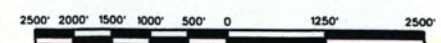
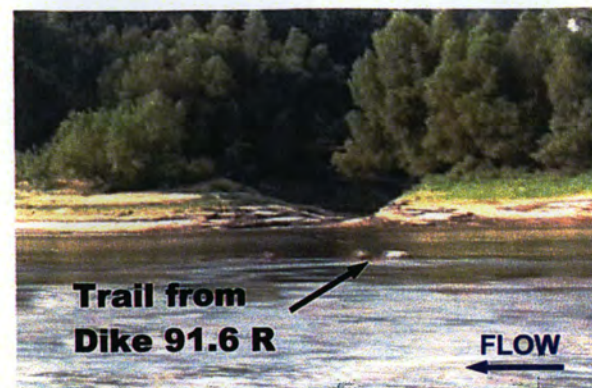
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	CHARACTERISTICS OF THE STUDY REACH	
		
DESIGN FILE: REACH13.DGN		PLATE NO.
PLOT SCALE: 1" = 2500'		PLOT DATE: 10/01/02
		2





**Unnamed Tributary Located  
Along the RDB at Mile 91.5**



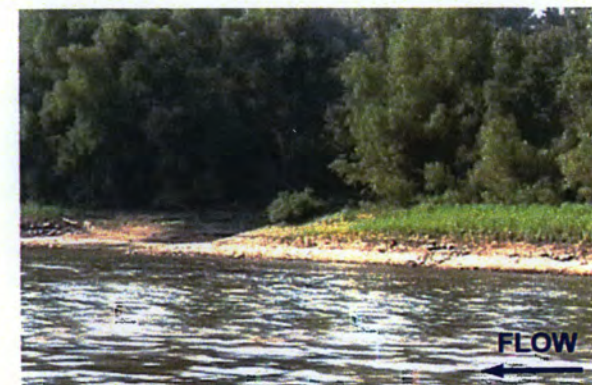
**Unnamed Tributary Located  
Along the RDB at Mile 90.8**



**Unnamed Tributary Located  
Along the RDB at Mile 90.55**



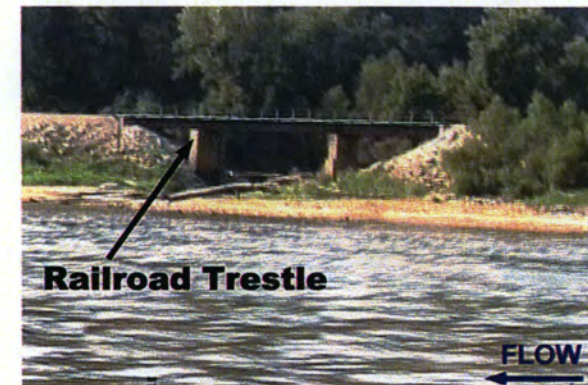
**Clines Branch Located  
Along the RDB at Mile 90.2**



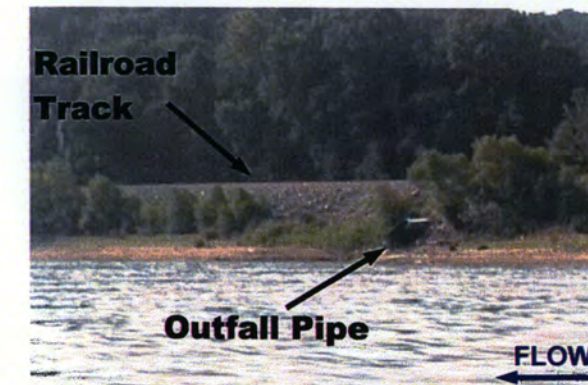
**Unnamed Tributary Located  
Along the RDB at Mile 89.8**



**Possible High Water Ramp  
Located Along the RDB at  
Mile 88.55**



**Unnamed Tributary Located  
Along the RDB at Mile 88.5**



**Unnamed Tributary Piped Under  
Railroad Track Located Along the  
RDB at Mile 88.0**



**Unnamed Tributary Located  
Along the RDB at Mile 87.0**



**Unnamed Tributary Located  
Along the RDB at Mile 86.6**

**Photographs taken on July 24, 2002 at a  
Red Rock gage reading of +13.60 feet LWRP**



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

PREPARED BY: D. LAMM  
DRAWN BY: D. LAMM  
CHECKED BY: R. DAVINROY

**BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0**

**RIGHT DESCENDING BANK FEATURES**

FILE NAME: RDB FEATURES PLOT DATE: 10/02

PLATE NO.

**3**





**Dike 91.6 R**

**Dike height is +15 to +10 Ft. LWRP  
Approximate length is 330 Ft.  
Trail is +10 Ft. LWRP and 400 Ft. Long**



**Dike 91.1 R**

**Dike height is +17 to +12 Ft. LWRP  
Approximate length is 300 Ft.**



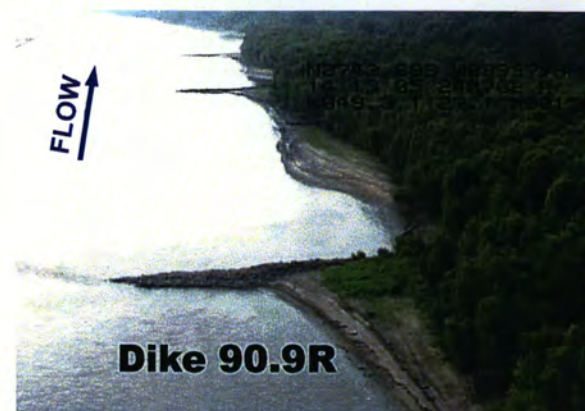
**Dike 90.7 R**

**Dike height is +20 to +16 Ft. LWRP  
Approximate length is 300 Ft.**



**Dike 91.4 R**

**Dike height is +19 to +15 Ft. LWRP  
Approximate length is 460 Ft.**



**Dike 90.9R**

**Dike height is +17 Ft. LWRP  
Approximate length is 280 Ft.**



**Dike 90.5 R**

**Dike height is +19 to +15 Ft. LWRP  
Approximate length is 350 Ft.**

**Photographs taken on  
July 24, 2002 at a Red Rock  
gage reading of +13.60 feet  
LWRP**



**U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
CORPS OF ENGINEERS  
ST. LOUIS, MO**

PREPARED BY: D. LAMM  
DRAWN BY: D. LAMM  
CHECKED BY: R. DAVINROY

**BIOLOGICAL OPINION MICRO MODEL STUDY  
MISSISSIPPI RIVER MILES 93.0 TO 86.0**

REACH 2 DIKE INFORMATION

DESIGN FILE: REACH 2.PUB

PLOT DATE: 01 OCT 02

PLATE NO.

6





**Dike 89.3 L**

**Dike height is +15 Ft. LWRP  
Approximate length is 500 Ft.**



**Dike 89.0 L**

**Dike height is +15 to +13 Ft. LWRP  
Approximate length is 560 Ft.**



**Dike 88.2 L**

**Dike height is +18 to +15 Ft. LWRP  
Approximate length is 980 Ft.**



**Dike 87.8 L**

**Dike height is +20 to +13 Ft. LWRP  
Approximate length is 660 Ft.**



**Dike 87.5 L**

**Dike height is +20 to +10 Ft. LWRP  
Approximate length is 460 Ft.**



**Dike 87.3 L**

**Dike height is +17 to +10 Ft. LWRP  
Approximate length is 380 Ft.**



**Dike 87.0 L**

**Dike height is +20 to +13 Ft. LWRP  
Approximate length is 470 Ft.**



**Dike 86.7 L**

**Dike height is +17 to +11 Ft. LWRP  
Approximate length is 440 Ft.**



**Dike 86.5 L**

**Dike height is +20 to +10 Ft. LWRP  
Approximate length is 330 Ft.**



**Dike 86.2 L**

**Dike height is +15 to +11 Ft. LWRP  
Approximate length is 380 Ft.**



**Dike 86.0 L**

**Dike height is +15 to +10 Ft. LWRP  
Approximate length is 430 Ft.**

**Photographs Taken On  
July 24, 2002 At A Red Rock  
Gage Reading Of +13.60 Feet  
LWRP**



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

PREPARED BY: D. LAMM  
DRAWN BY: D. LAMM  
CHECKED BY: R. DAVINROY

**BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0**

**REACH 3 DIKE INFORMATION**

DESIGN FILE: REACH 3.PUB PLOT DATE: 01 OCT 02

PLATE NO.  
**7**





**Dike 86.4 R**

**Dike height is +10 Ft. LWRP  
Approximate length is 280 Ft.**



**Dike 86.0 R**

**Dike height is +11 Ft. LWRP  
Approximate length is 280 Ft.**



**Dike 85.9 R**

**Dike height is +15 Ft. LWRP  
Approximate length is 430 Ft.**

**Photographs Taken On  
July 24, 2002 At A Red Rock  
Gage Reading Of +13.60 Feet  
LWRP**



**U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
CORPS OF ENGINEERS  
ST. LOUIS, MO**

PREPARED BY: J. HUNN  
DRAWN BY: D. LAMM  
CHECKED BY: R. DAVINROY

**BIOLOGICAL OPINION MICRO MODEL STUDY  
MISSISSIPPI RIVER MILES 93.0 TO 86.0**

REACH 4 DIKE INFORMATION

PLATE NO.

**8**

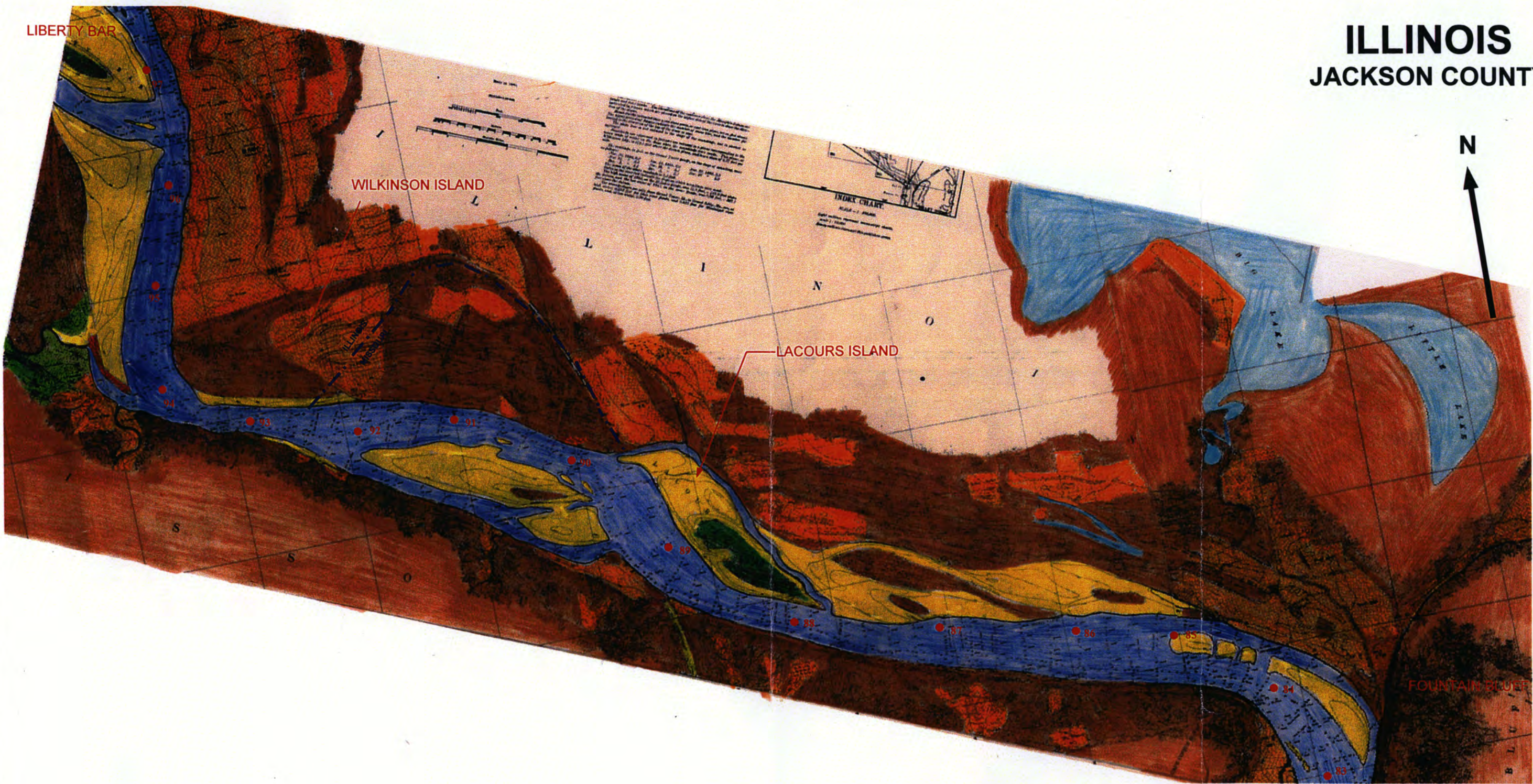
DESIGN FILE: REACH 4.PUB

PLOT DATE: 01 OCT 02



ILLINOIS  
JACKSON COUNTY

N



MISSOURI  
PERRY COUNTY

**1881 TOPOGRAPHIC AND HYDROGRAPHIC  
SURVEY WITH COLOR CODED LAND USAGE**

- River Channel
- Water Pockets
- Sand
- Mud / Gravel
- Willows
- Timber
- Cultivated



PREPARED BY: E. RIFF  
DRAWN BY: E. RIFF  
CHECKED BY: D. LAMM

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

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

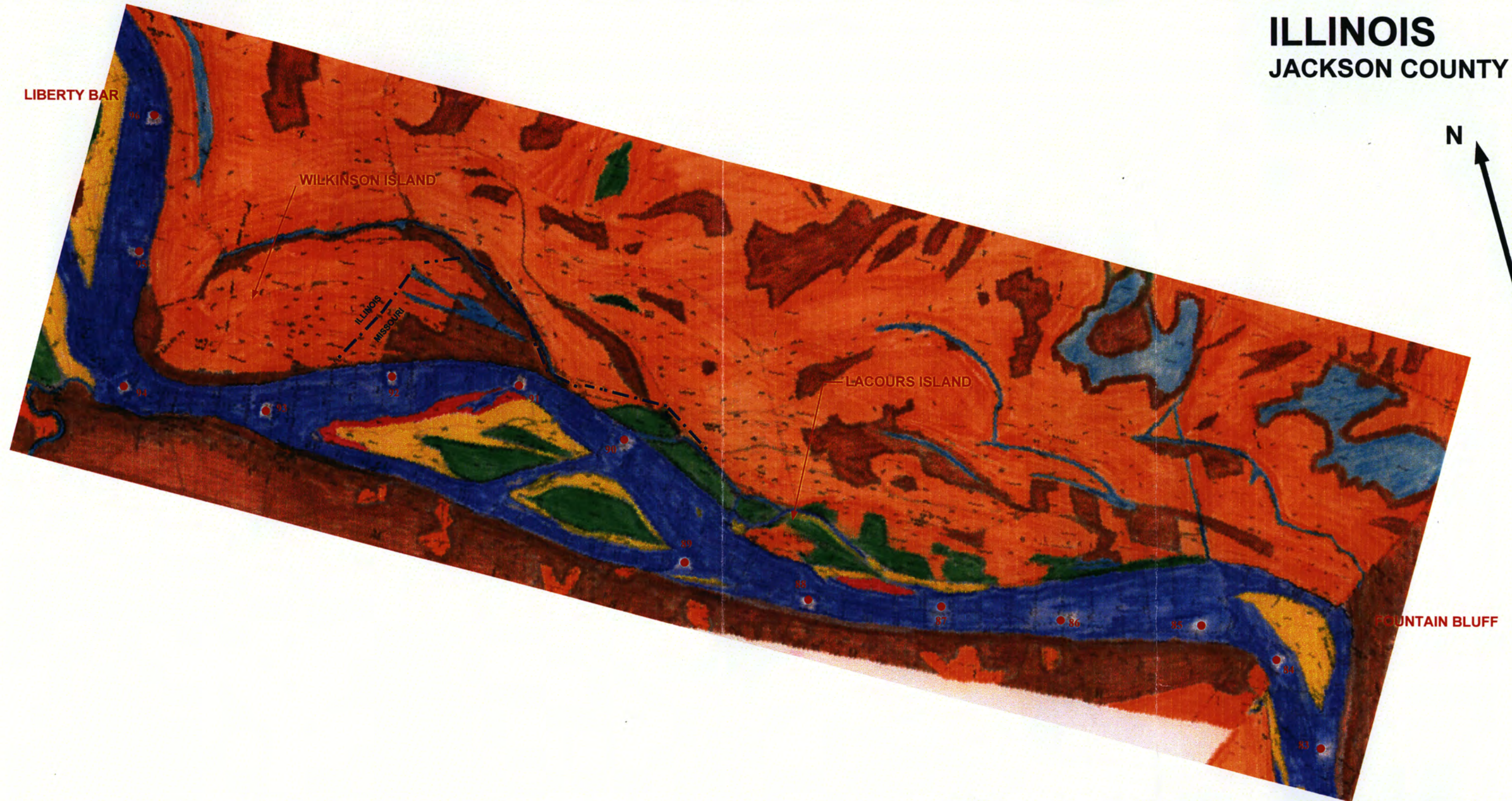
1881 TOPOGRAPHIC AND HYDROGRAPHIC  
SURVEY WITH COLOR CODED LAND USAGE

FILE NAME: 1881PROTO.PUB PLOT DATE: 01 OCT 02

PLATE NO. 9



# ILLINOIS JACKSON COUNTY



**MISSOURI  
PERRY COUNTY**

## 1908 TOPOGRAPHIC AND HYDROGRAPHIC SURVEY WITH COLOR-CODED LAND USAGE

	River Channel
	Water Pockets
	Sand
	Mud / Gravel
	Willows
	Timber
	Cultivated



PREPARED BY: E. RIFF  
DRAWN BY: E. RIFF  
CHECKED BY: D. LAMM

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

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0  
1908 TOPOGRAPHIC AND HYDROGRAPHIC SURVEY  
WITH COLOR-CODED LAND USAGE

FILE NAME: 1908PROTO.PUB

PLOT DATE: 01 OCT 02

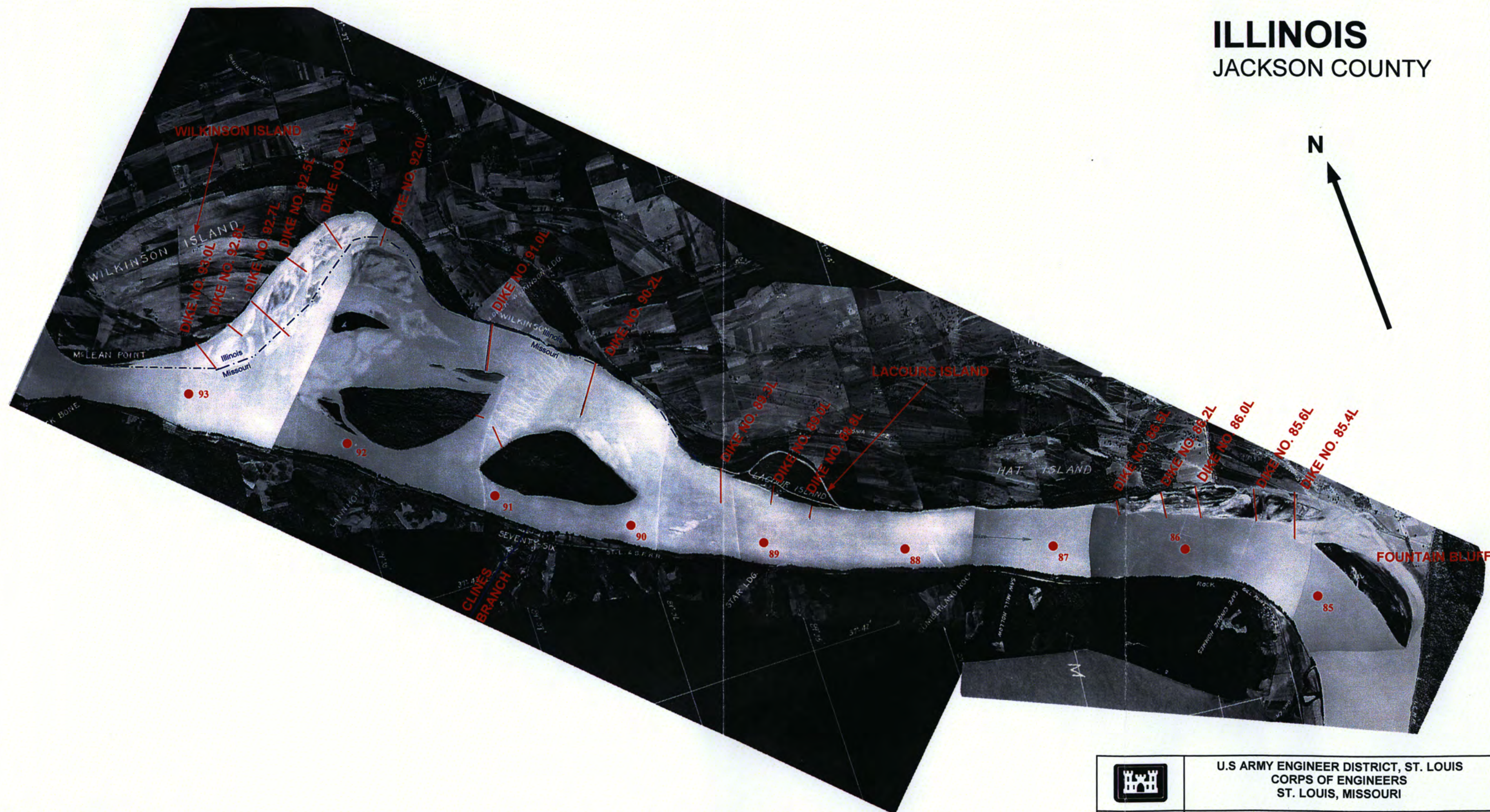
PLATE NO.

10



# ILLINOIS

## JACKSON COUNTY



**MISSOURI**  
PERRY COUNTY

### 1928 AERIAL PHOTOGRAPH WITH PROPOSED DIKE LOCATIONS



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

PREPARED BY: J. HUNN  
DRAWN BY: D. GORDON  
CHECKED BY: D. LAMM

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0  
1928 AERIAL PHOTOGRAPH

FILE NAME: 1928 AERIAL PUB

PLOT DATE: 01 OCT 02

PLATE NO.

11

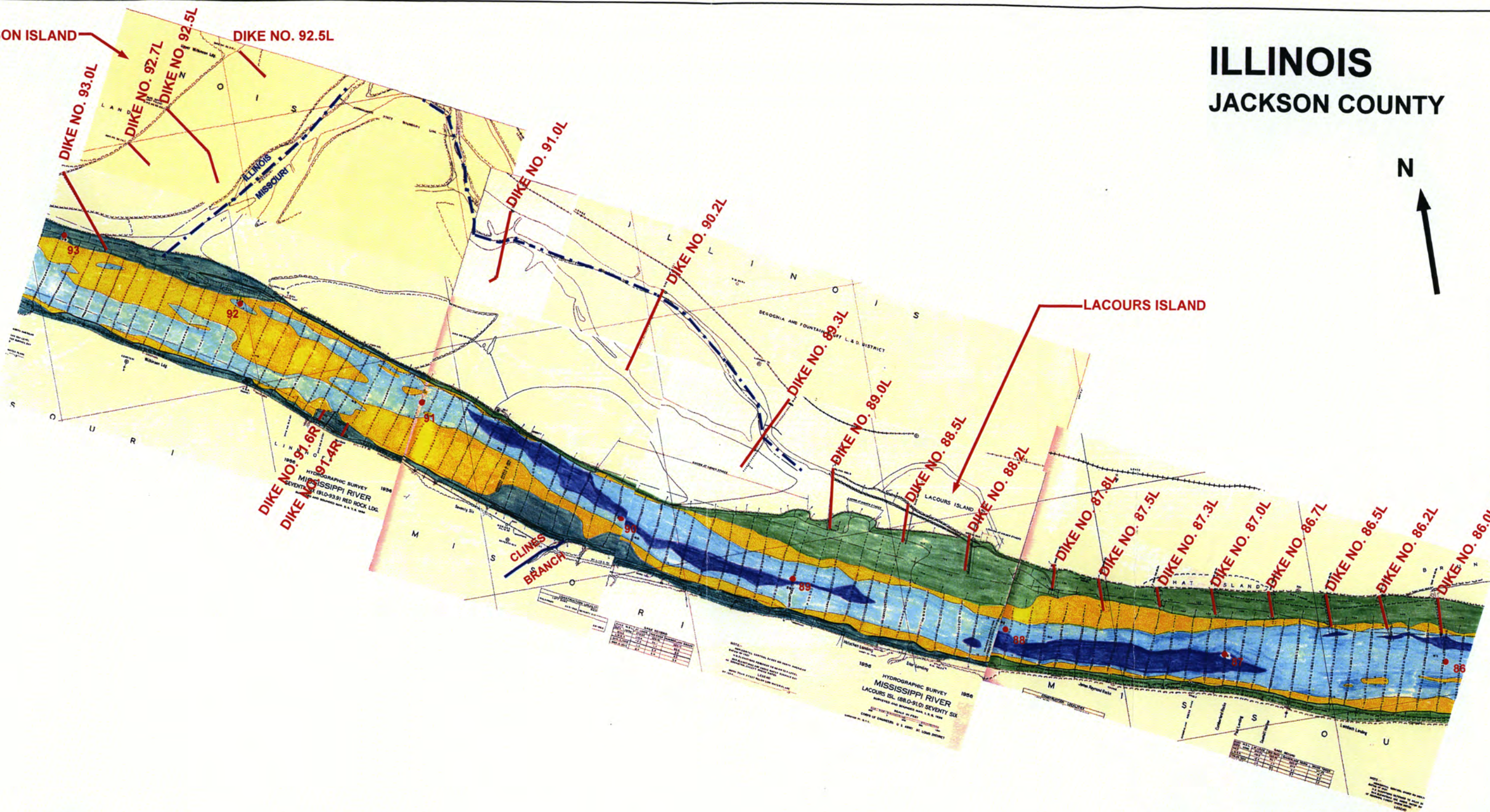


WILKINSON ISLAND

DIKE NO. 92.5L

# ILLINOIS JACKSON COUNTY

N



## MISSOURI PERRY COUNTY



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

PREPARED BY: E. RIFF  
DRAWN BY: E. RIFF  
CHECKED BY: D. LAMM

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

1956 HYDROGRAPHIC SURVEY

PLATE NO.

FILE NAME : 1956HYDRO.PUB

PLOT DATE : 01 OCT 02

12



# ILLINOIS JACKSON COUNTY

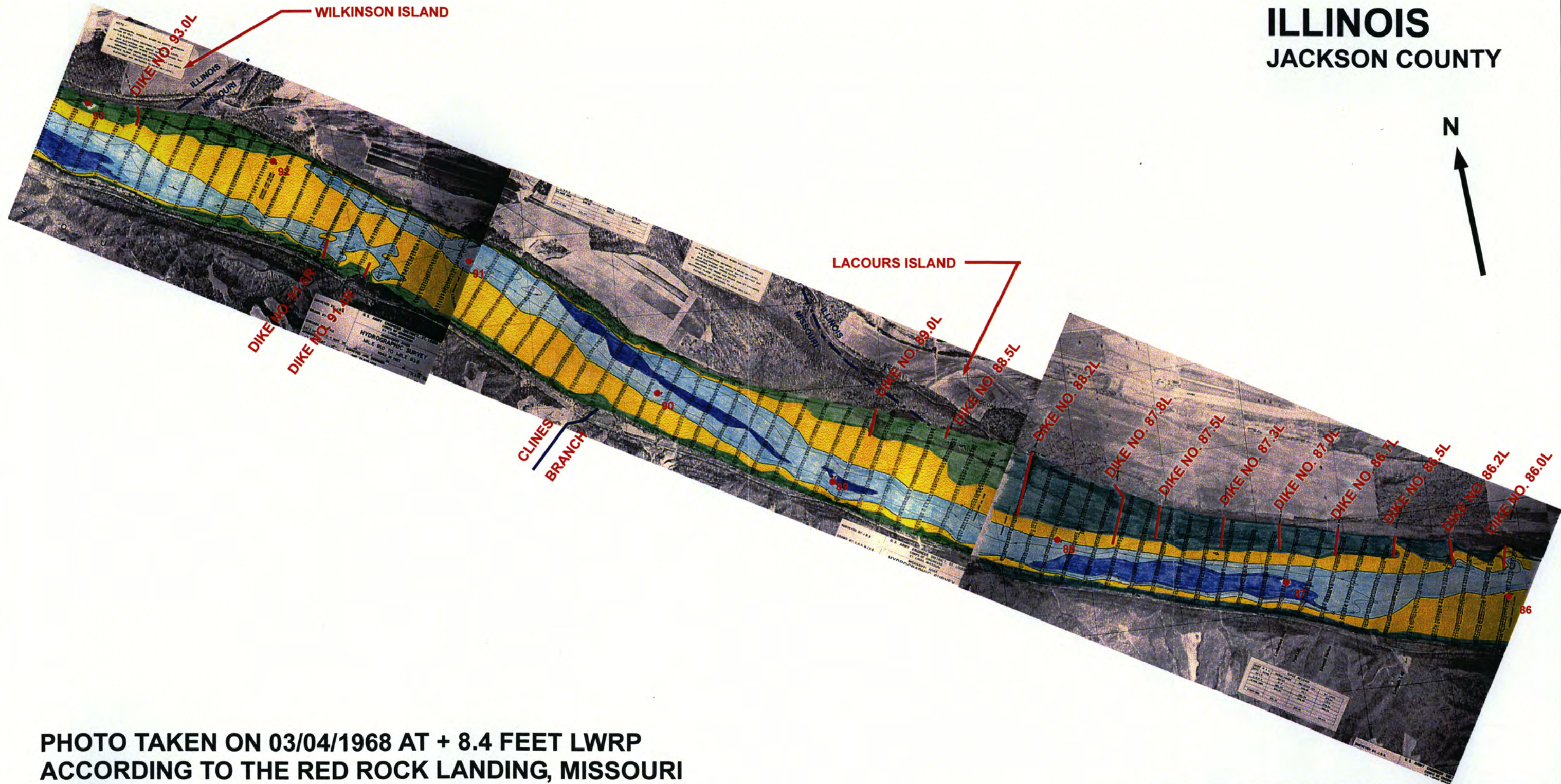


PHOTO TAKEN ON 03/04/1968 AT + 8.4 FEET LWRP  
ACCORDING TO THE RED ROCK LANDING, MISSOURI  
GAGE

**MISSOURI**  
**PERRY COUNTY**



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

PREPARED BY: E. RUFF  
DRAWN BY: E. RUFF  
CHECKED BY: D. LAMM

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

1968 AERIAL PHOTOGRAPH AND  
1969 HYDROGRAPHIC SURVEY

FILE NAME : 1969HYDRO.PUB

PLOT DATE : 01 OCT 2002

PLATE NO.

13



# ILLINOIS JACKSON COUNTY

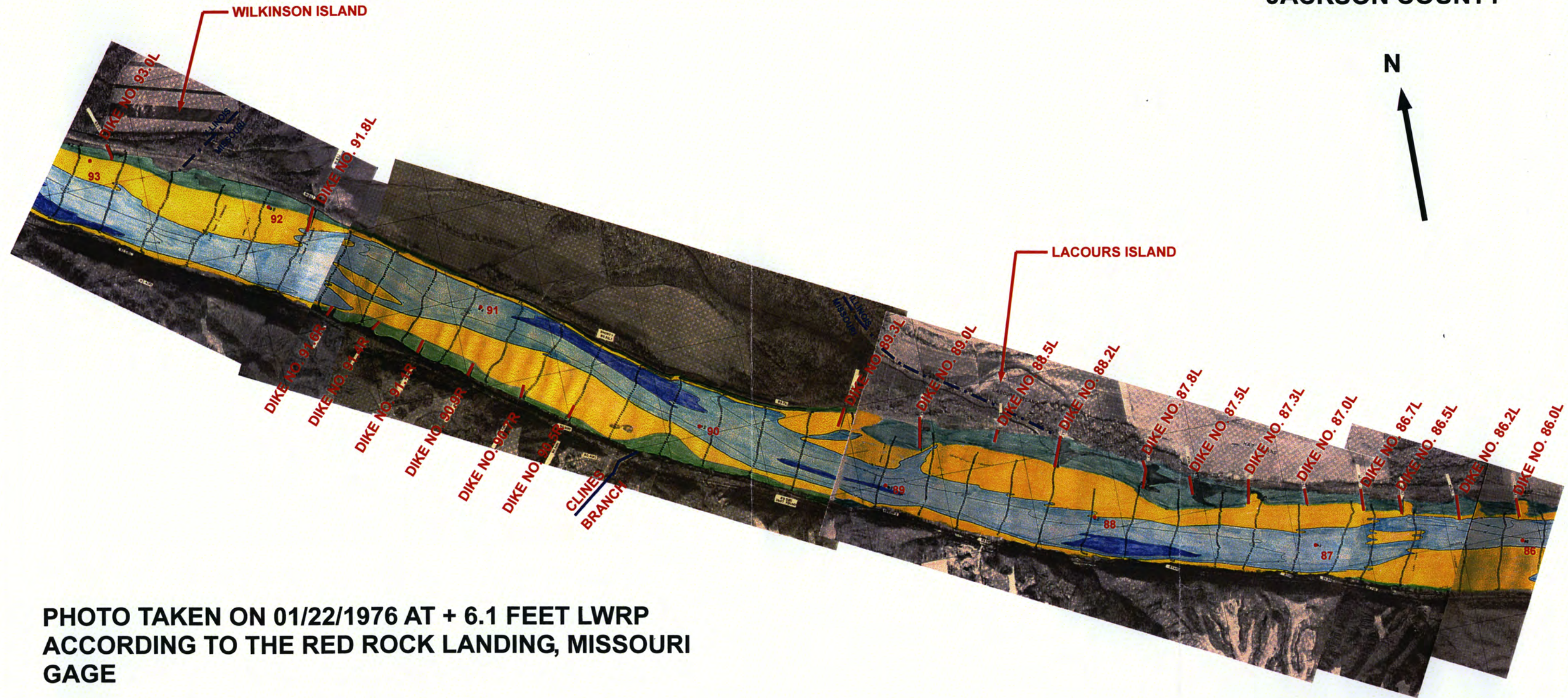


PHOTO TAKEN ON 01/22/1976 AT + 6.1 FEET LWRP  
ACCORDING TO THE RED ROCK LANDING, MISSOURI  
GAGE

**MISSOURI**  
PERRY COUNTY



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

PREPARED BY: E. RIFF  
DRAWN BY: E. RIFF  
CHECKED BY: D. LAMM

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

1976 AERIAL PHOTOGRAPH AND  
1977 HYDROGRAPHIC SURVEY

FILE NAME : 1977HYDRO.PUB

PLOT DATE : 01 OCT 2002

PLATE NO.

14



# ILLINOIS JACKSON COUNTY

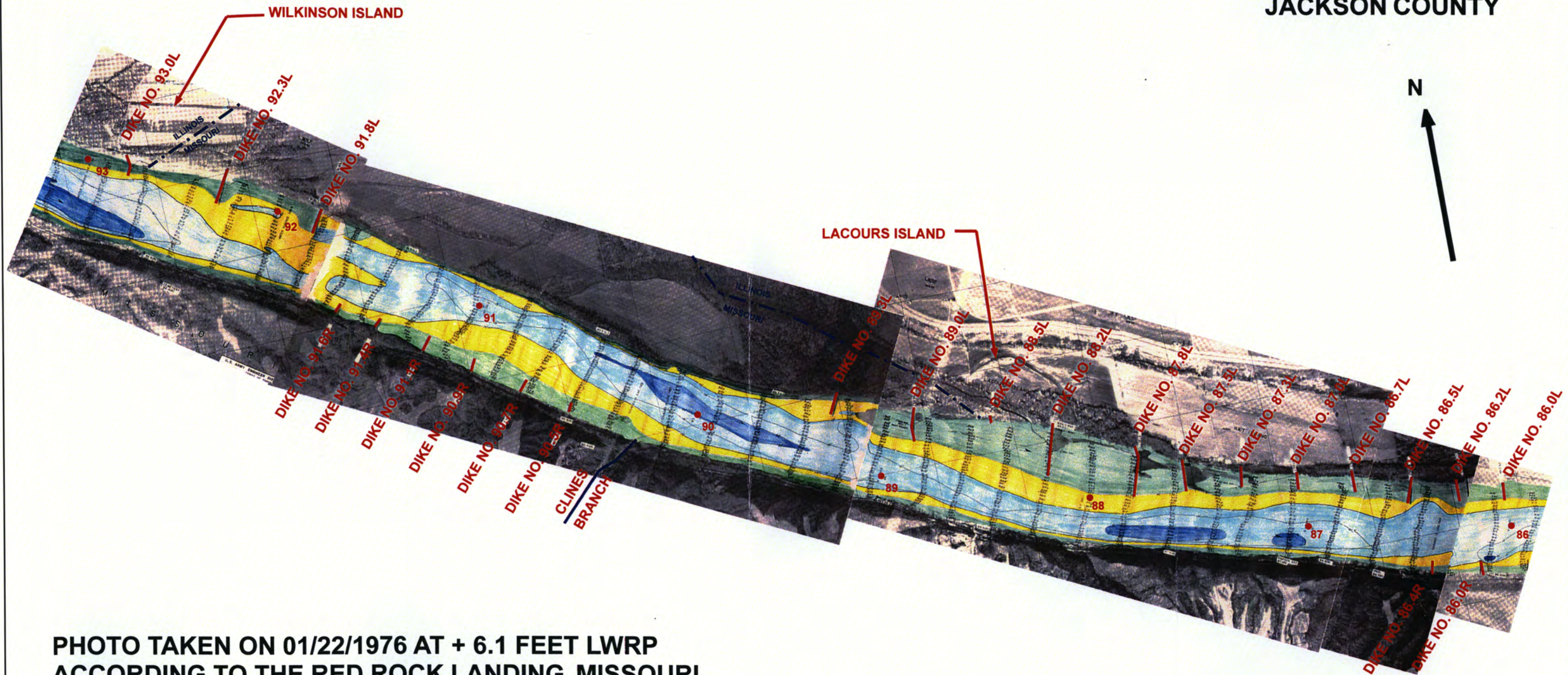

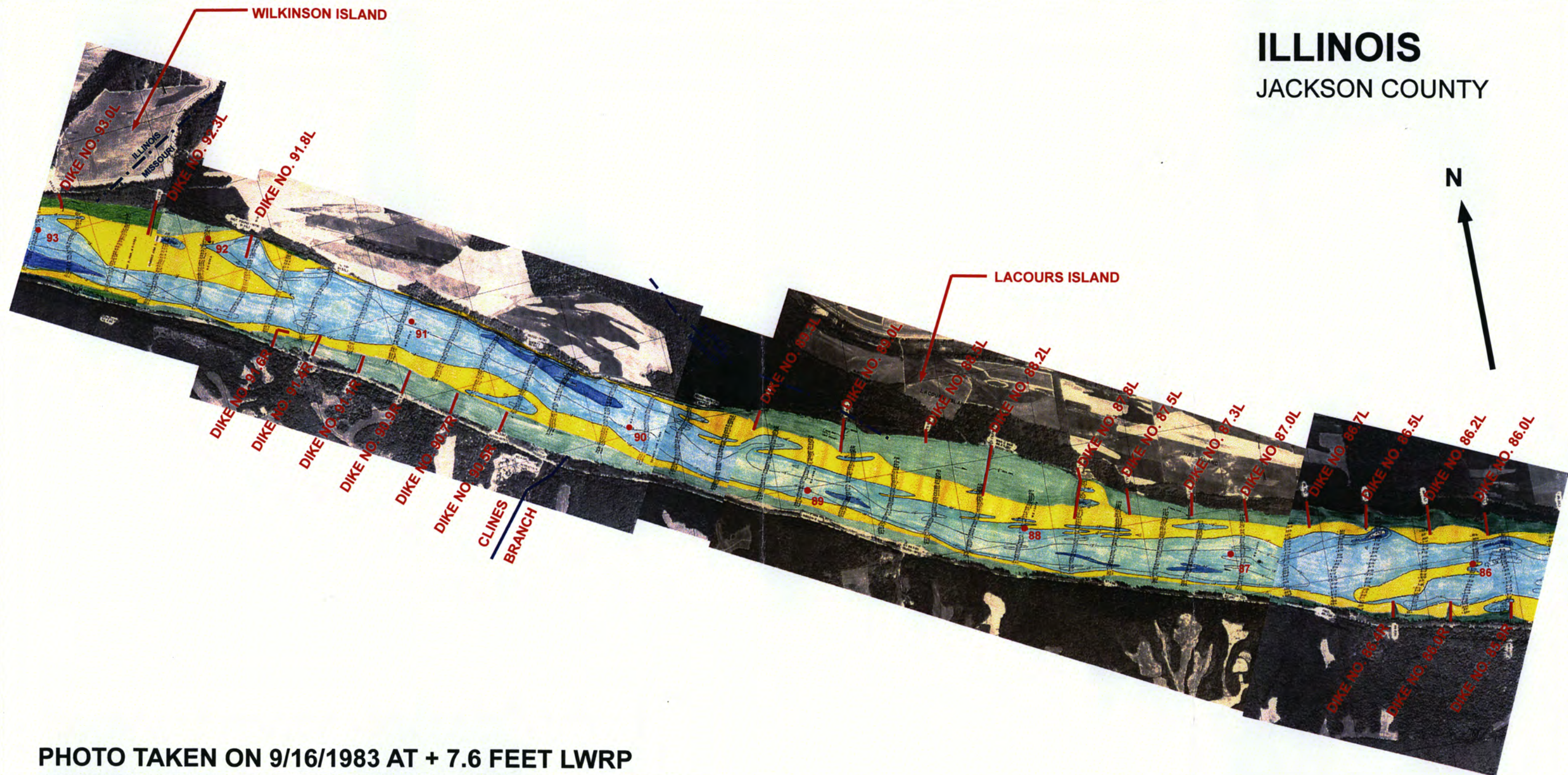


PHOTO TAKEN ON 01/22/1976 AT + 6.1 FEET LWRP  
ACCORDING TO THE RED ROCK LANDING, MISSOURI  
GAGE

**MISSOURI**  
PERRY COUNTY

	<p>U.S ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI</p>
<p>PREPARED BY: E. RUFF DRAWN BY: E. RUFF CHECKED BY: D. LAMM</p>	<p>BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0</p> <p><u>1976 AERIAL PHOTOGRAPH AND</u> <u>1982 HYDROGRAPHIC SURVEY</u></p>
<p>FILE NAME : 82HYDRO.PUB</p>	<p>PLOT DATE : 01 OCT 2002</p>
	<p>PLATE NO. 15</p>





# ILLINOIS

## JACKSON COUNTY

N

PHOTO TAKEN ON 9/16/1983 AT + 7.6 FEET LWRP  
ACCORDING TO THE RED ROCK LANDING, MISSOURI  
GAGE

MISSOURI  
PERRY COUNTY



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

PREPARED BY: E. RUIFF  
DRAWN BY: E. RUIFF  
CHECKED BY: D. LAMM

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

1983 AERIAL PHOTOGRAPH AND  
1988 HYDROGRAPHIC SURVEY

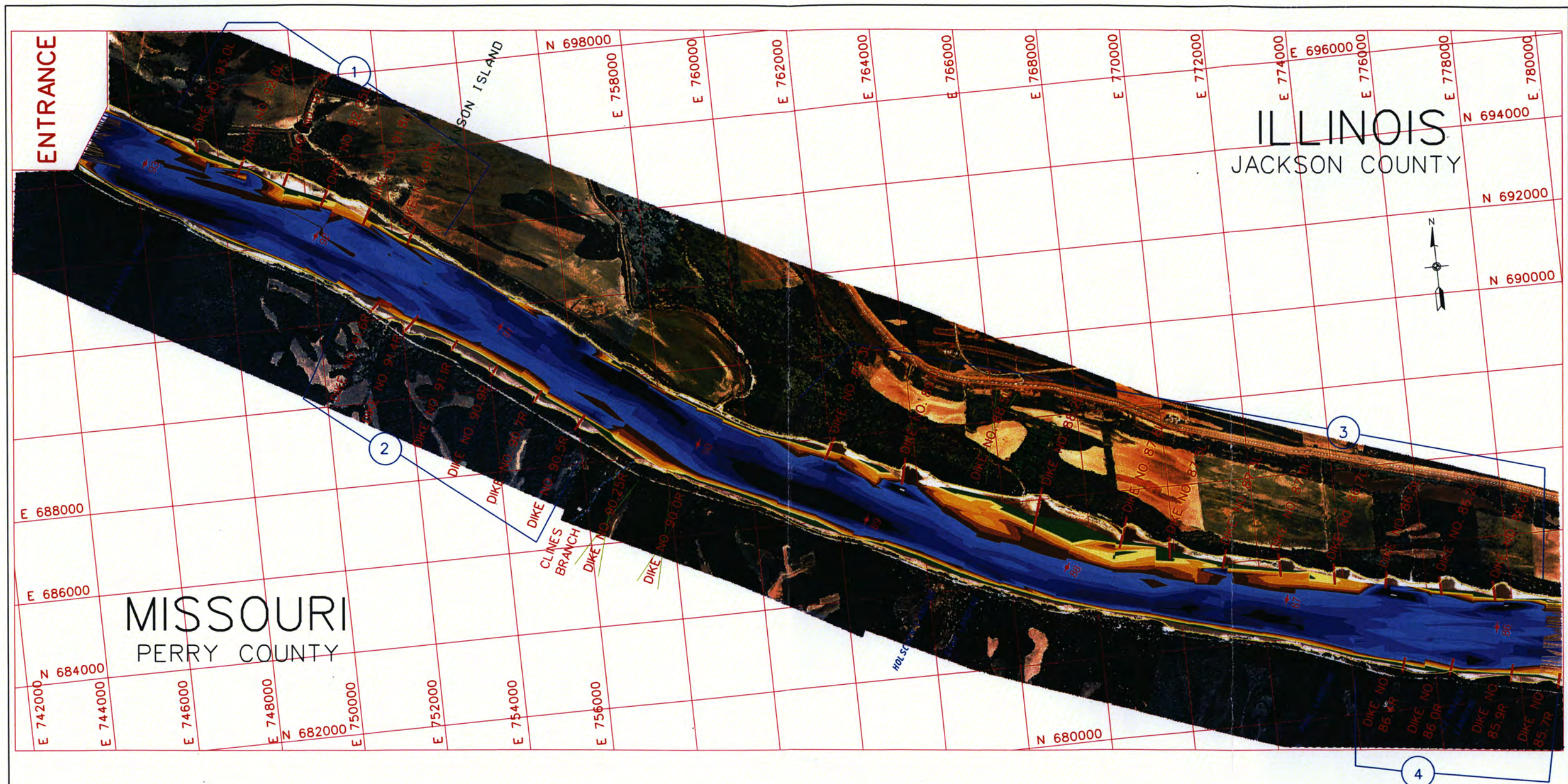
FILE NAME : 88HYDRO.PUB

PLOT DATE : 01 OCT 2002

PLATE NO.


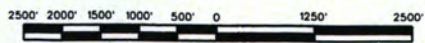
16





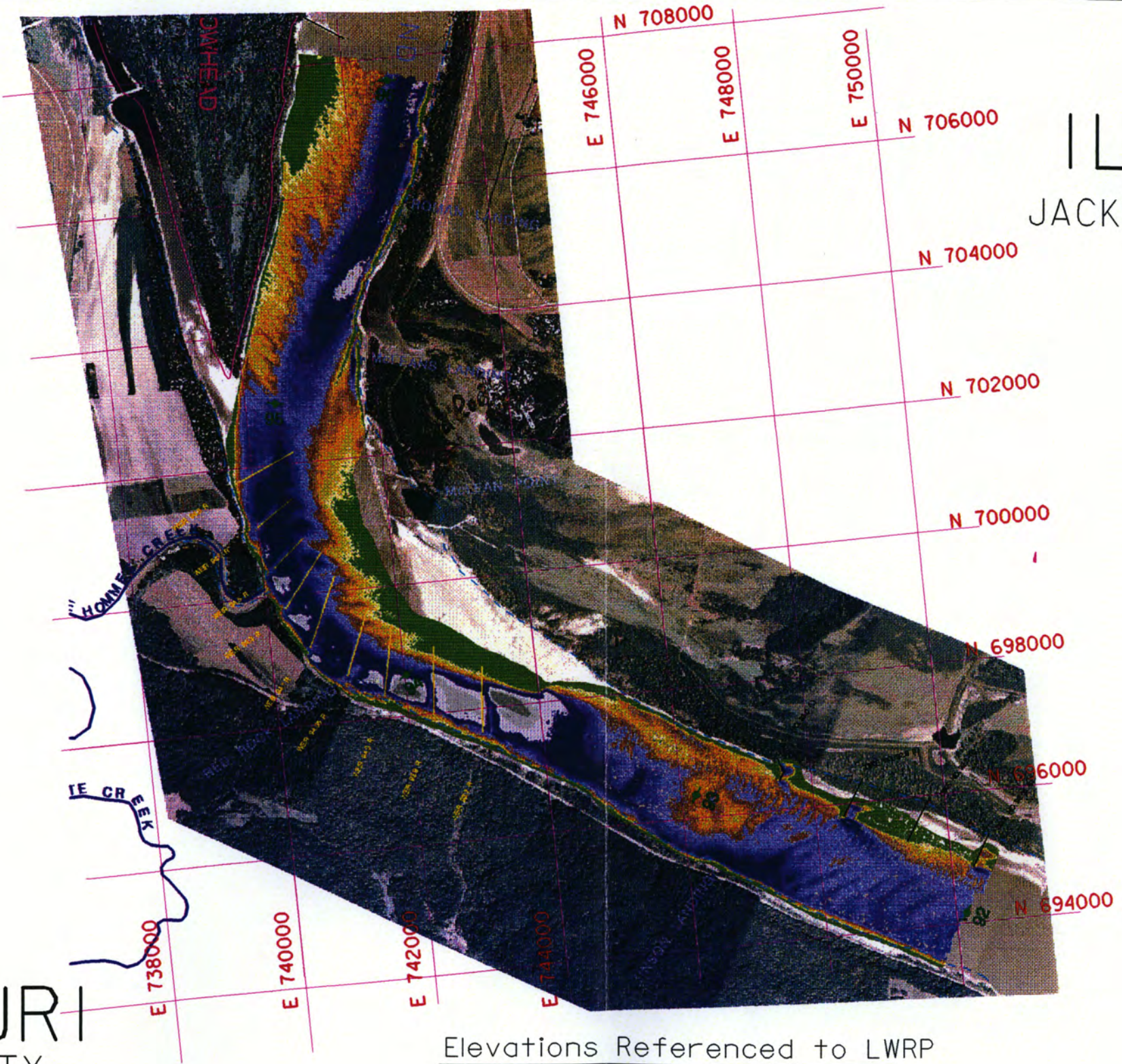
Elevations Referenced to LWRP



	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	1993 PROTOTYPE SURVEY	
		
PREPARED BY: D. SMITH DRAWN BY: E. RUFF CHECKED BY: R. DAVINROY  DATE: X	DESIGN FILE: 93SURVEY.DGN PLOT DATE: 10/01/02	
		PLATE NO. 17

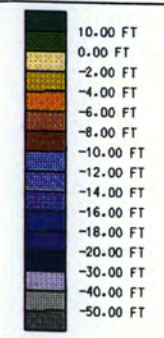




MISSOURI  
PERRY COUNTY



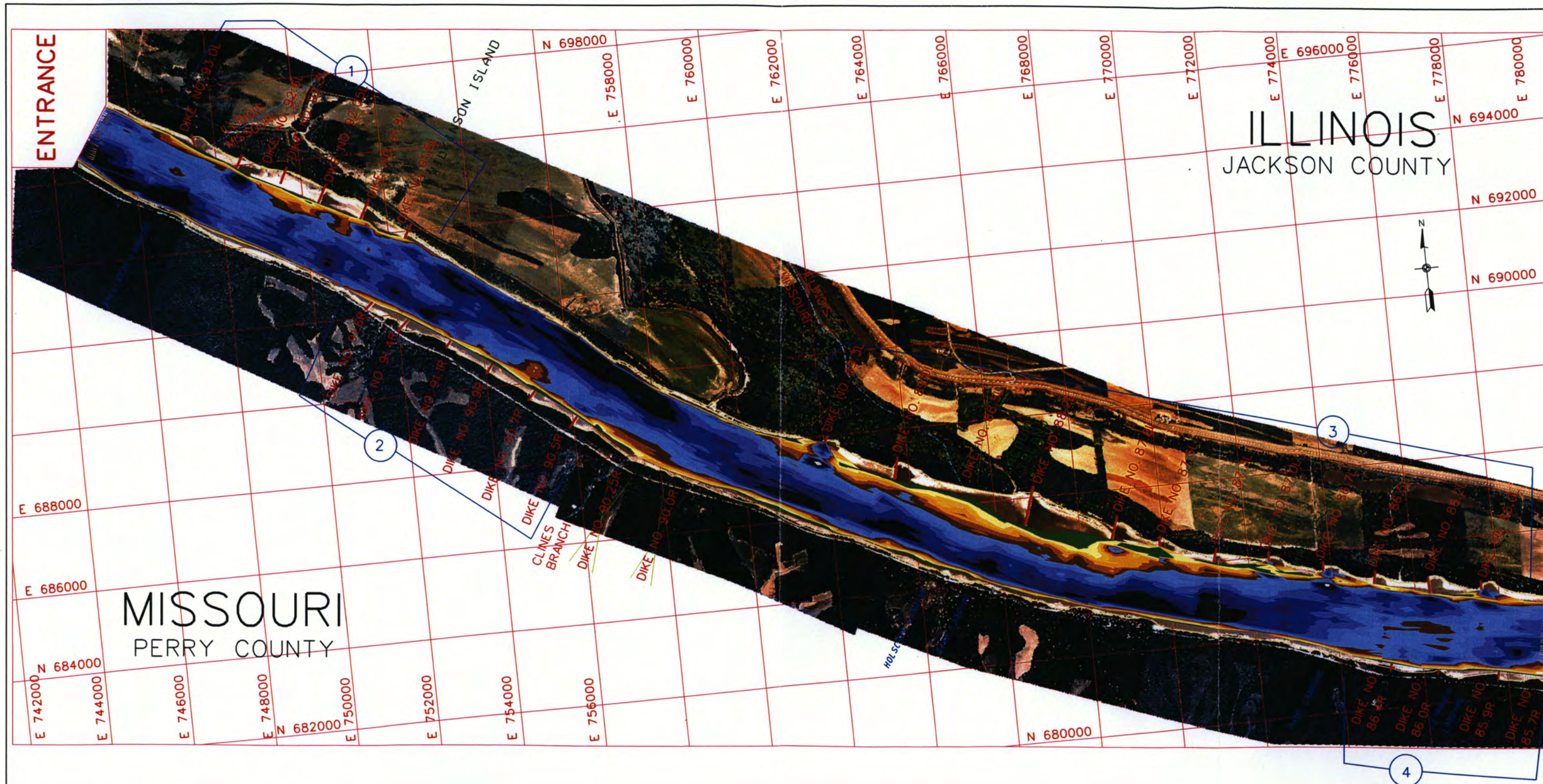
ILLINOIS  
JACKSON COUNTY

Elevations Referenced to LWRP

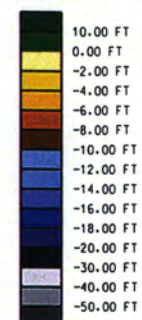



	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0
	RED ROCK BENDWAY WEIRS
	 DESIGN FILE: RDWEIRS.DGN PLOT SCALE: 1" = 2000'
PREPARED BY: D. SMITH DRAWN BY: E. RUFF CHECKED BY: R. DAVINROY DATE: X	PLATE NO. <b>18</b>



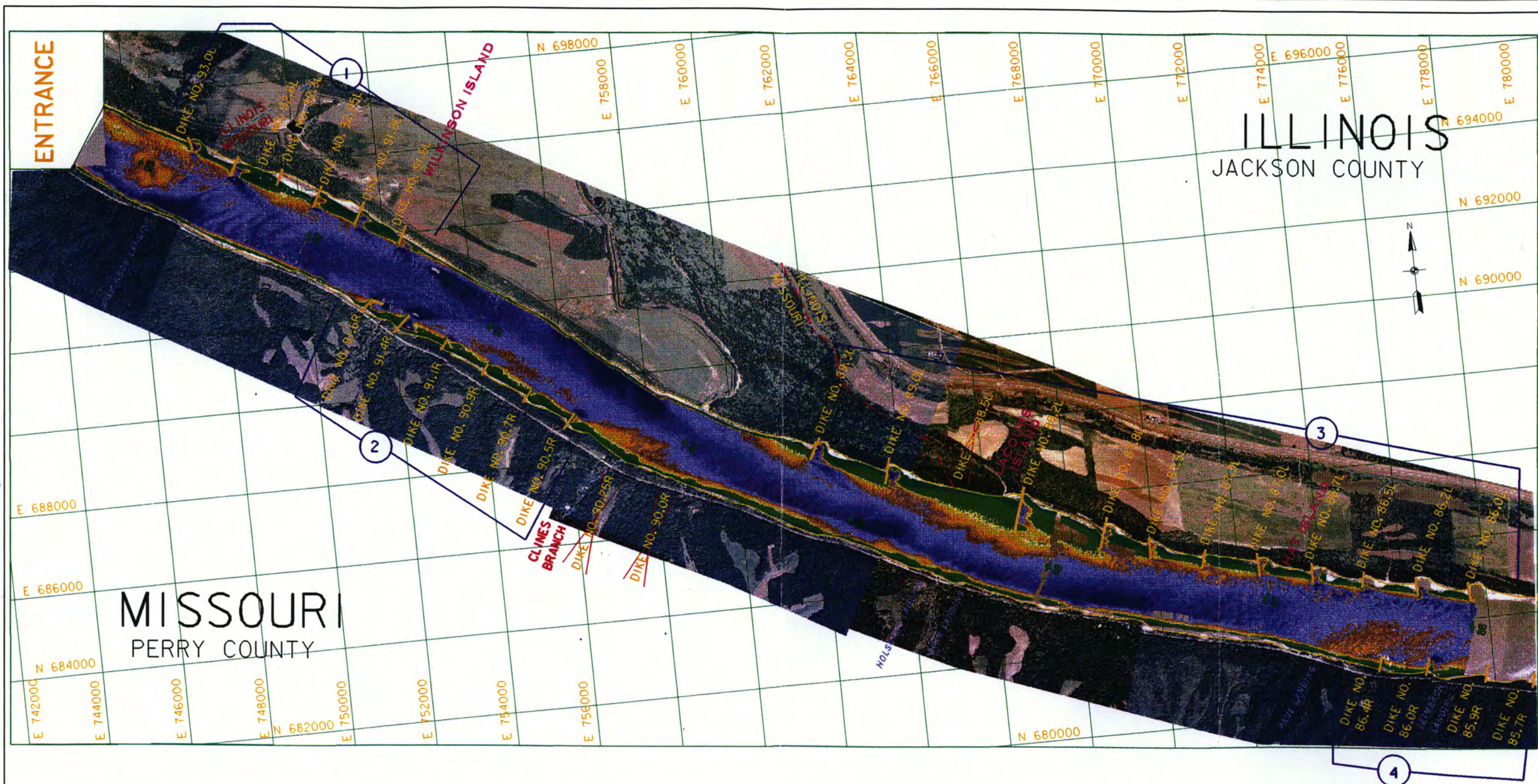


Elevations Referenced to LWRP

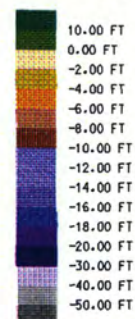


	<p>U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI</p>
<p>PREPARED BY: D. SMITH DRAWN BY: E. RIFF CHECKED BY: R. DAVINROY</p>	<p>BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0</p> <p>1998 PROTOTYPE SURVEY</p> <p>2500' 2000' 1500' 1000' 500' 0 1250' 2500'</p> <p>DESIGN FILE: 98SURVEY.DGN PLOT SCALE: 1" = 2500' PLOT DATE: 10/01/02</p> <p>PLATE NO. 19</p>





Elevations Referenced to LWRP

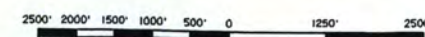


U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
CORPS OF ENGINEERS  
ST. LOUIS, MISSOURI

PREPARED BY: D. SMITH  
DRAWN BY: E. RIIFF  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

2001 SWEEP SURVEY



DESIGN FILE: 2001SWEEP.DGN.DGN

PLATE NO.

PLOT SCALE: 1" = 2500' PLOT DATE: 10/01/02

20





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

PREPARED BY: D. LAMM  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
MISSISSIPPI RIVER MILES 93.0 TO 86.0

RED ROCK MICRO MODEL

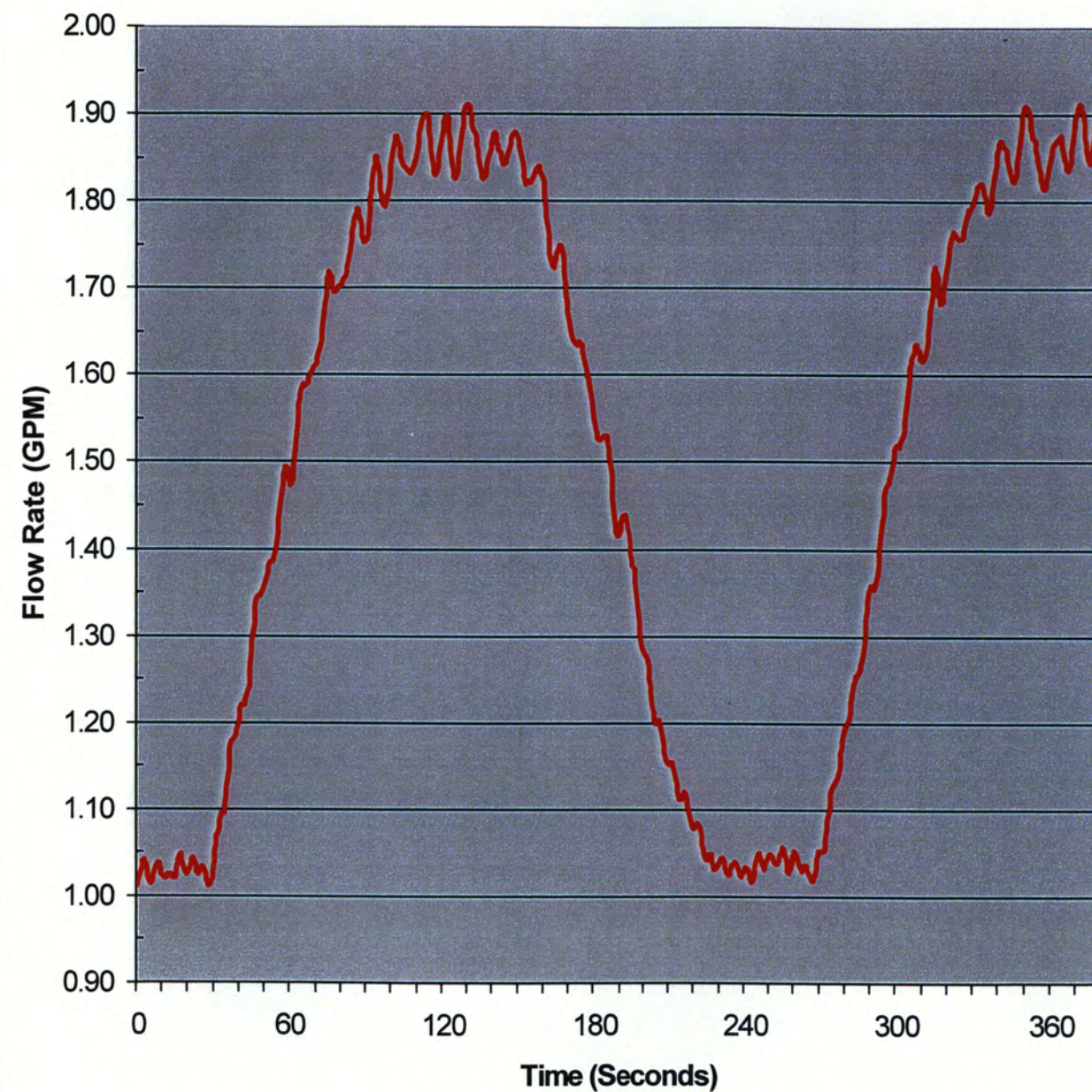
PLATE NO.

21

DESIGN FILE: RR FLUME.PUB PLOT DATE: 01 OCT 02



# Typical Micro Model Hydrograph



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

PREPARED BY: D. LAMM  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
MISSISSIPPI RIVER MILES 93.0 TO 86.0

## TYPICAL MICRO MODEL HYDROGRAPH

DESIGN FILE: HYDROGRAPH.PUB

PLATE NO.

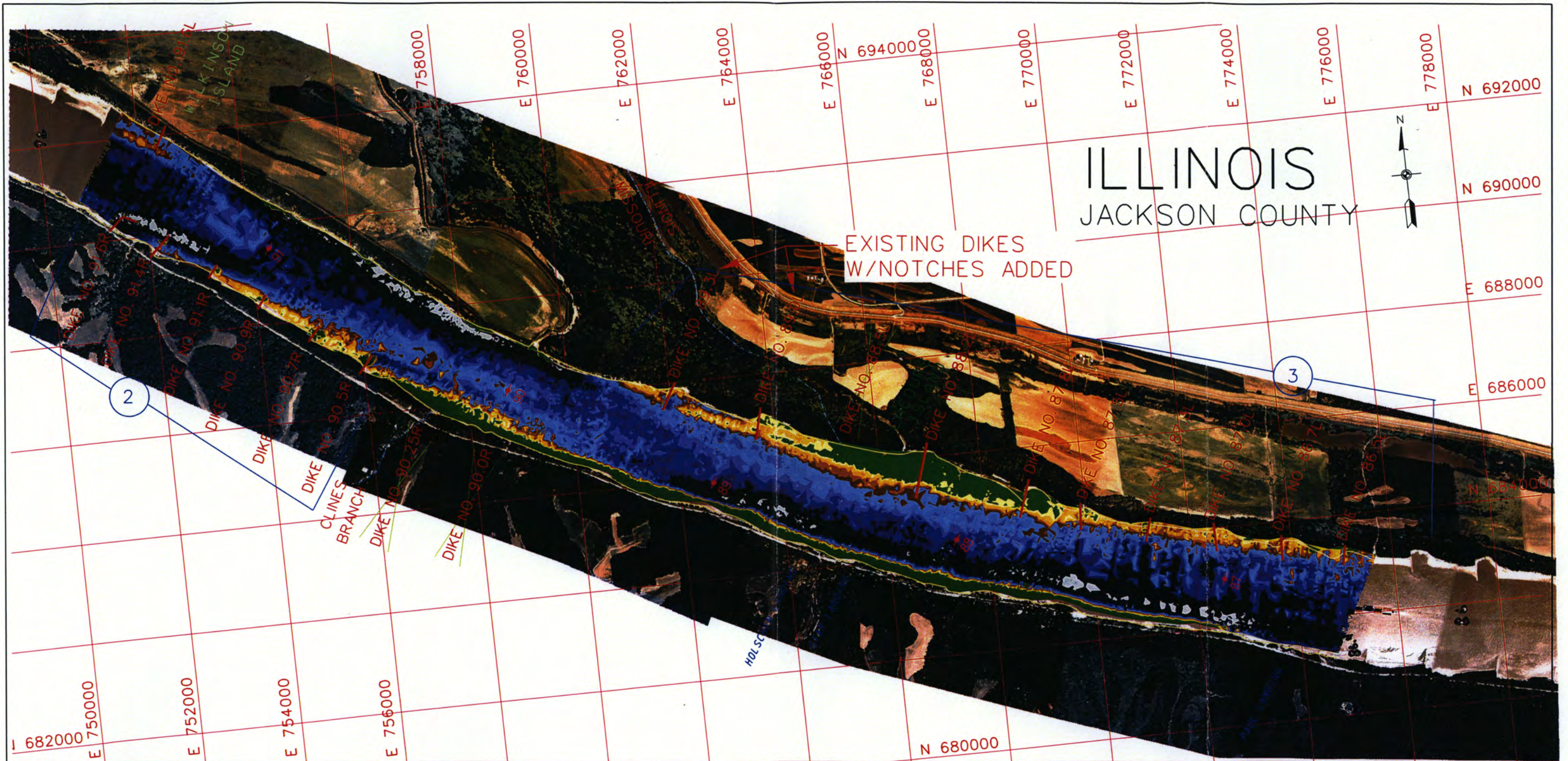
PLOT DATE: 10/02

22



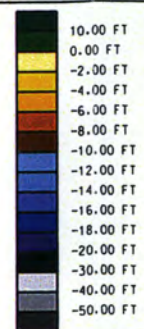






MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP

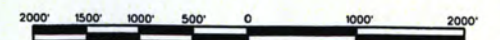


PREPARED BY: D. SMITH  
DRAWN BY: E. RIFF  
CHECKED BY: R. DAVINROY  
DATE: X

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

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

ALTERNATIVE 1



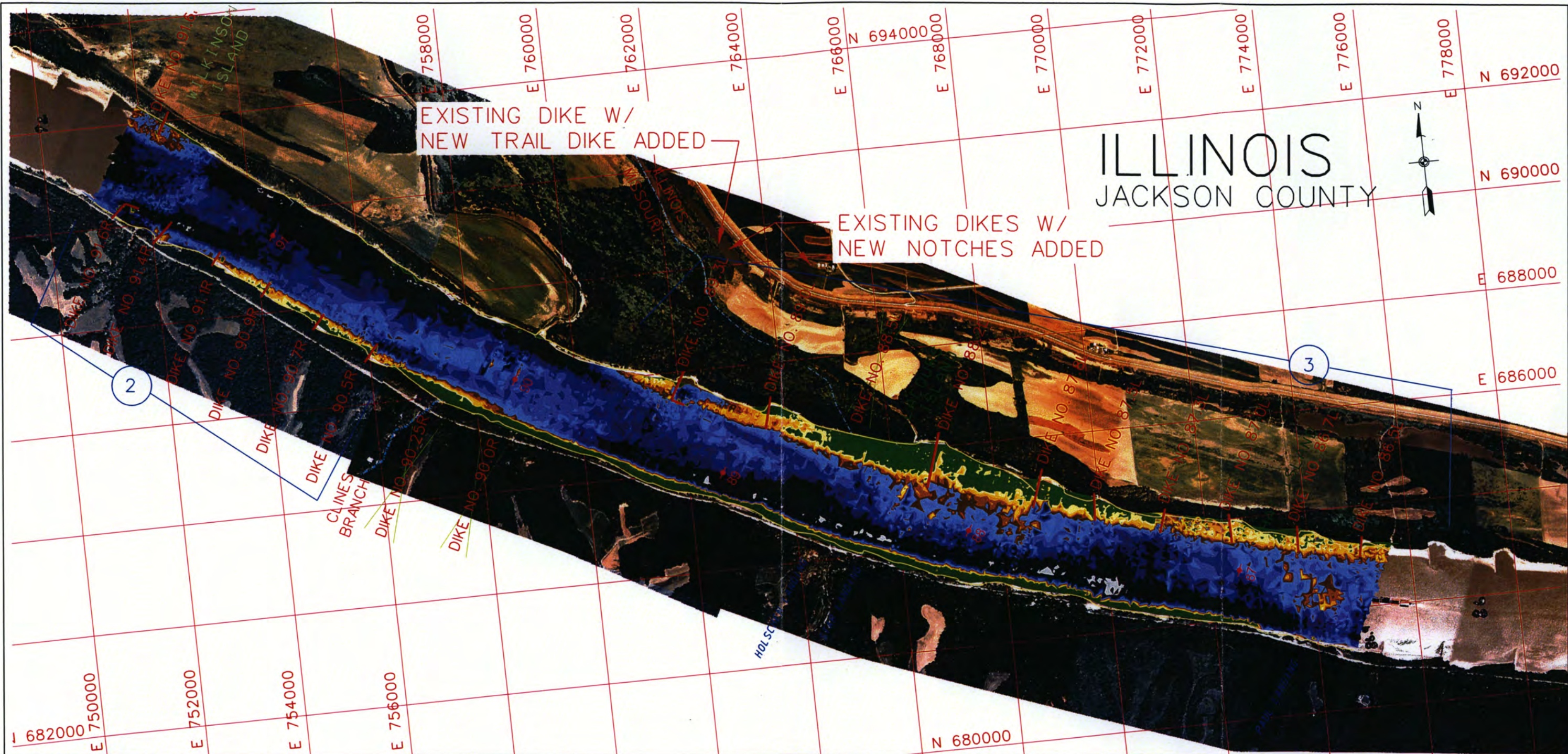
DESIGN FILE: RDALT1.DGN

PLATE NO.

PLOT DATE: 10/01/02

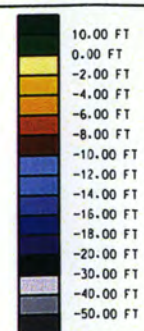
24


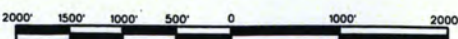




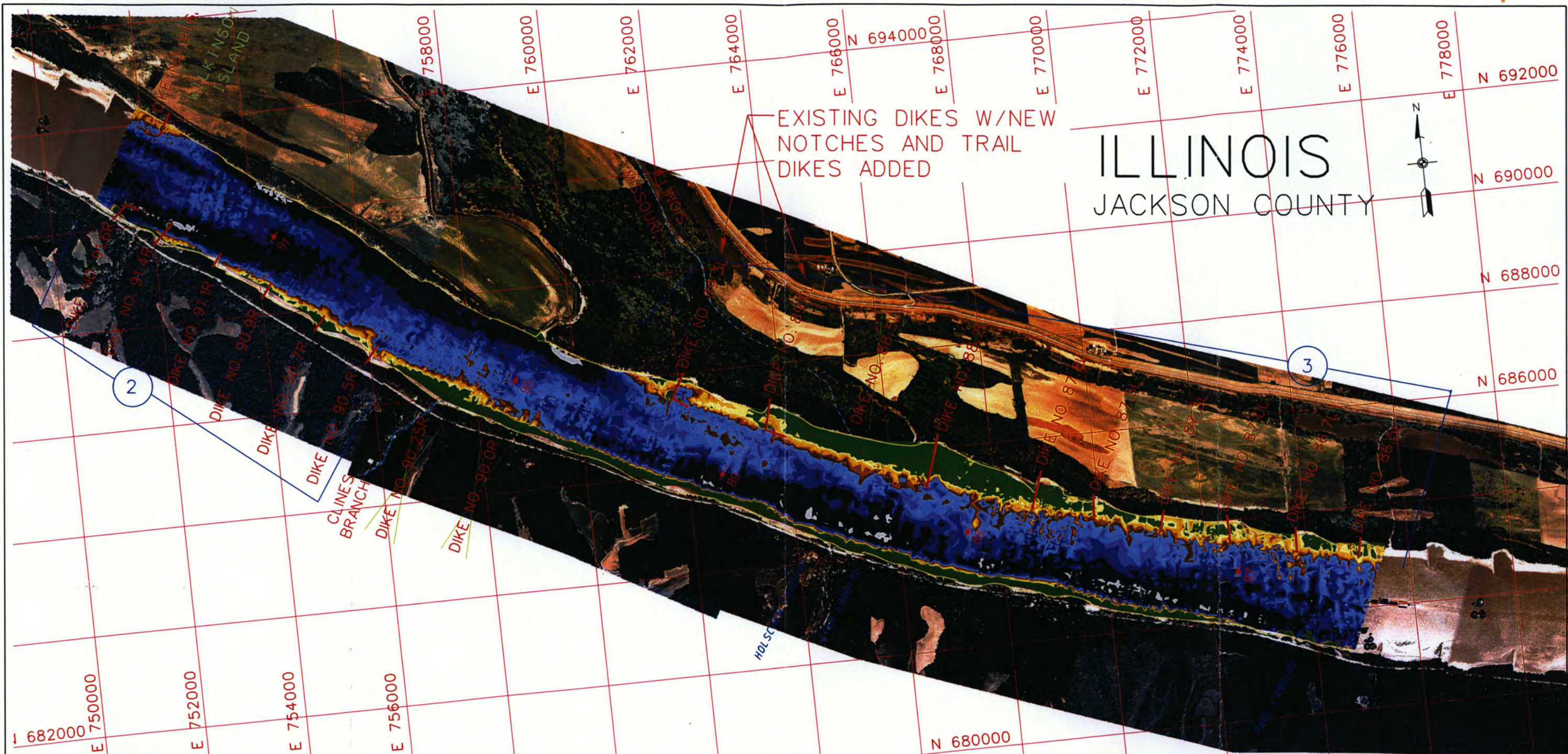
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



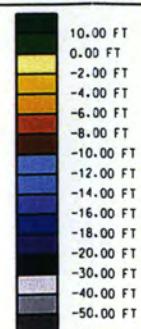
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	ALTERNATIVE 2	
		
DESIGN FILE: RDALT2.DGN		PLATE NO. 25
PLOT SCALE: 1" = 2000'		





MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP

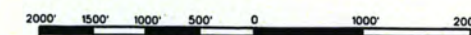


PREPARED BY: D. SMITH  
DRAWN BY: E. RUFF  
CHECKED BY: R. DAVINROY

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

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

### ALTERNATIVE 3

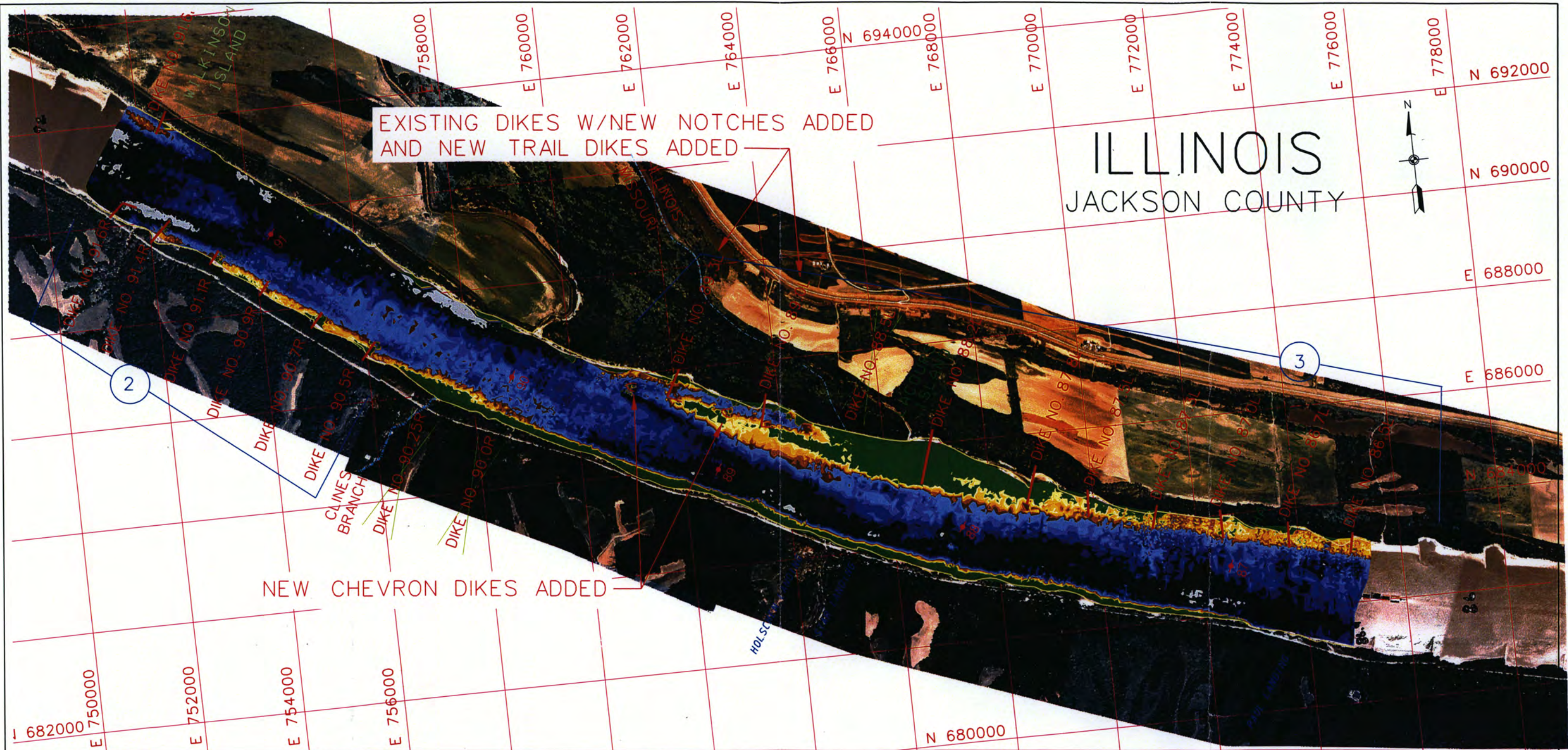


DESIGN FILE: RDALT3.DGN

PLATE NO.
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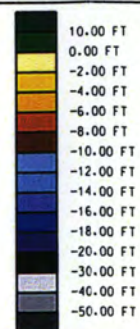
26


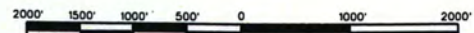




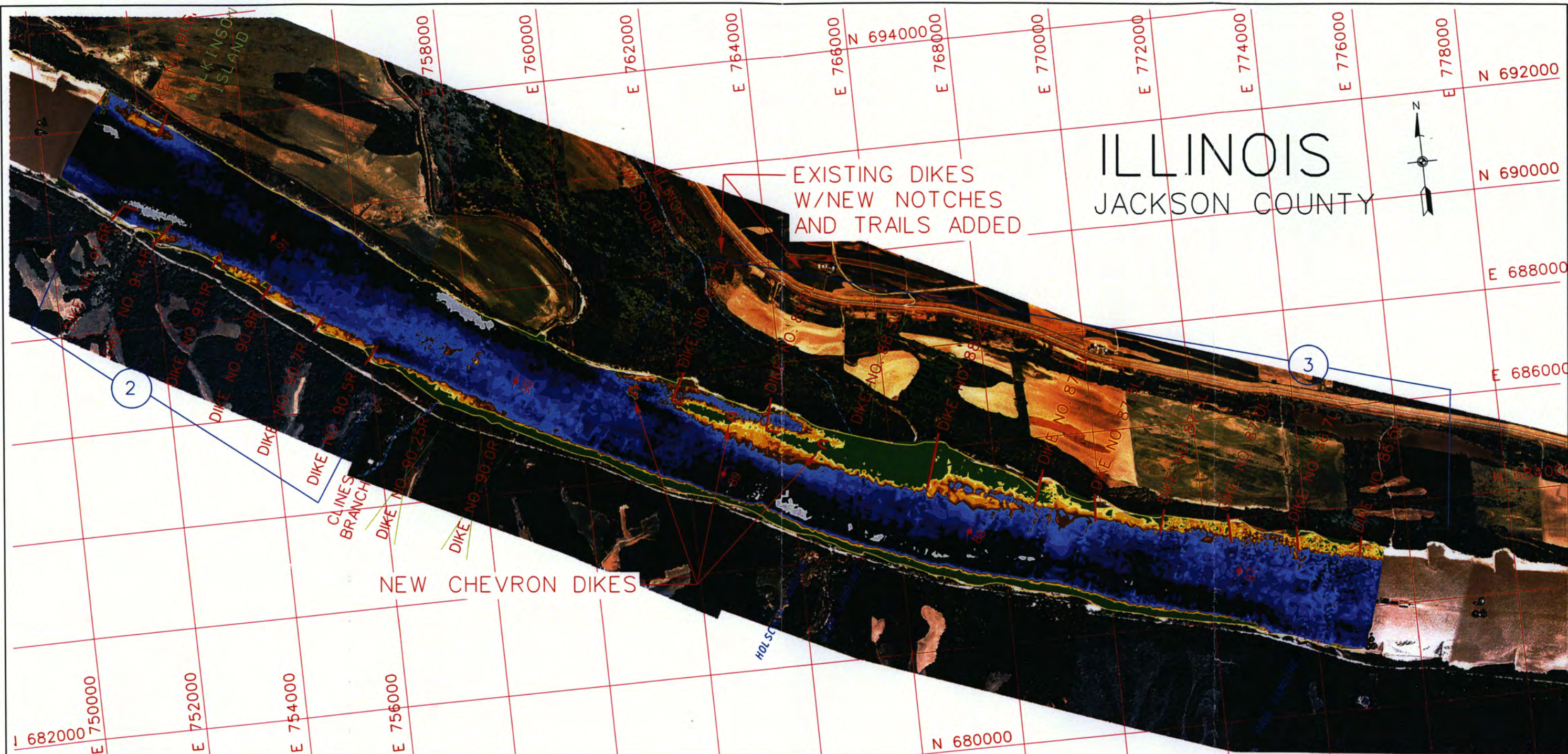
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



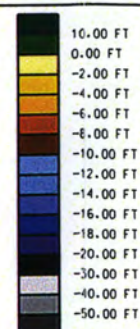
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0
	ALTERNATIVE 4
	
DESIGN FILE: RDALT4.DGN	
PLATE NO. 27	


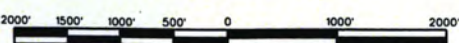




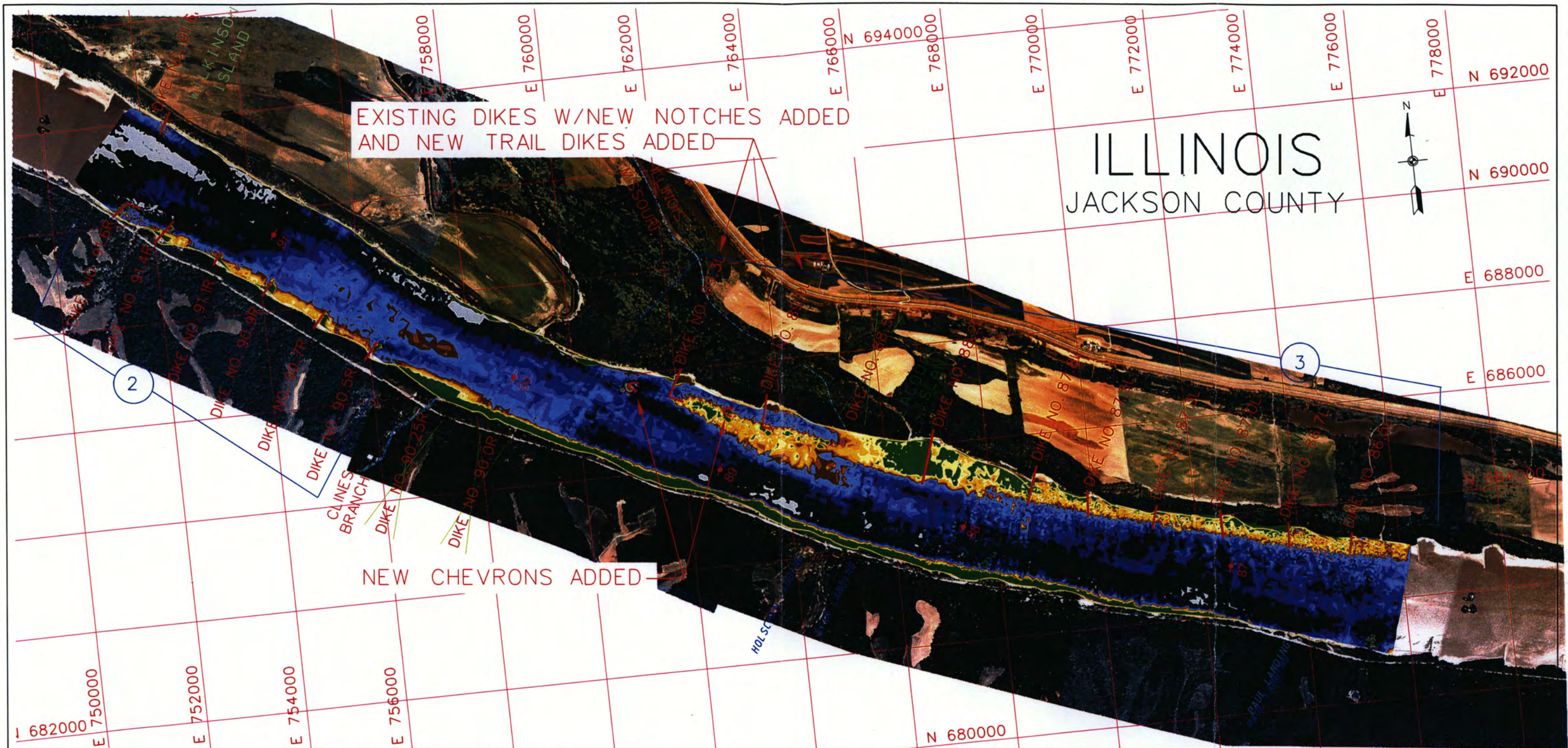
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



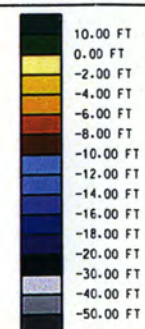
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	ALTERNATIVE 5	
		
PREPARED BY: D. SMITH DRAWN BY: E. RIFF CHECKED BY: R. DAVINROY	DESIGN FILE: RDALT5.DGN PLOT DATE: X	PLATE NO. <b>28</b>





MISSOURI  
PERRY COUNTY

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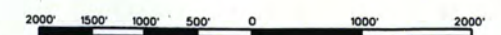


U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
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ST. LOUIS, MISSOURI

PREPARED BY: D. SMITH  
DRAWN BY: E. RIFF  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

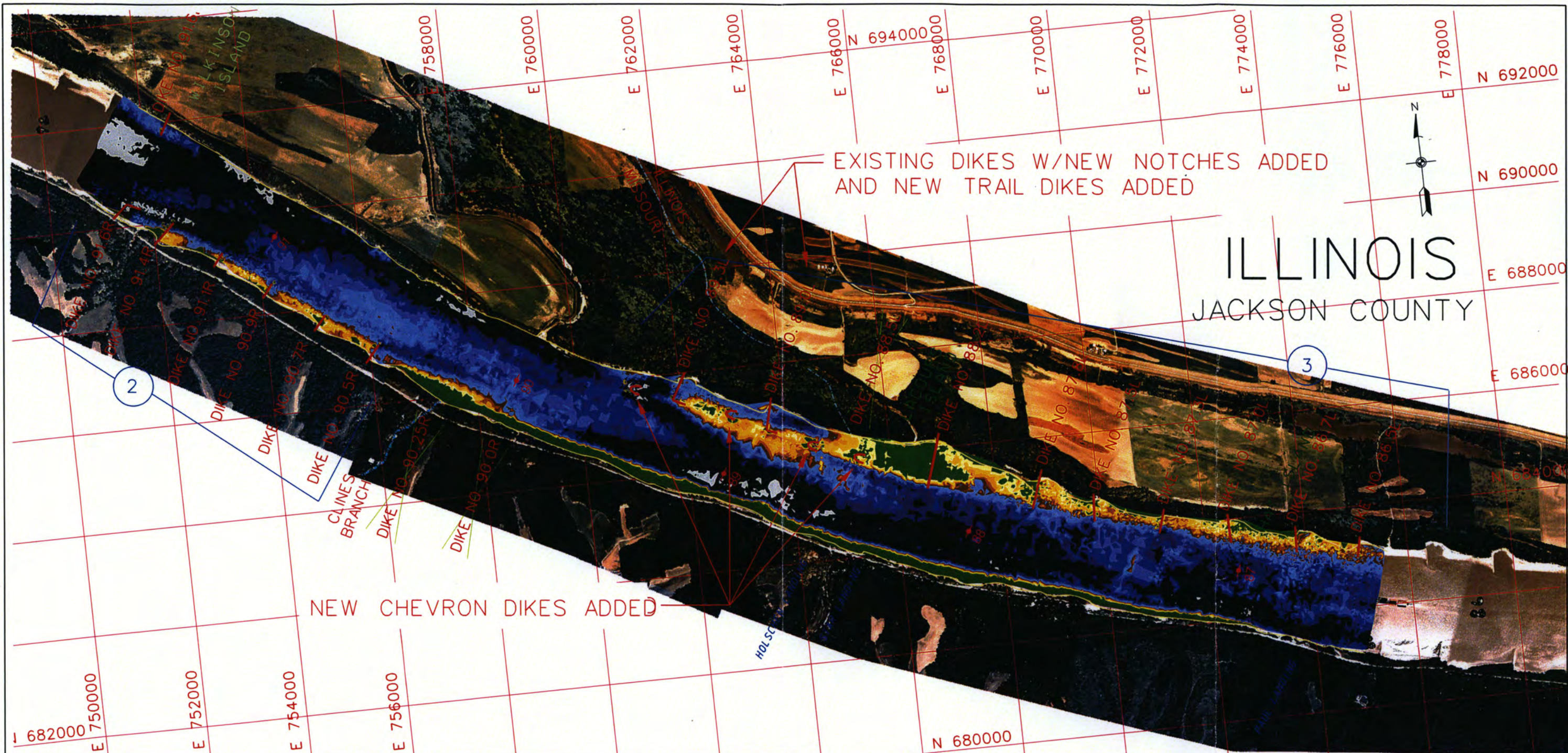
ALTERNATIVE 6



DESIGN FILE: RDALT6.DGN  
PLOT SCALE: 1" = 2000'

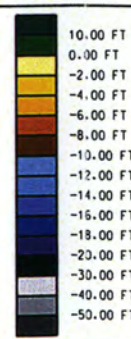
PLATE NO. 29







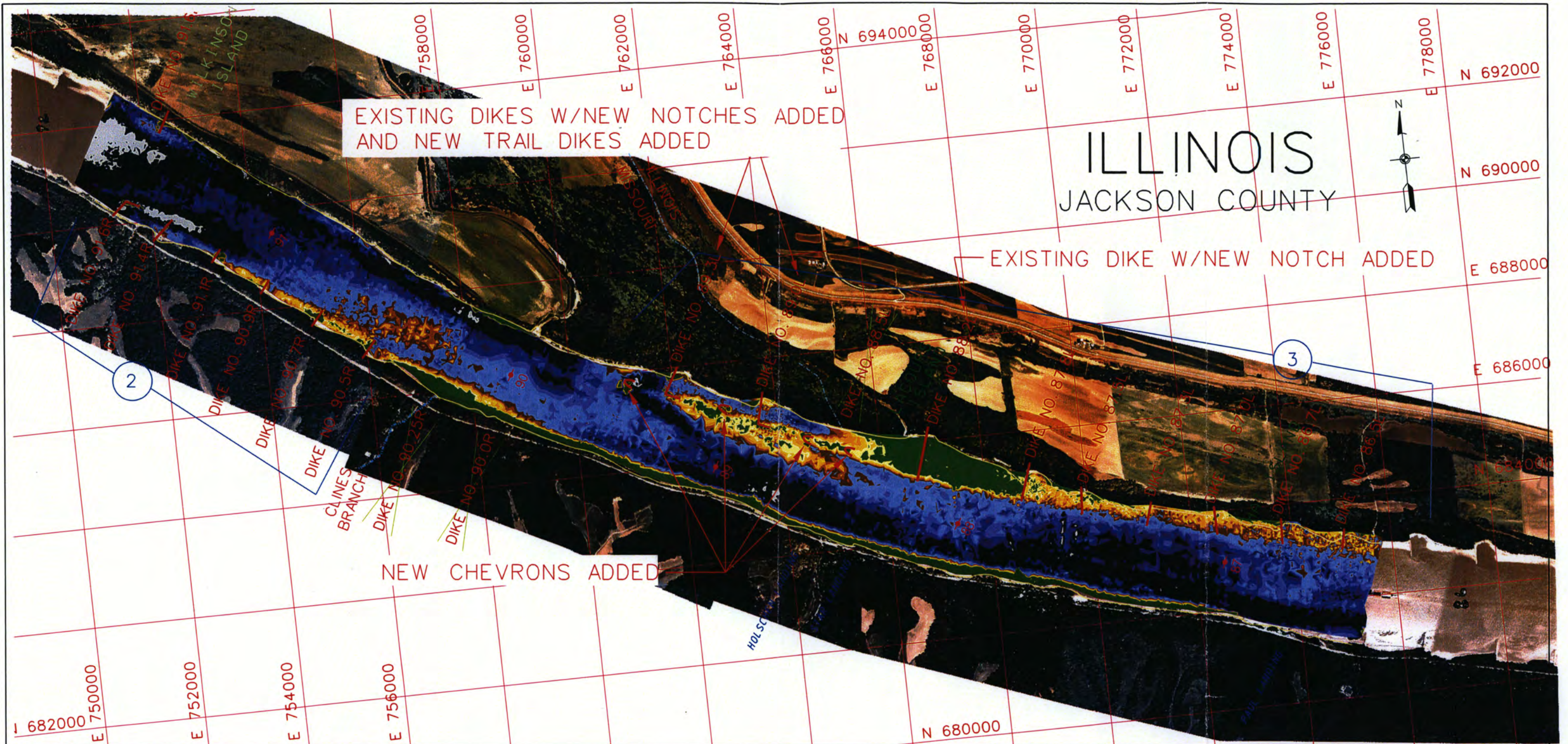
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PERRY COUNTY

Elevations Referenced to LWRP



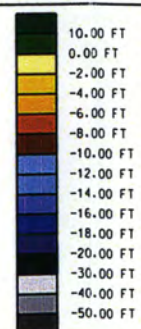
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	ALTERNATIVE 7	
		
DESIGN FILE: RDALT7.DGN		PLATE NO.
PLOT SCALE: 1" = 2000'		30





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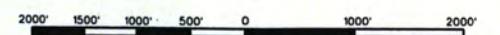


U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
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ST. LOUIS, MISSOURI

PREPARED BY: D. SMITH  
DRAWN BY: E. RUFF  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

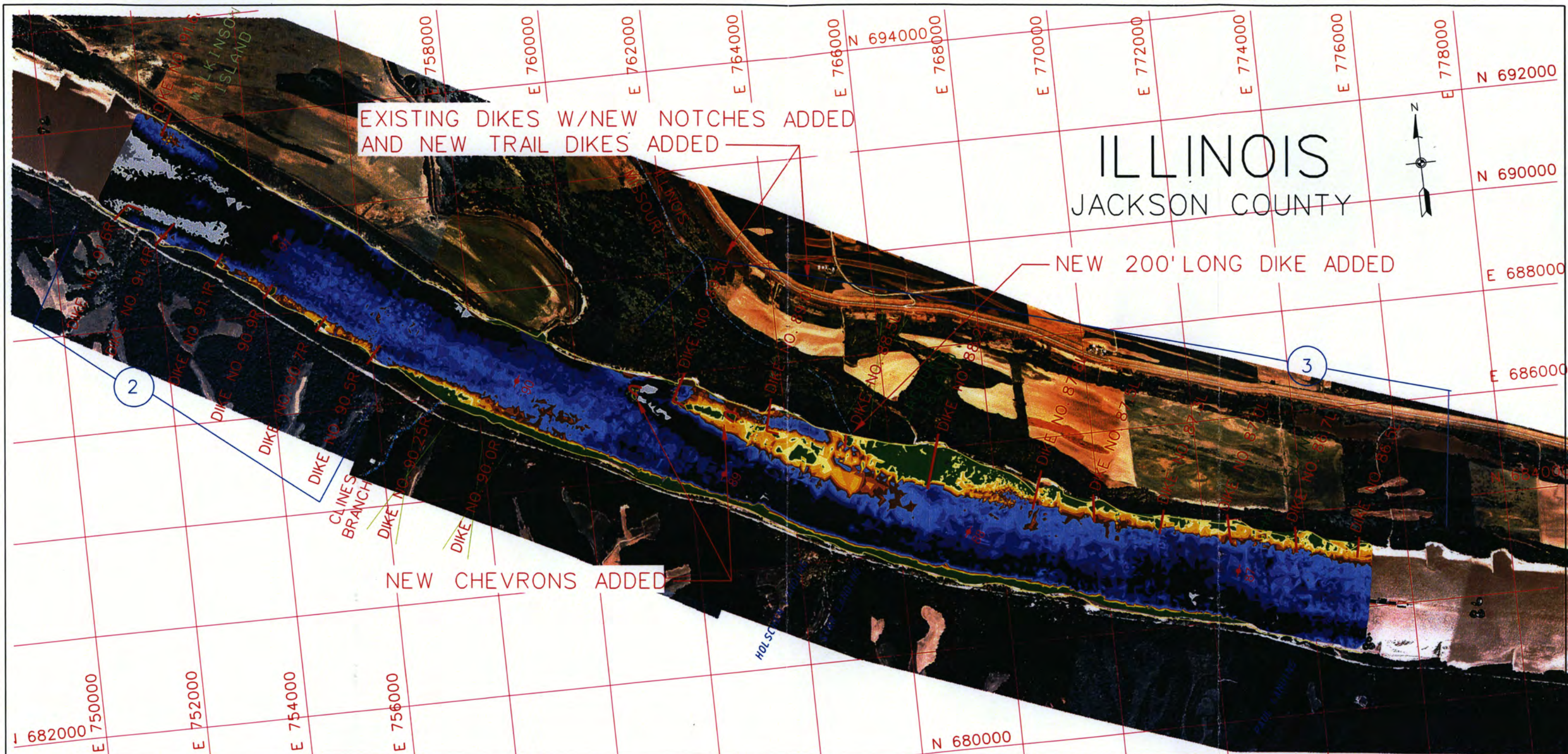
ALTERNATE 8



DESIGN FILE: RDALT8.DGN

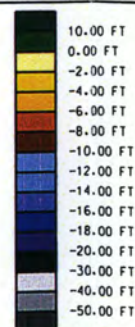
PLATE NO. 31


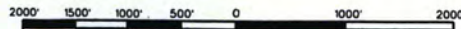




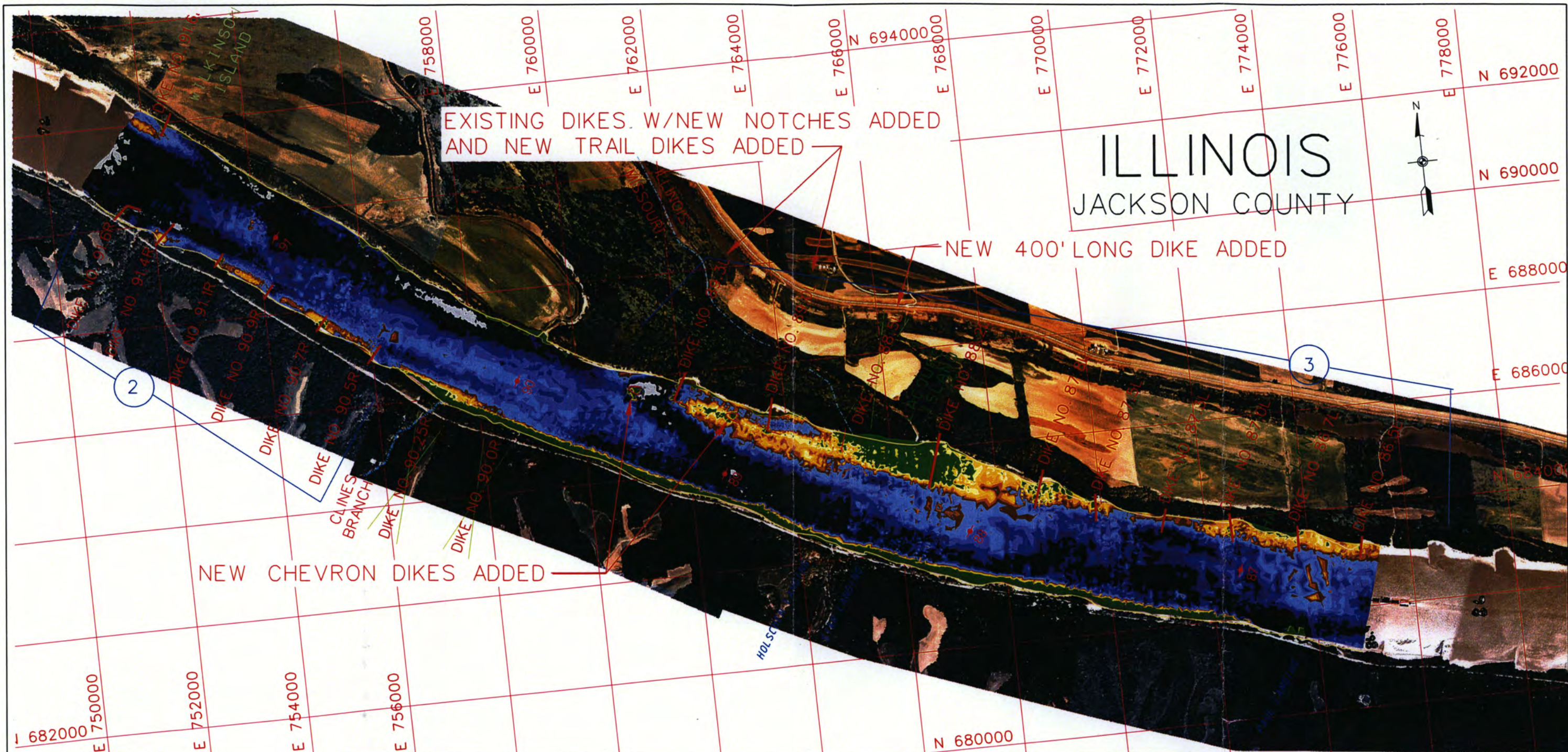
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



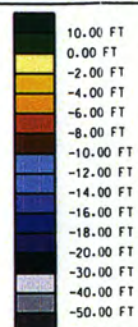
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0
	ALTERNATIVE 9
	
PREPARED BY: D. SMITH DRAWN BY: E. RUFF CHECKED BY: R. DAVINROY	DESIGN FILE: RDALT9.DGN PLOT SCALE: 1" = 2000'
PLATE NO. <b>32</b>	







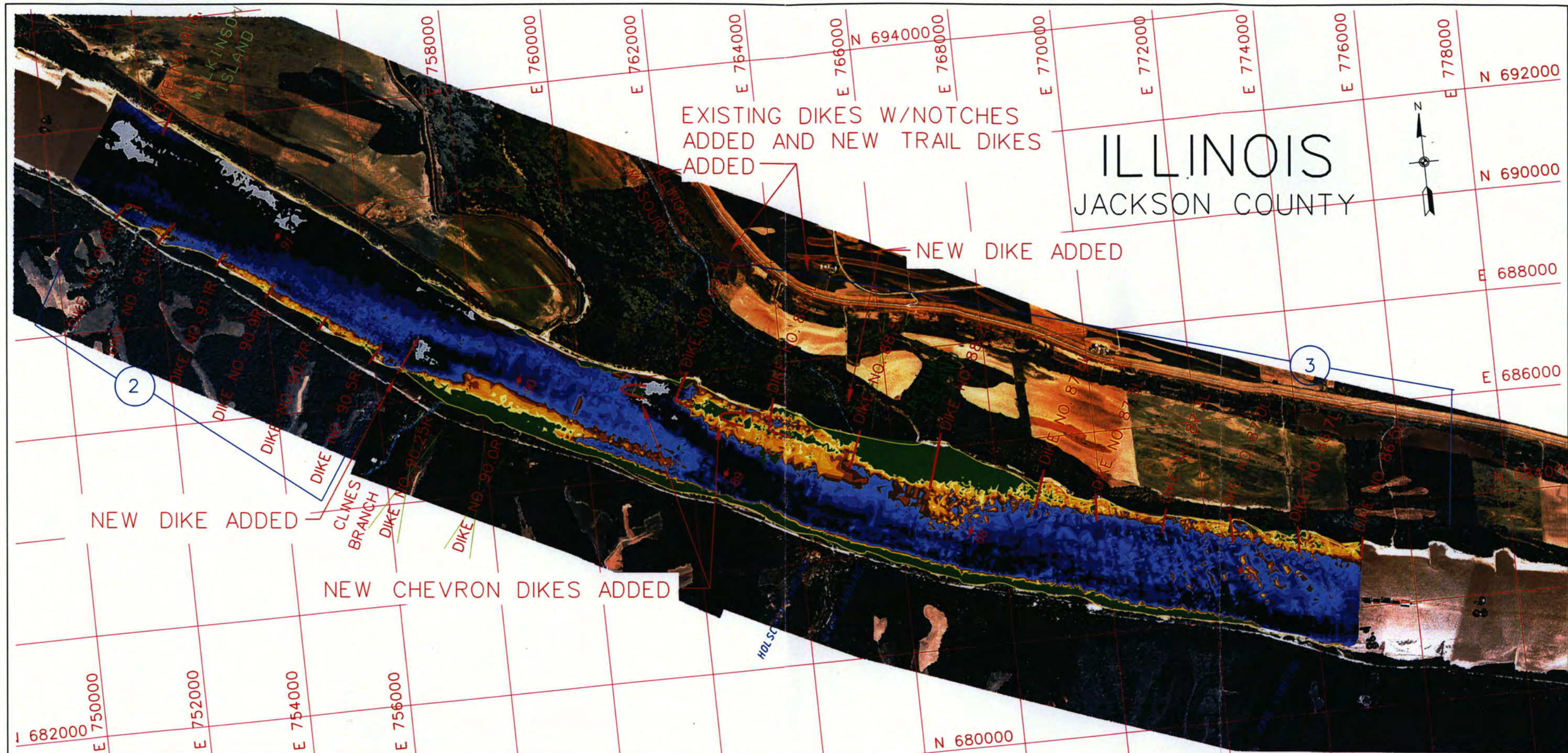
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



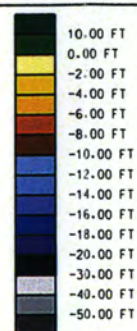
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0
	ALTERNATIVE 10
	
DESIGN FILE: RDALT10.DGN PLOT SCALE: 1" = 2000'	PLATE NO. 33







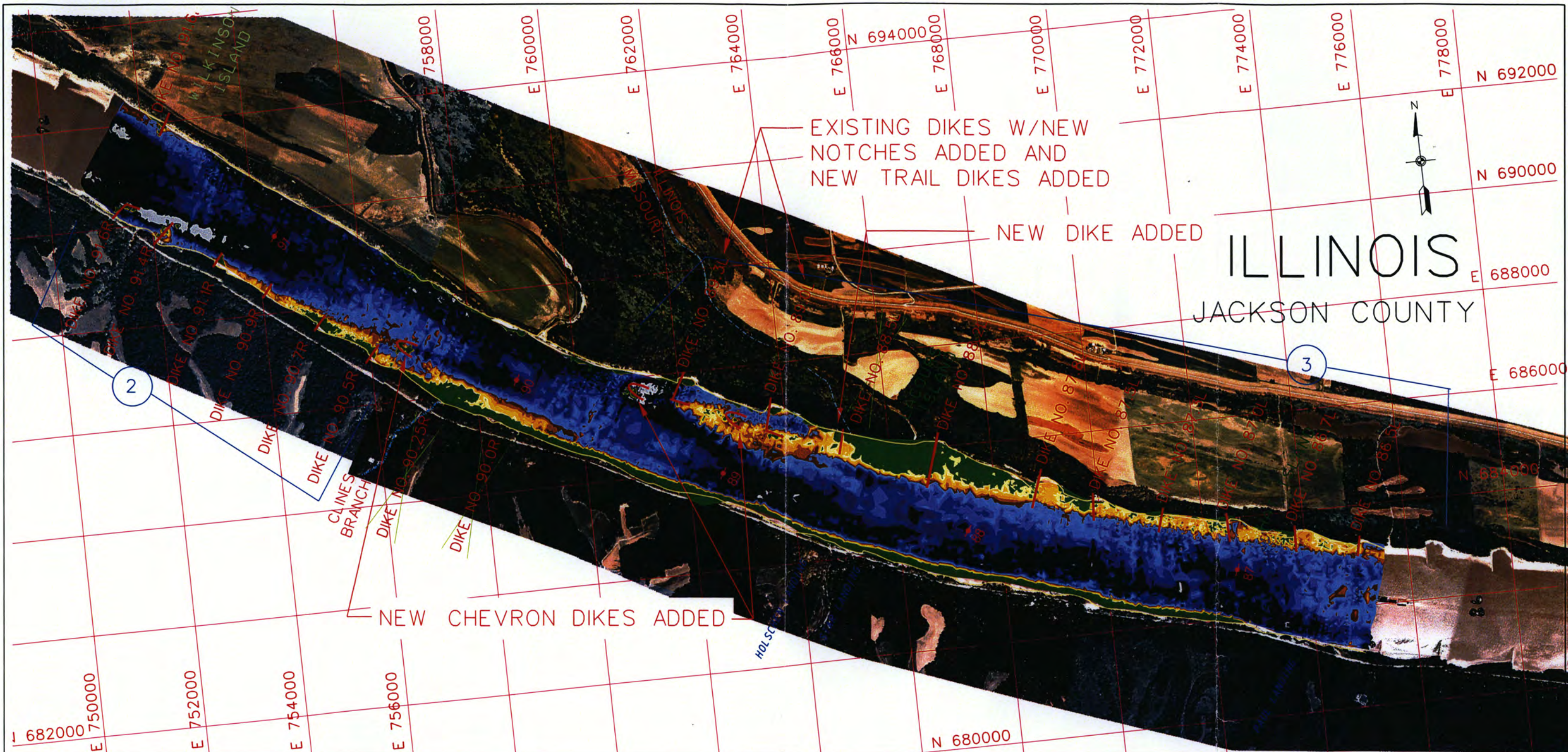
MISSOURI  
PERRY COUNTY

Elevations Referenced to LWRP



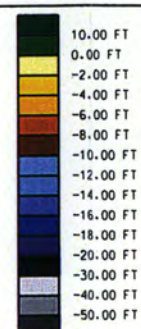
	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI	
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0	
	ALTERNATIVE 11	
		
DESIGN FILE: RDALT11.DGN PLOT SCALE: 1" = 2000'		PLATE NO. 34





MISSOURI  
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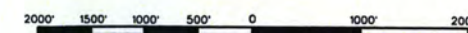


U.S. ARMY ENGINEER DISTRICT, ST. LOUIS  
CORPS OF ENGINEERS  
ST. LOUIS, MISSOURI

PREPARED BY: D. SMITH  
DRAWN BY: E. RUFF  
CHECKED BY: R. DAVINROY

BIOLOGICAL OPINION MICRO MODEL STUDY  
RIVER MILES 93.0 TO 86.0

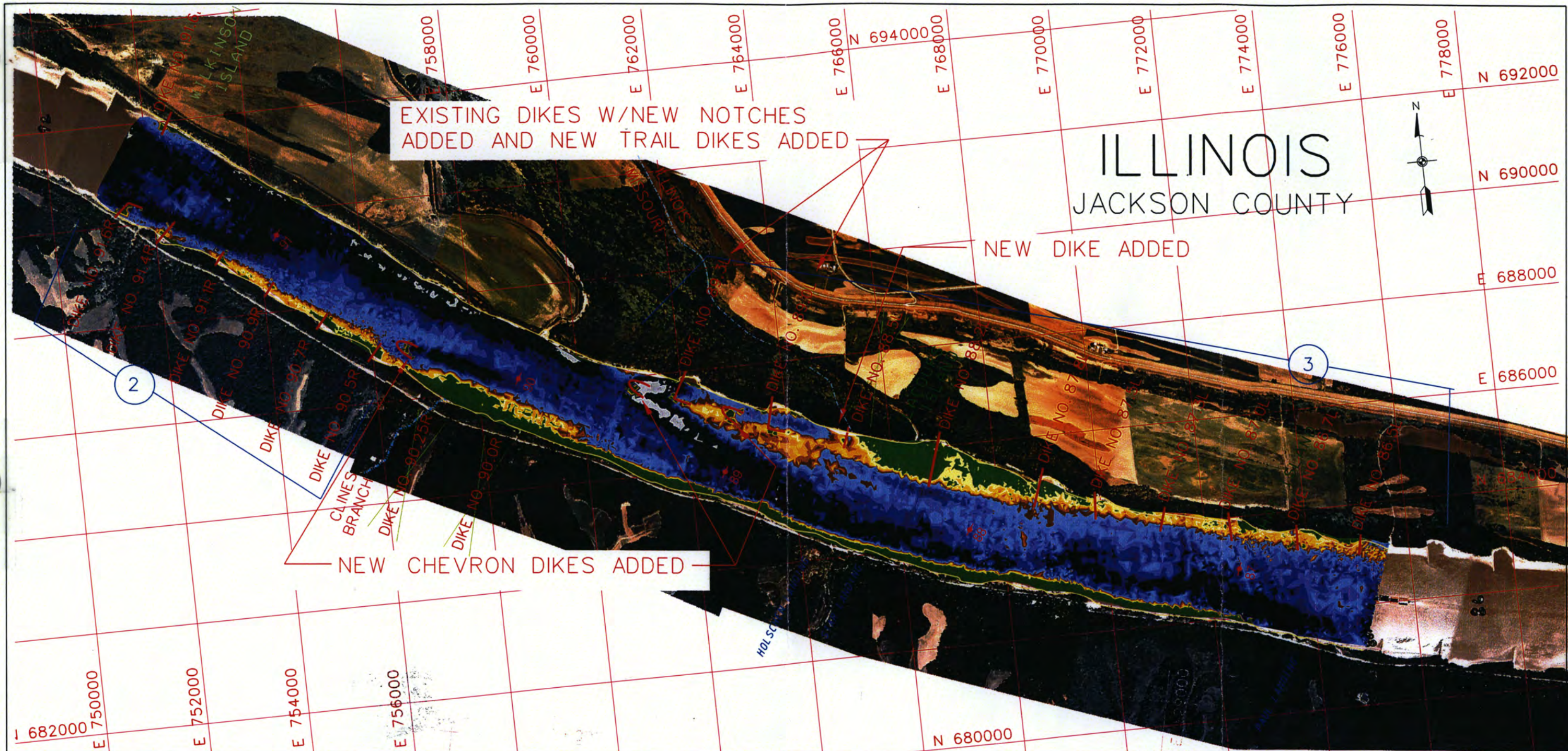
ALTERNATIVE 12



DESIGN FILE: RDALT12.DGN  
PLOT SCALE: 1" = 2000'

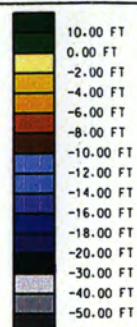
PLATE NO. 35







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Elevations Referenced to LWRP



	U.S. ARMY ENGINEER DISTRICT, ST. LOUIS CORPS OF ENGINEERS ST. LOUIS, MISSOURI
	BIOLOGICAL OPINION MICRO MODEL STUDY RIVER MILES 93.0 TO 86.0
	ALTERNATIVE 13
	
DESIGN FILE: RDALT13.DGN PLOT SCALE: 1" = 2000'	
PLATE NO. <b>36</b>	