185.3	404.54	404.65	395.64	8.90	9.01
194.4	404.54	404.65	395.81	8.73	8.84

WATER SURFACE ELEVATION CALCULATIONS WERE COMPLETED BY TRANSFERRING THE L&D 27 UPPER GAGE READING TO MILE 194.4 (THE CONFLUENCE OF THE MISSISSIPPI RIVER MAIN CHANNEL AND THE UPPER END OF THE CHAIN OF ROCKS CANAL).

1. SOUNDED JULY 22, 2020 BY BOWEN ENGINEERING AND SURVEYING.
 2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
 3. VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- Depths shown are below LWRP2014 SURFACE
 Red solid contours are 9' below LWRP2014 SURFACE
 Green dashed contours are 12' below LWRP2014 SURFACE
 Blue dashed contours are 14' below LWRP2014 SURFACE

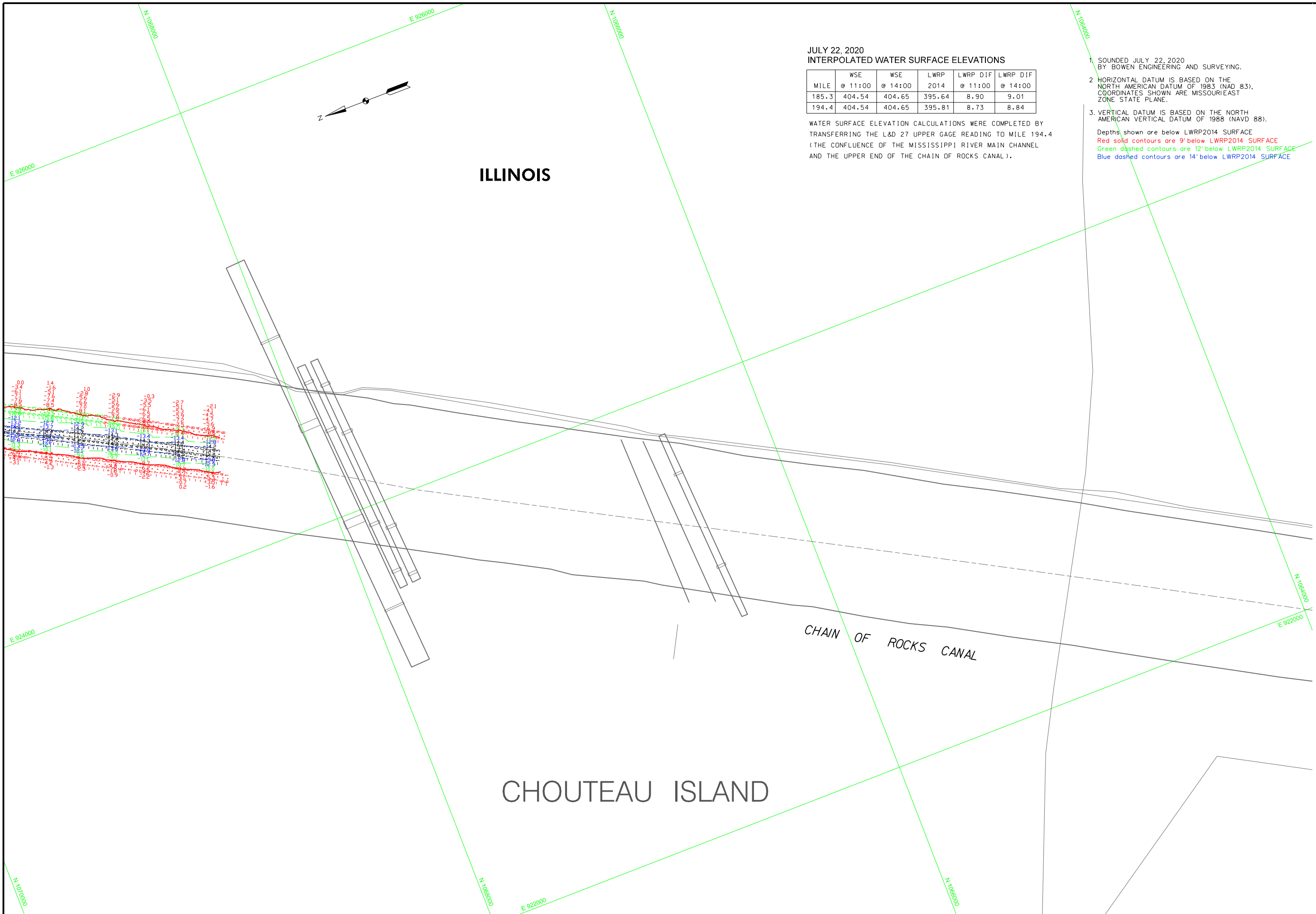


MILE	MEL PRICE	L&D TW	CHAIN OF ROCKS UPPER	L&D 27 UPPER
ZERO N.A.V.D.	395.04	313.58	313.58	349.49
MILE	200.5	390.1	390.1 (OLD CHANNEL)	385.3
LWRP 2014	396.30		X	395.64
22 JUL 2020	10.9911000	10.9514100	X	55.0511000

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER
Surveyed by: BOWEN ENGINEERING	Survey Date: JULY 22, 2020
Drawn by: A	Checked by: A
SUBMITTED: X	APPROVED: X
Plot date: File name:	

60 120 METERS
 200 400 FEET
 THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYING AND IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE U.S. ARMY CORPS OF ENGINEERS.
 PRE DREDGE SURVEY
 RIVER MILES 194.4 - 192.5

PLATE NUMBER
 XX
 SHEET 2 OF 3



**JULY 22, 2020
INTERPOLATED WATER SURFACE ELEVATIONS**

MILE	WSE @ 11:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 11:00	LWRP DIF @ 14:00
185.3	404.54	404.65	395.64	8.90	9.01
194.4	404.54	404.65	395.81	8.73	8.84

WATER SURFACE ELEVATION CALCULATIONS WERE COMPLETED BY TRANSFERRING THE L&D 27 UPPER GAGE READING TO MILE 194.4 (THE CONFLUENCE OF THE MISSISSIPPI RIVER MAIN CHANNEL AND THE UPPER END OF THE CHAIN OF ROCKS CANAL).

1. SOUNDED JULY 22, 2020 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
 Depths shown are below LWRP2014 SURFACE
 Red solid contours are 9' below LWRP2014 SURFACE
 Green dashed contours are 12' below LWRP2014 SURFACE
 Blue dashed contours are 14' below LWRP2014 SURFACE
3. VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).



US Army Corps of Engineers
St. Louis District

MILE	MEL PRICE	L&D TW	CHAIN OF ROCKS UPPER	L&D 27 UPPER
ZERO N.A.V.D.	395.04	395.04	313.58	349.49
LWRP 2014	200.5	200.5	190.4 (OLD CHANNEL)	185.3
22 JUL 2020	10.99(100)	10.99(100)	X	395.64
			X	55.05(100) 55.8(14:00)

Survey Date:	Reviewed by:
JULY 22, 2020	X
Drawn by:	Checked by:
X	X
Submitted:	Approved:
X	X

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

PRE DREDGE SURVEY
RIVER MILES 194.4 - 192.5

PLATE NUMBER
XX
SHEET 3 OF 3