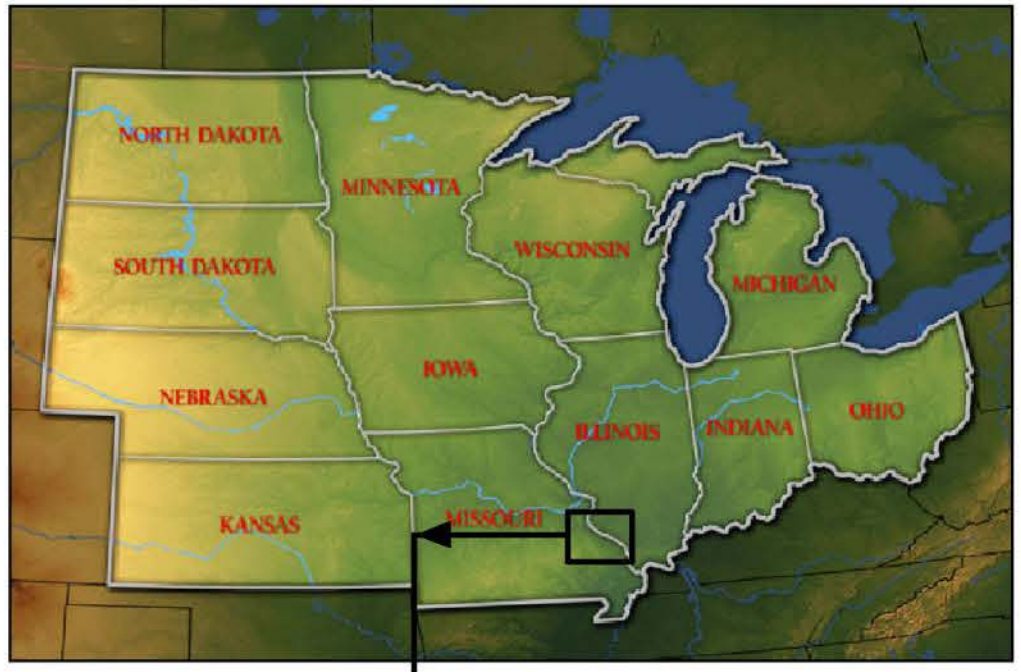

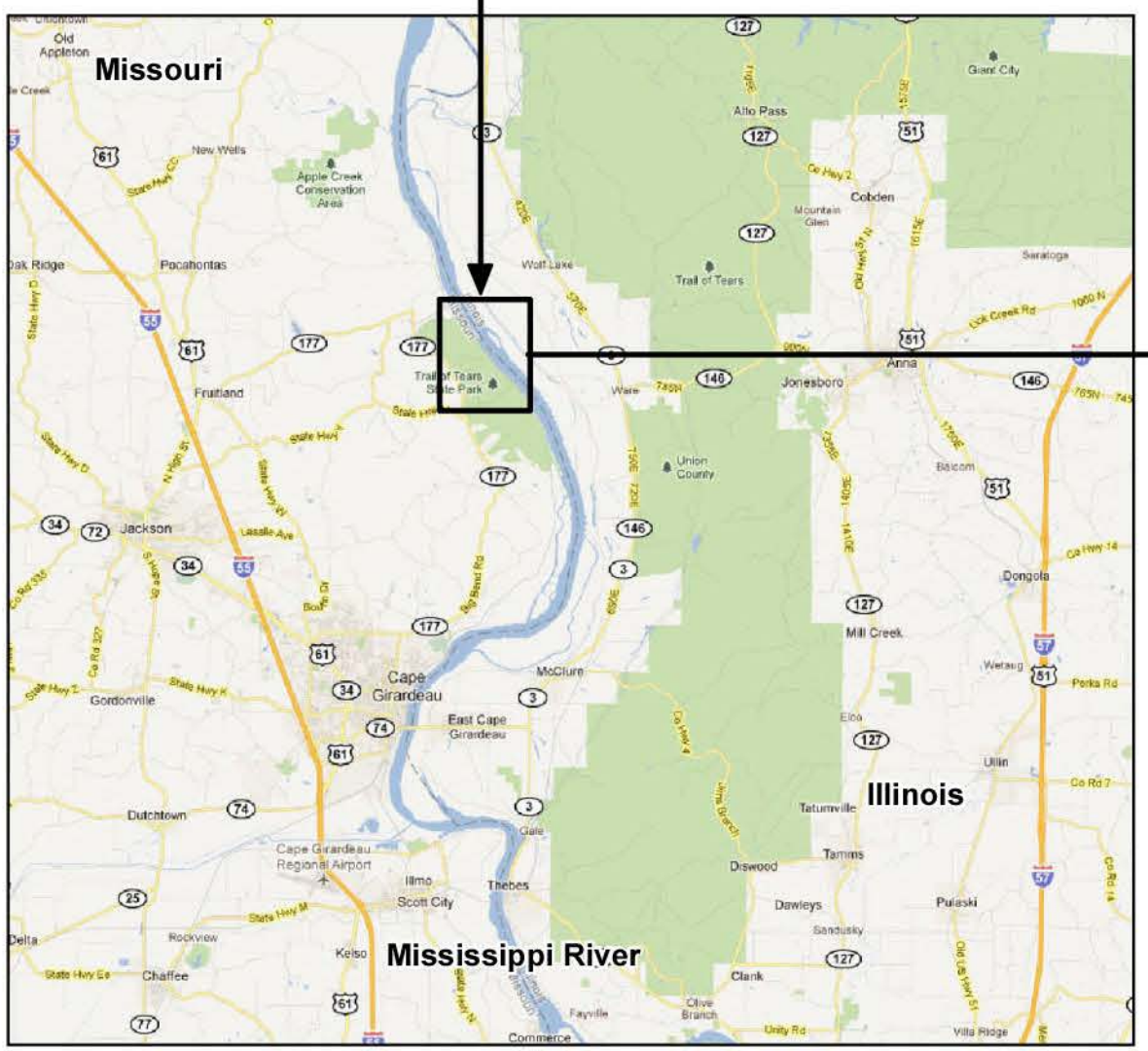

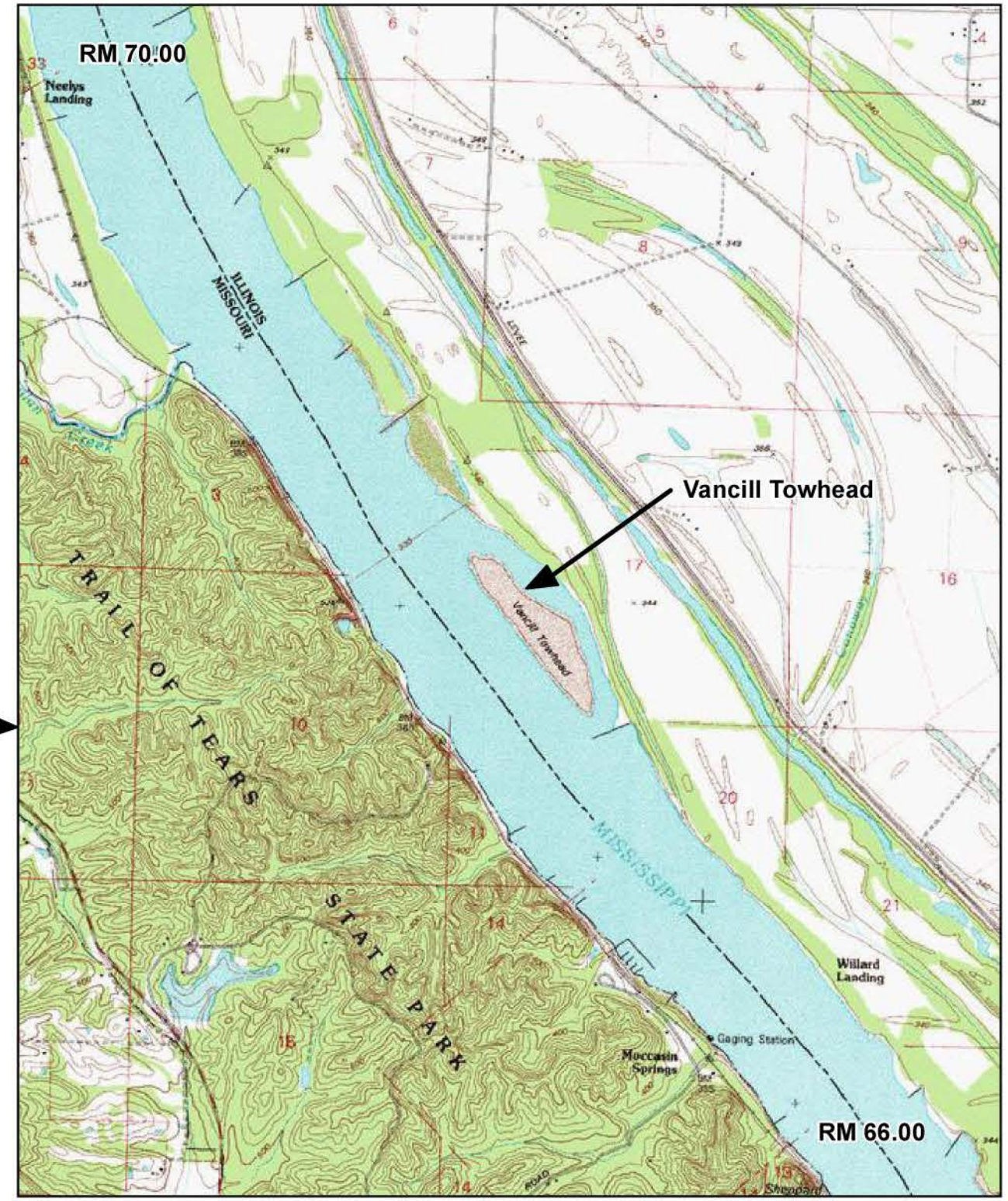

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DRAWN BY: I. NGUYEN	SUBMITTED BY: I. NGUYEN	PLOT DATE: JULY 2012	FILENAME: VANCILLTOWHEAD.MDX
U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	

REVIEWED BY: J. BROWN, P.E.
CHECKED BY: E. BRAUER, P.E.
APPROVED BY: R. DAVINROY, P.E.

VANCILL TOWHEAD LOCATION & VICINITY

PLATE NUMBER 1

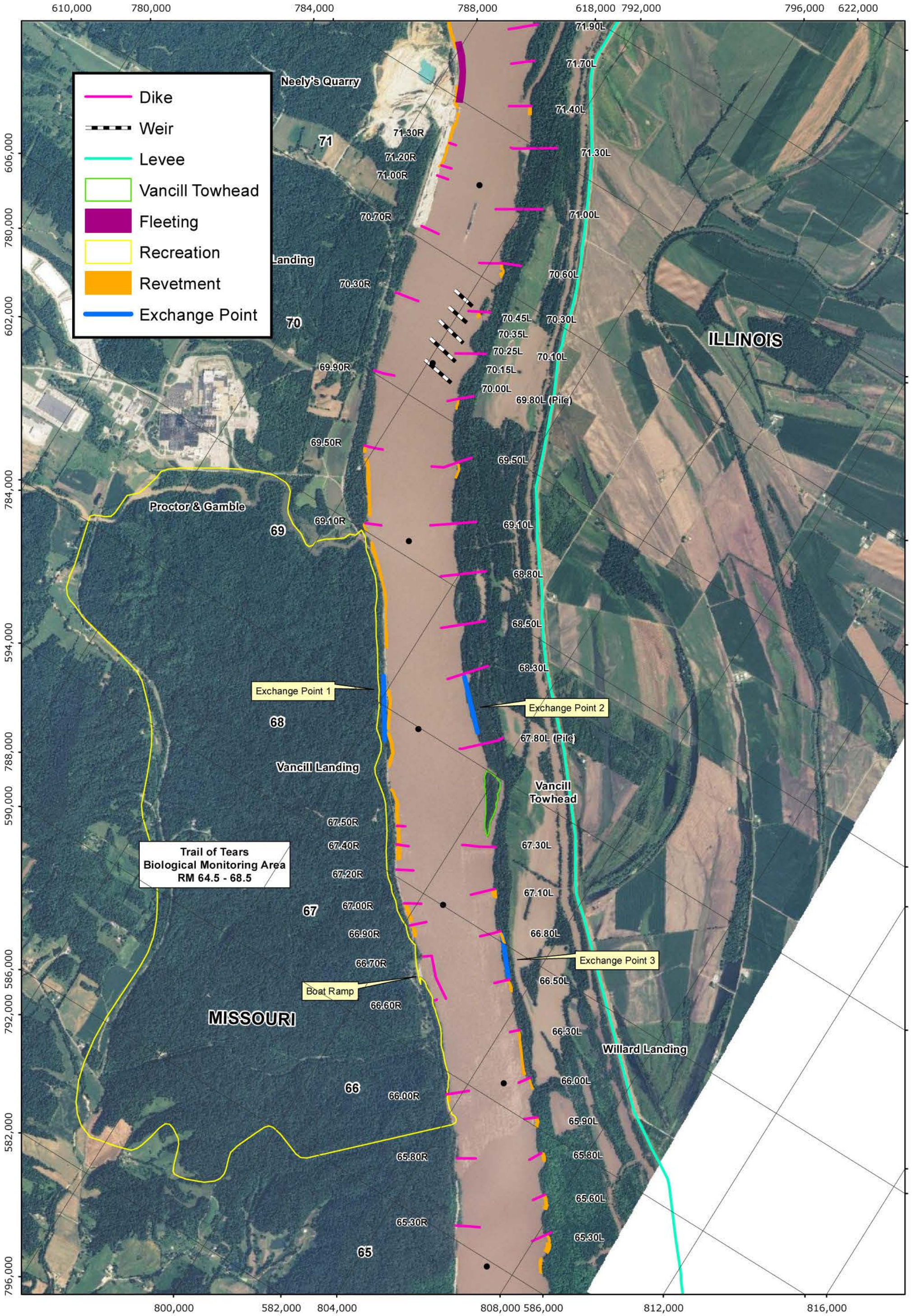

PLATE NUMBER 2

0 1,250 2,500 5,000 Feet

STUDY REACH PLANFORM AND NOMENCLATURE 2010 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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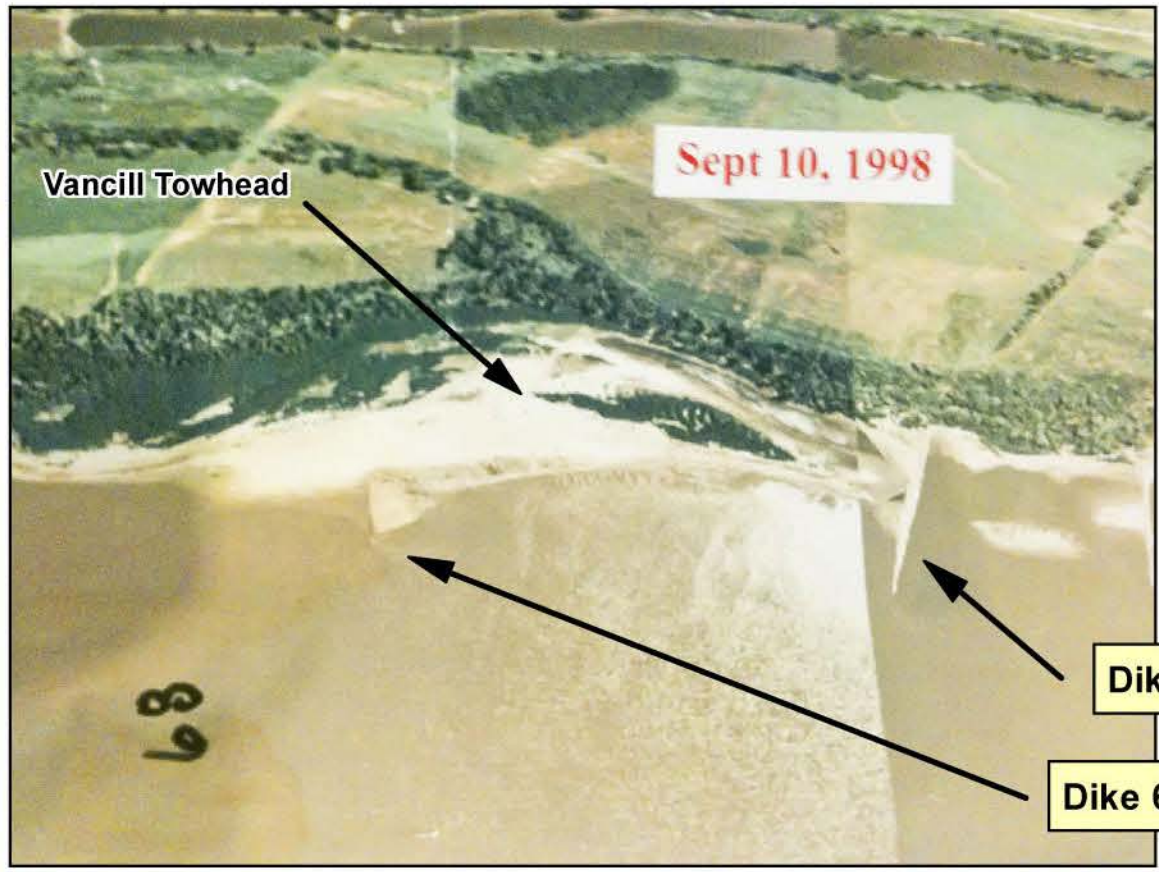

Figure 1: Vancill Towhead 1998

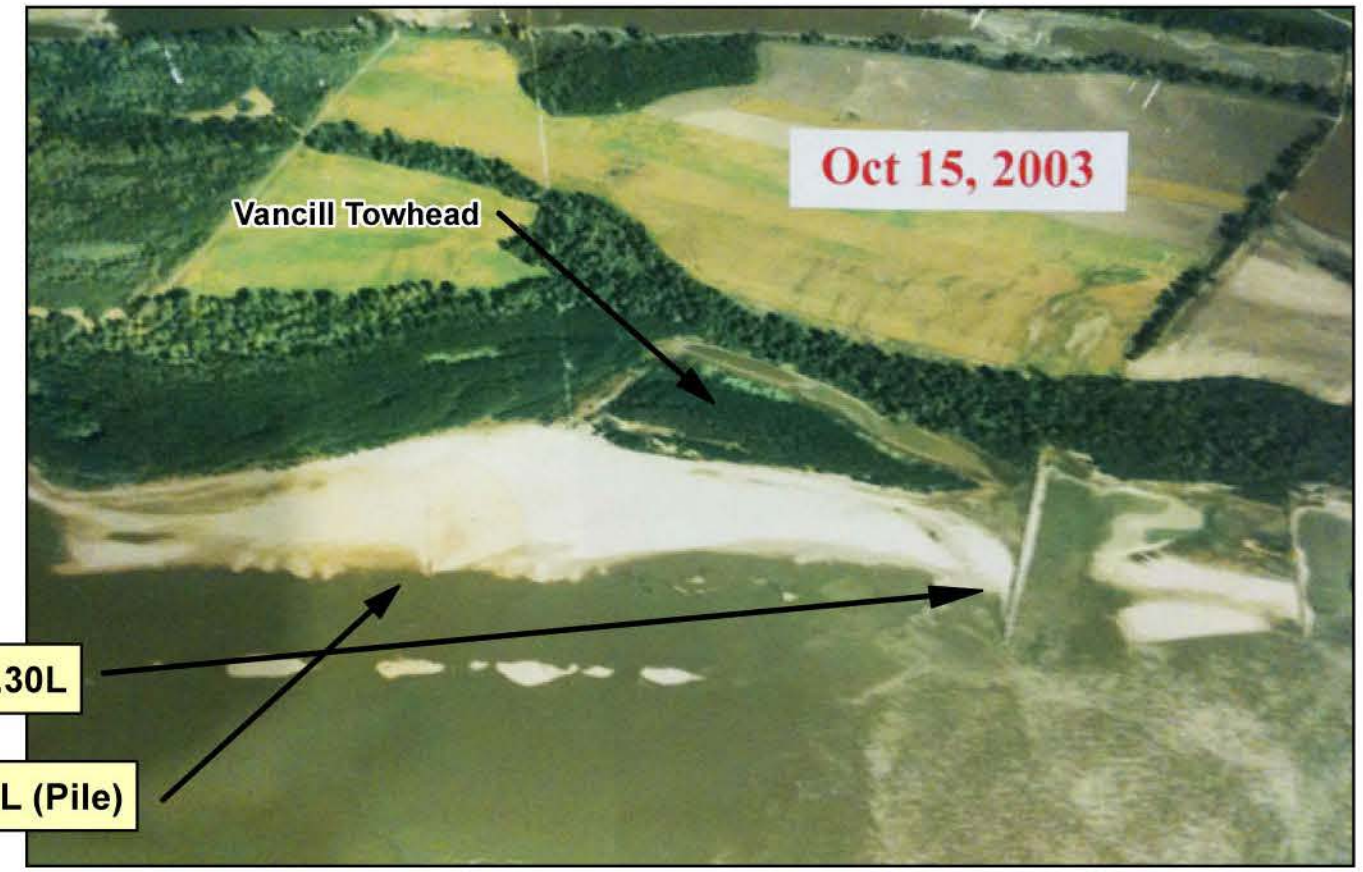

Figure 2: Vancill Towhead 2003

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SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

1998 & 2003
AERIAL PHOTOGRAPHS

PLATE NUMBER
3

Photograph 1: Vancill Towhead (Looking Downstream)

Photograph 2: Vancill Towhead (Looking Upstream)

Photograph 3: Vancill Towhead (Looking Upstream)

Photograph 4: Debris Inside Vancill Towhead Entrance

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PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

MAY 2003 HELICOPTER PHOTOGRAPHS

PLATE NUMBER
4

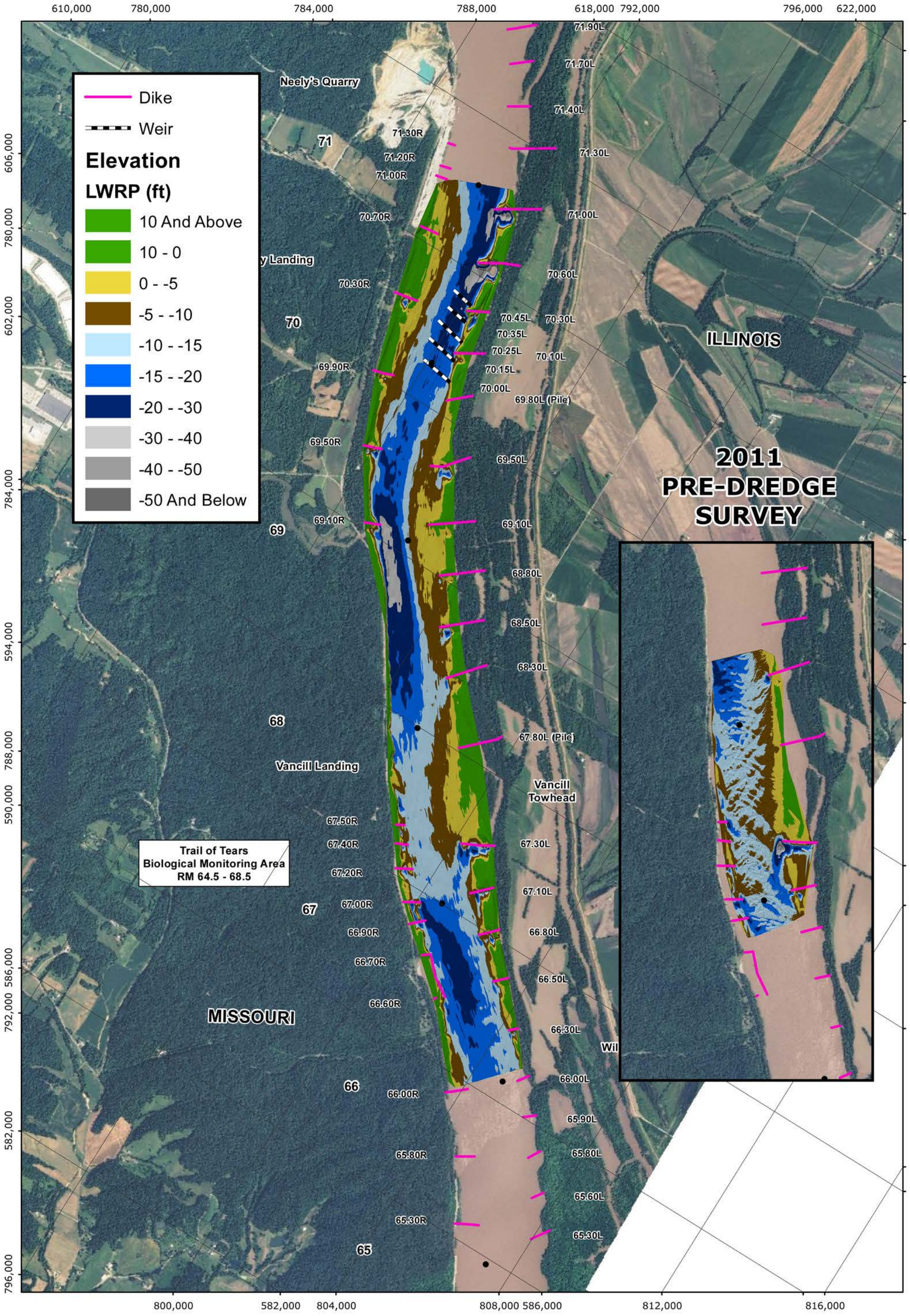

PLATE NUMBER 5

0 1,250 2,500 5,000 Feet

2010 HYDRO SURVEY
2011 PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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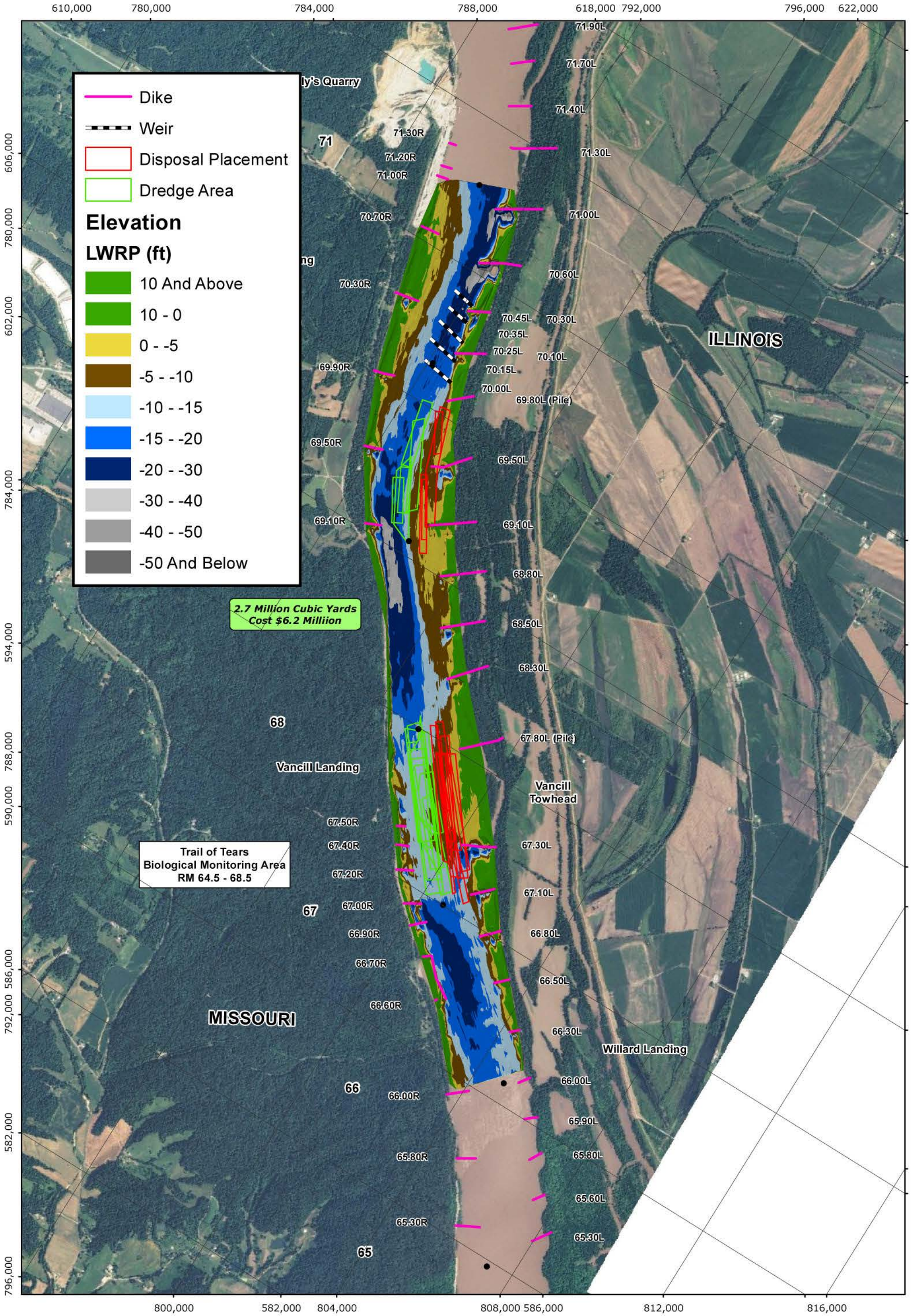

PLATE NUMBER 6

0 1,250 2,500 5,000 Feet

DREDGE PLACEMENT
2010 HYDRO SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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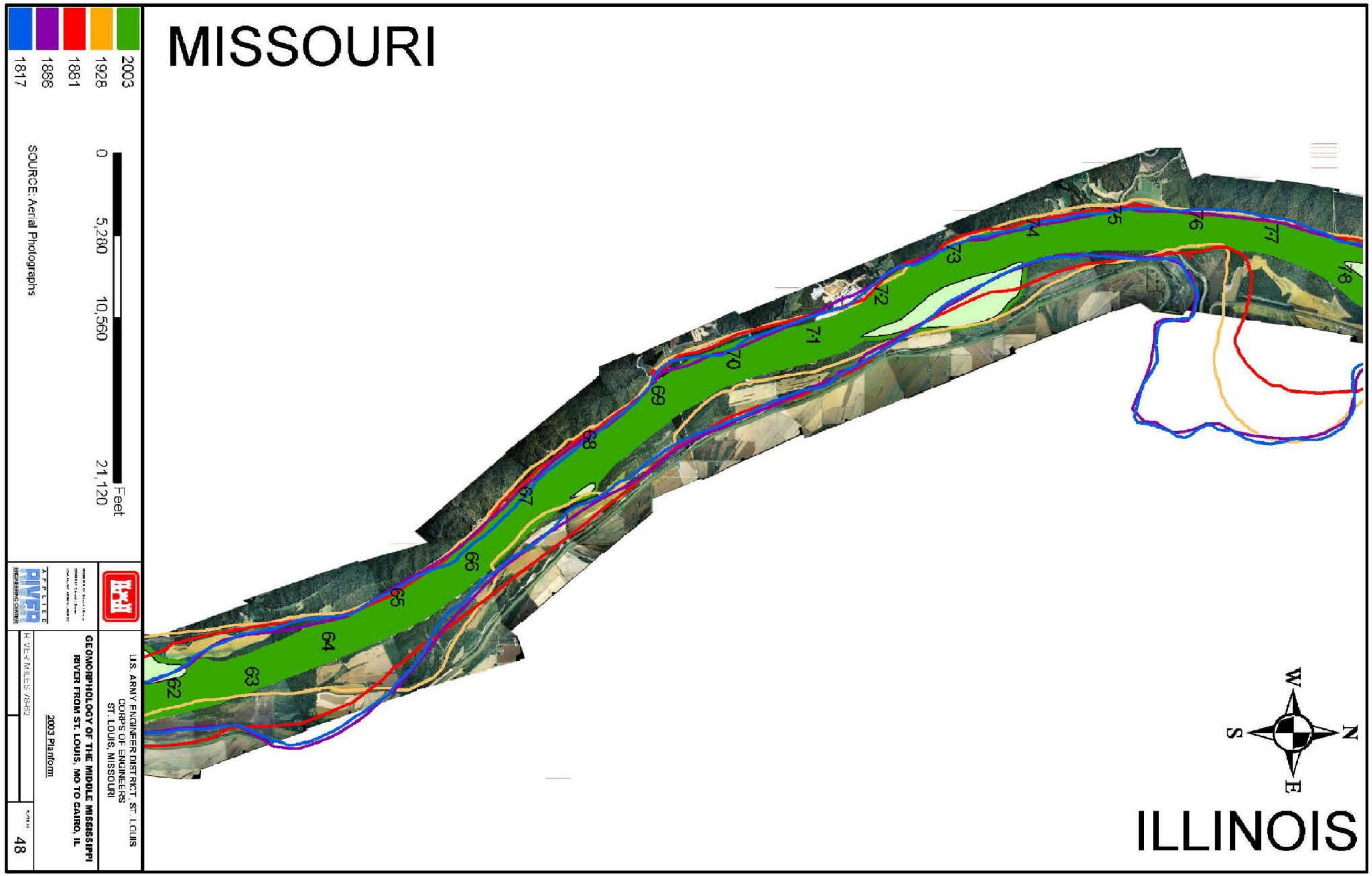

GEOMORPHOLOGY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN REVIEWED BY: J. BROWN, P.E. SUBMITTED BY: I. NGUYEN CHECKED BY: E. BRAUER, P.E. PLOT DATE: JULY 2012 APPROVED BY: R. DAVINROY, P.E. FILENAME: VANCILLTOWHEAD.MDX
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	

PLATE NUMBER 7

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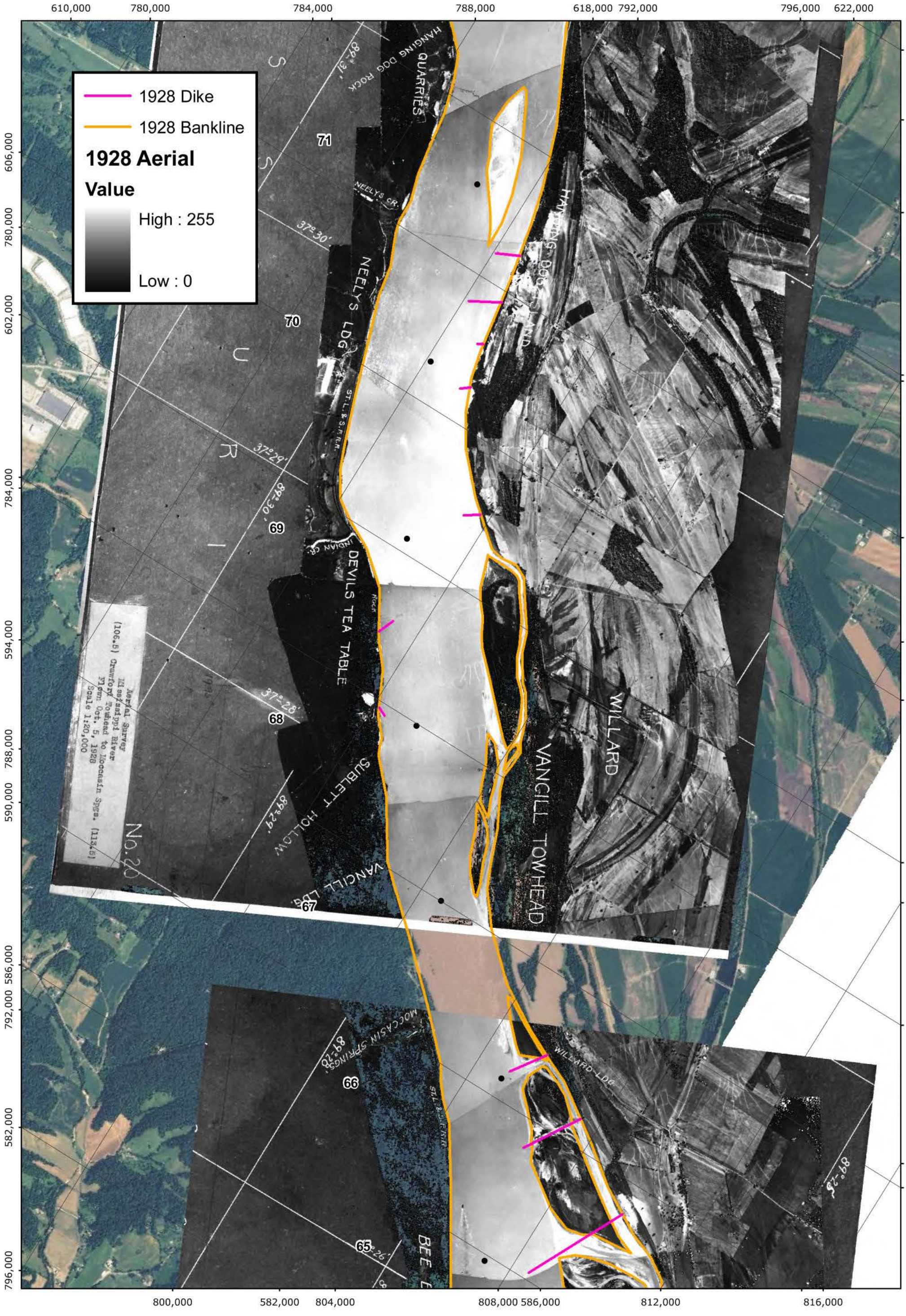

PLATE NUMBER 8

0 1,250 2,500 5,000 Feet

1928 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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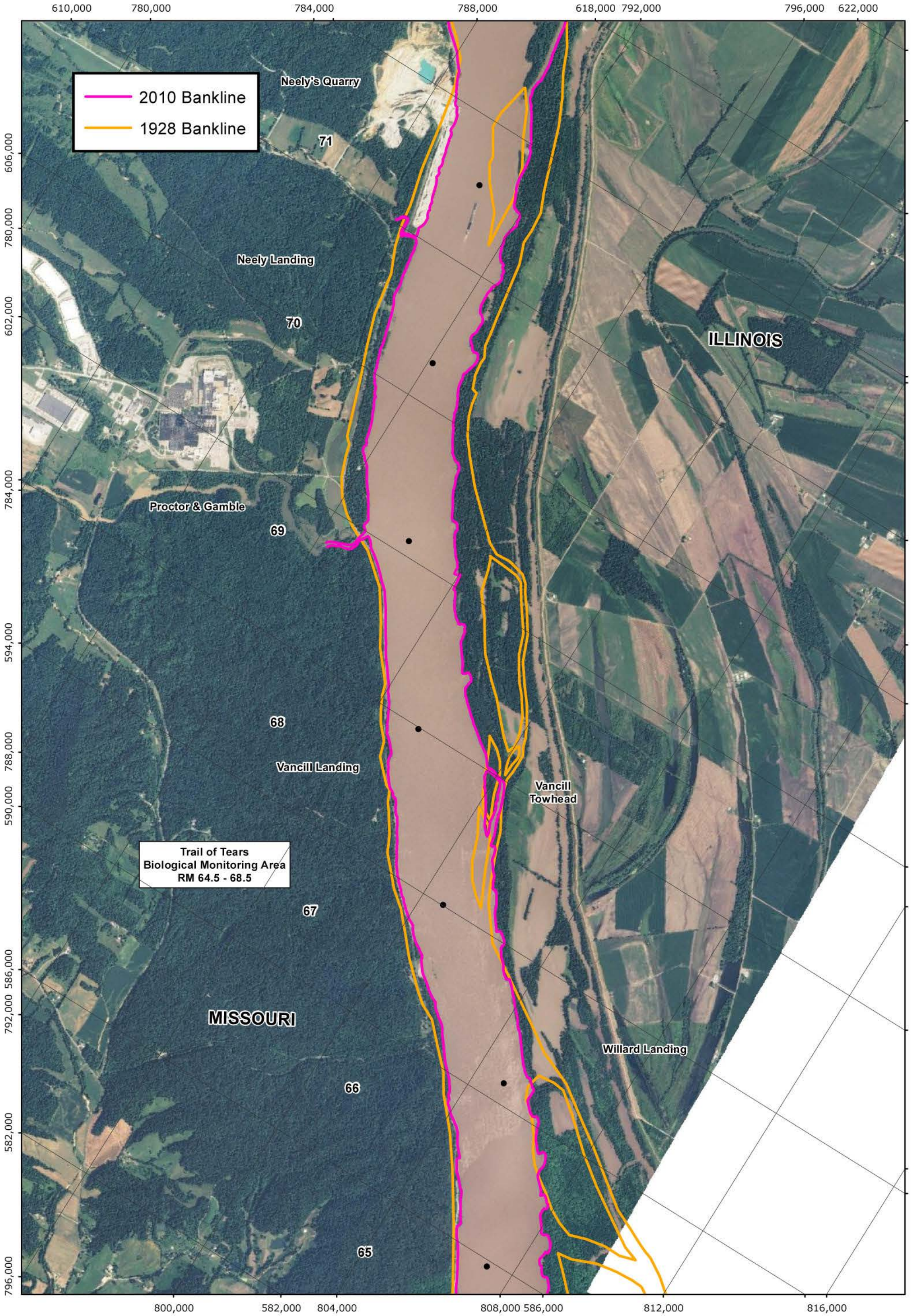

PLATE NUMBER 9

0 1,250 2,500 5,000 Feet

2010 BANKLINE
1928 BANKLINE

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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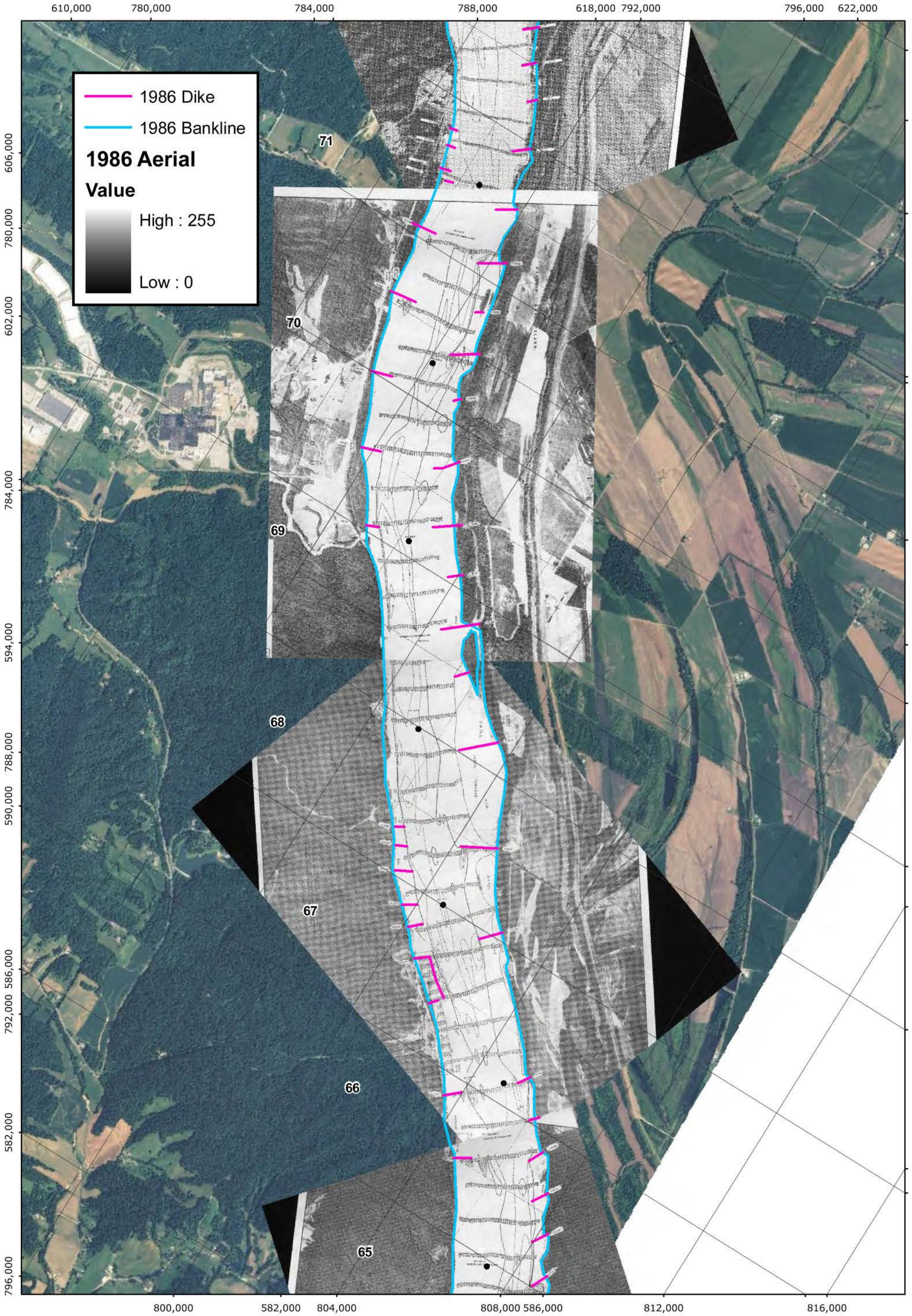

PLATE NUMBER 10

0 1,250 2,500 5,000 Feet

1986 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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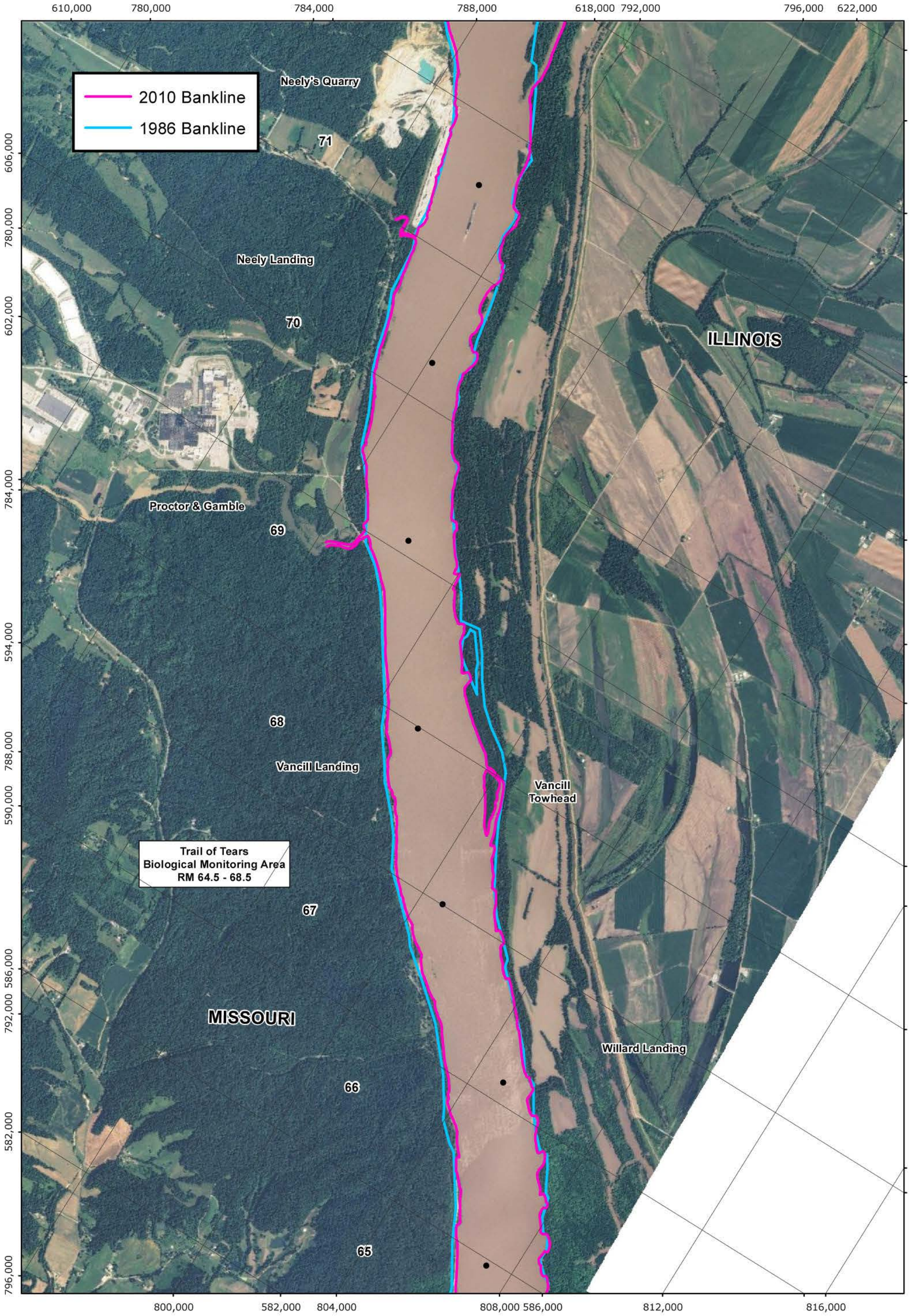

PLATE NUMBER 11

0 1,250 2,500 5,000 Feet

2010 BANKLINE
1986 BANKLINE

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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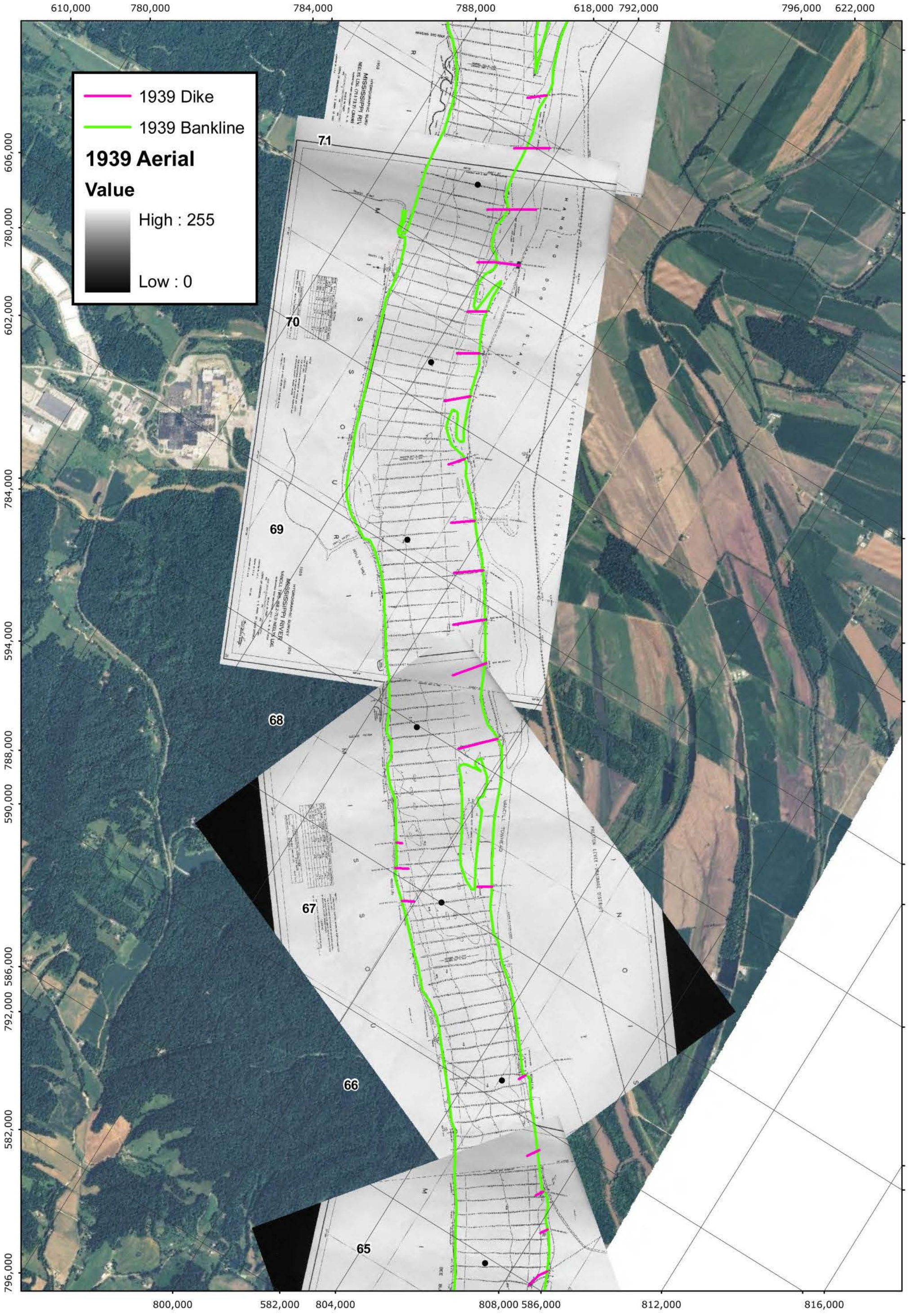

PLATE NUMBER 12

0 1,250 2,500 5,000 Feet

1939 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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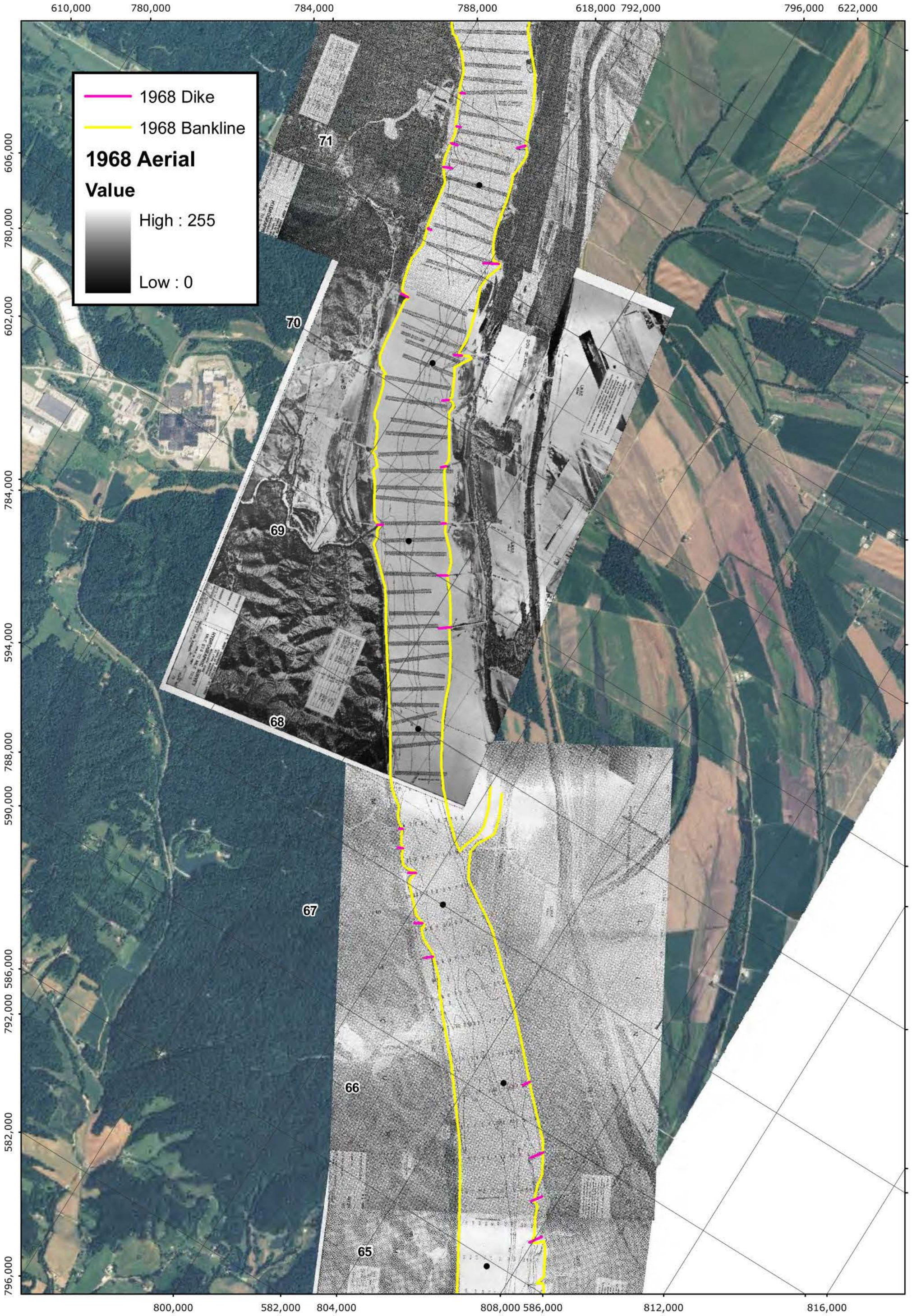

PLATE NUMBER 13

0 1,250 2,500 5,000 Feet

1968 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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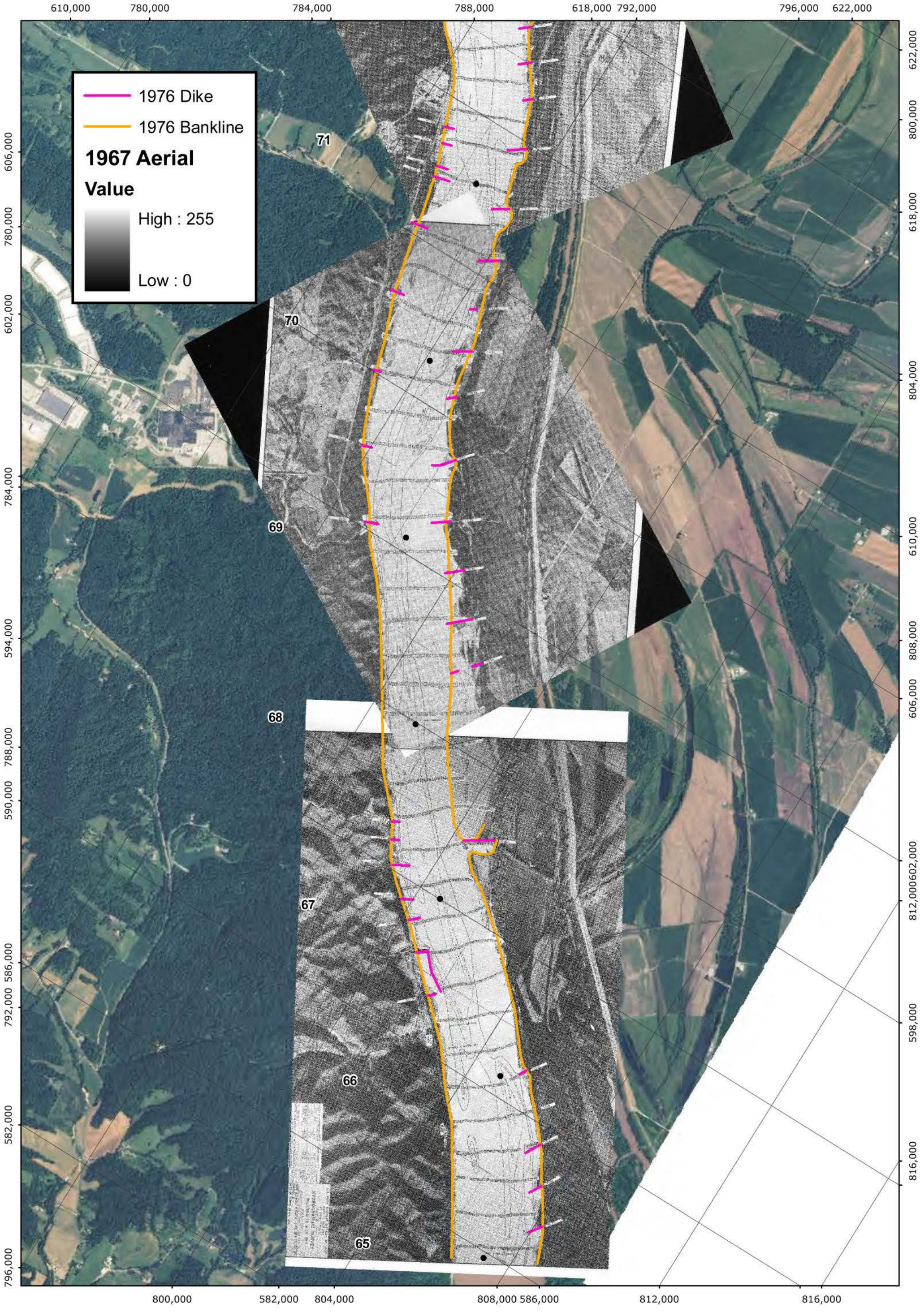

PLATE NUMBER 14

0 1,250 2,500 5,000 Feet

1976 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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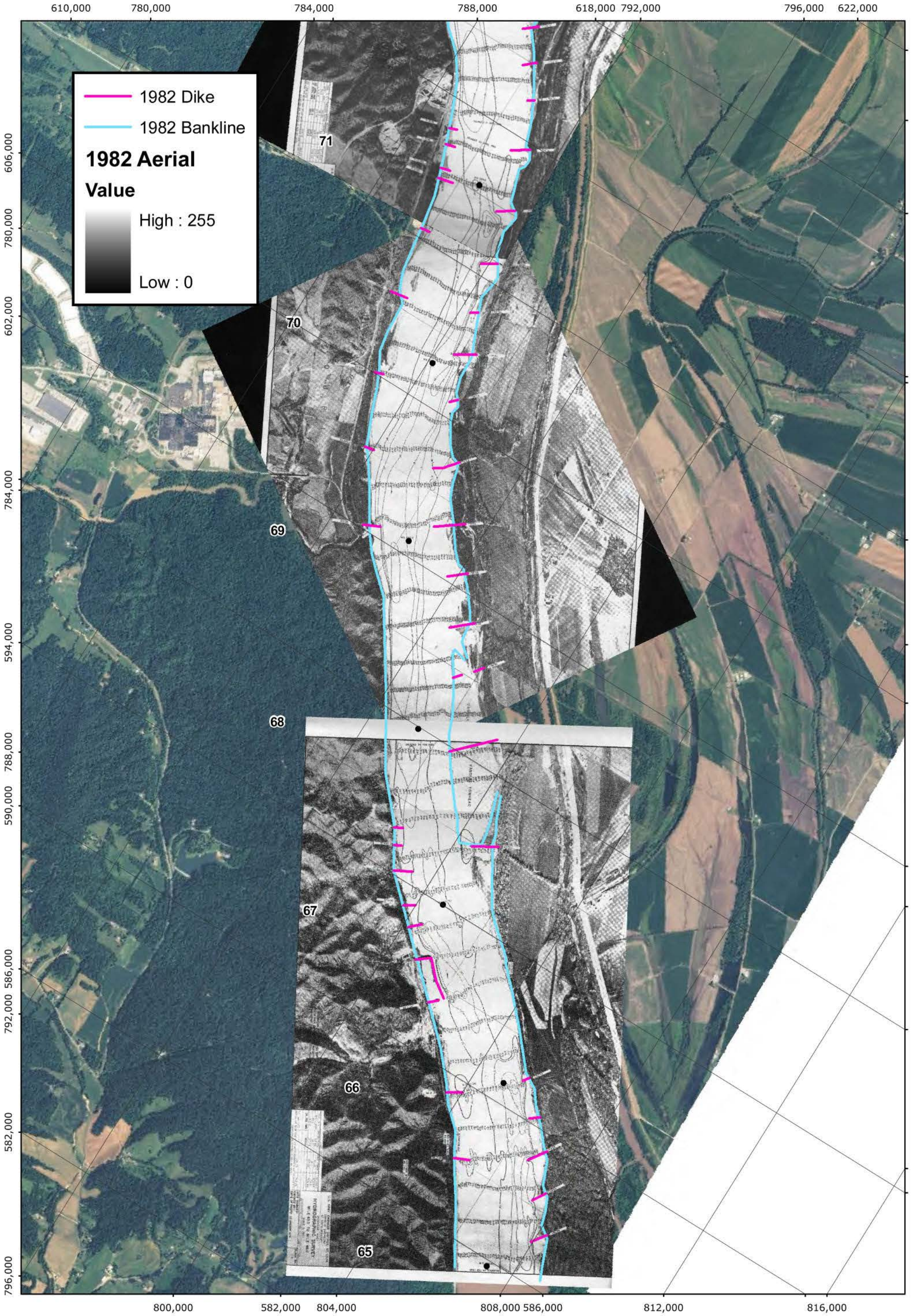

PLATE NUMBER 15

0 1,250 2,500 5,000 Feet

1982 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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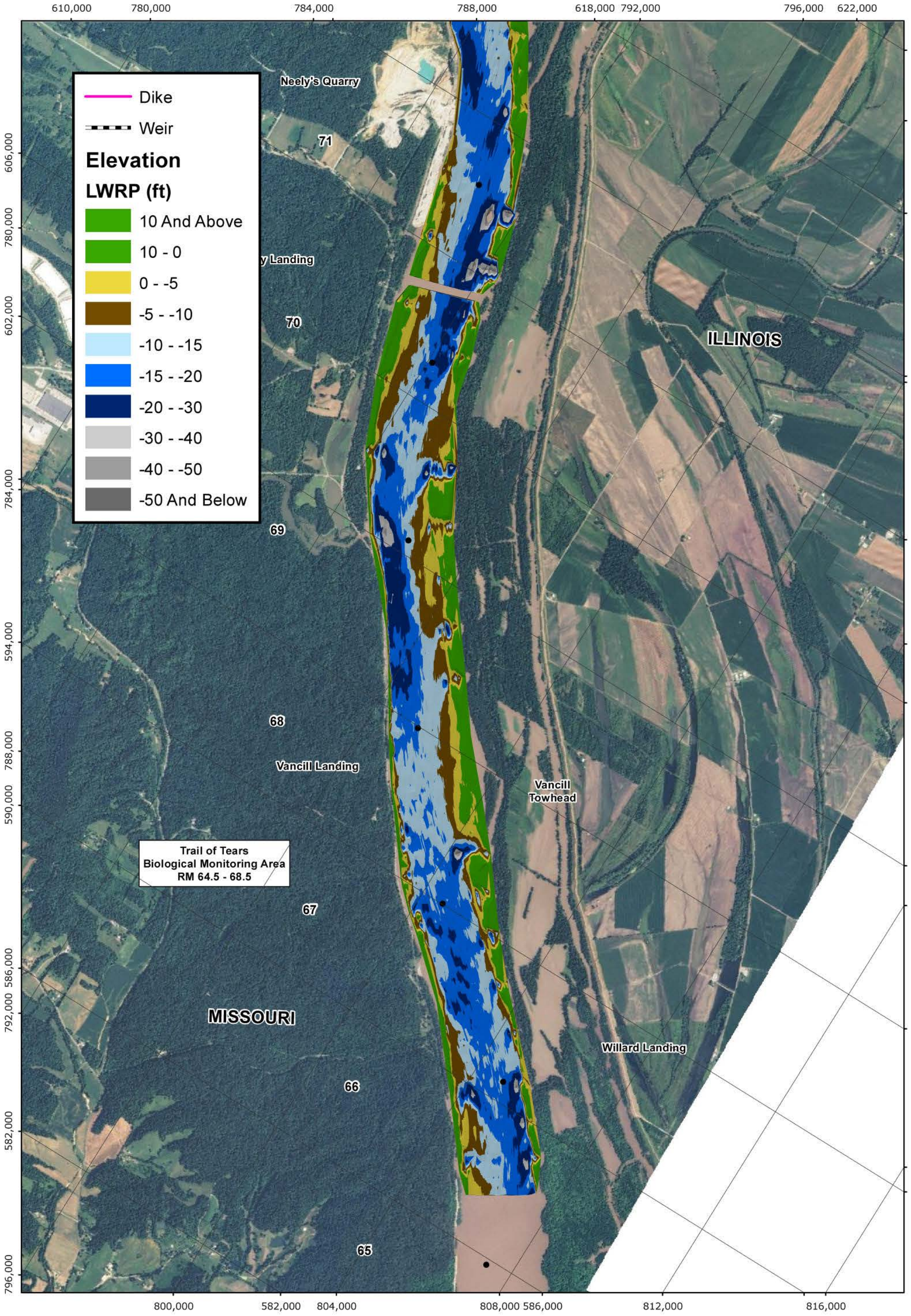

PLATE NUMBER 16

0 1,250 2,500 5,000 Feet

MARCH, 2007
COMPREHENSIVE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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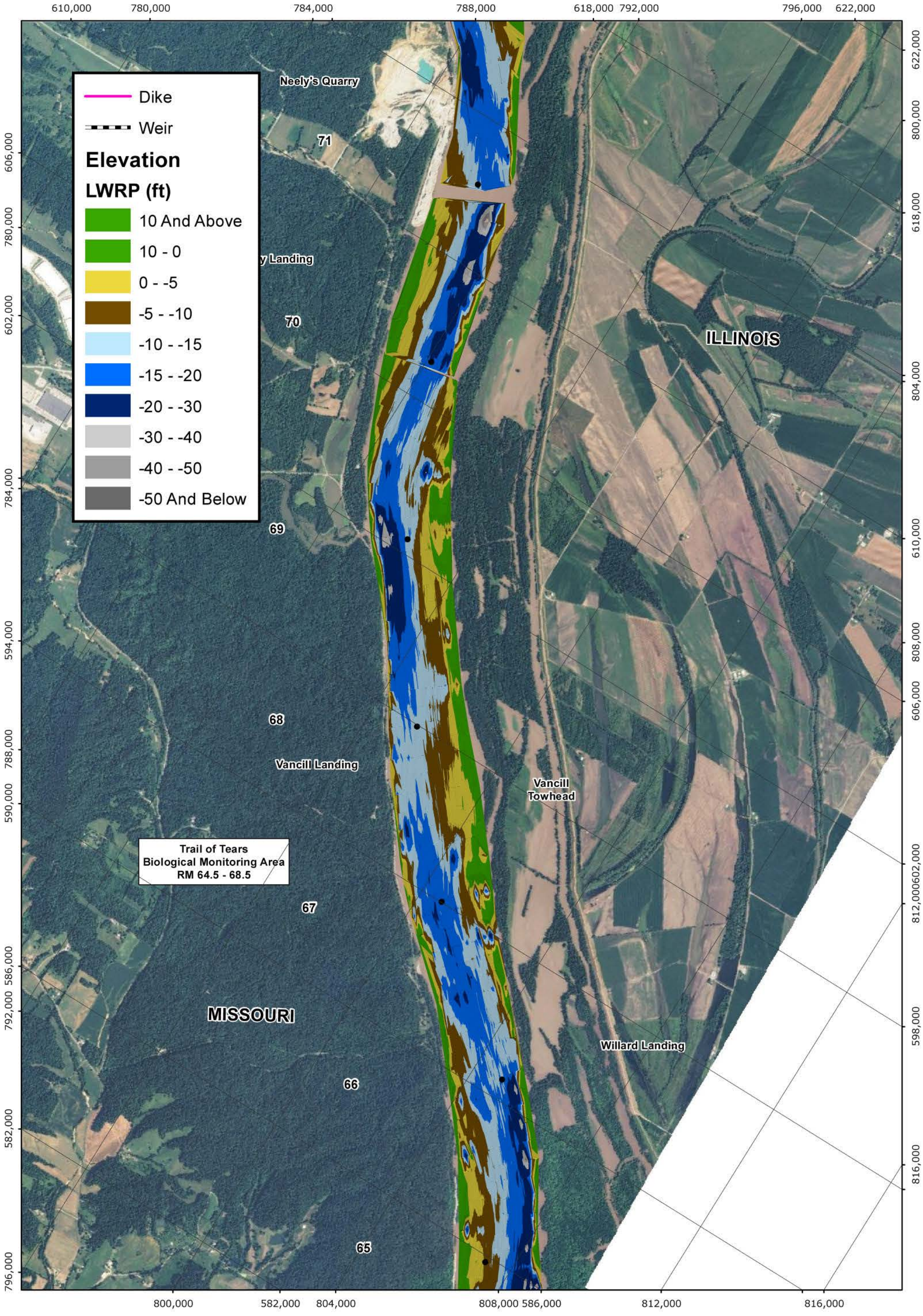

PLATE NUMBER 17

0 1,250 2,500 5,000 Feet

FEBRUARY, 2005
COMPREHENSIVE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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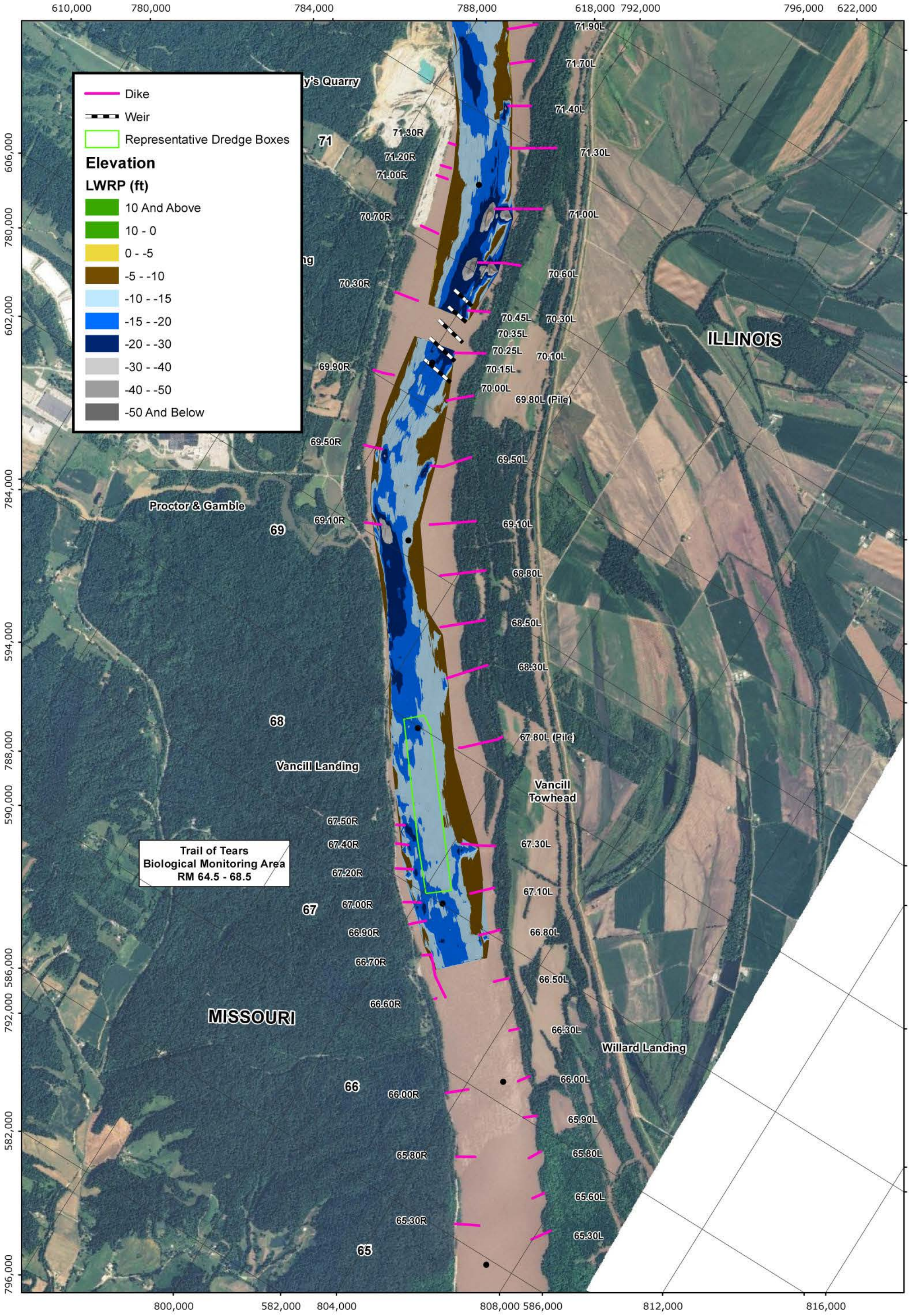

PLATE NUMBER 18

0 1,250 2,500 5,000 Feet

JANUARY, 2003
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

US Army Corps of Engineers
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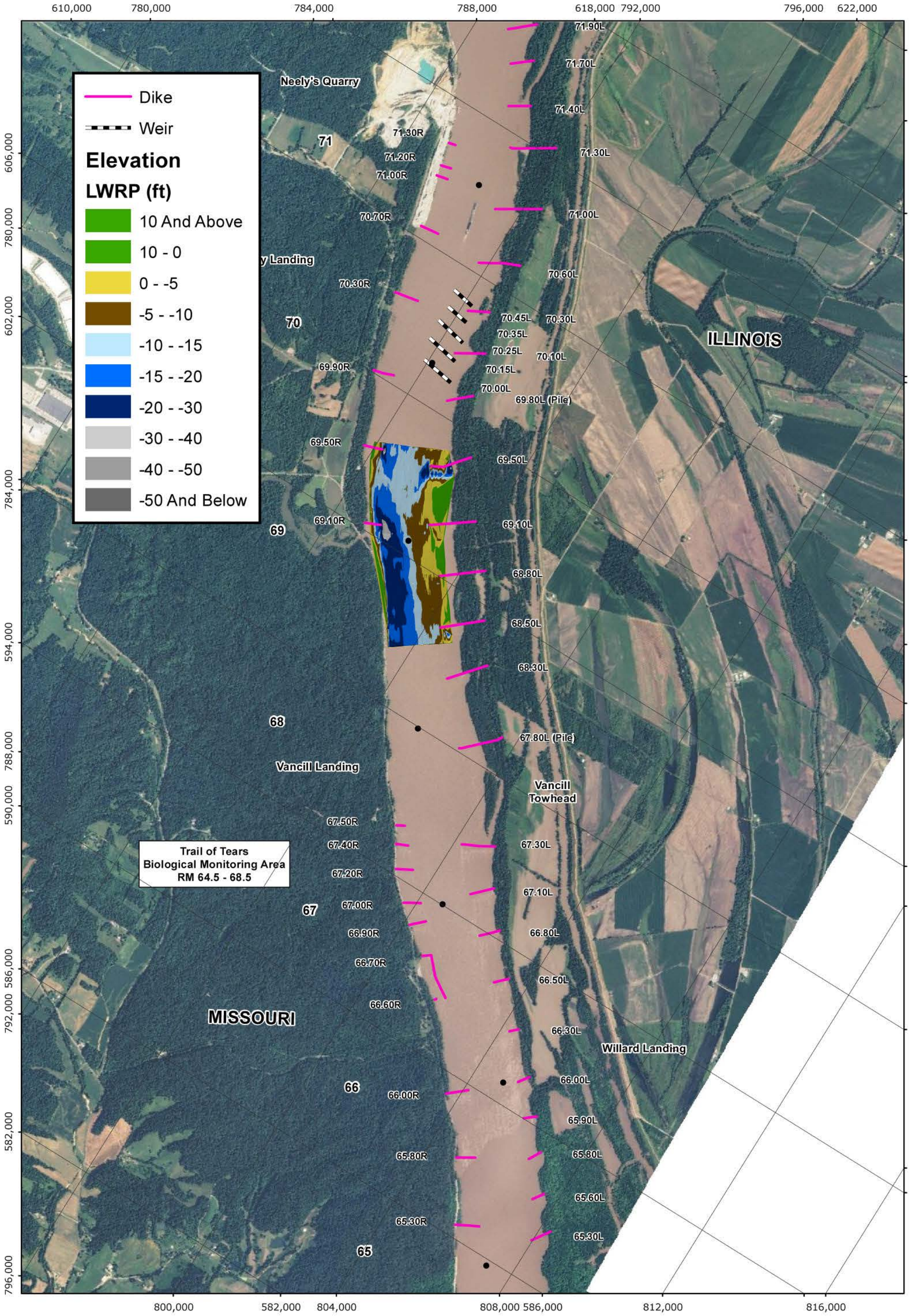

PLATE NUMBER 19

0 1,250 2,500 5,000 Feet

SEPTEMBER, 2004
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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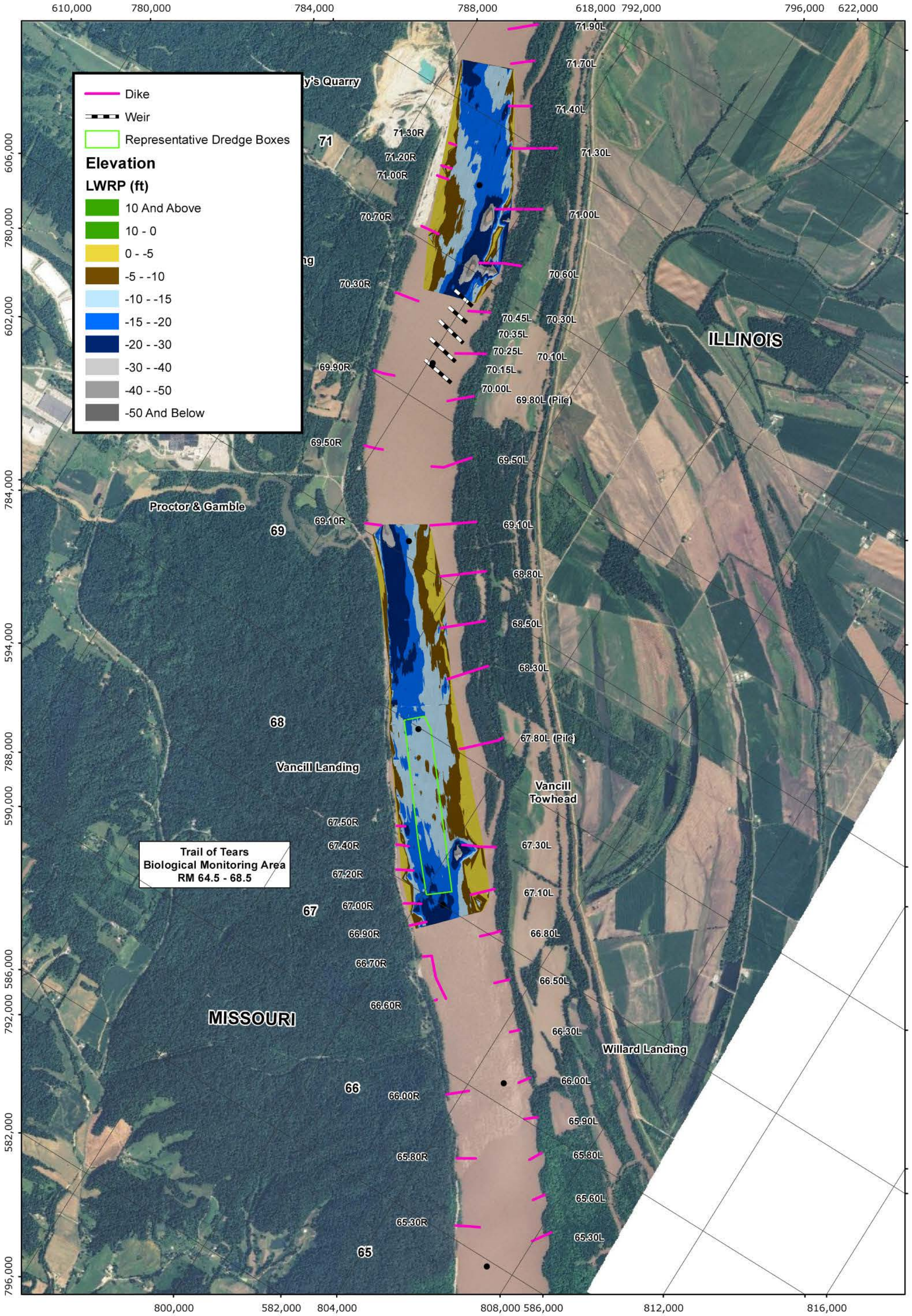

PLATE NUMBER 20

0 1,250 2,500 5,000 Feet

AUGUST, 2005
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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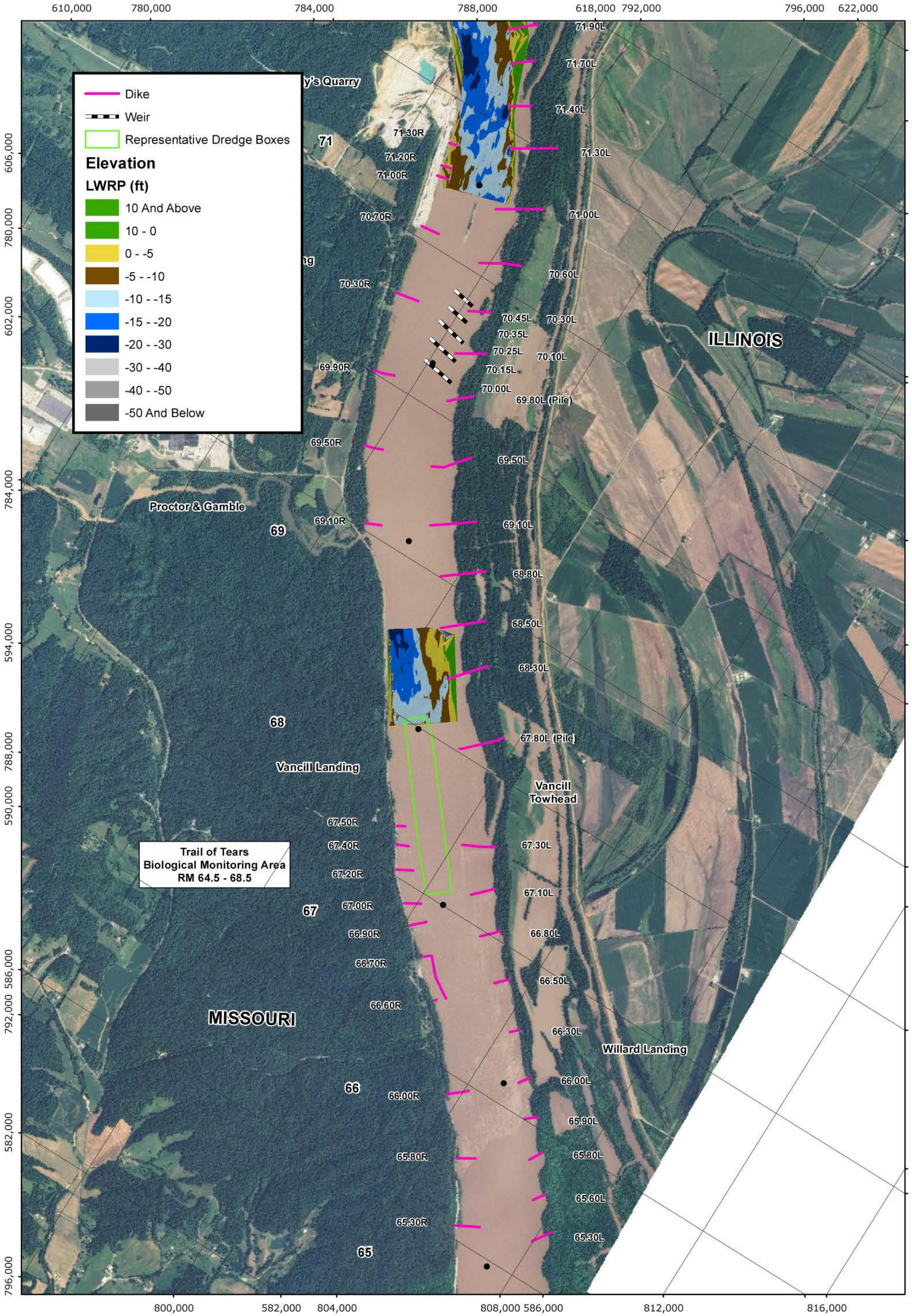

PLATE NUMBER 21

0 1,250 2,500 5,000 Feet

JUNE, 2006
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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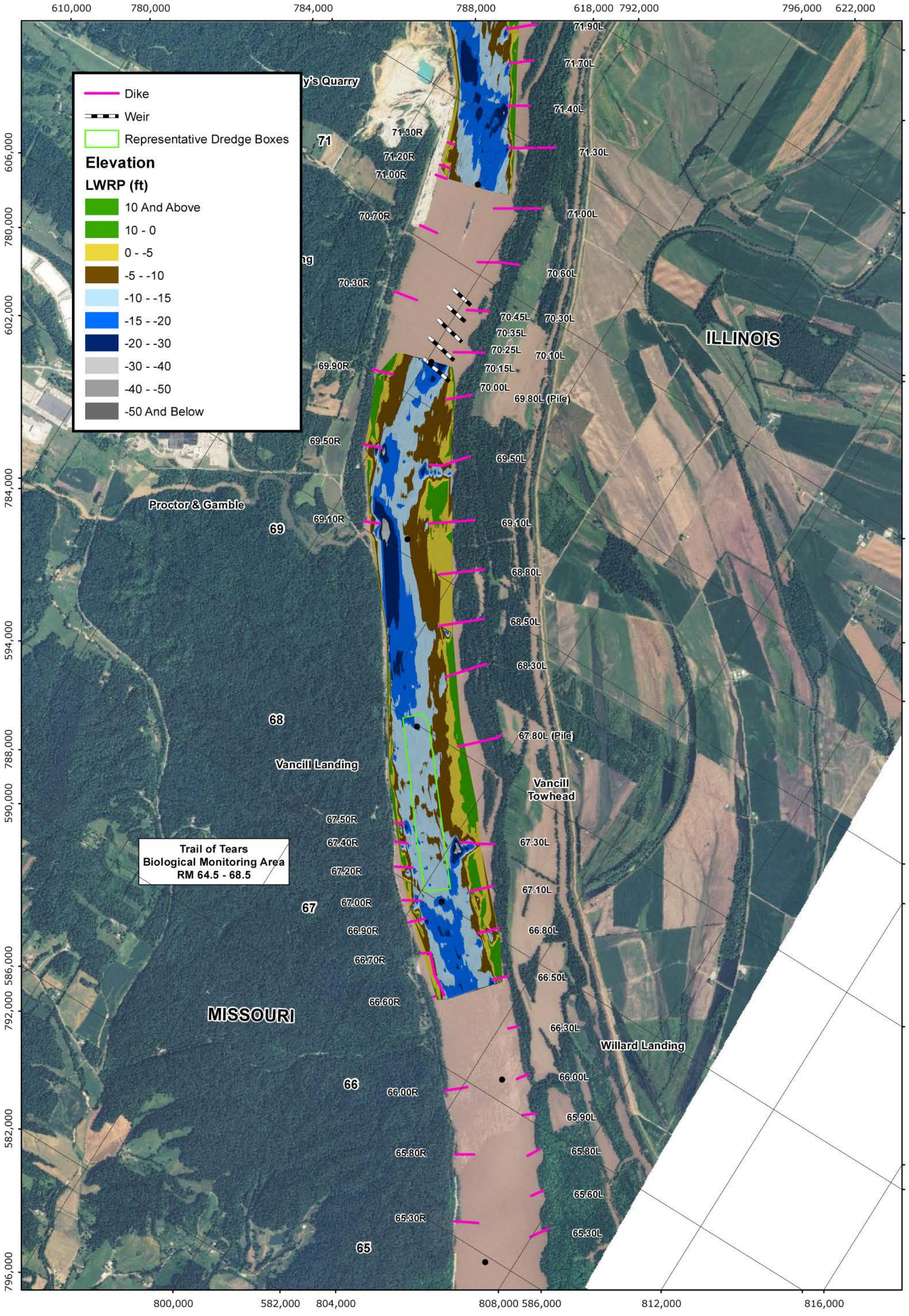

PLATE NUMBER 22

0 1,250 2,500 5,000 Feet

OCTOBER, 2007
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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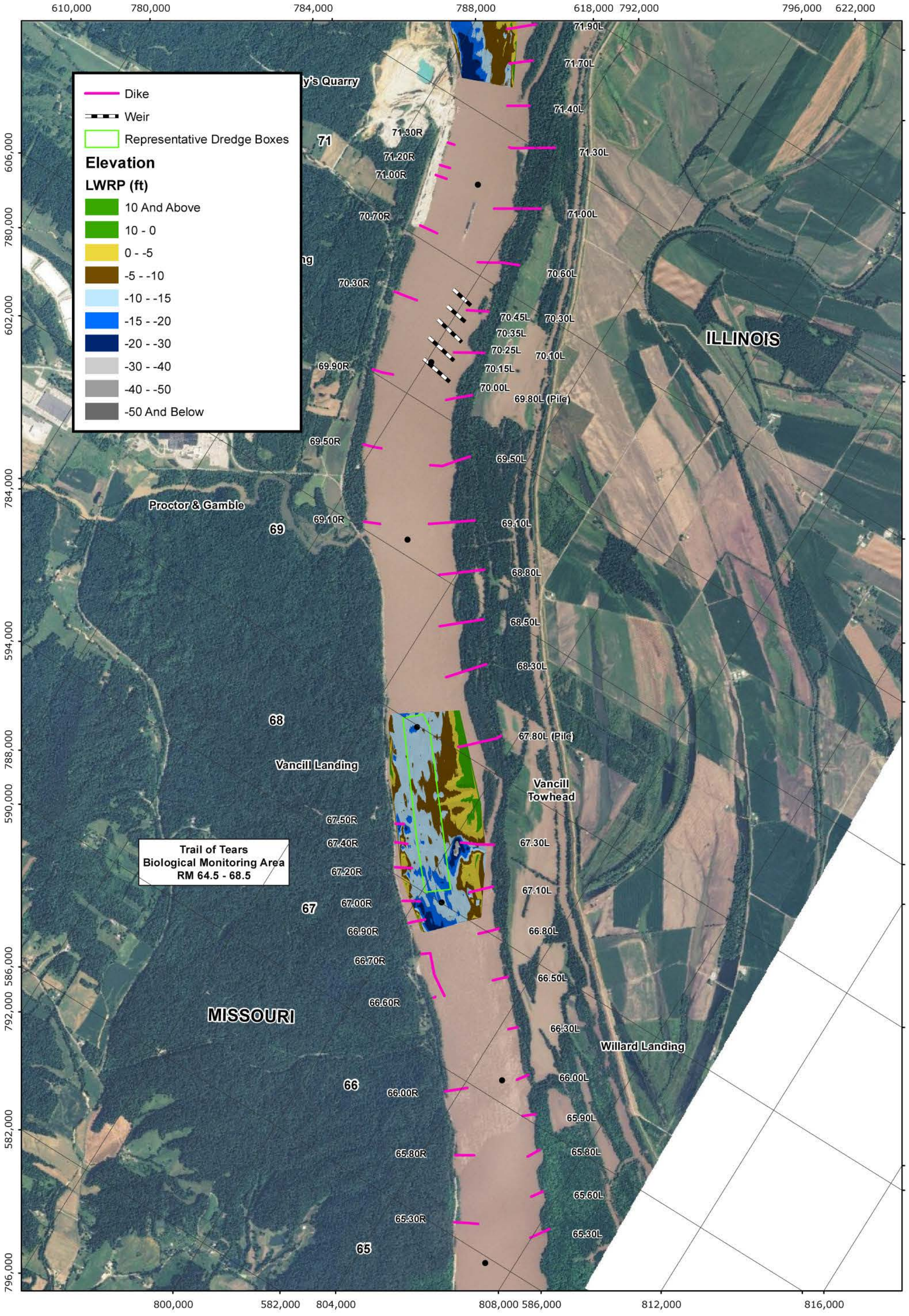

PLATE NUMBER 23

0 1,250 2,500 5,000 Feet

NOVEMBER, 2008
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

APPLIED RIVER ENGINEERING CENTER

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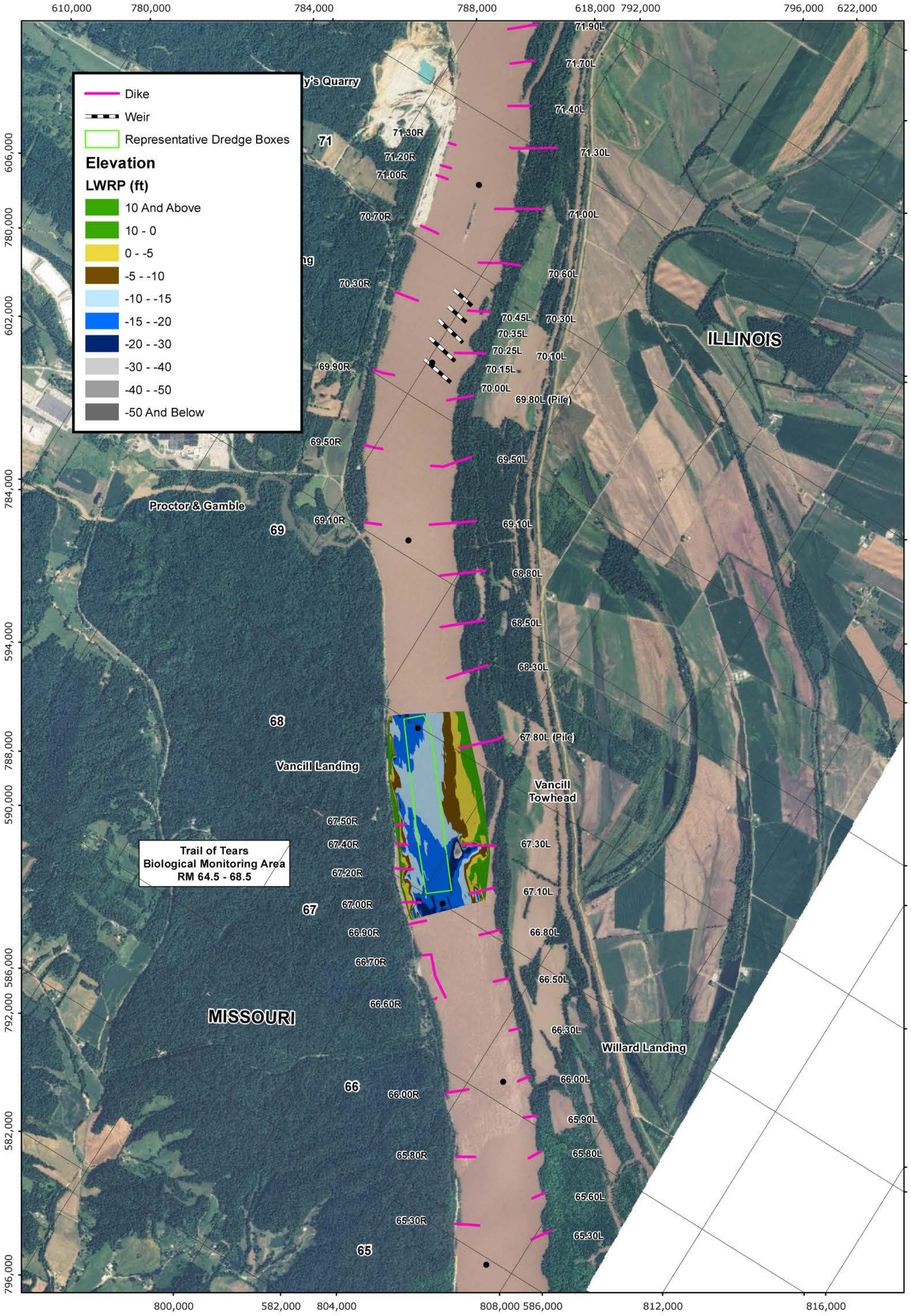

PLATE NUMBER 24

0 1,250 2,500 5,000 Feet

DECEMBER, 2009
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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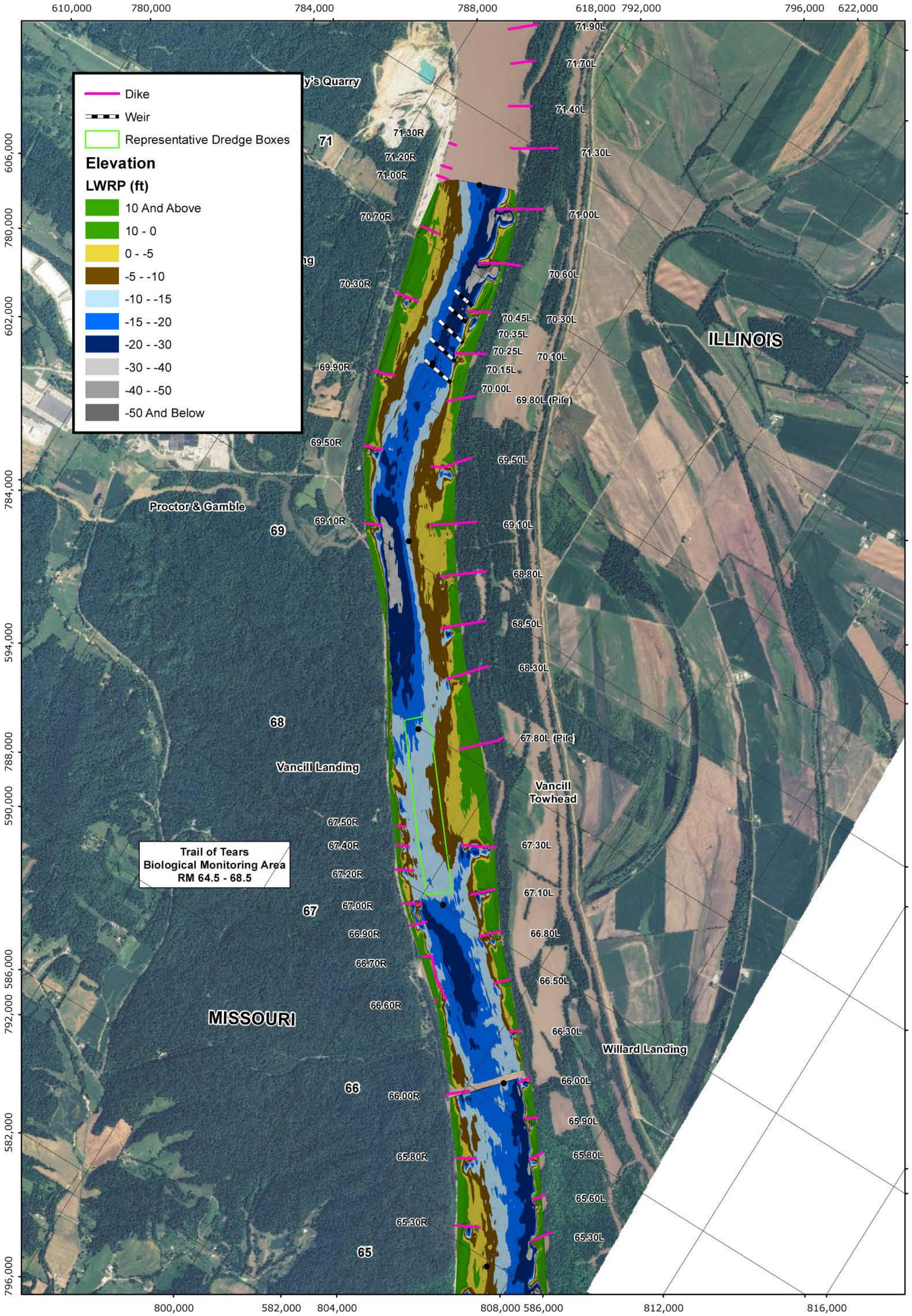

PLATE NUMBER 25

0 1,250 2,500 5,000 Feet

SEPTEMBER, 2010
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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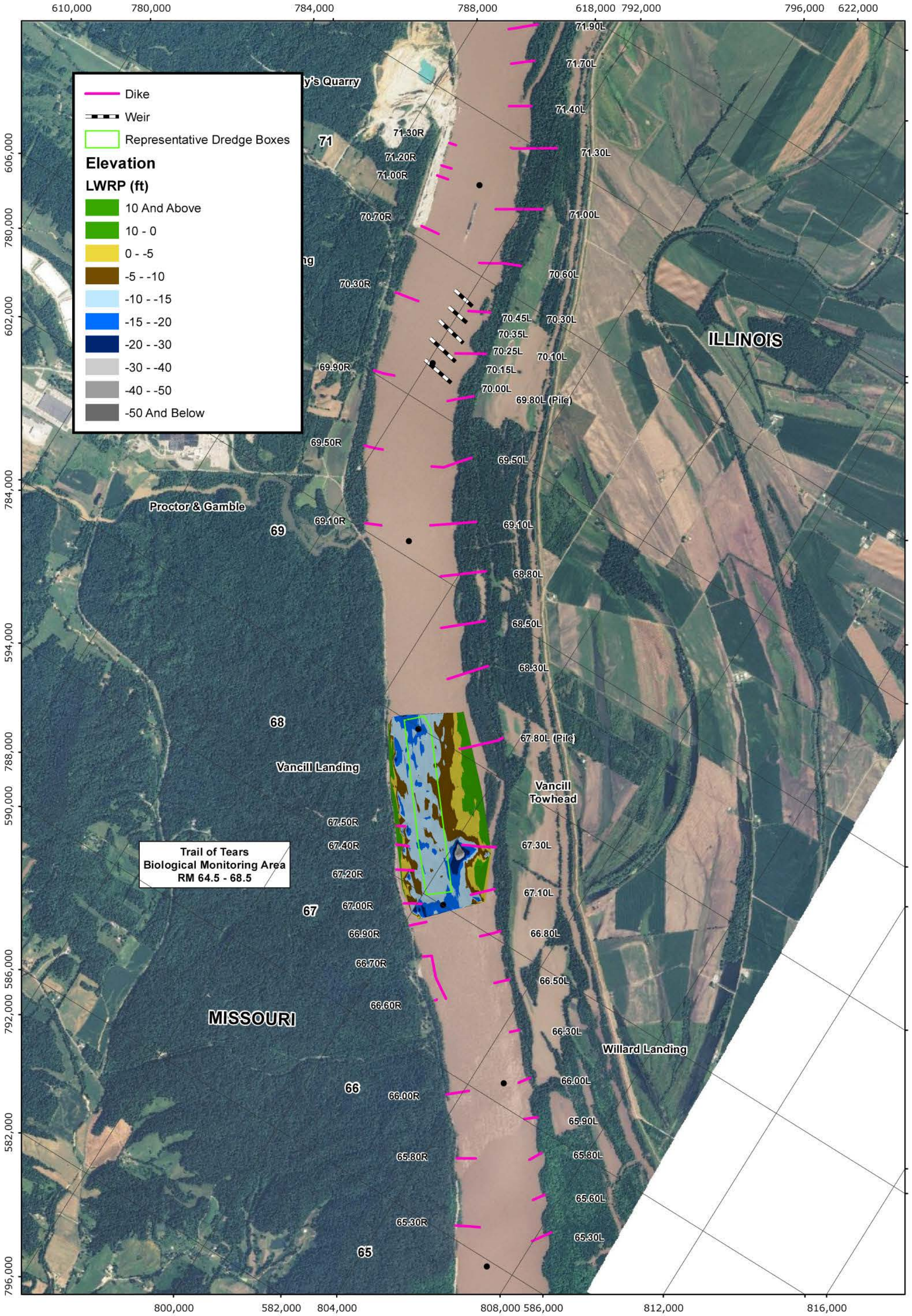

PLATE NUMBER 26

0 1,250 2,500 5,000 Feet

SEPTEMBER, 2011
PRE-DREDGE SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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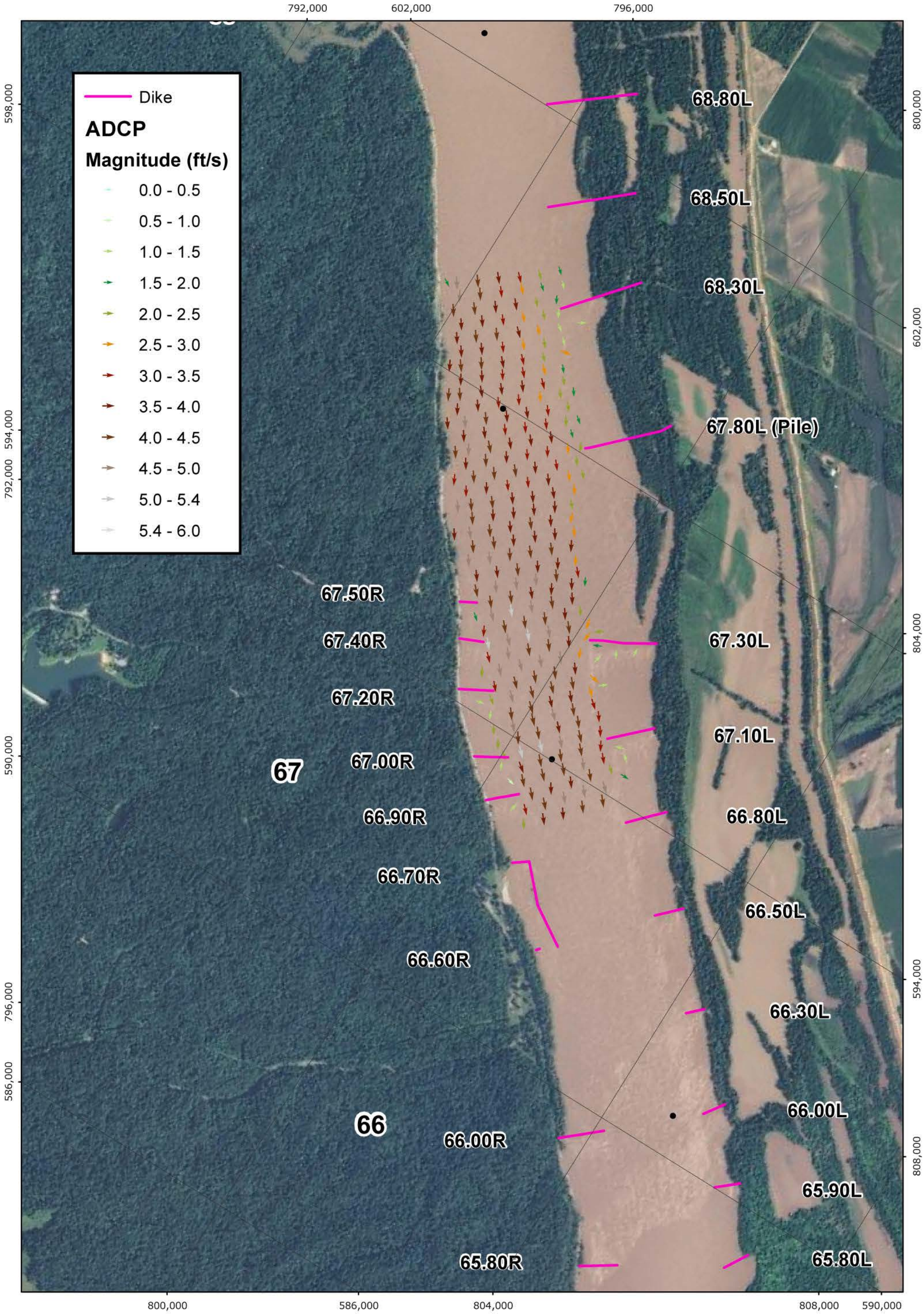

PLATE NUMBER 27

0 625 1,250 2,500 Feet

NOVEMBER, 2011
ADCP SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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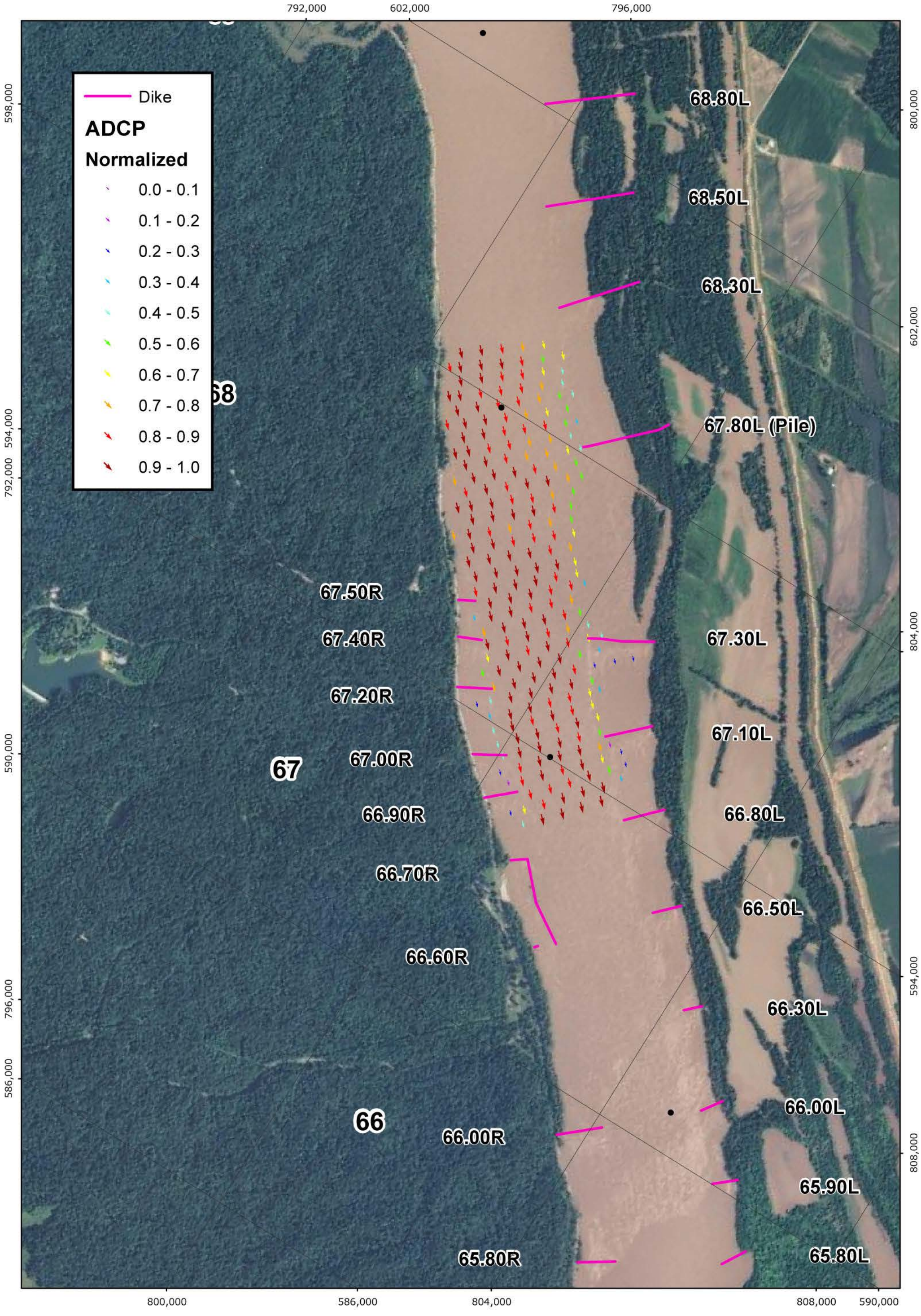

PLATE NUMBER 28

0 625 1,250 2,500 Feet

NOVEMBER, 2011
NORMALIZED ADCP SURVEY

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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Photograph 1: Looking upstream at Dike 67.30 along the LDB

Photograph 2: Inside Vancill Towhead Side Channel (Looking Upstream)

Photograph 3: Inside Vancill Towhead Side Channel (Looking Upstream)

Photograph 4: Vancill Towhead Entrance (Looking Downstream)

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PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

OCTOBER, 2011
FIELD VISIT PART 1

PLATE NUMBER
29

Photograph 1: Looking Downstream Inside Vancill Towhead Side Channel

Photograph 2: Looking Downstream at Dike 67.30L

Photograph 3: Vancill Towhead LDB Bankline

Photograph 4: Pile Dike 67.80L

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SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

OCTOBER, 2011
FIELD VISIT PART 2

PLATE NUMBER
30

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FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

HSR MODEL PHOTOGRAPH

PLATE NUMBER 31

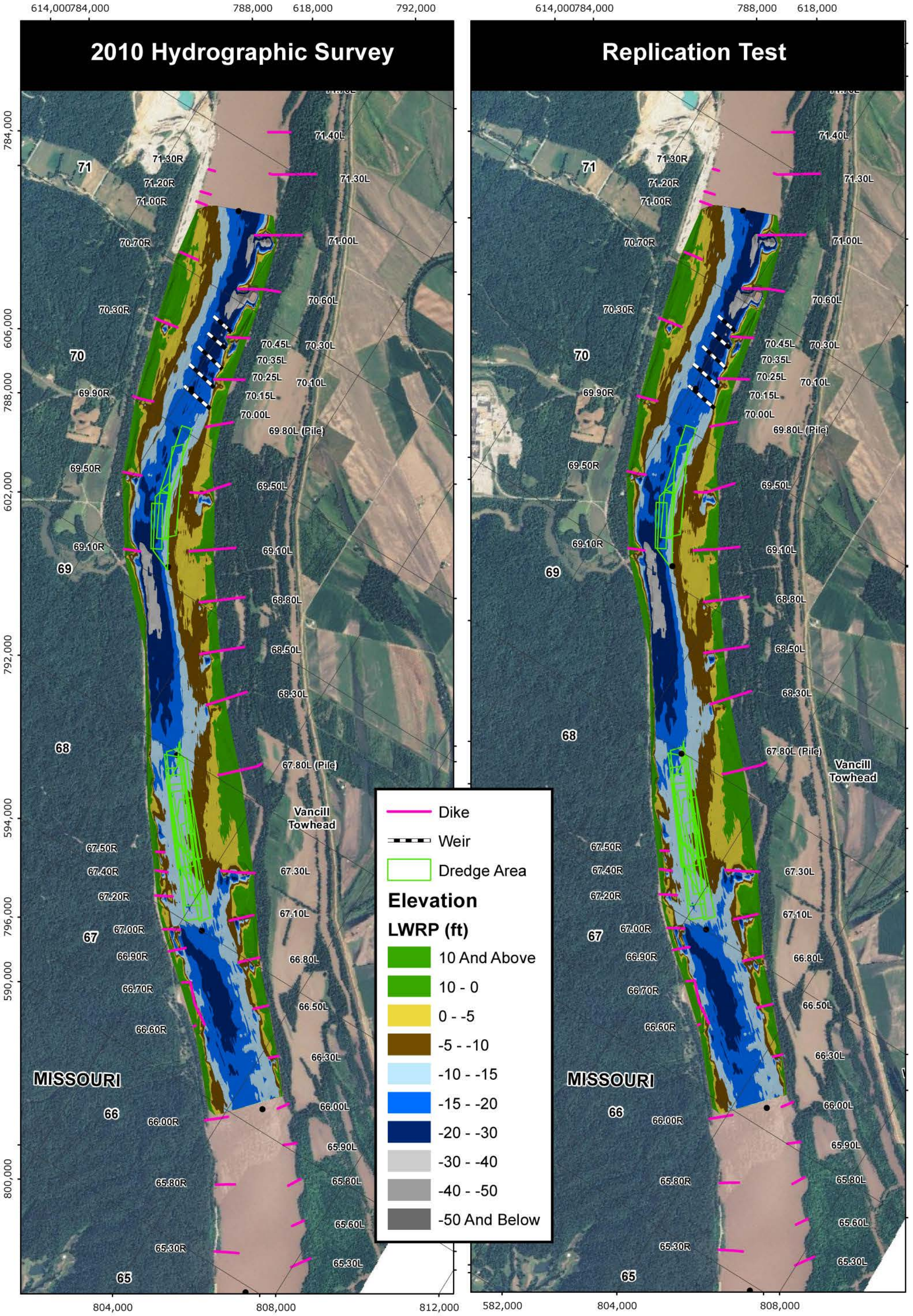

PLATE NUMBER 32

REPLICATION TEST

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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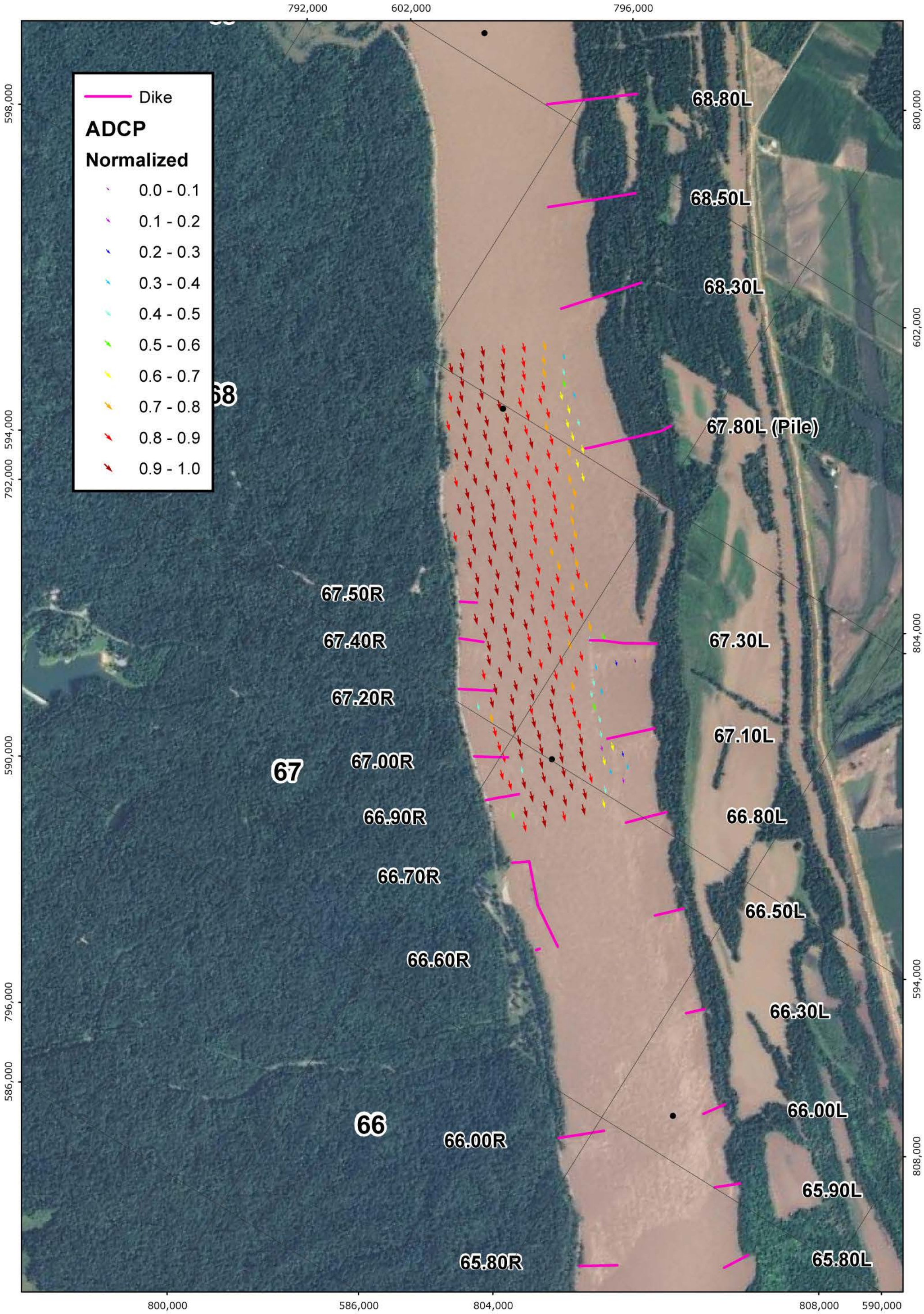

PLATE NUMBER 33

0 625 1,250 2,500 Feet

MODEL LDV NORMALIZED

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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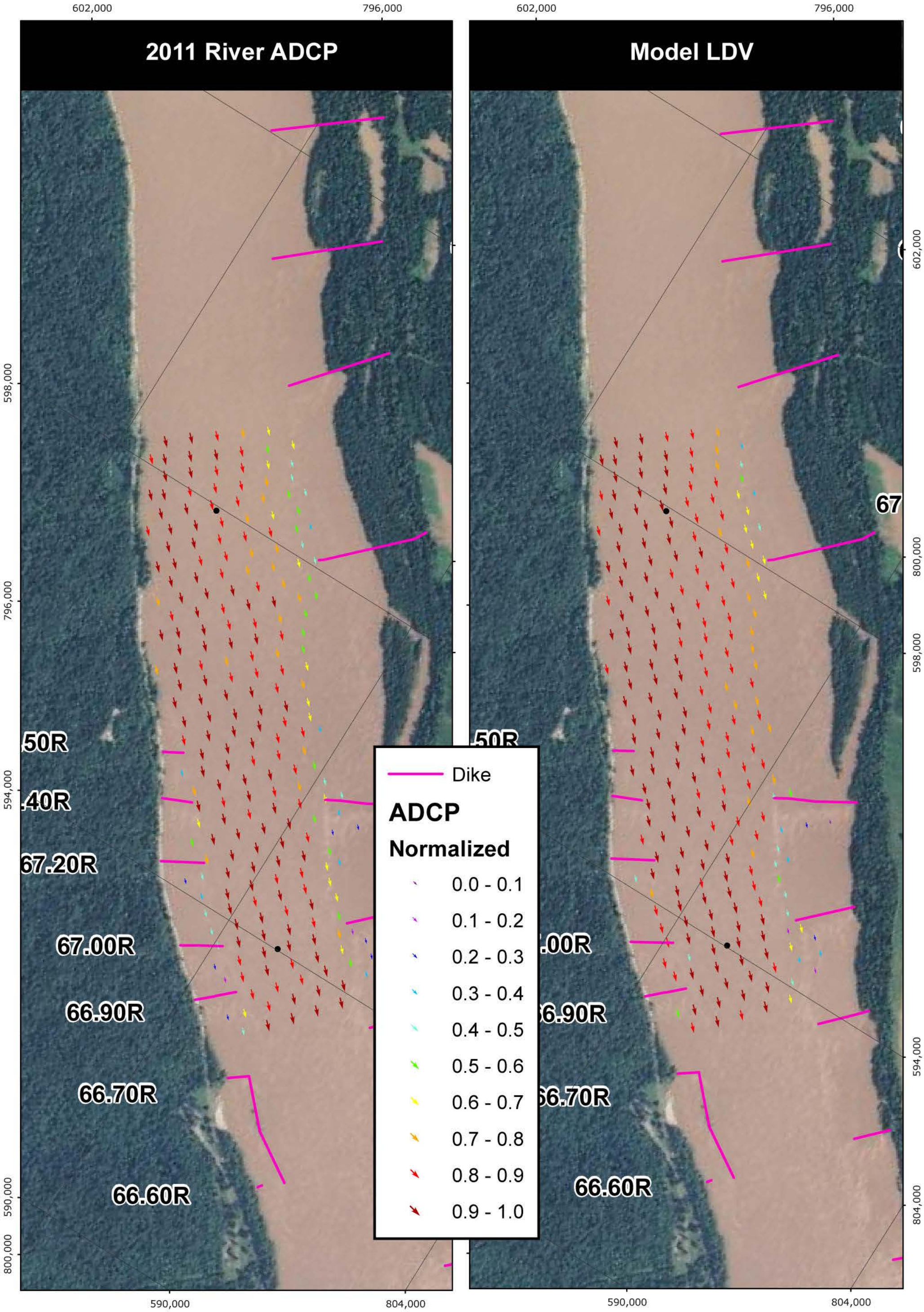

PLATE NUMBER 34

0 500 1,000 2,000 Feet

2011 ADCP
MODEL LDV

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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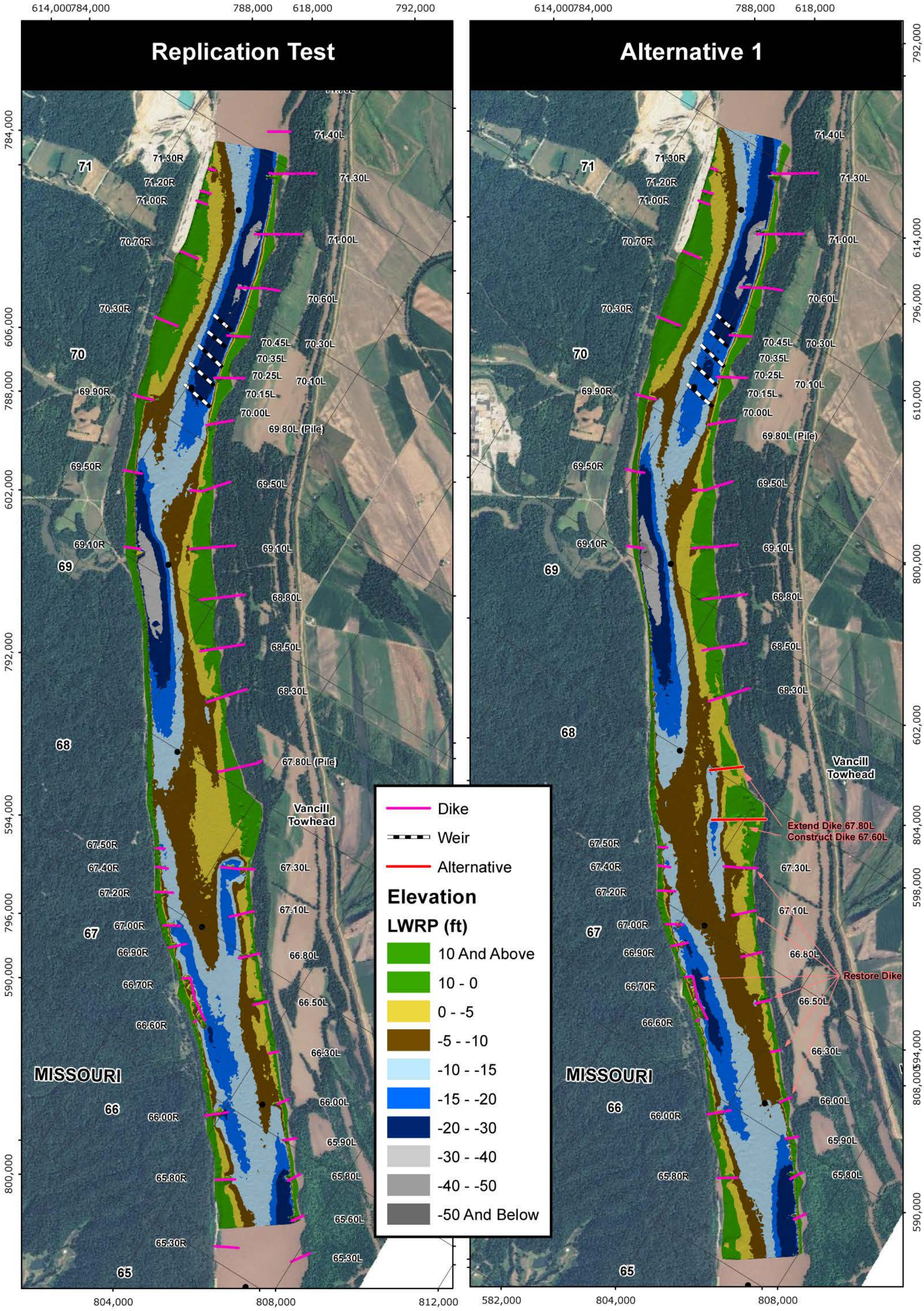

PLATE NUMBER 35

0 1,250 2,500 5,000 Feet

ALTERNATIVE 1

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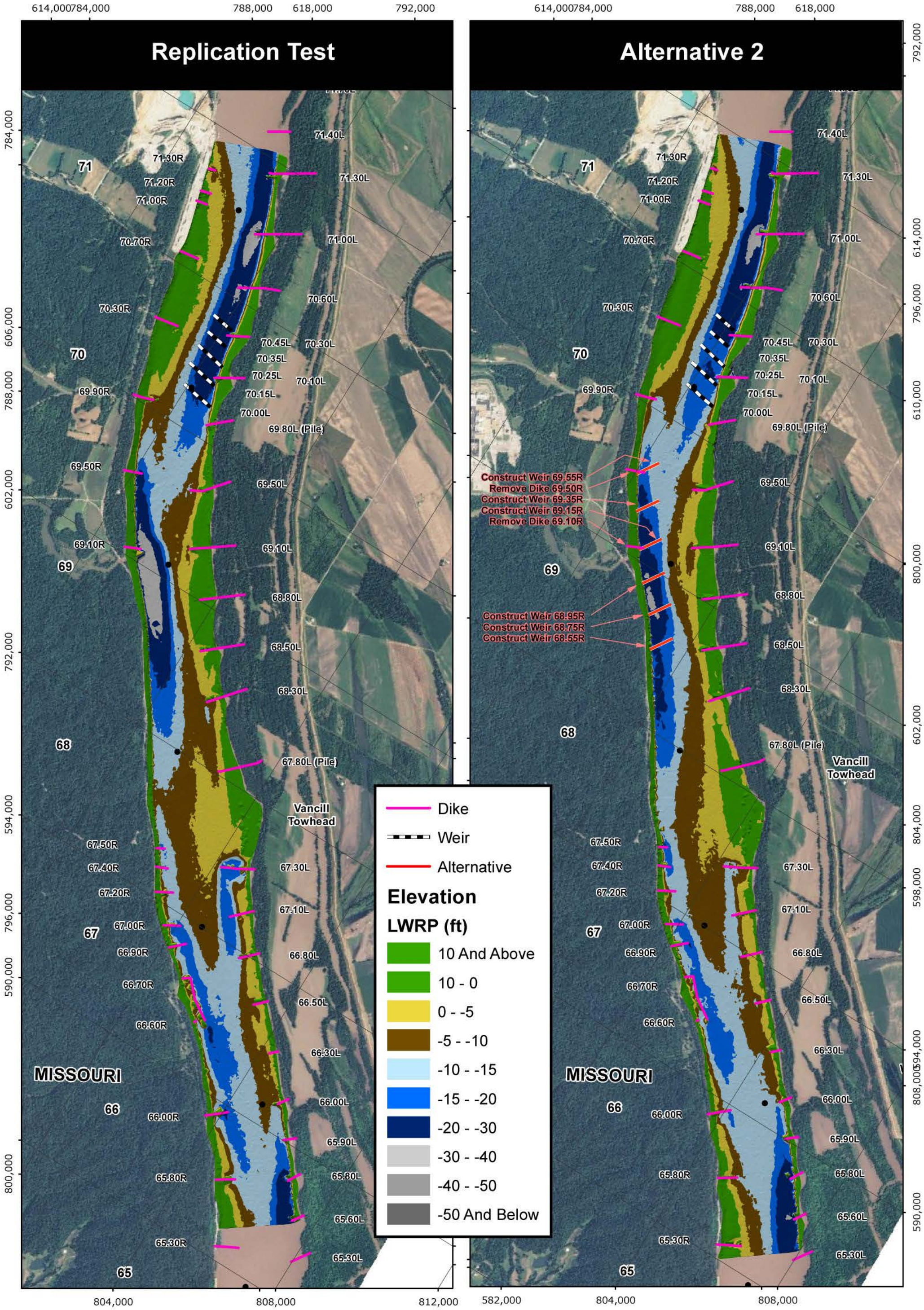

PLATE NUMBER 36

0 1,250 2,500 5,000 Feet

ALTERNATIVE 2

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MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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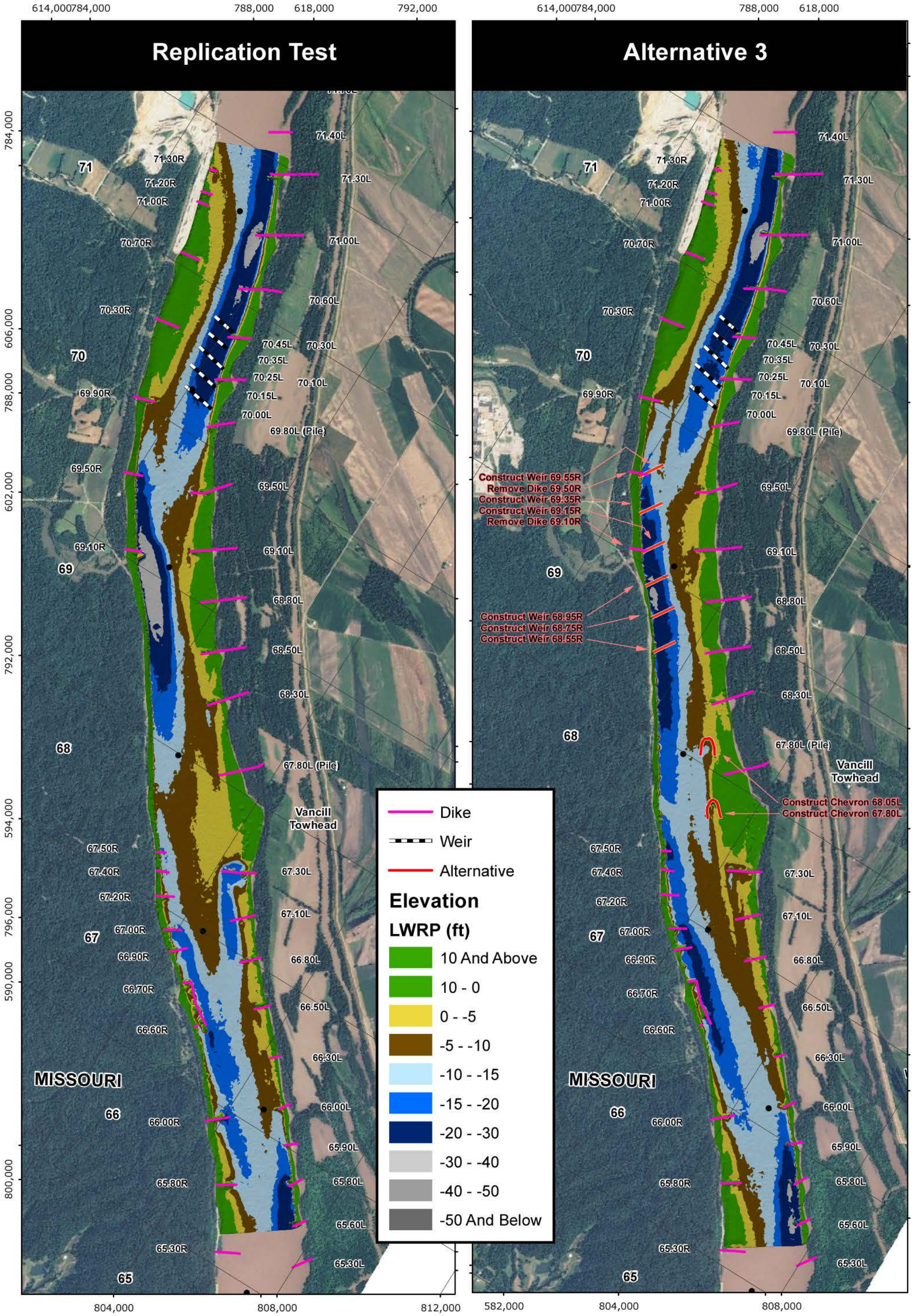

PLATE NUMBER 37

0 1,250 2,500 5,000 Feet

ALTERNATIVE 3

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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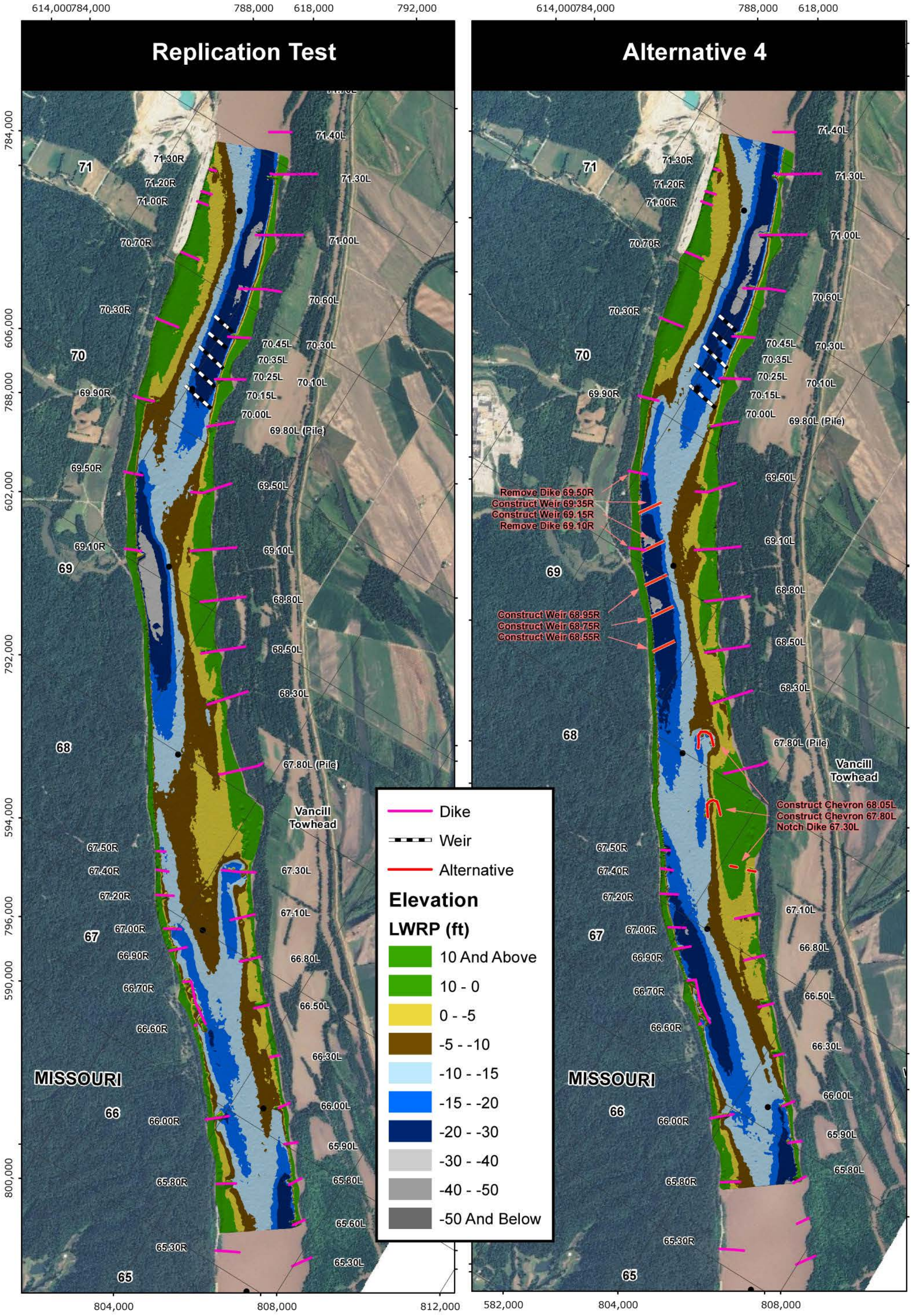

PLATE NUMBER 38

0 1,250 2,500 5,000 Feet

ALTERNATIVE 4

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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	FILENAME: VANCILLTOWHEAD.MDX	

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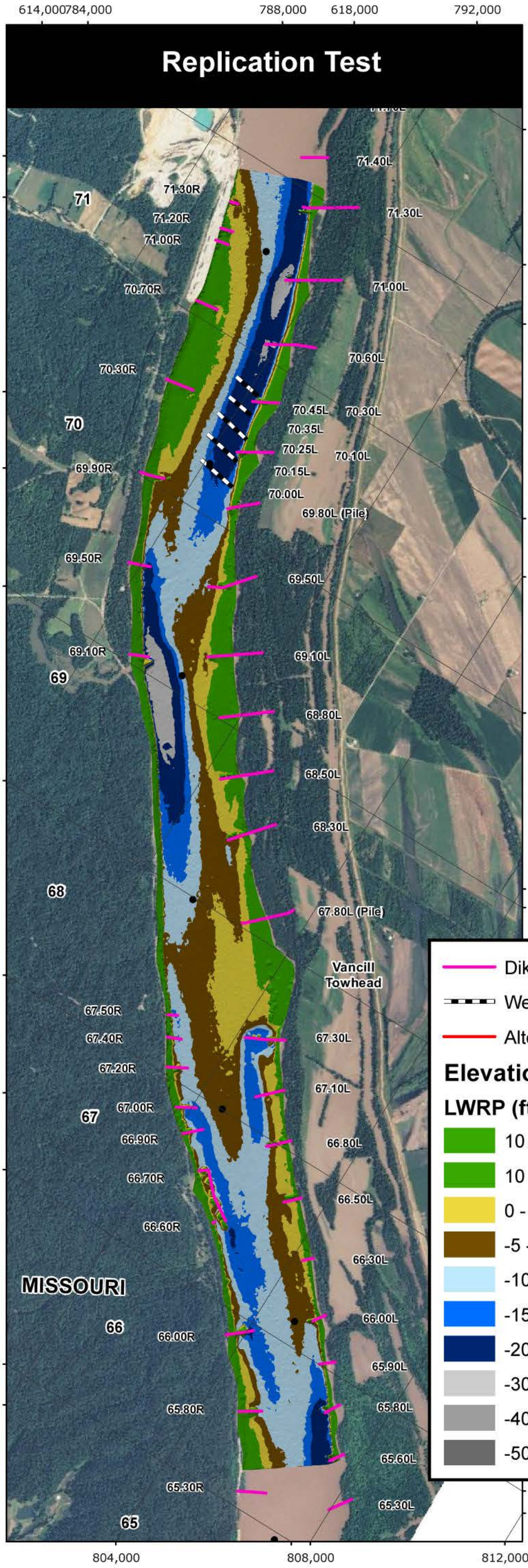

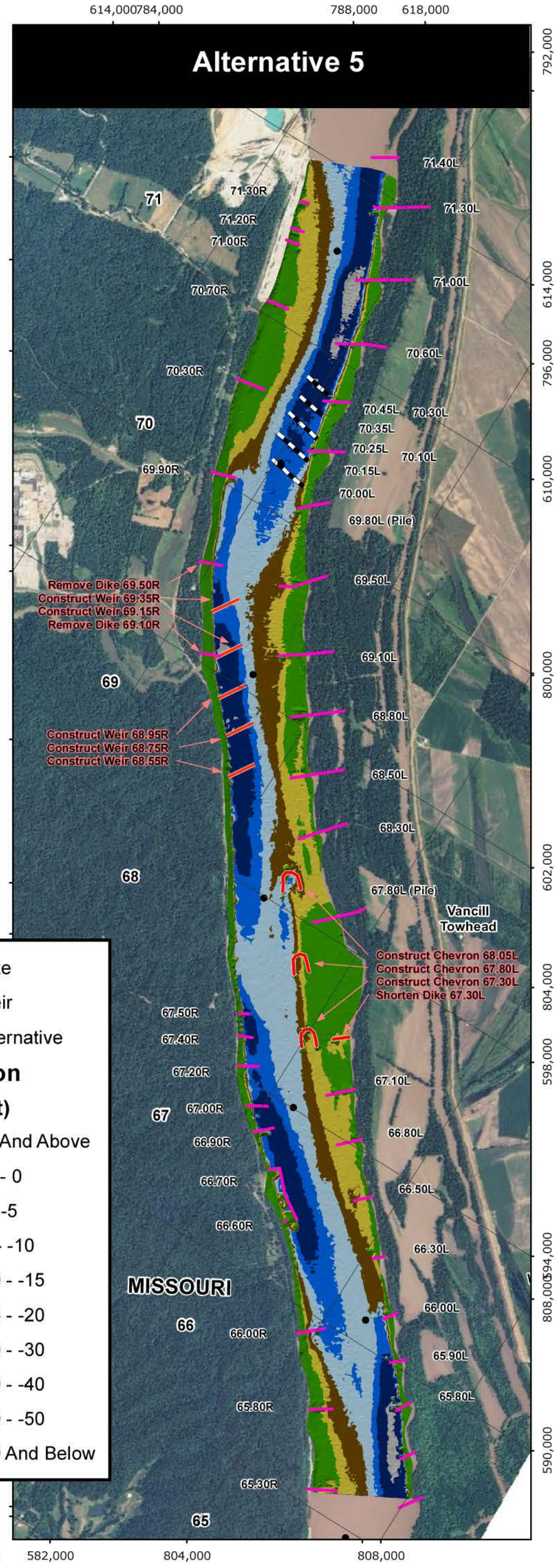

PLATE NUMBER 39

0 1,250 2,500 5,000 Feet

ALTERNATIVE 5

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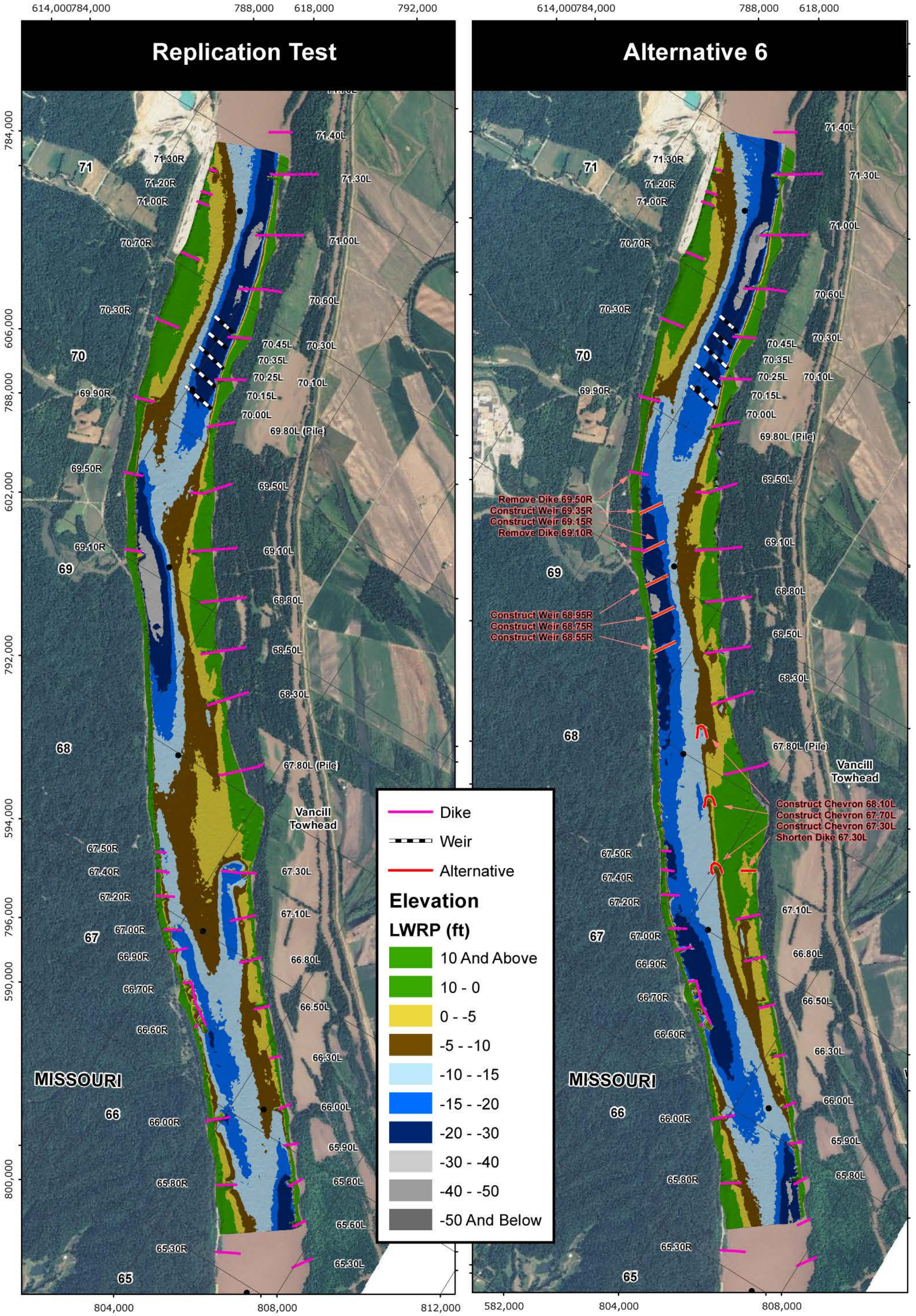

PLATE NUMBER 40

0 1,250 2,500 5,000 Feet

ALTERNATIVE 6

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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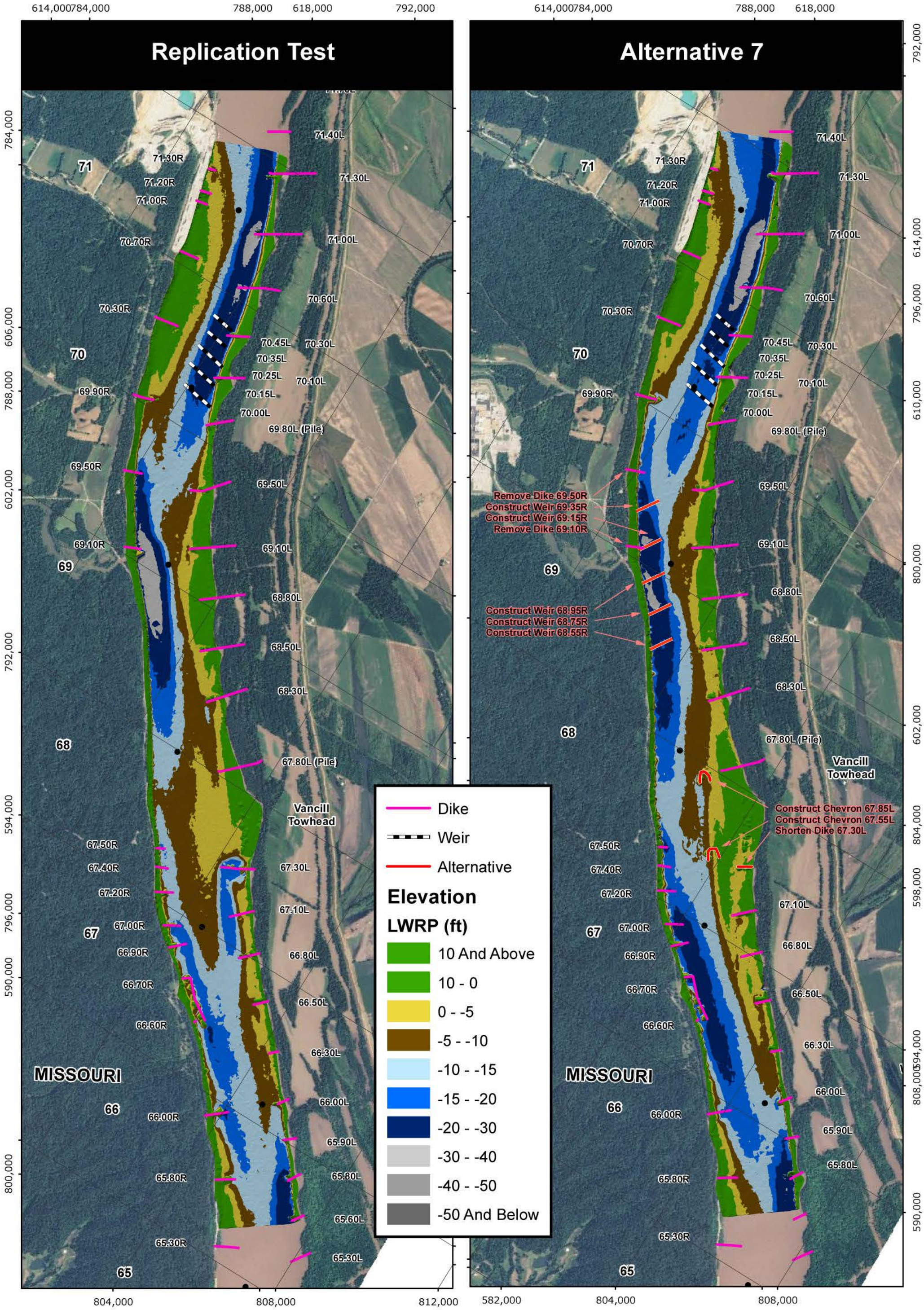

PLATE NUMBER 41

0 1,250 2,500 5,000 Feet

ALTERNATIVE 7

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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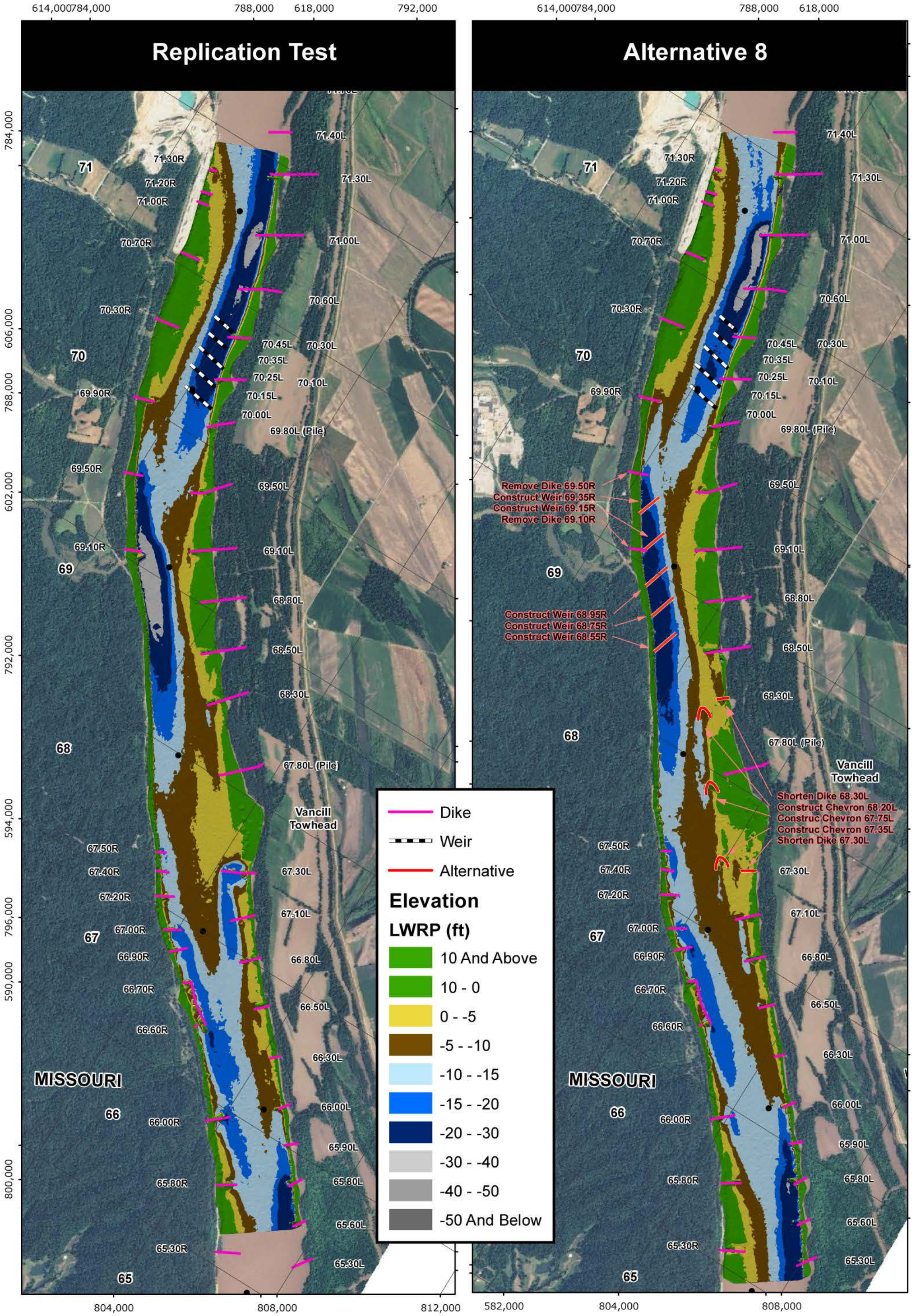

PLATE NUMBER 42

0 1,250 2,500 5,000 Feet

ALTERNATIVE 8

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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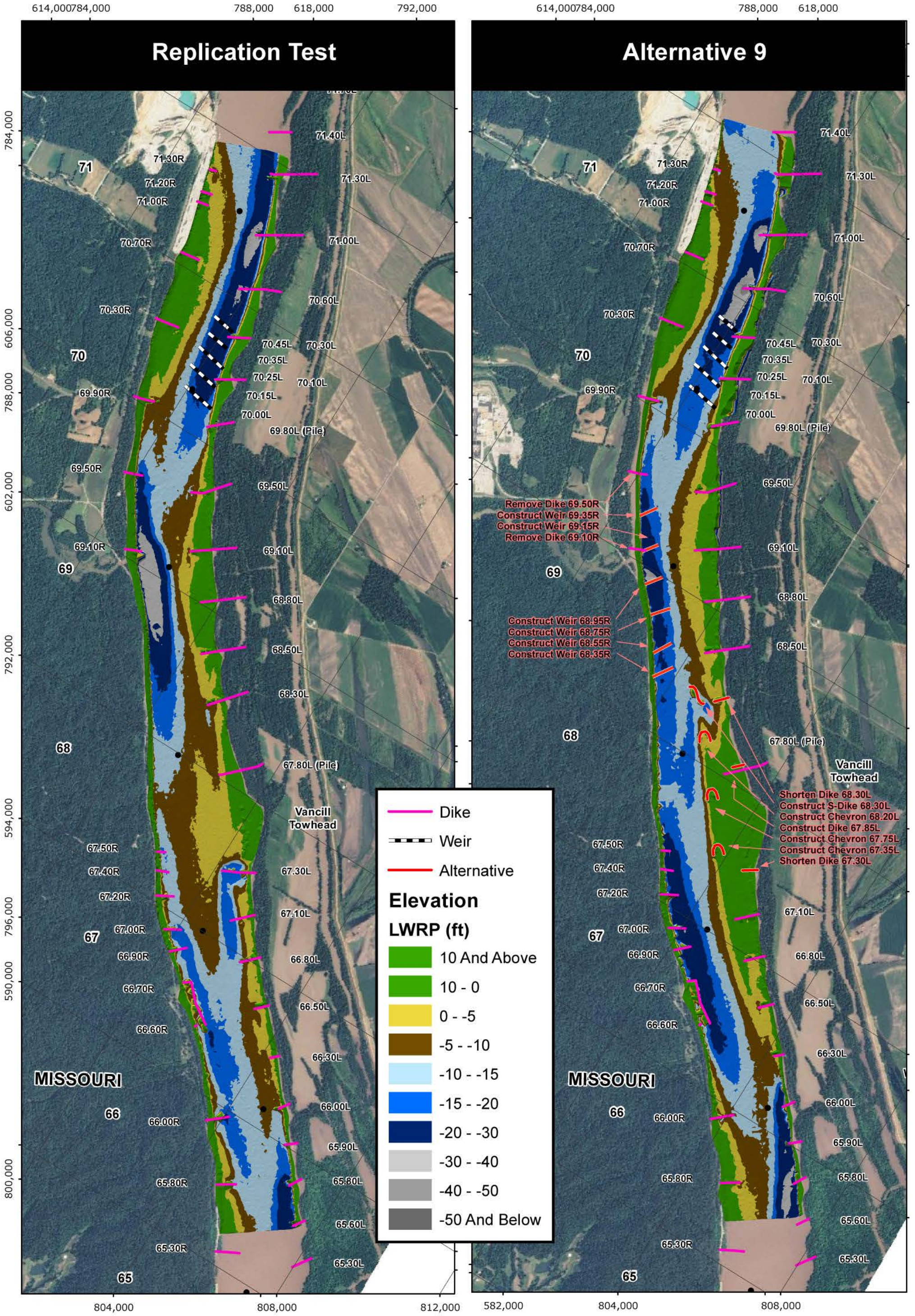

PLATE NUMBER 43

0 1,250 2,500 5,000 Feet

ALTERNATIVE 9

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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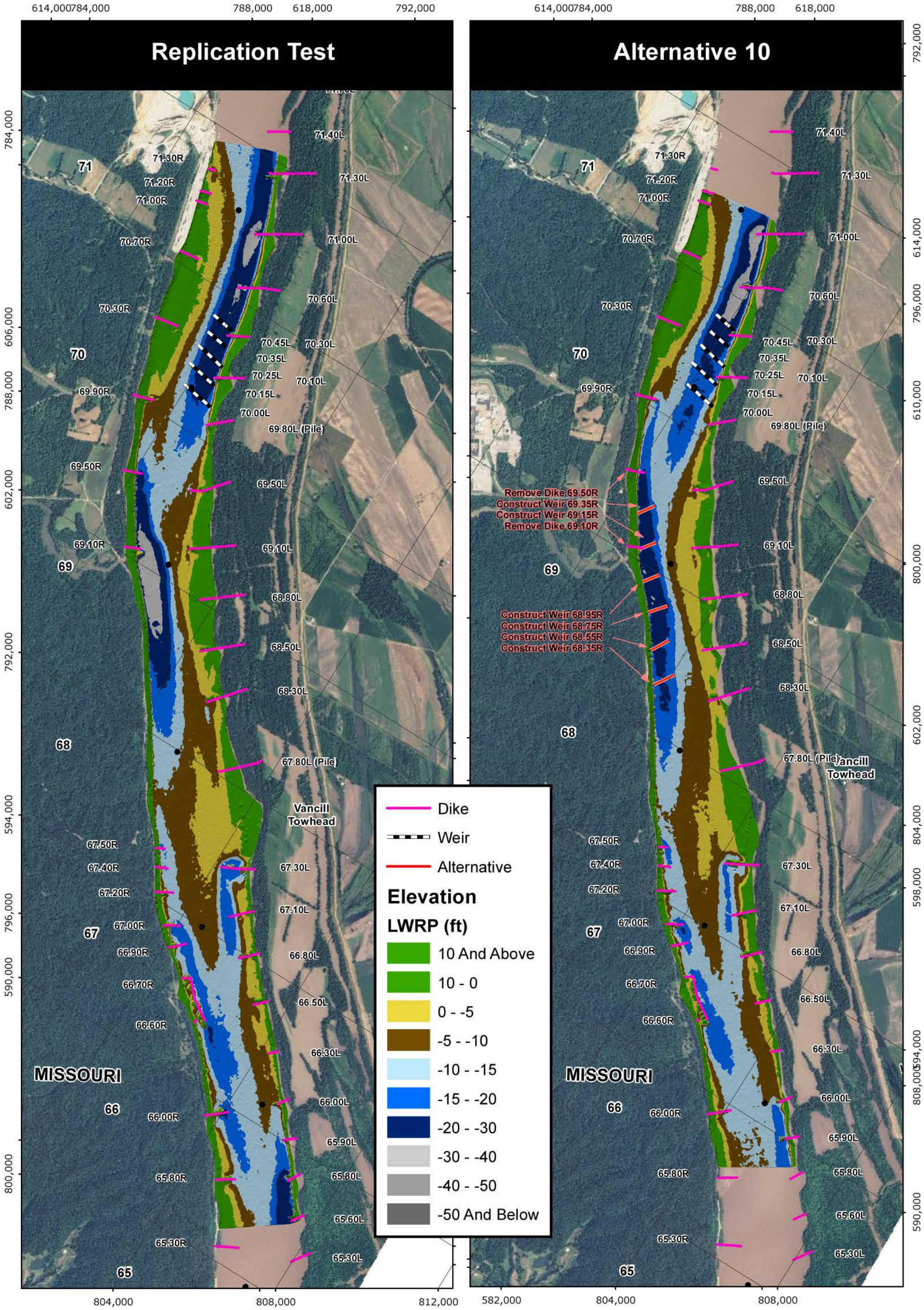

PLATE NUMBER 44

0 1,250 2,500 5,000 Feet

ALTERNATIVE 10

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
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	FILENAME: VANCILLTOWHEAD.MDX	

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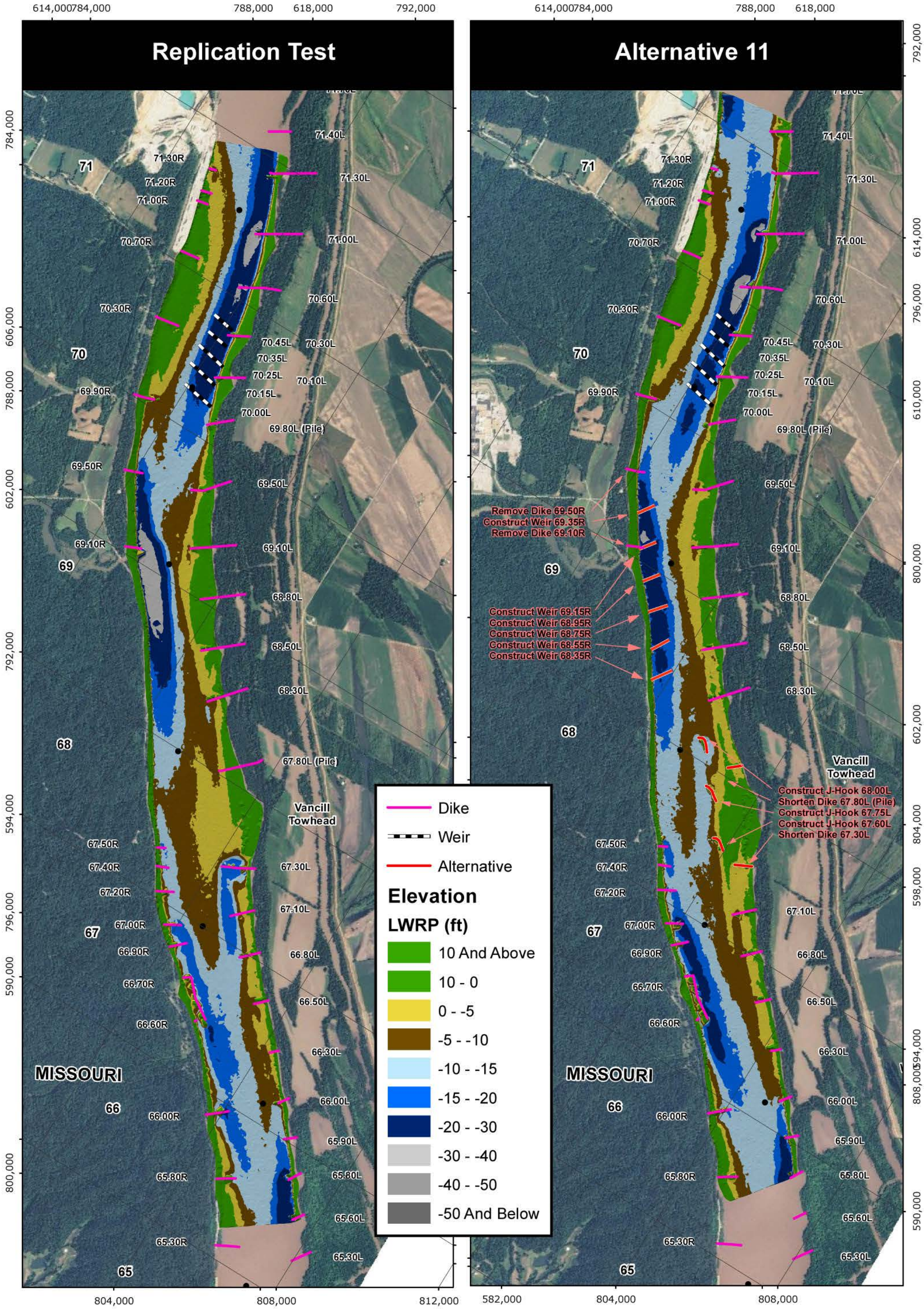

PLATE NUMBER 45

0 1,250 2,500 5,000 Feet

ALTERNATIVE 11

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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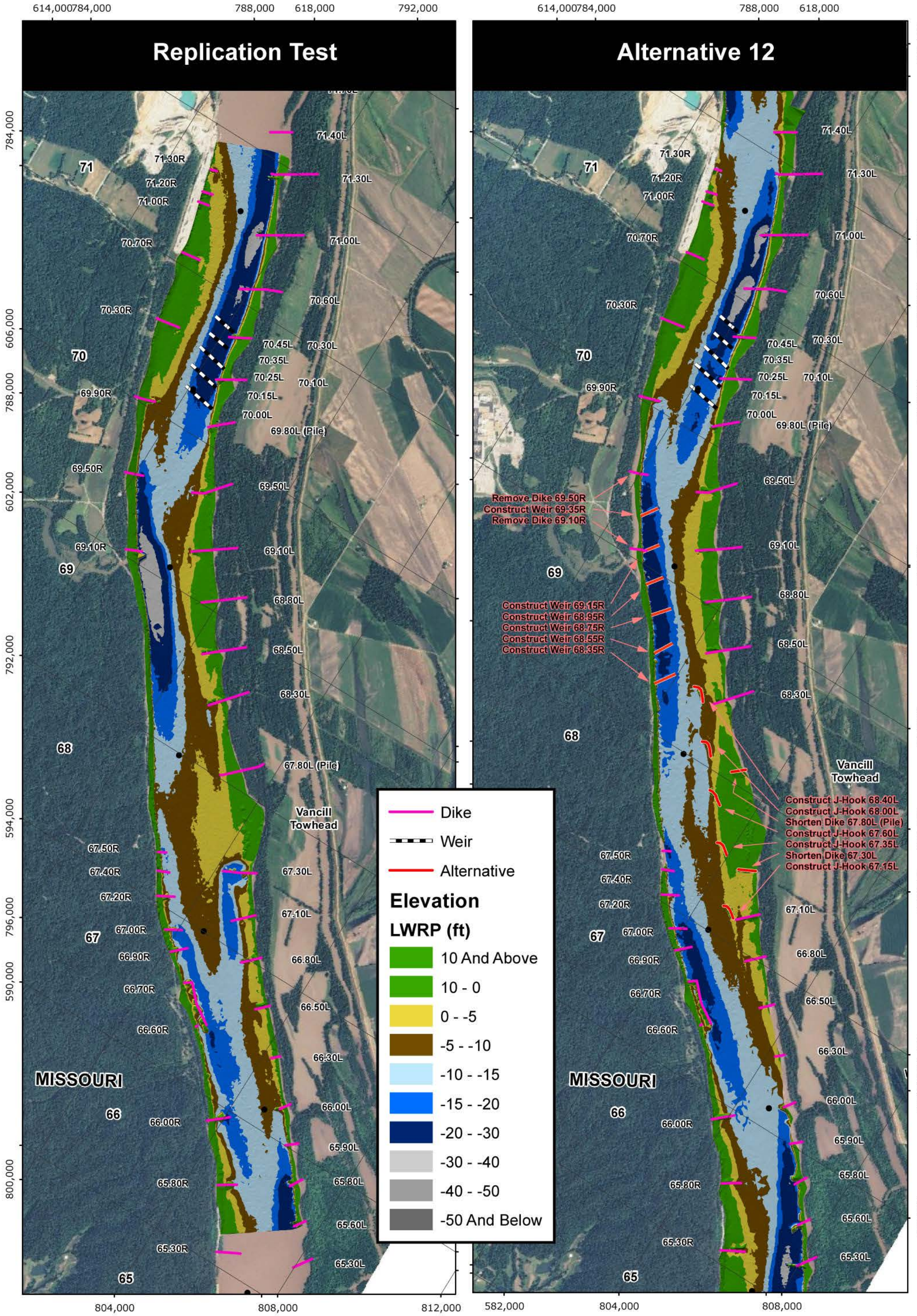

PLATE NUMBER 46

0 1,250 2,500 5,000 Feet

ALTERNATIVE 12

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	FILENAME: VANCILLTOWHEAD.MDX	

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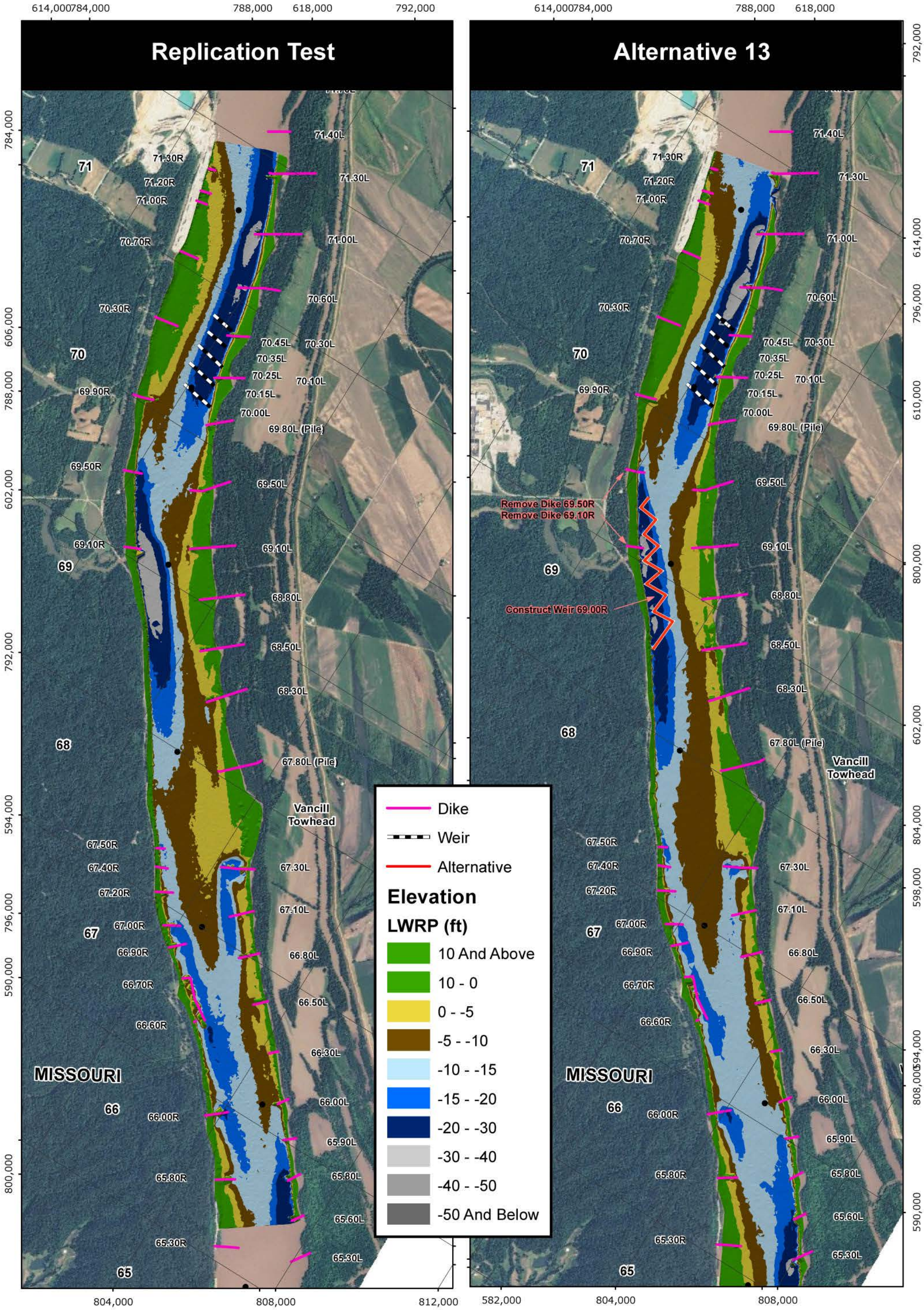

PLATE NUMBER 47

0 1,250 2,500 5,000 Feet

ALTERNATIVE 13

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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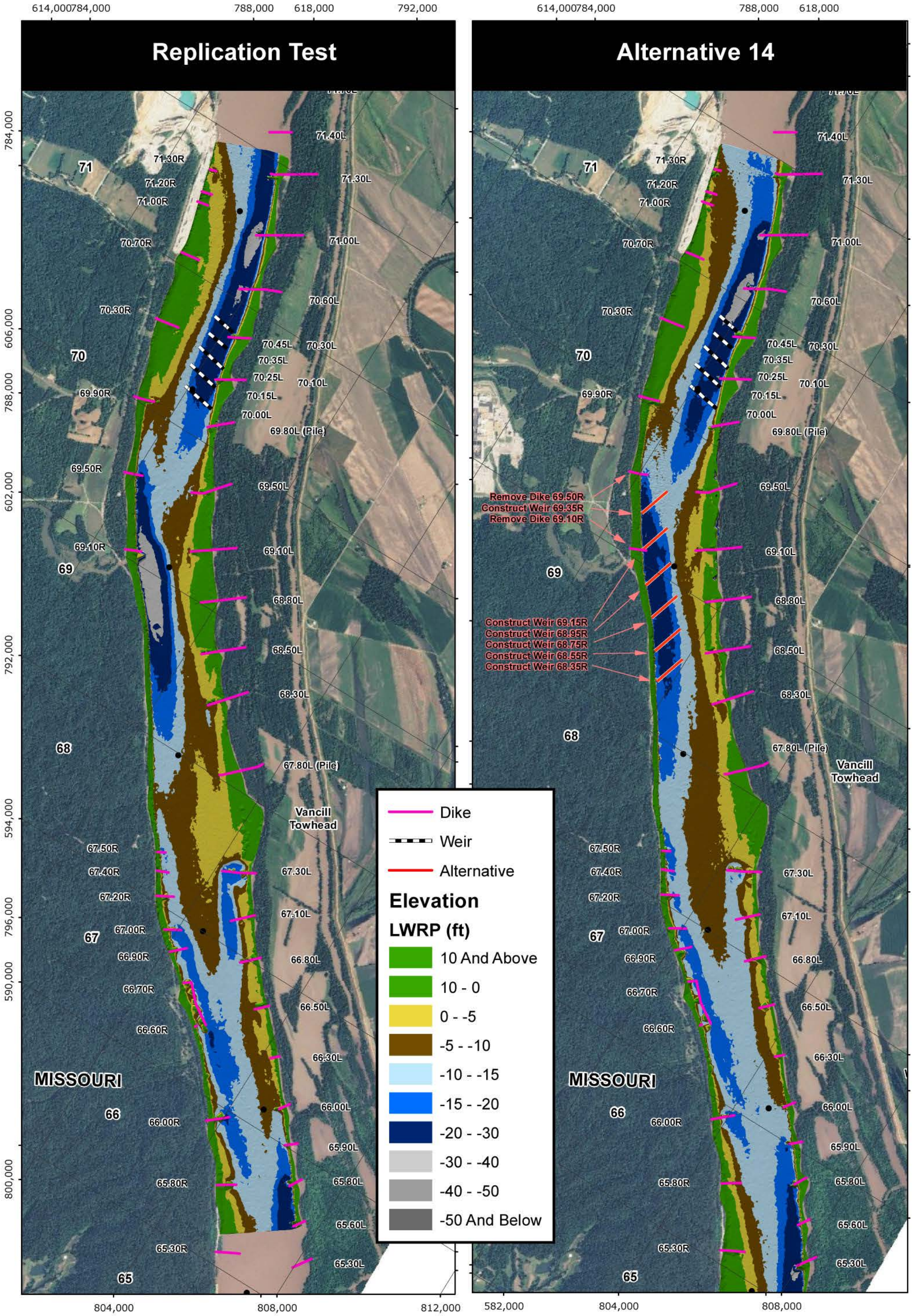

PLATE NUMBER 48

0 1,250 2,500 5,000 Feet

ALTERNATIVE 14

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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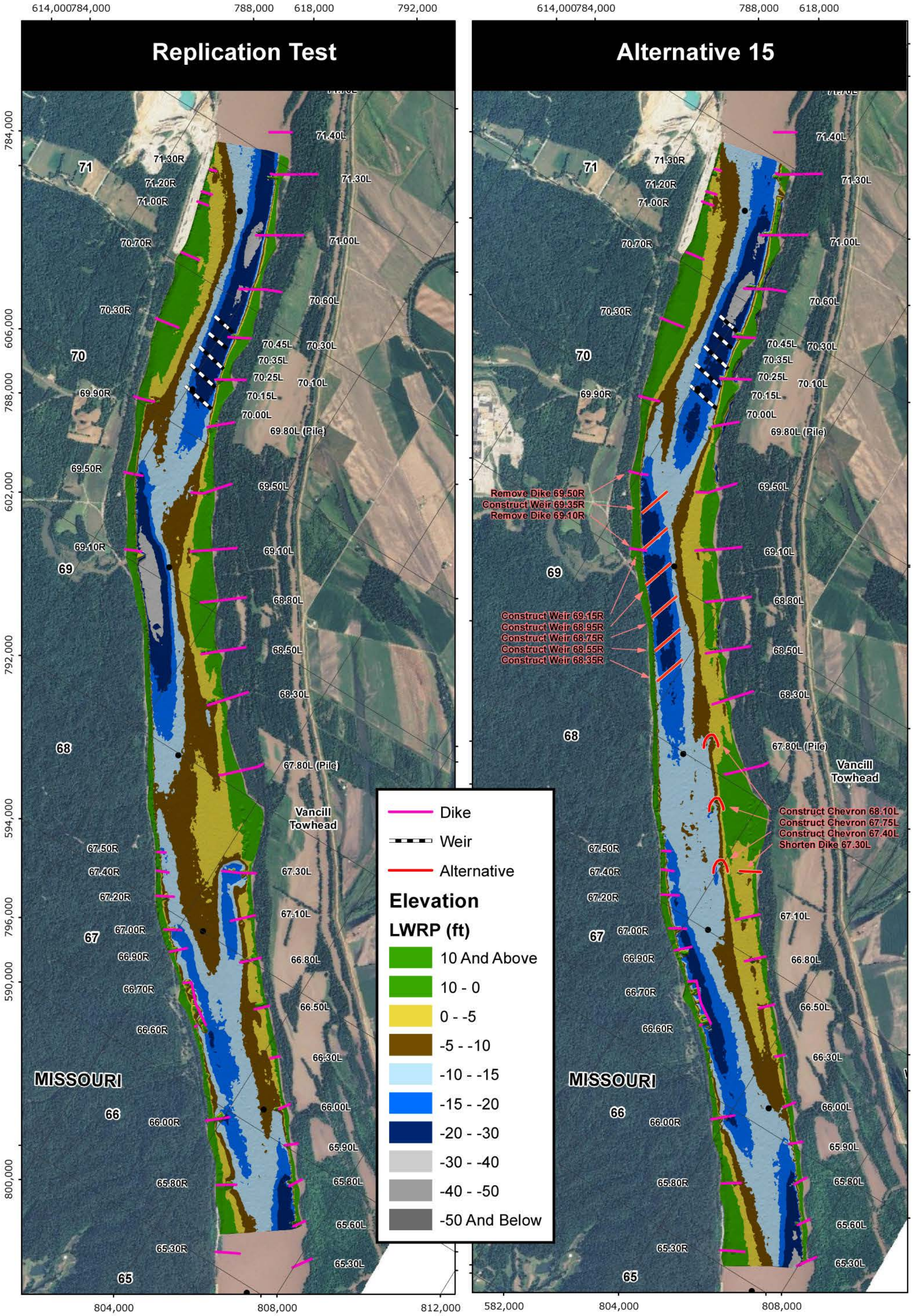

PLATE NUMBER 49

0 1,250 2,500 5,000 Feet

ALTERNATIVE 15

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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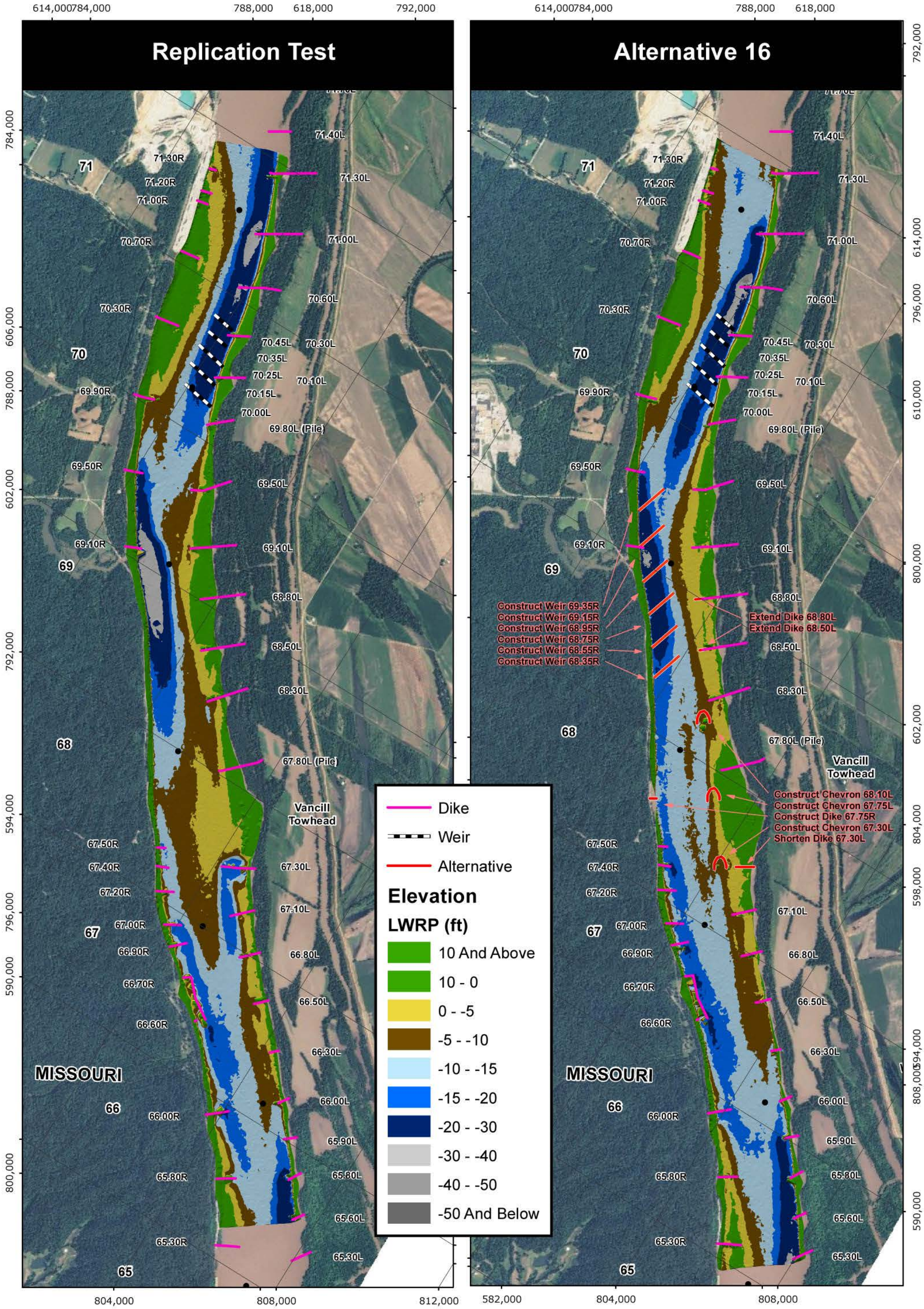

PLATE NUMBER 50

0 1,250 2,500 5,000 Feet

ALTERNATIVE 16

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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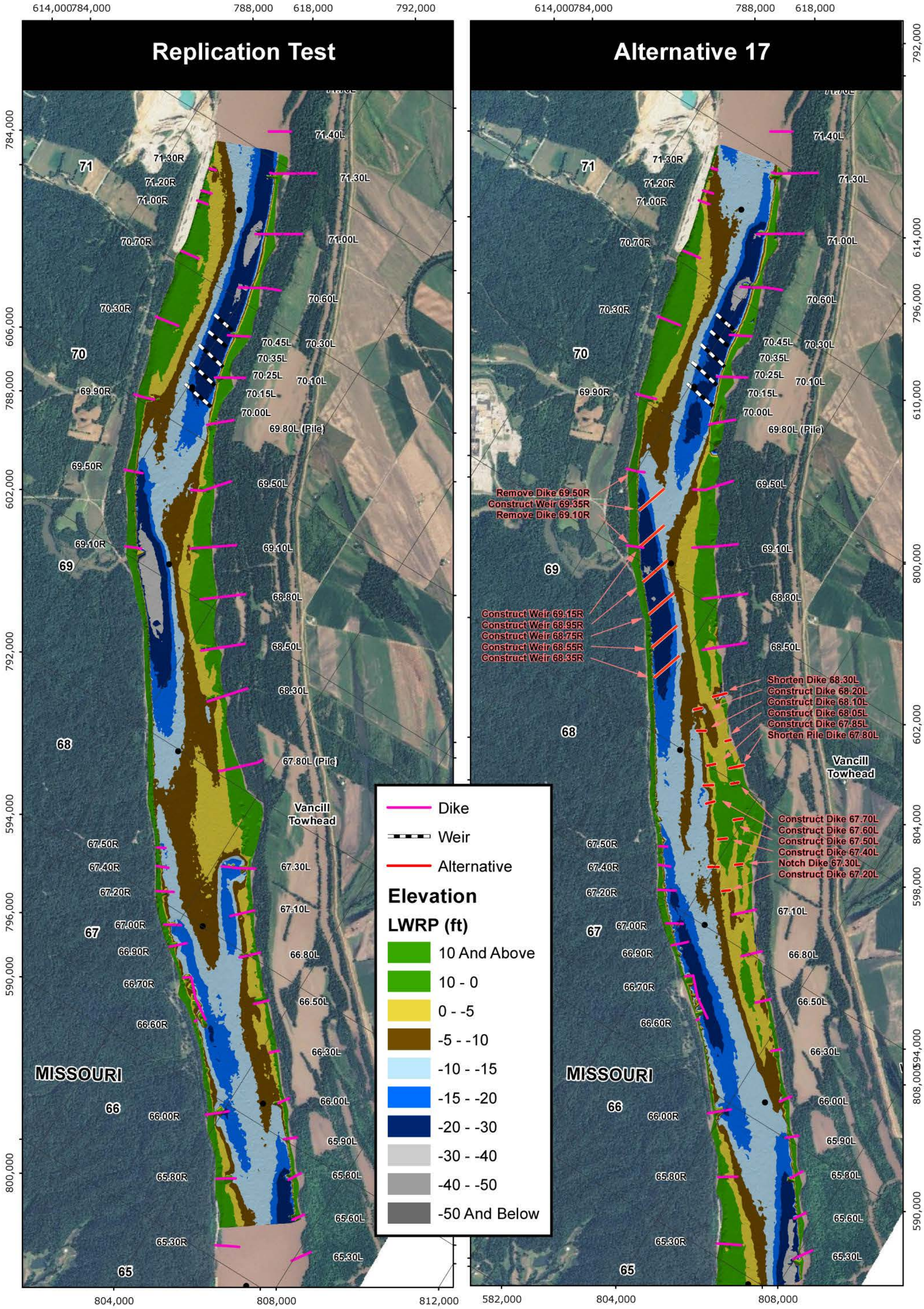

PLATE NUMBER 51

0 1,250 2,500 5,000 Feet

ALTERNATIVE 17

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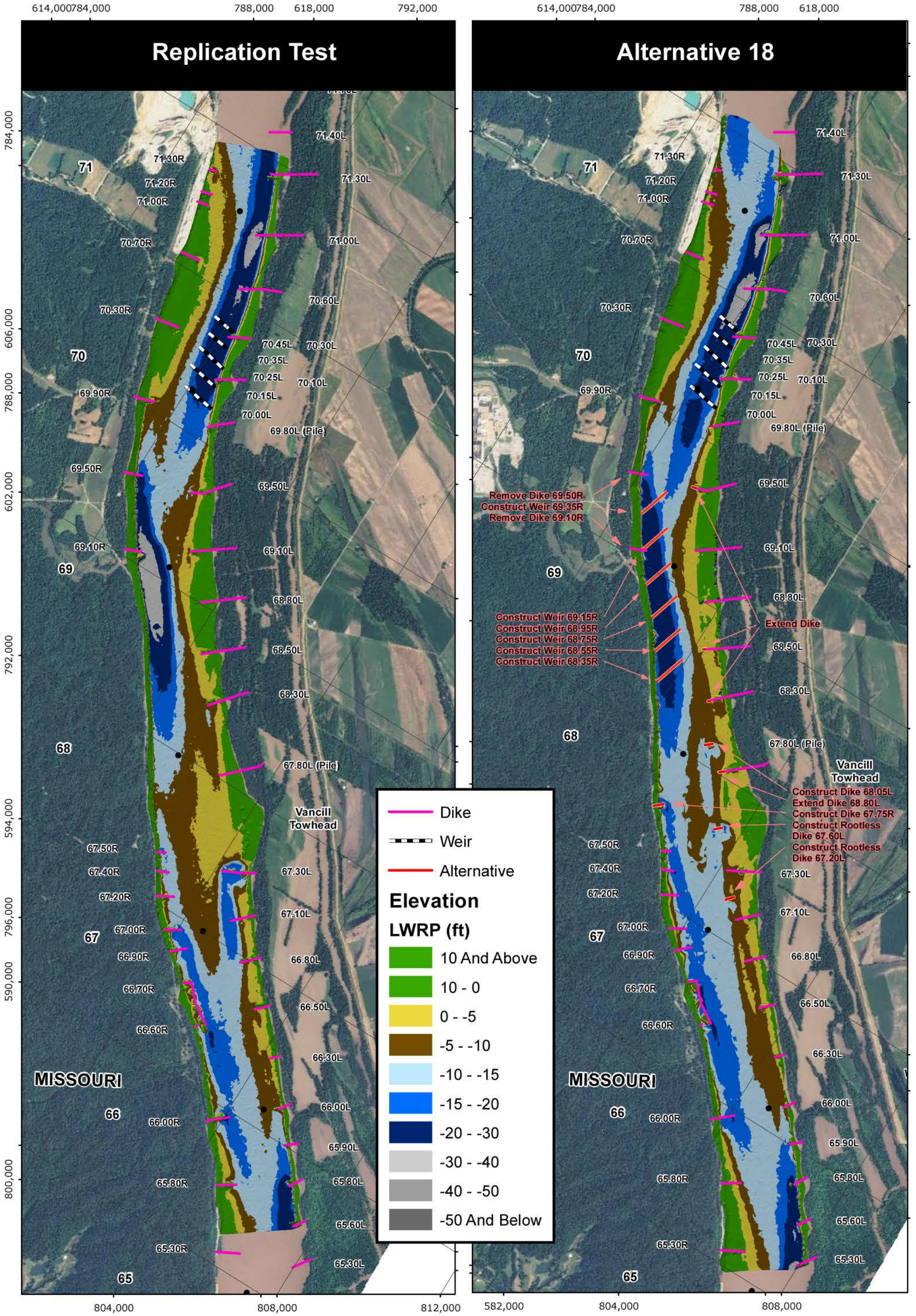

PLATE NUMBER 52

0 1,250 2,500 5,000 Feet

ALTERNATIVE 18

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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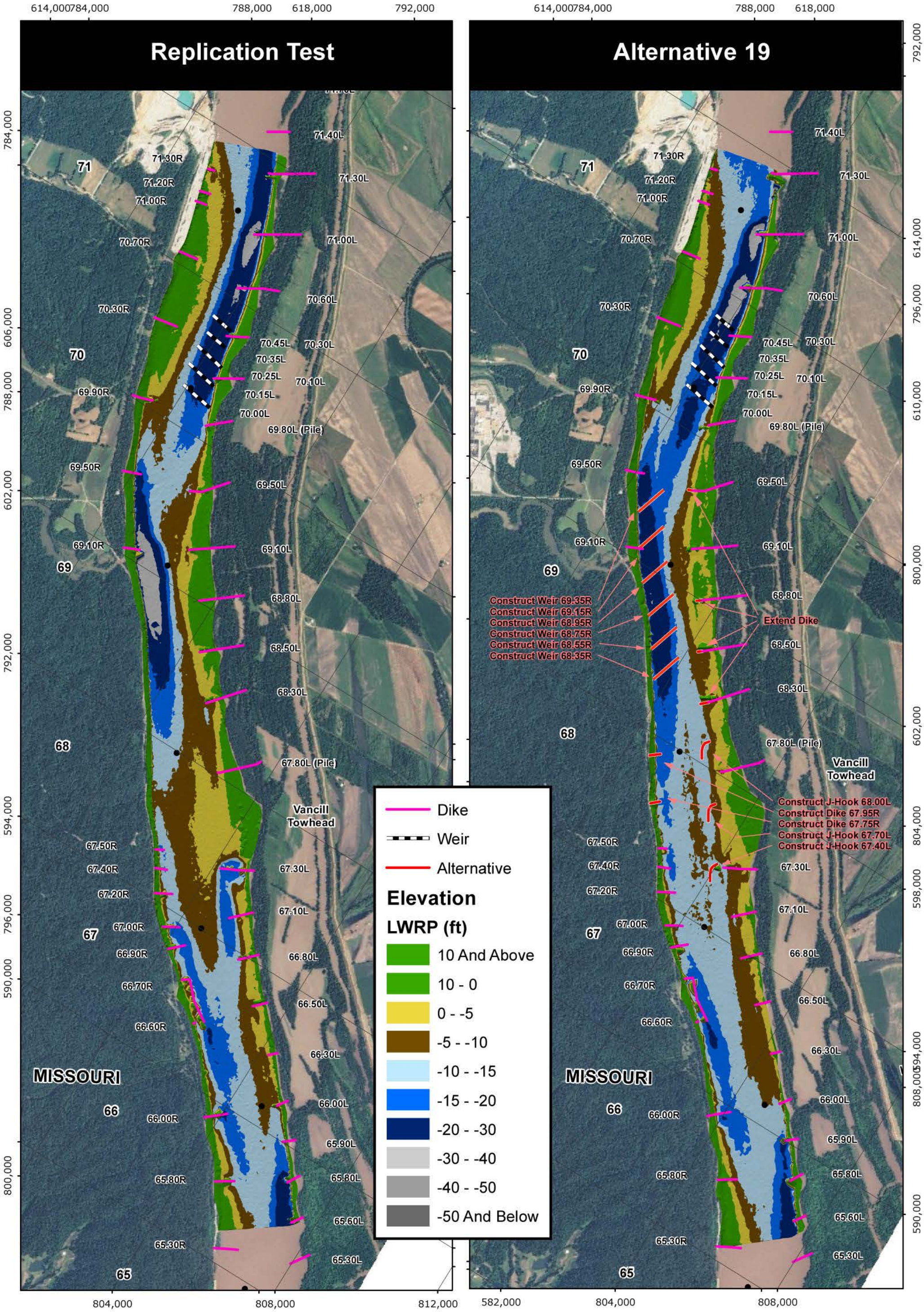

PLATE NUMBER 53

0 1,250 2,500 5,000 Feet

ALTERNATIVE 19

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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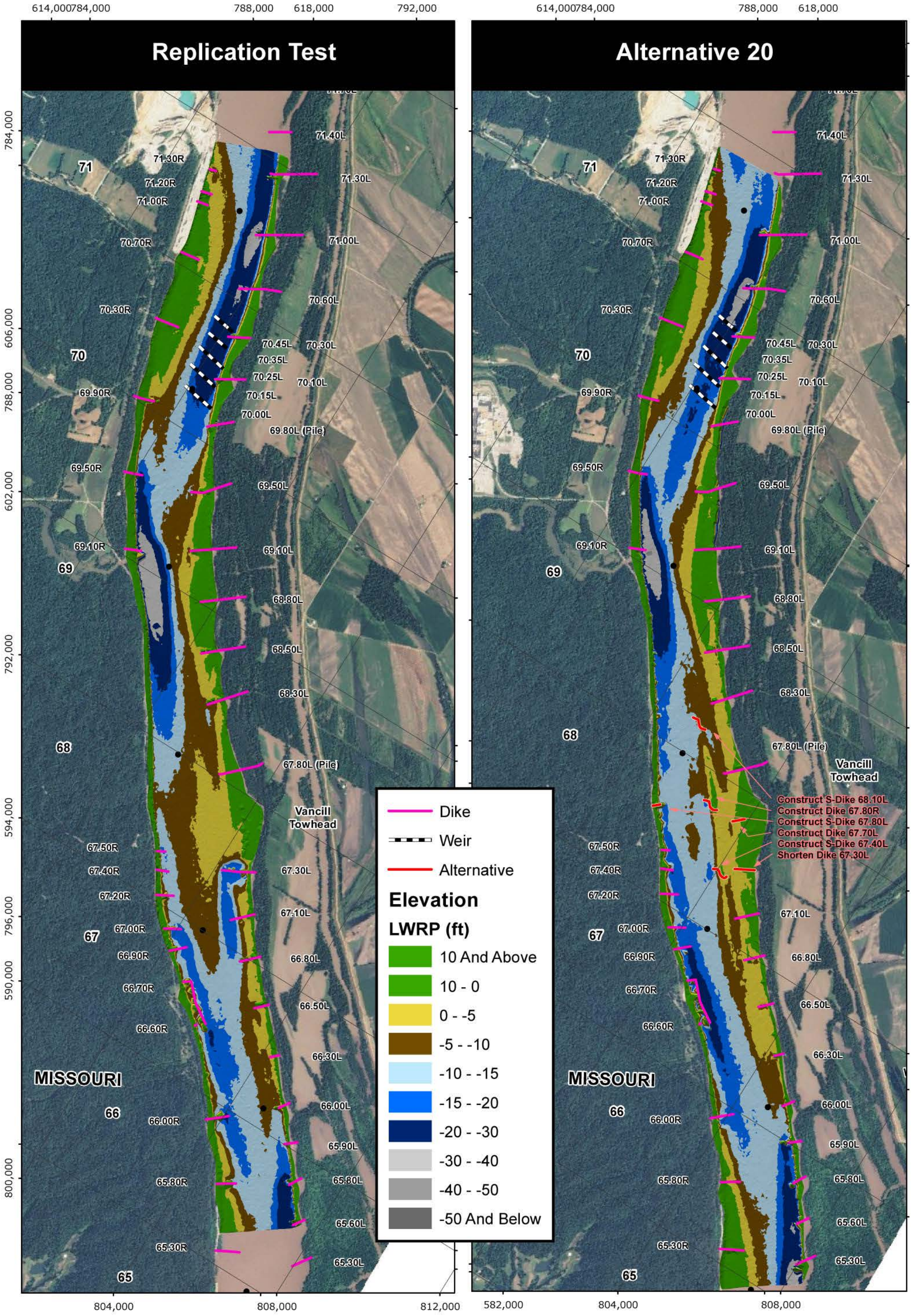

PLATE NUMBER 54

ALTERNATIVE 20

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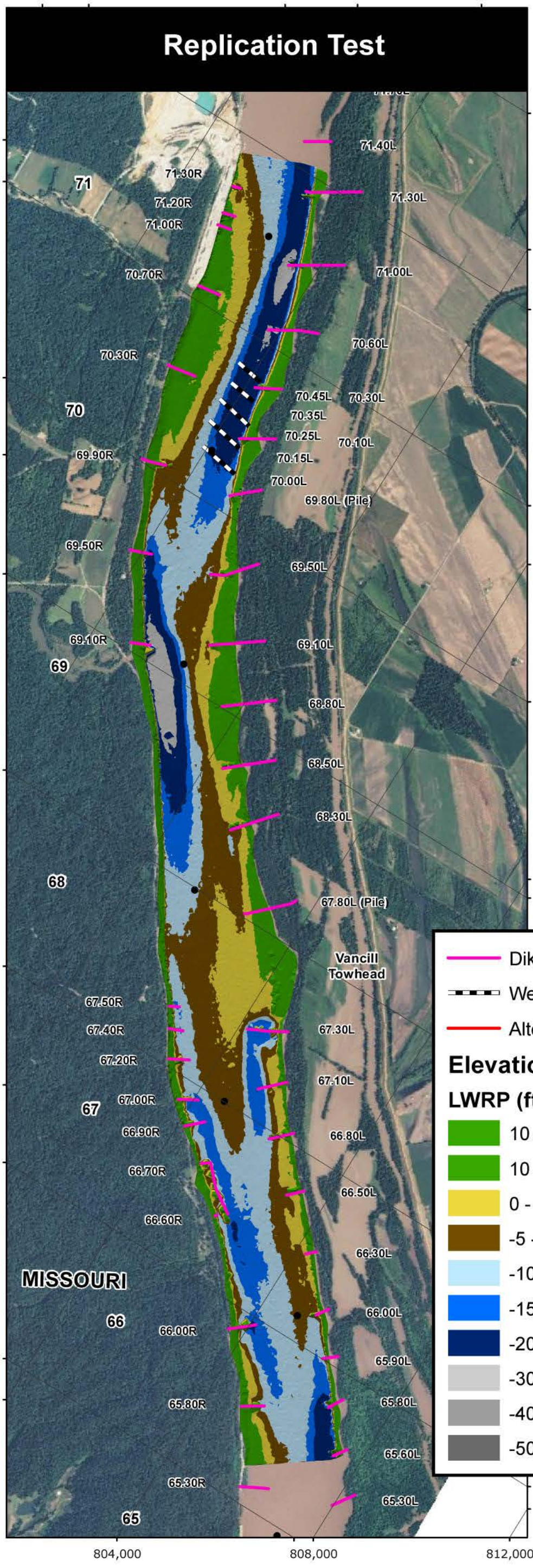

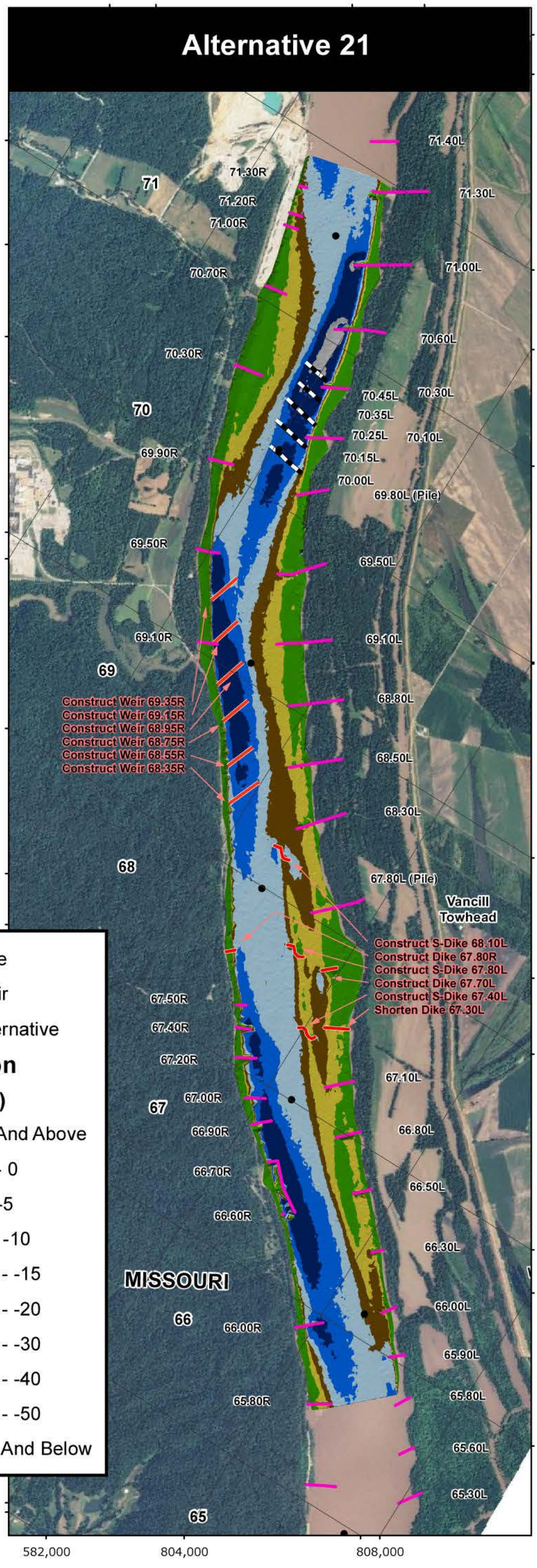

PLATE NUMBER 55

0 1,250 2,500 5,000 Feet

ALTERNATIVE 21

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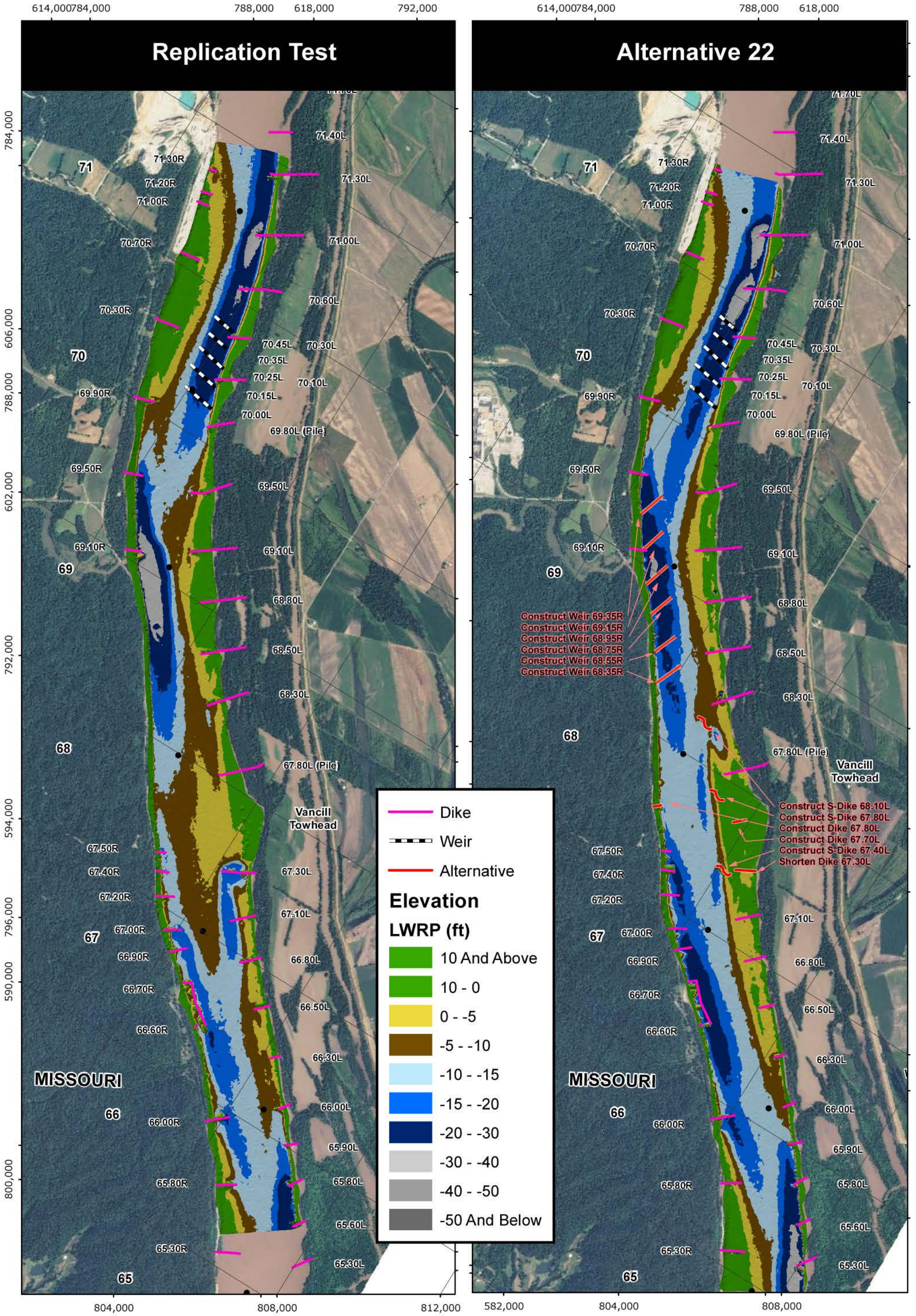

PLATE NUMBER 56

0 1,250 2,500 5,000 Feet

ALTERNATIVE 22

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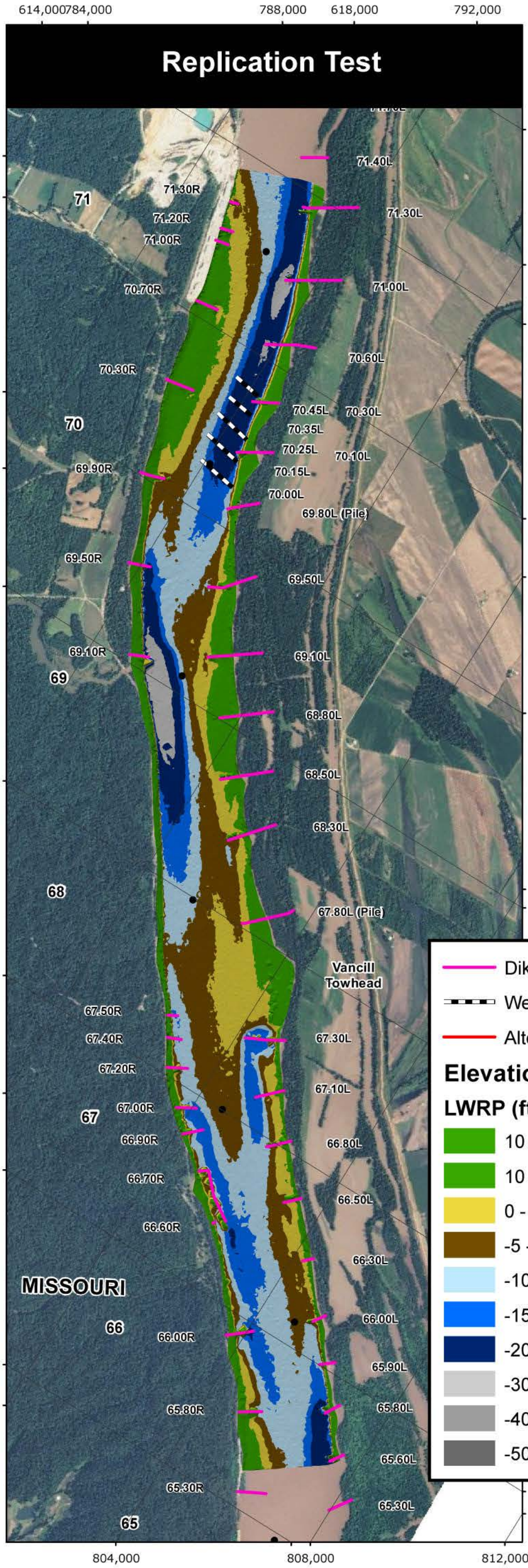

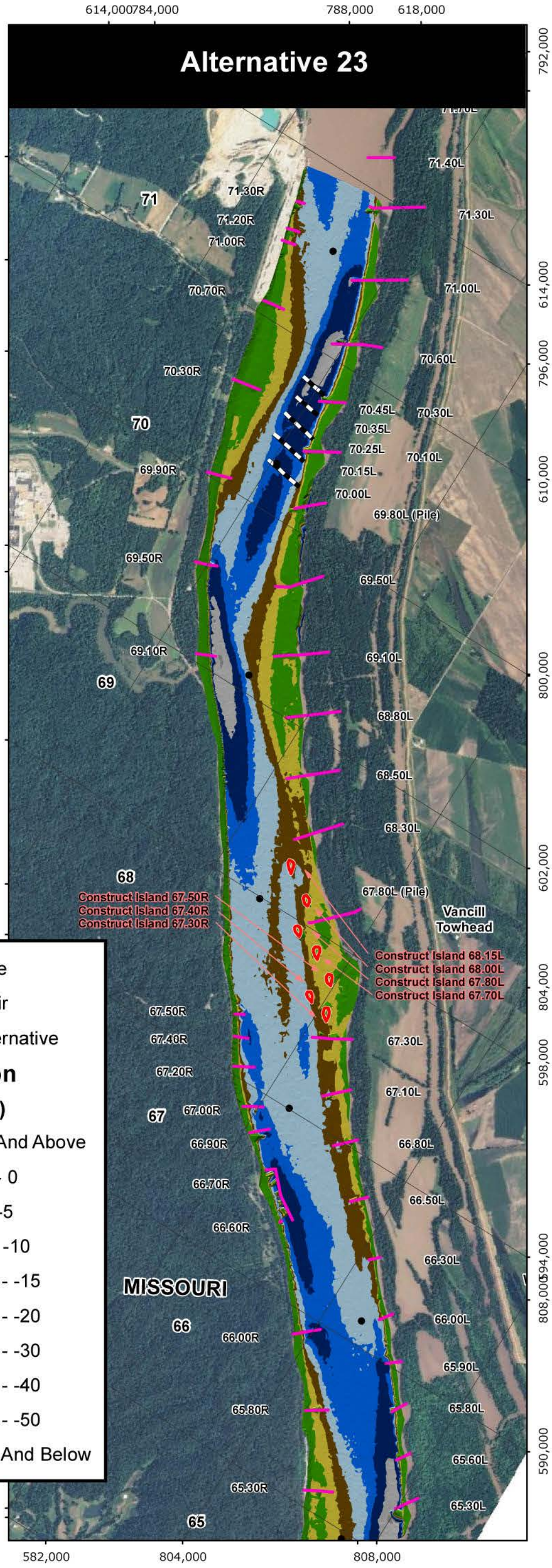

PLATE NUMBER 57

0 1,250 2,500 5,000 Feet

ALTERNATIVE 23

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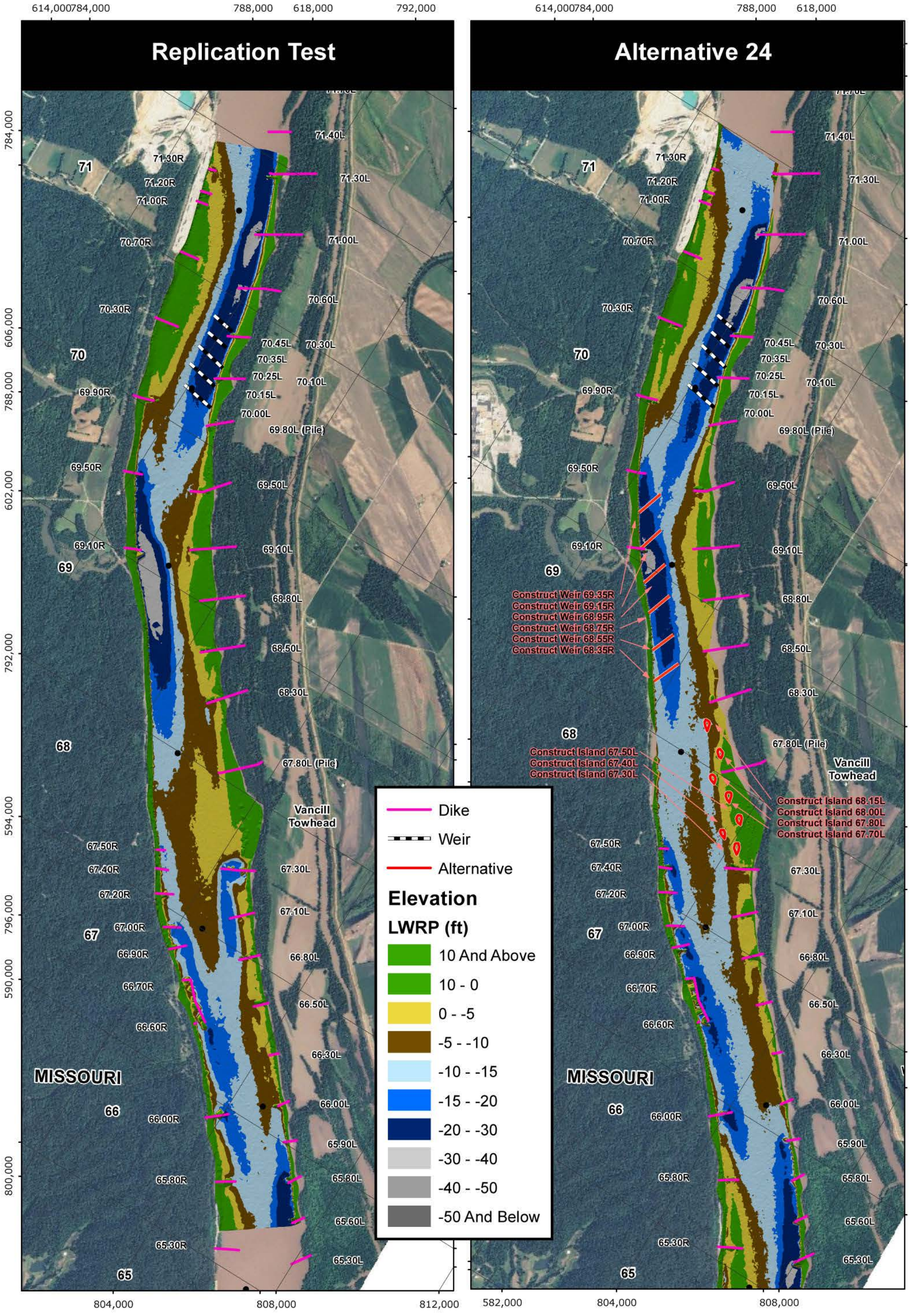

PLATE NUMBER 58

0 1,250 2,500 5,000 Feet

ALTERNATIVE 24

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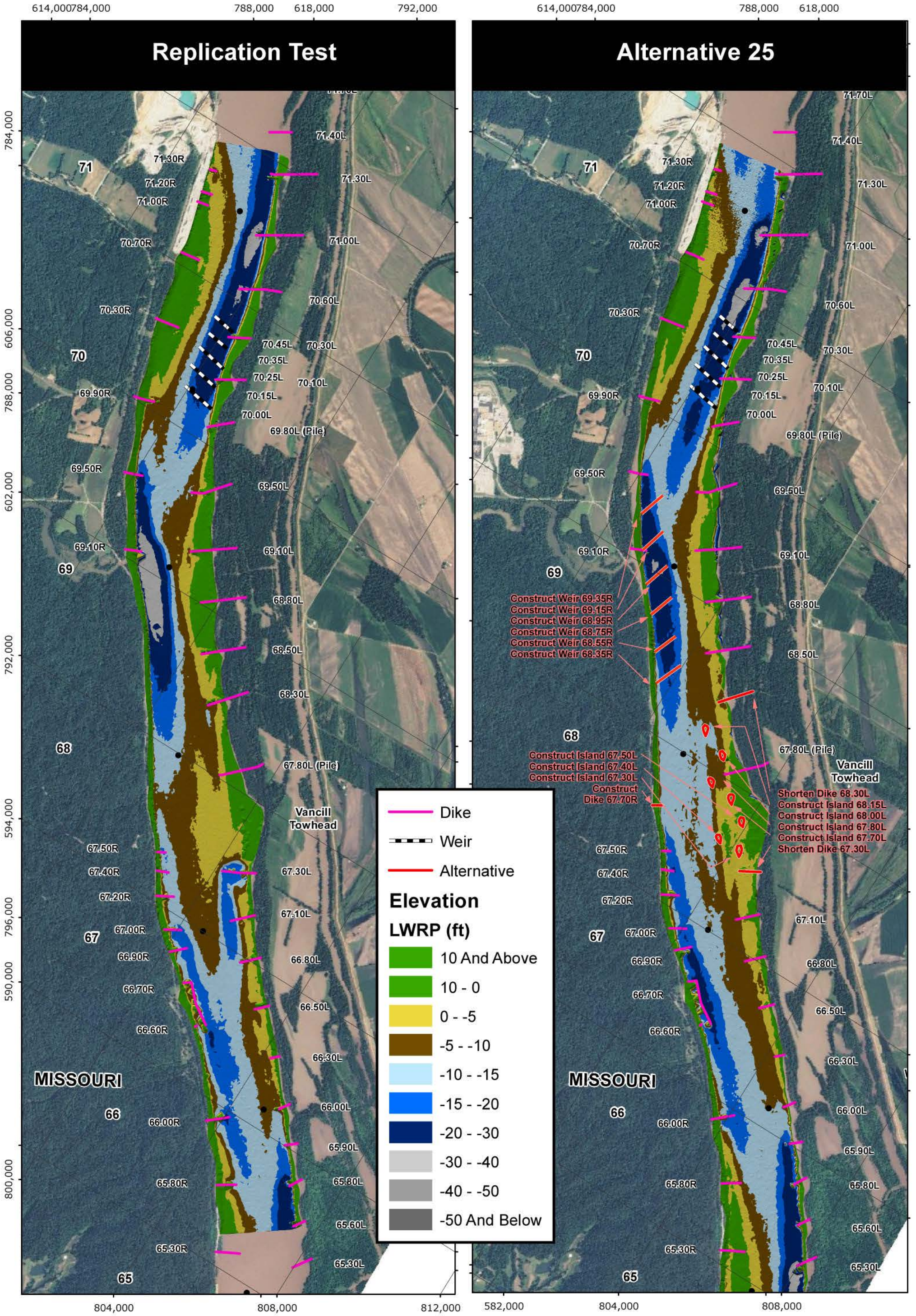

PLATE NUMBER 59

0 1,250 2,500 5,000 Feet

ALTERNATIVE 25

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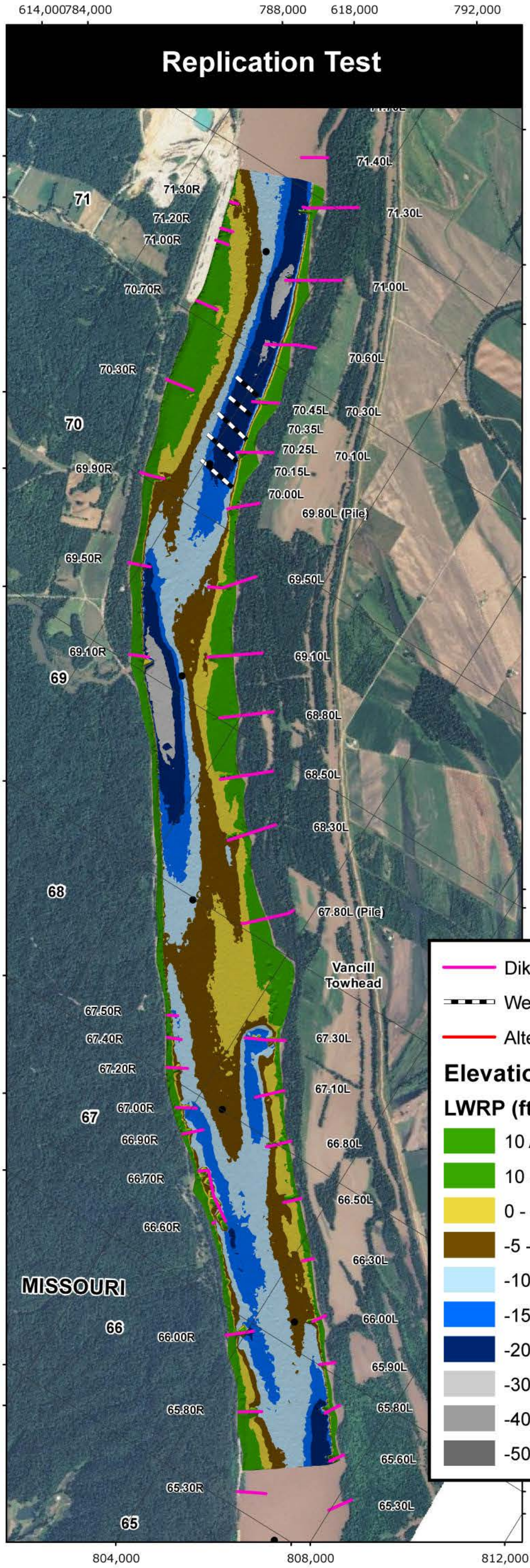

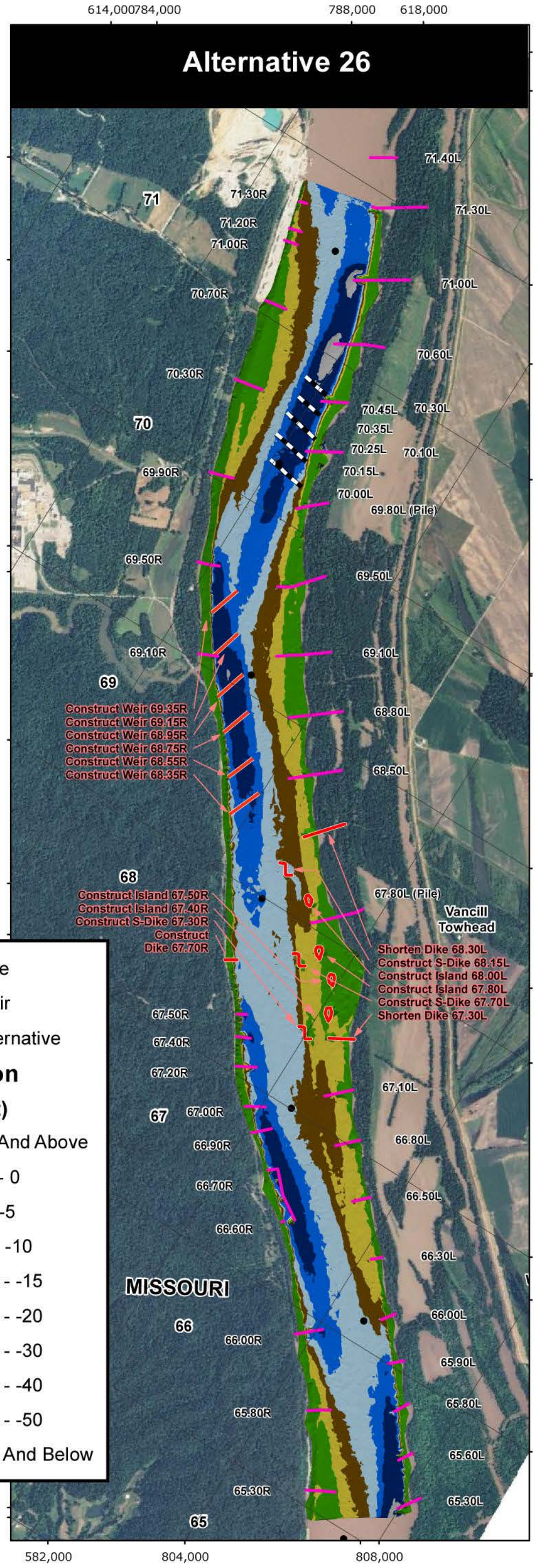

PLATE NUMBER 60

0 1,250 2,500 5,000 Feet

ALTERNATIVE 26

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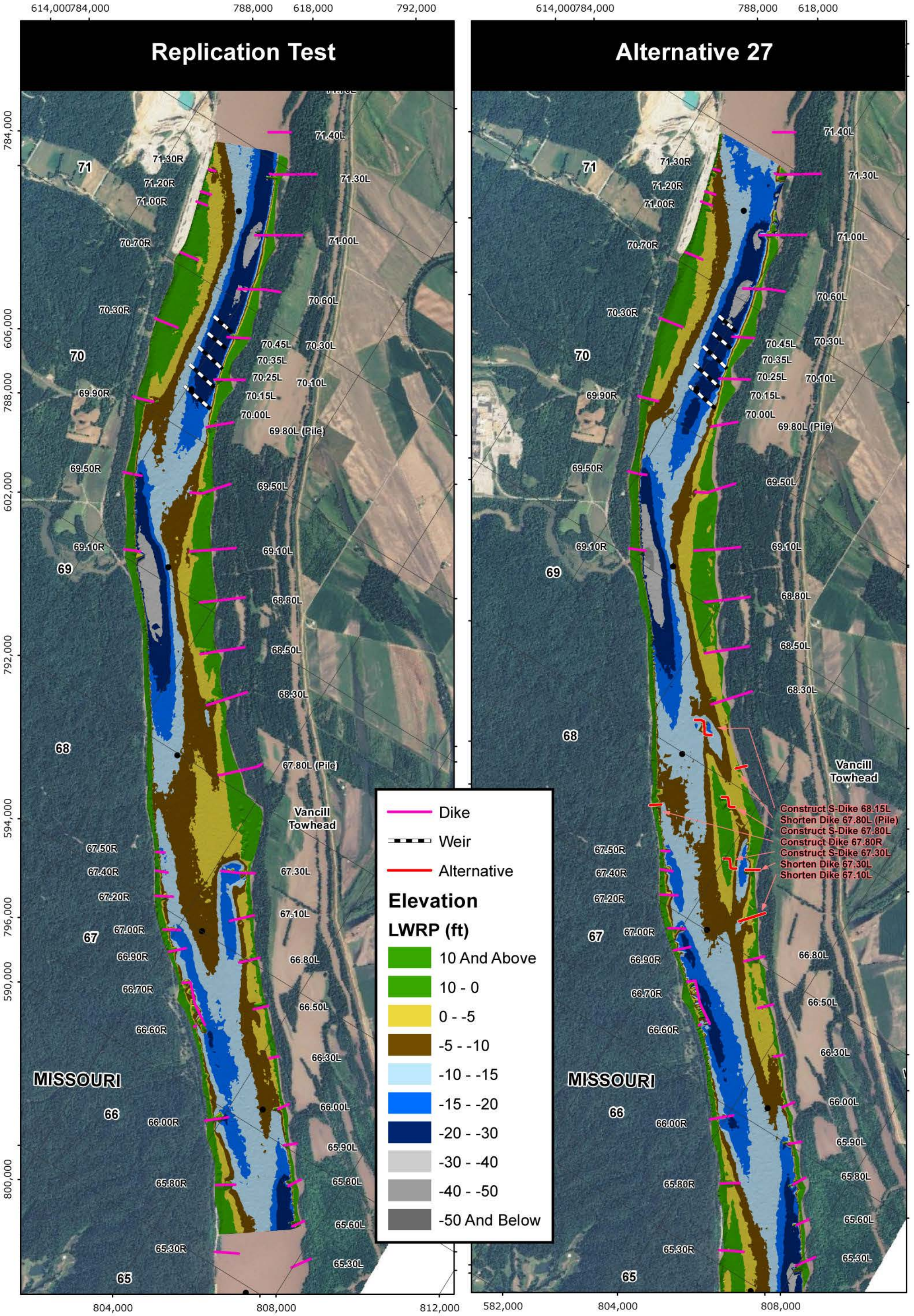

PLATE NUMBER 61

0 1,250 2,500 5,000 Feet

ALTERNATIVE 27

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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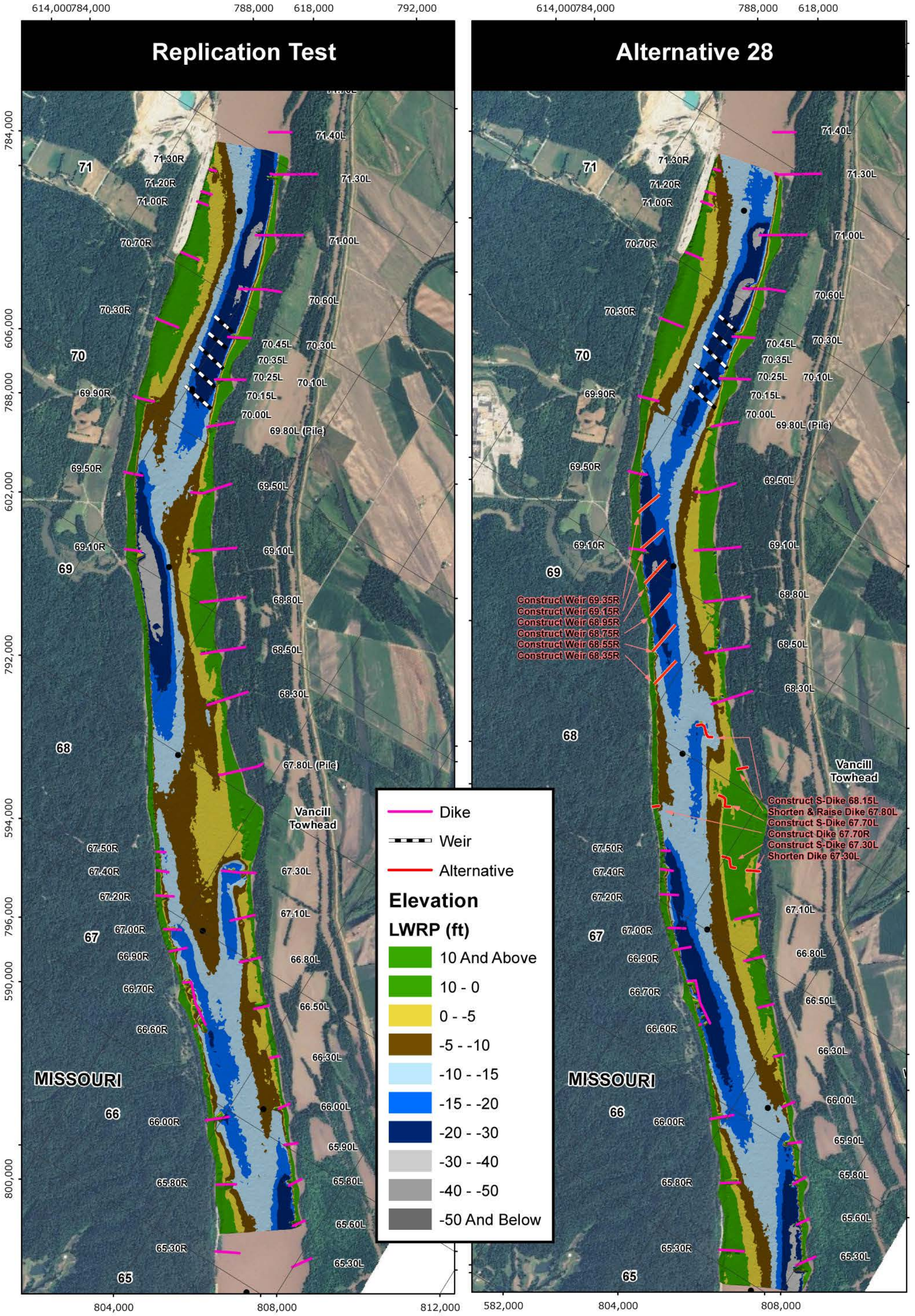

PLATE NUMBER 62

0 1,250 2,500 5,000 Feet

ALTERNATIVE 28

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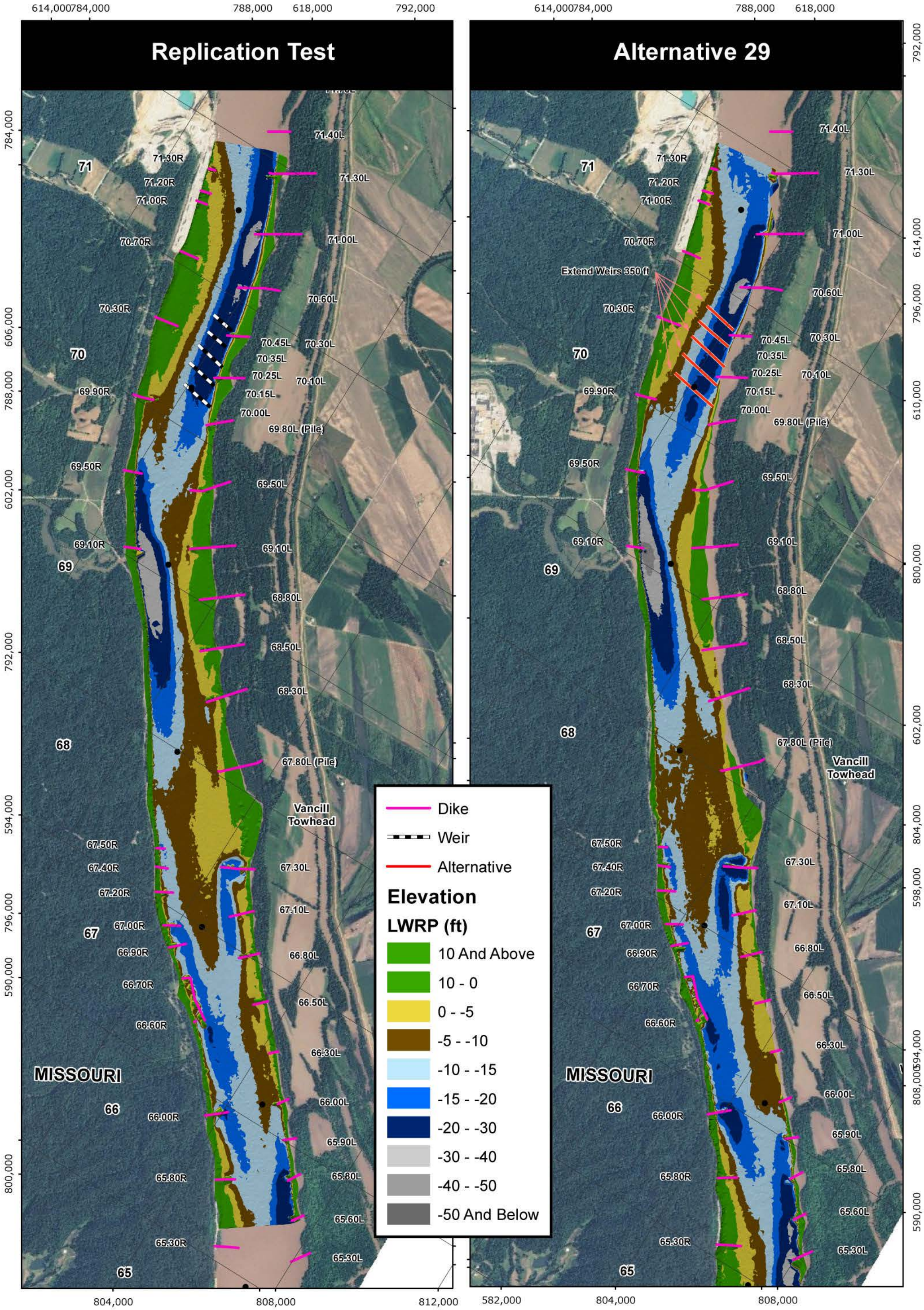

PLATE NUMBER 63

0 1,250 2,500 5,000 Feet

ALTERNATIVE 29

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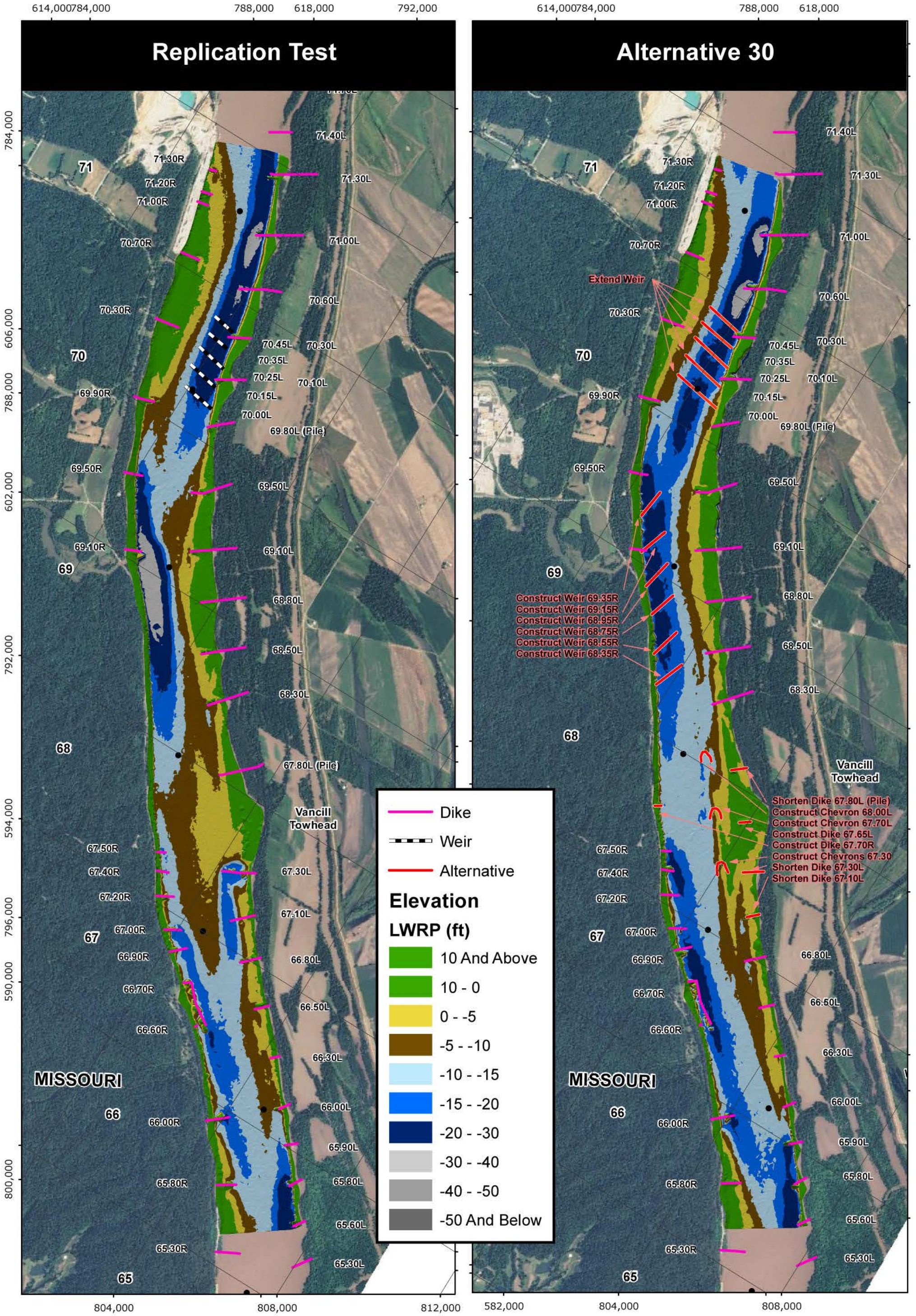

PLATE NUMBER 64

0 1,250 2,500 5,000 Feet

ALTERNATIVE 30

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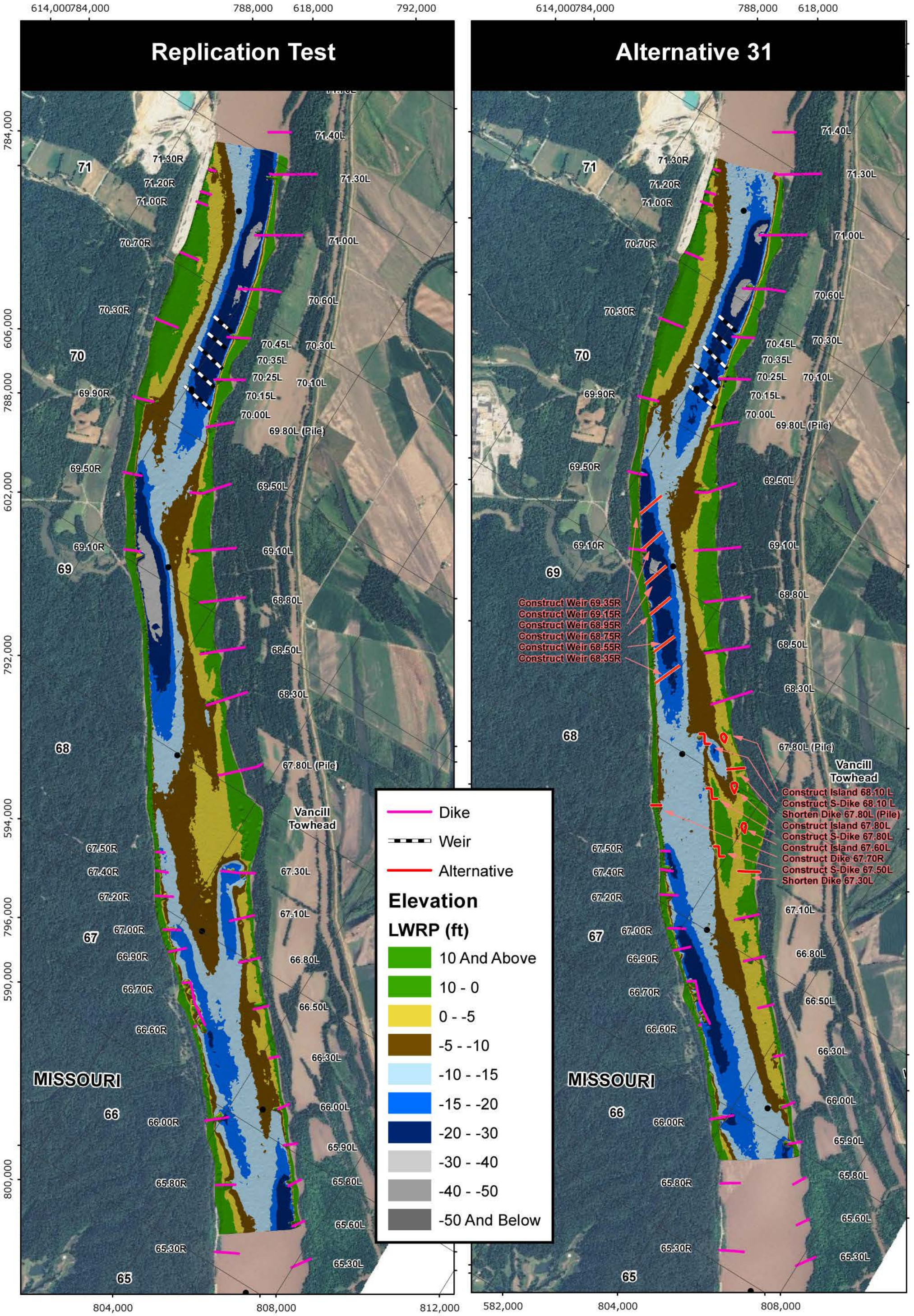

PLATE NUMBER 65

ALTERNATIVE 31

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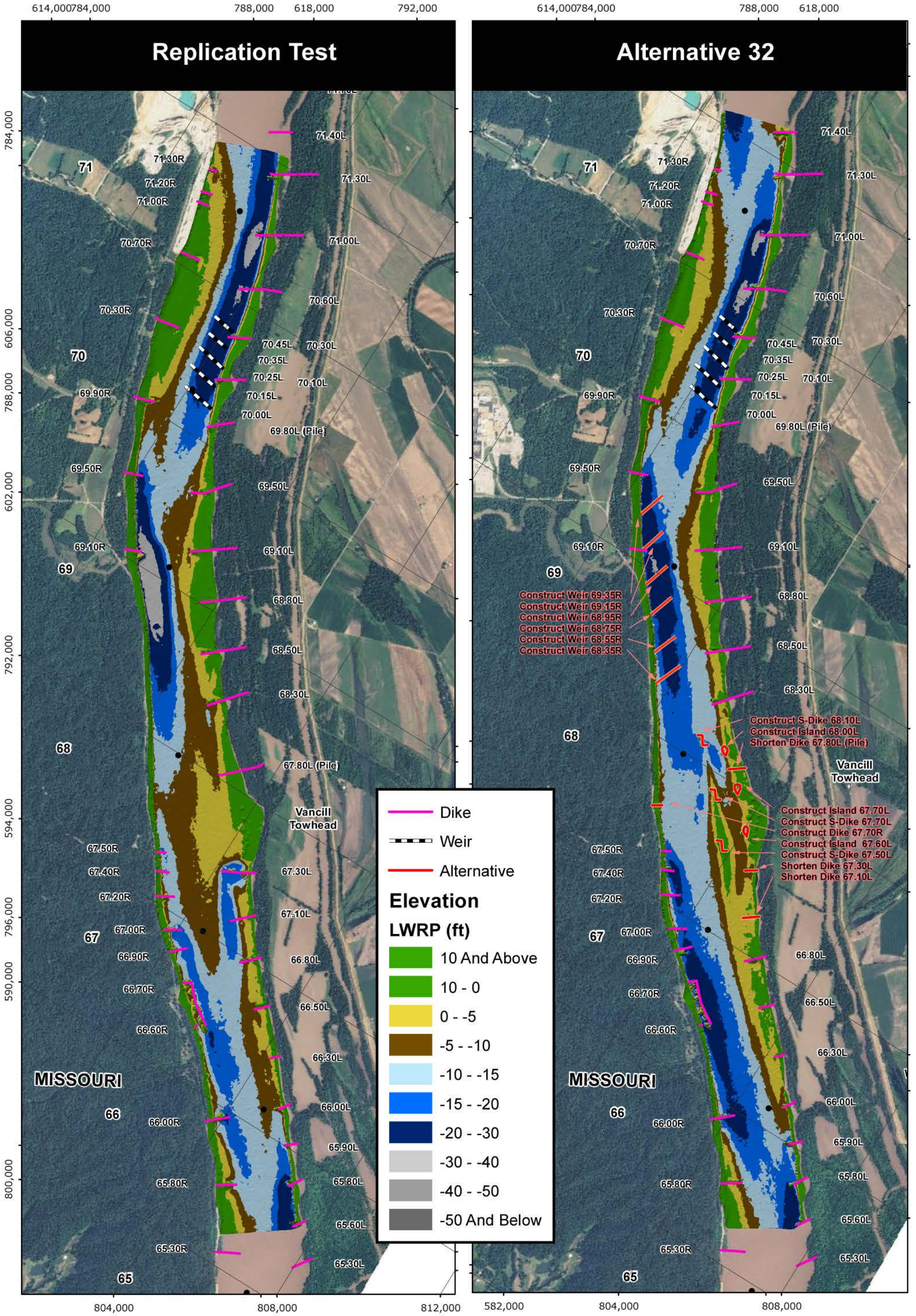

PLATE NUMBER 66

0 1,250 2,500 5,000 Feet

ALTERNATIVE 32

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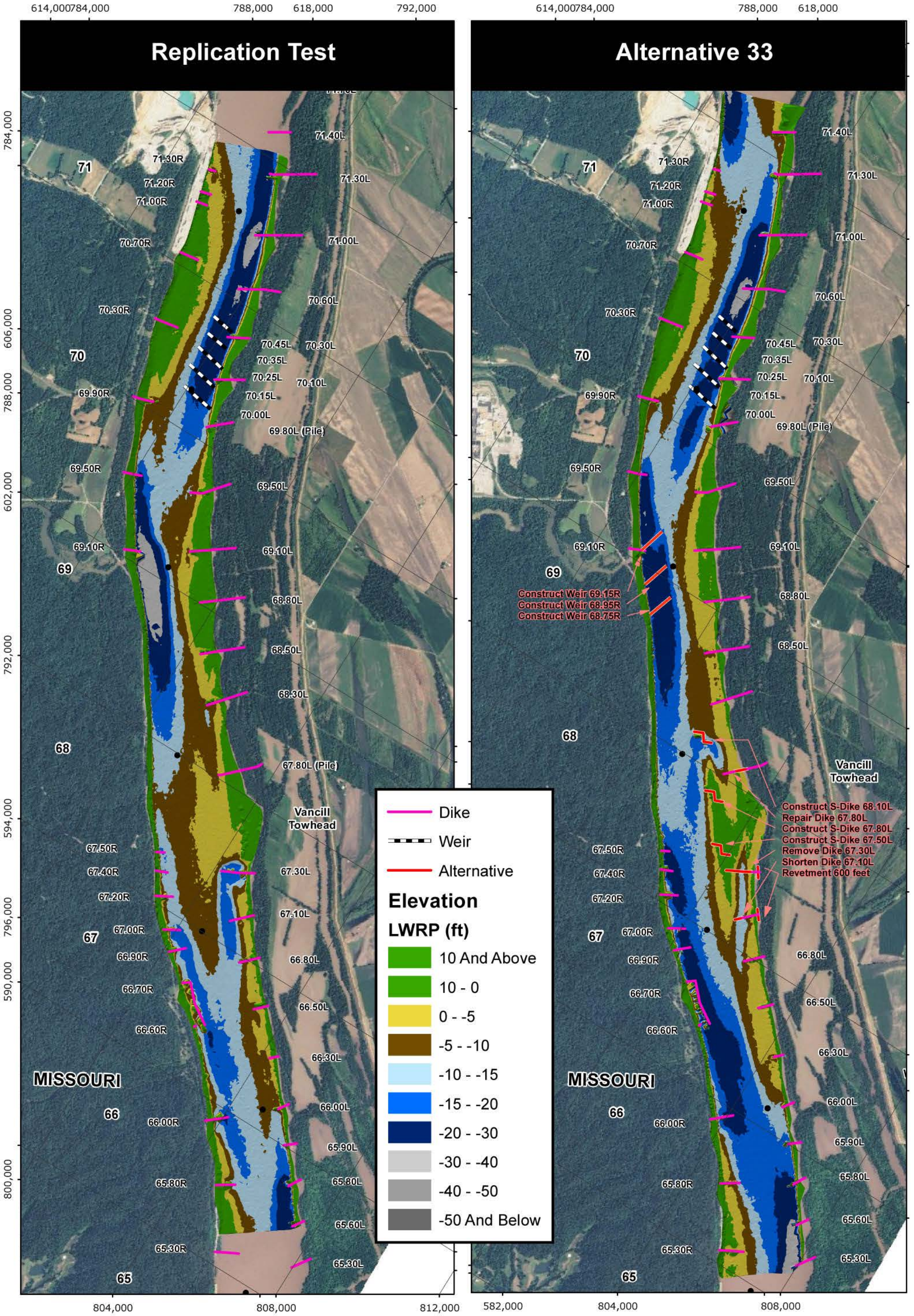

PLATE NUMBER 67

0 1,250 2,500 5,000 Feet

ALTERNATIVE 33

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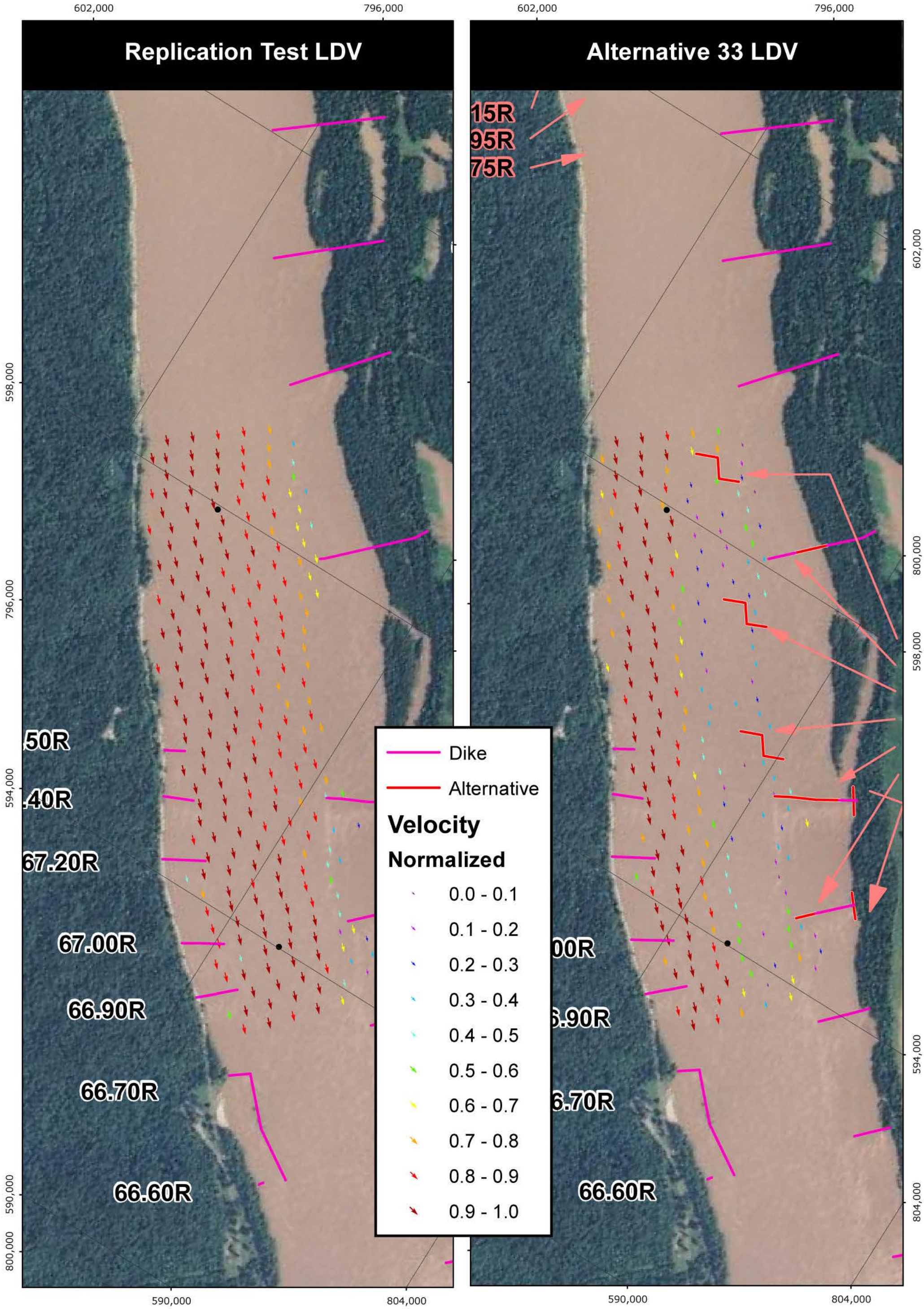

PLATE NUMBER 68

0 500 1,000 2,000 Feet

ALTERNATIVE 33 LDV

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
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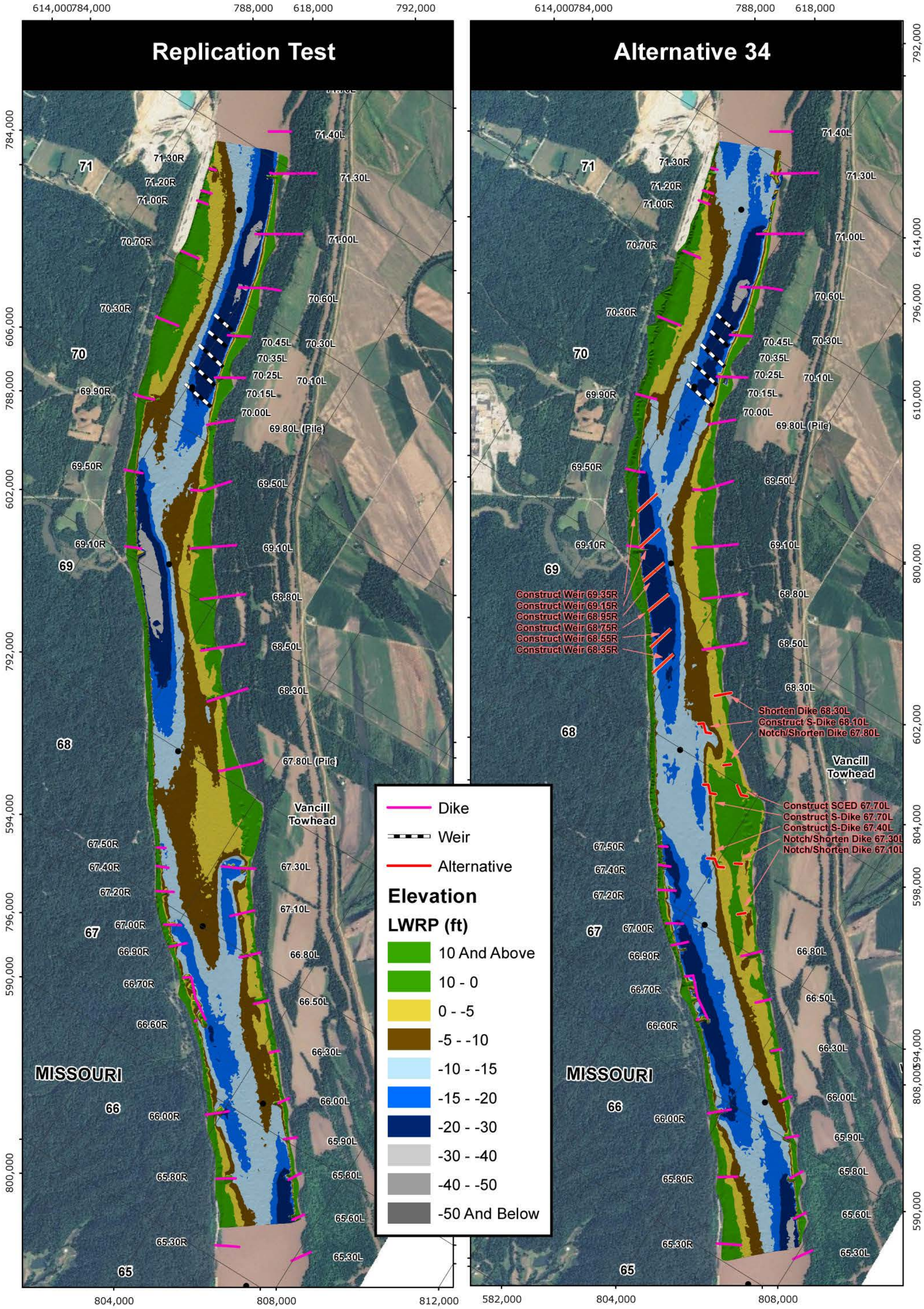

PLATE NUMBER 69

0 1,250 2,500 5,000 Feet

ALTERNATIVE 34

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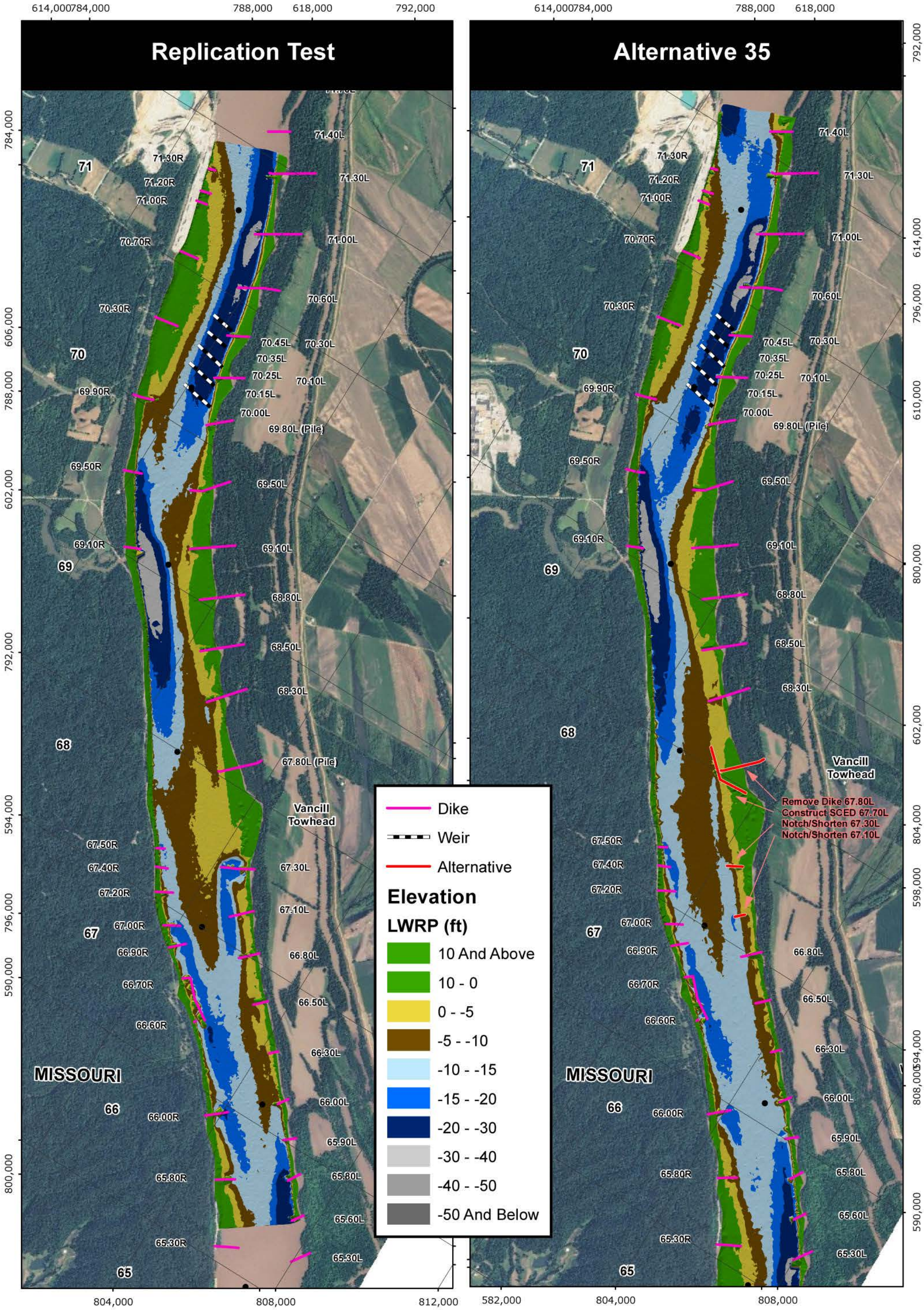

PLATE NUMBER 70

0 1,250 2,500 5,000 Feet

ALTERNATIVE 35

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
	FILENAME: VANCILLTOWHEAD.MDX	

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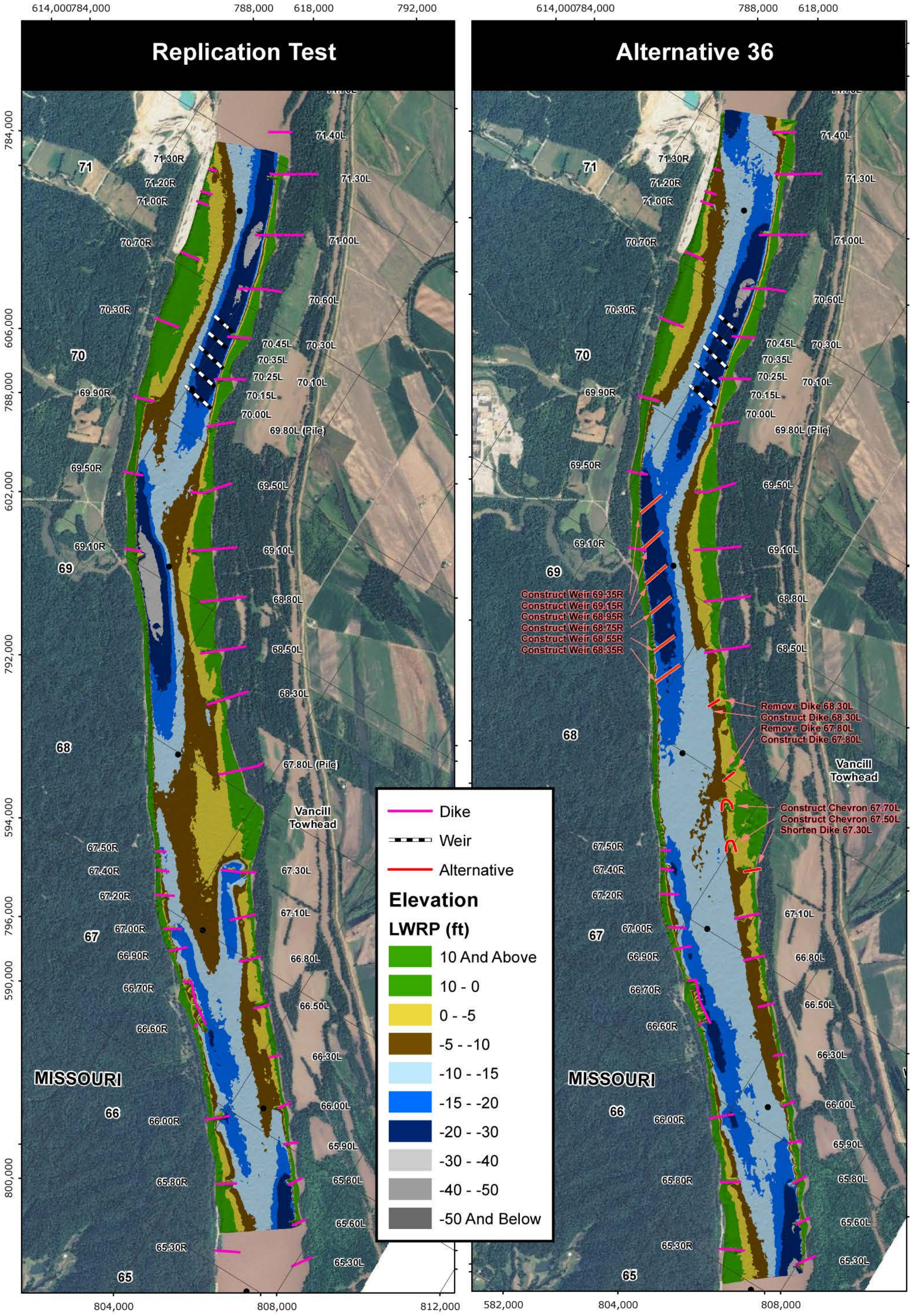

PLATE NUMBER 71

0 1,250 2,500 5,000 Feet

ALTERNATIVE 36

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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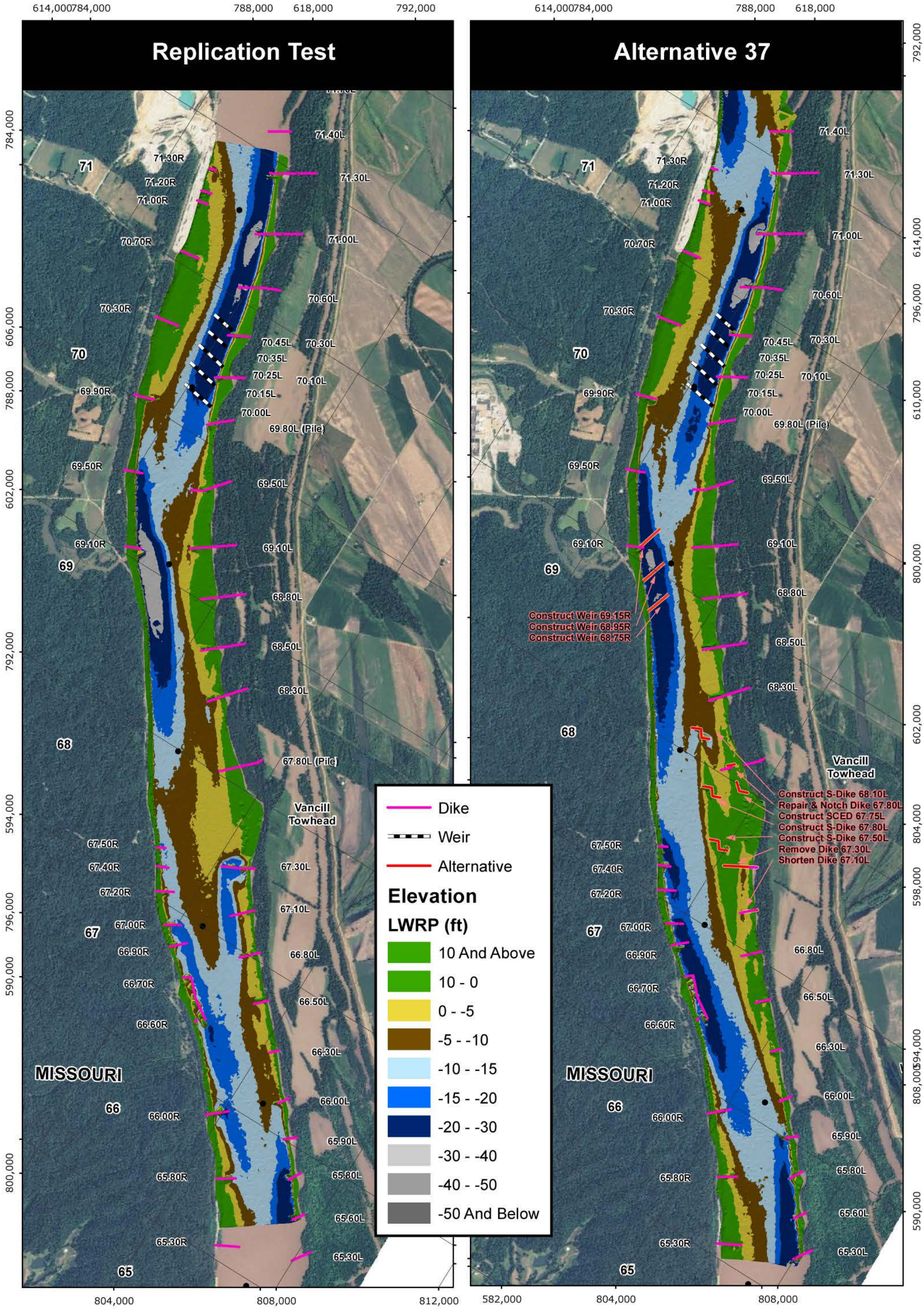

PLATE NUMBER 72

0 1,250 2,500 5,000 Feet

ALTERNATIVE 37

U.S. ARMY ENGINEERING DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DRAWN BY: I. NGUYEN	REVIEWED BY: J. BROWN, P.E.
	SUBMITTED BY: I. NGUYEN	CHECKED BY: E. BRAUER, P.E.
MIDDLE MISSISSIPPI BASIN VANCILL TOWHEAD HSR MODEL	PLOT DATE: JULY 2012	APPROVED BY: R. DAVINROY, P.E.
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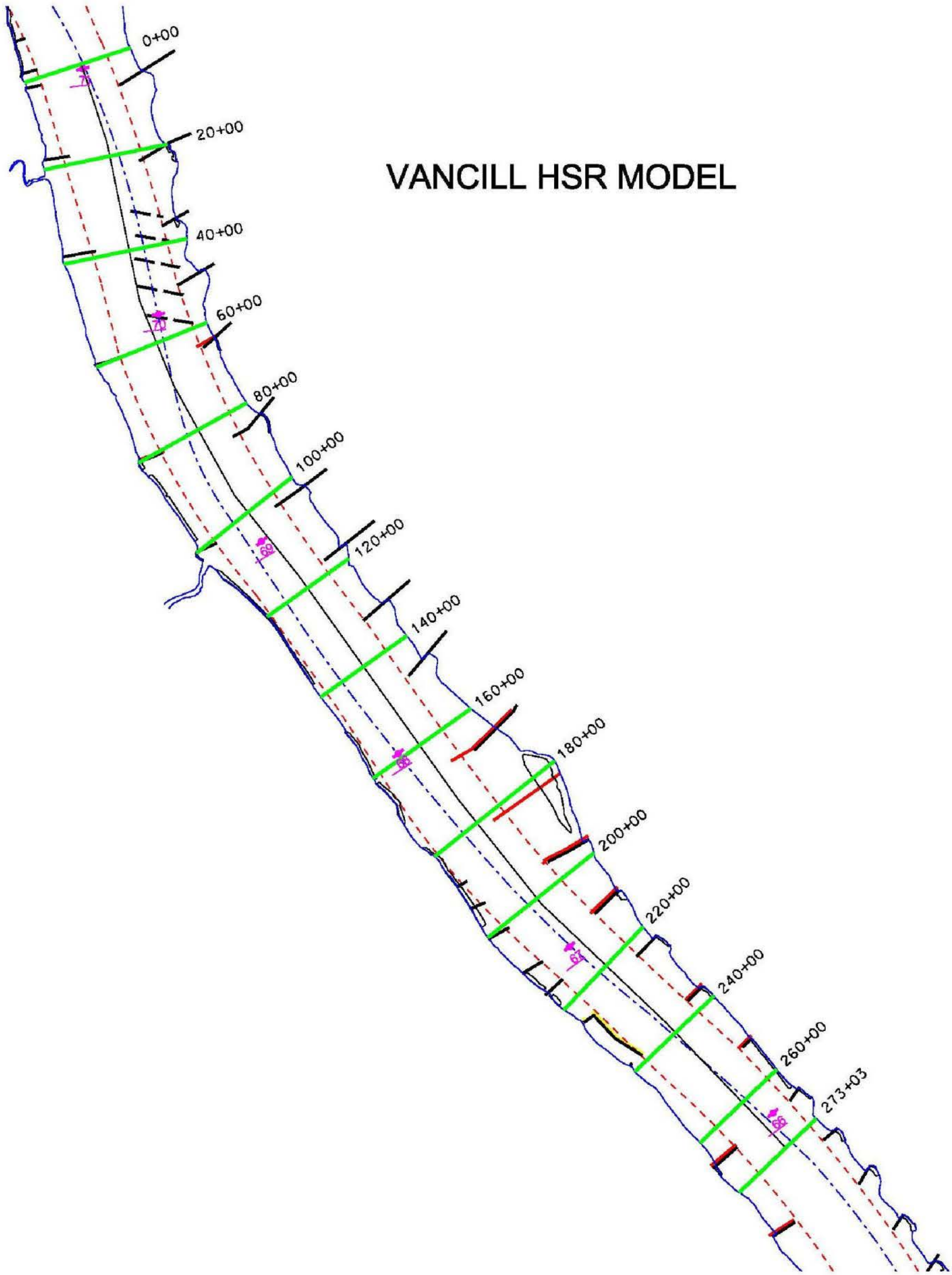

PLATE NUMBER 73

VANCILL TOWHEAD TRANSECTS

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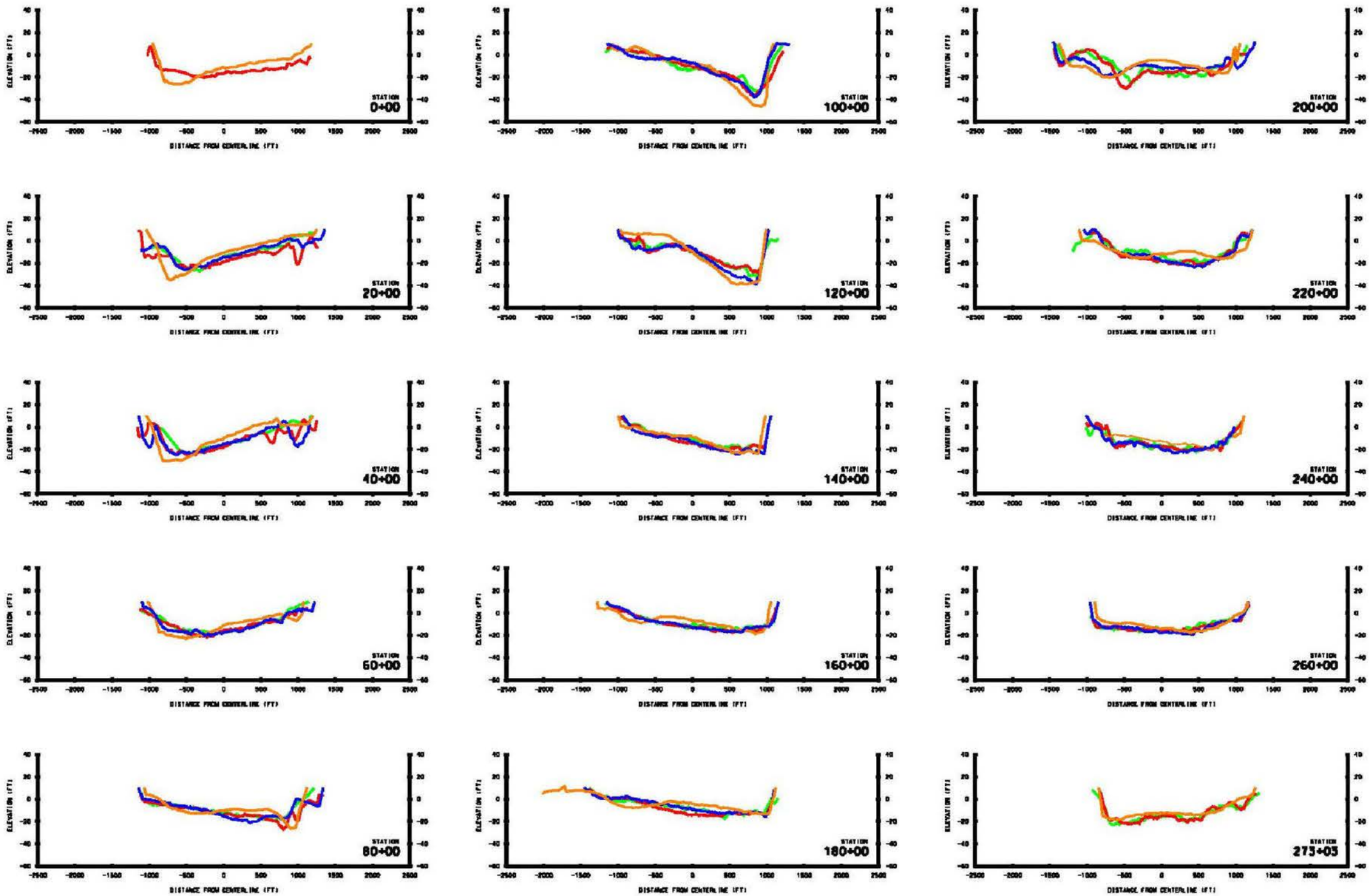
VANCILL HSR MODEL CROSS-SECTIONAL ANALYSIS



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REVIEWED BY: J. BROWN, P.E.	
CHECKED BY: E. BRAUER, P.E.	DRAWN BY: I. NGUYEN
APPROVED BY: R. DAVINROY, P.E.	SUBMITTED BY: I. NGUYEN
PLOT DATE: JULY 2012	
FILENAME: VANCILLTOWHEAD.MDX	

U.S. ARMY ENGINEERING DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

MIDDLE MISSISSIPPI BASIN
VANCILL TOWHEAD HSR MODEL

VANCILL TOWHEAD
CROSS SECTIONS

PLATE
NUMBER
74