

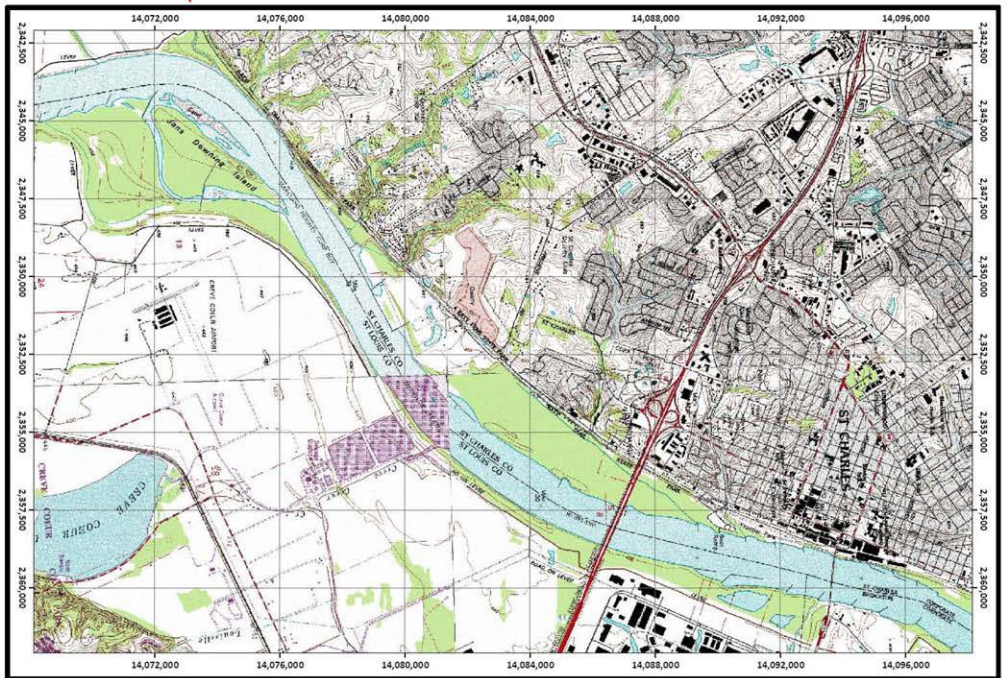
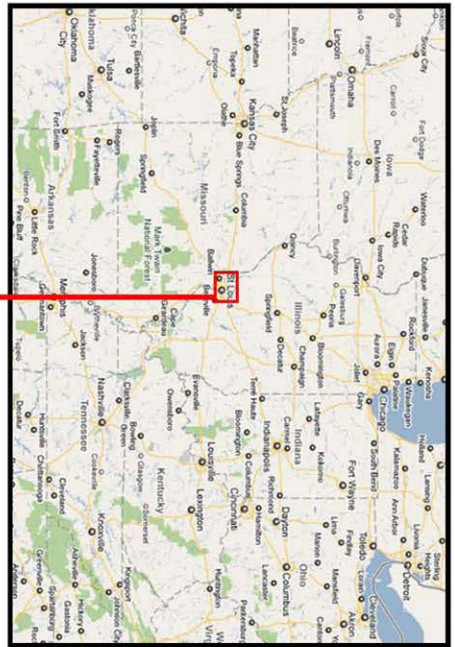
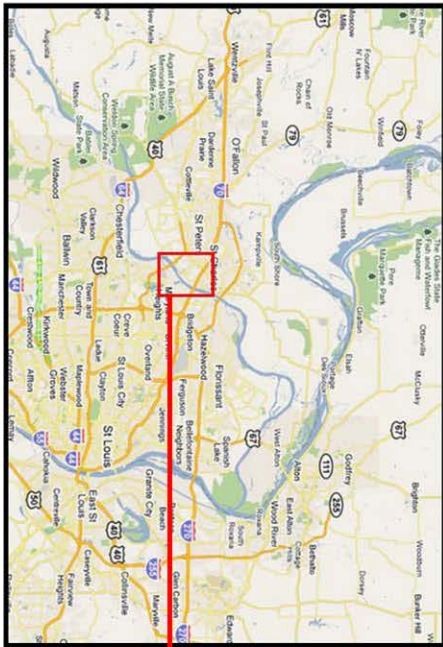


PLATE
NUMBER
1

LOCATION AND VICINITY MAP OF THE STUDY REACH

US ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	T. LAUTH	
	T. LAUTH	BROWN, P.E.
	A. COX	
	T. LAUTH	R. DAVENPORT, P.E.
Bangert Island HSR Model		



ARMED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District

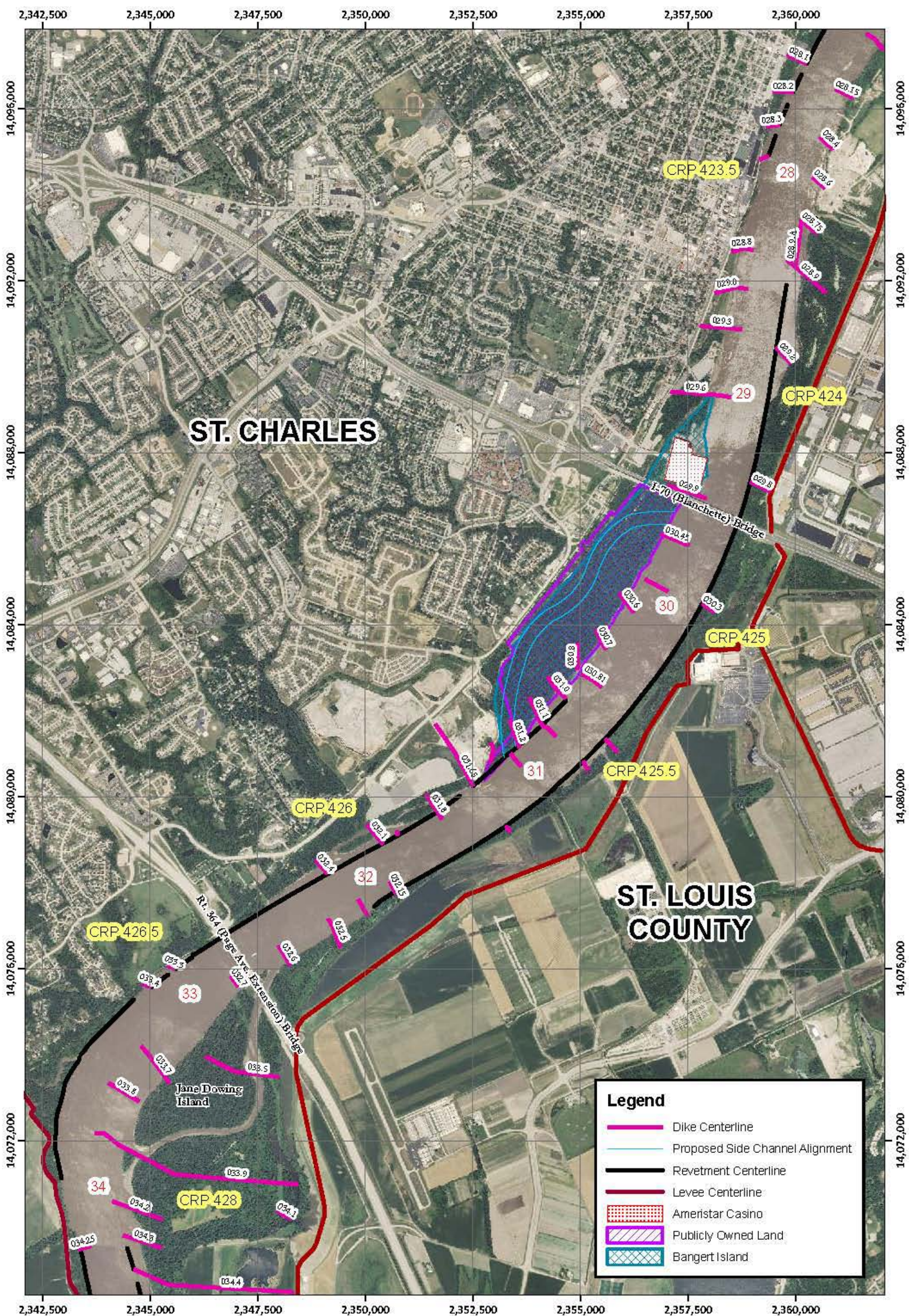


PLATE NUMBER
2

0 500 1,000 2,000 3,000 4,000 Feet

Site Nomenclature
2009 AERIAL PHOTOGRAPH

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

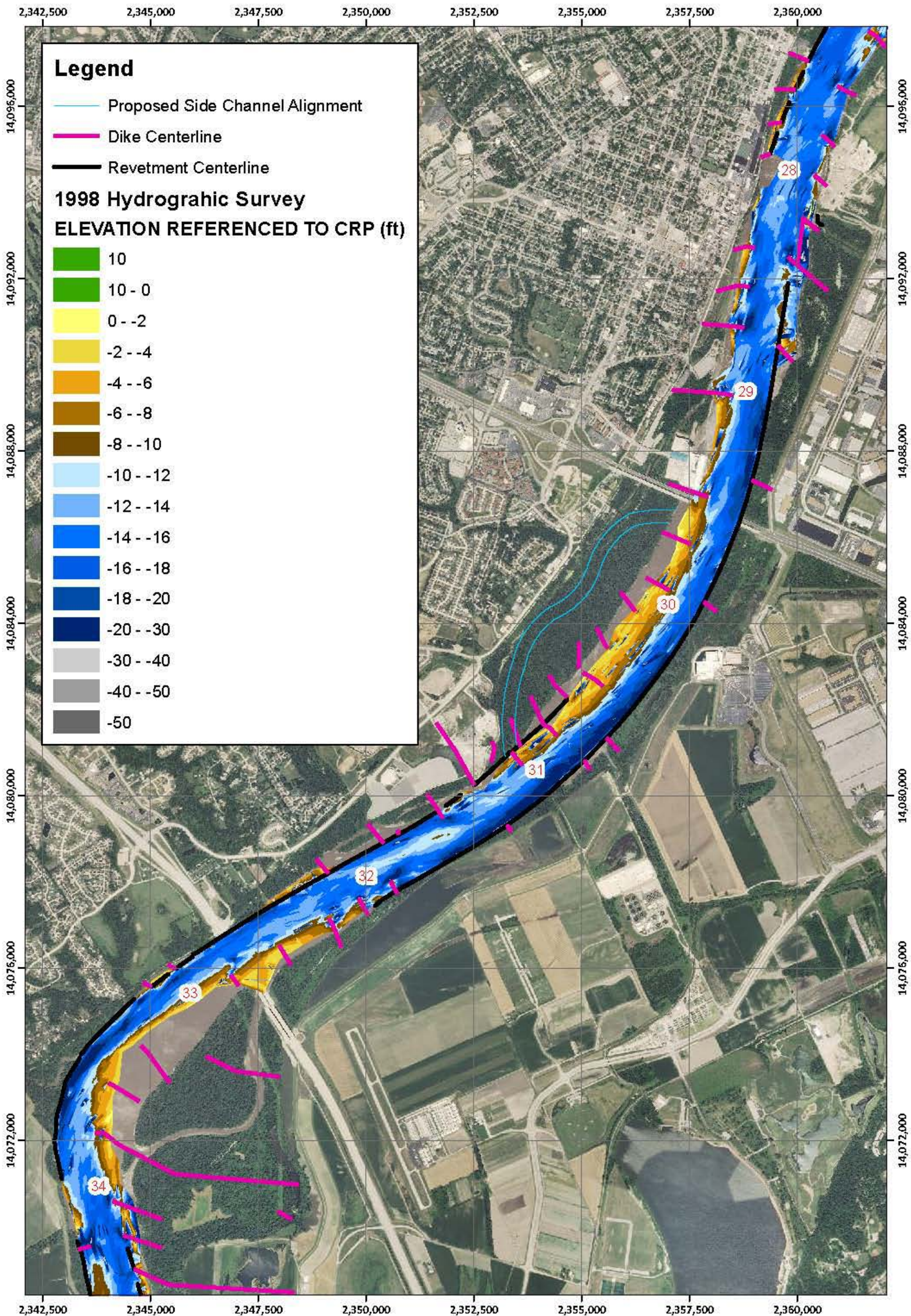
Missouri River Basin
Extra City District
Bangert Island
HSR Model

DESIGNED BY T. LAUTH	PROJECT T. LAUTH	REPORT J. BROWN, P.E.	CHECKED BY B. ERSCHL
DRAWN BY T. LAUTH	APPROVED R. DAVIN ROY, P.E.		
BY ... Engineer/Planner		DATE 01/18/2011	

North Arrow

APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District



Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

1998 Hydrographic Survey

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

3

PLATE
NUMBER

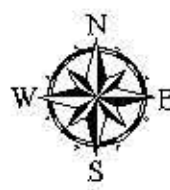
0 500 1,000 2,000 3,000 4,000 Feet

1998 Hydrographic Survey
2009 AERIAL PHOTOGRAPH

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

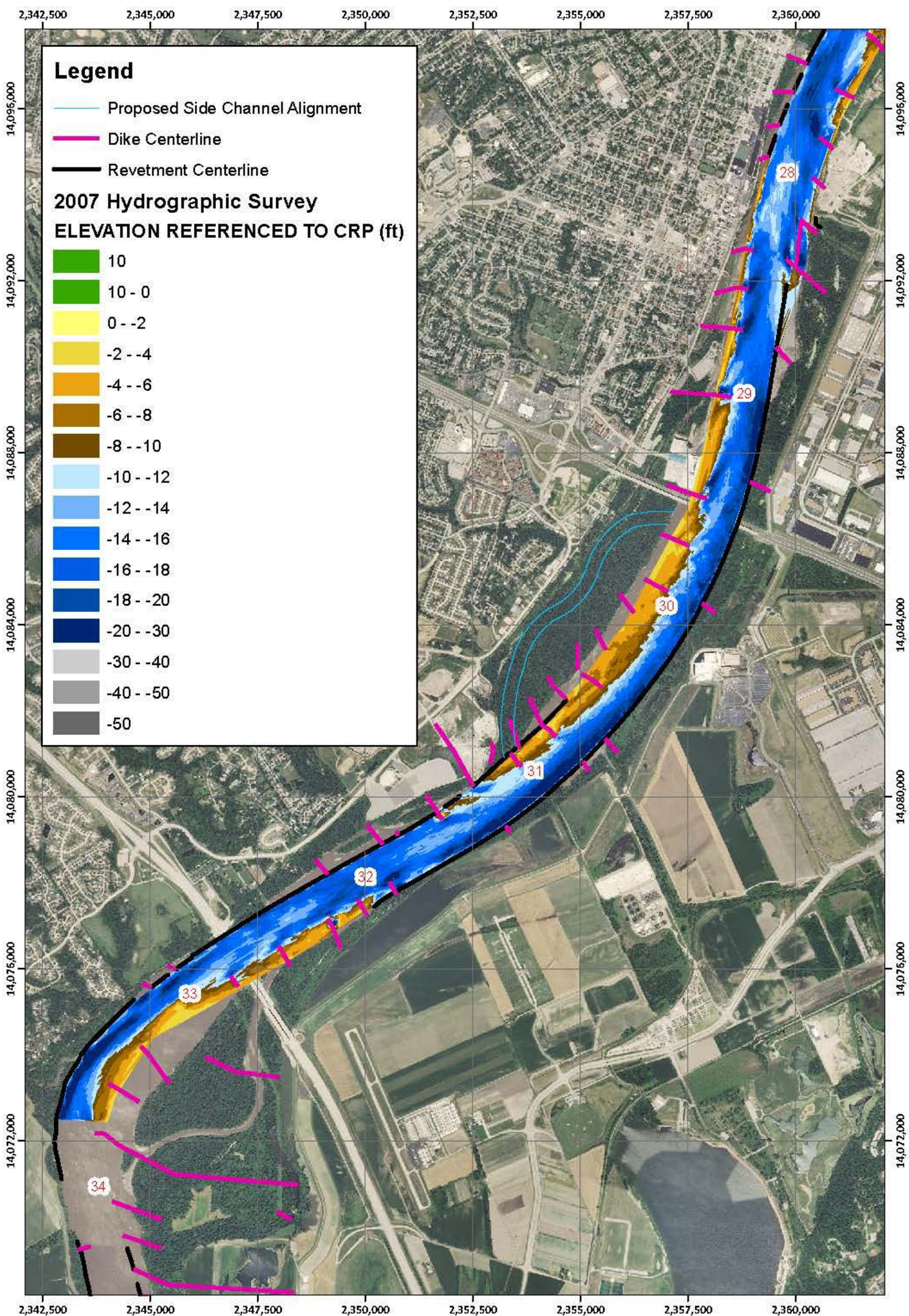
Bangert Island
HSR Model

DESIGNED BY T LAUTH	APPROVED BY J BROWN, P.E.	DATE 1998
DRAWN BY T LAUTH	CHECKED BY A CON	
COMPILED BY T LAUTH	REVIEWED BY R DAVINROY, P.E.	
FILE NAME ... Bangert/ Plans	NO OF PAGES 9/27/11	



US Army Corps
of Engineers
St. Louis District





Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

2007 Hydrographic Survey ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
4

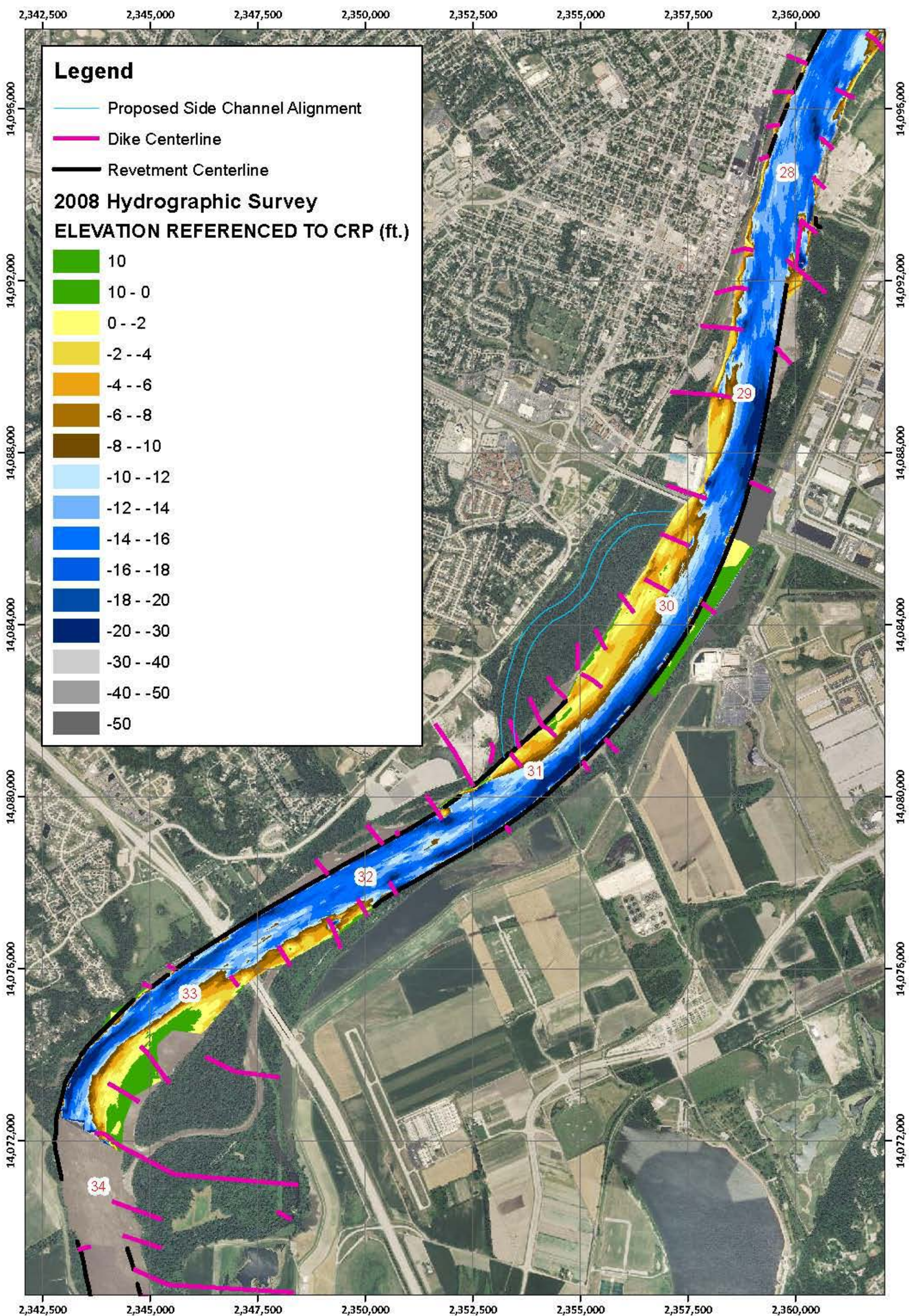
0 500 1,000 2,000 3,000 4,000 Feet
2007 Hydrographic Survey
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 2007
		DRAWN BY T LAUTH J BROWN, P.E.	CHECKED BY A CON
Bangert Island HSR Model		REVIEWED BY T LAUTH	DATE 9/27/11
		APPROVED BY R DAVINROY, P.E.	



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District



Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

**2008 Hydrographic Survey
ELEVATION REFERENCED TO CRP (ft.)**

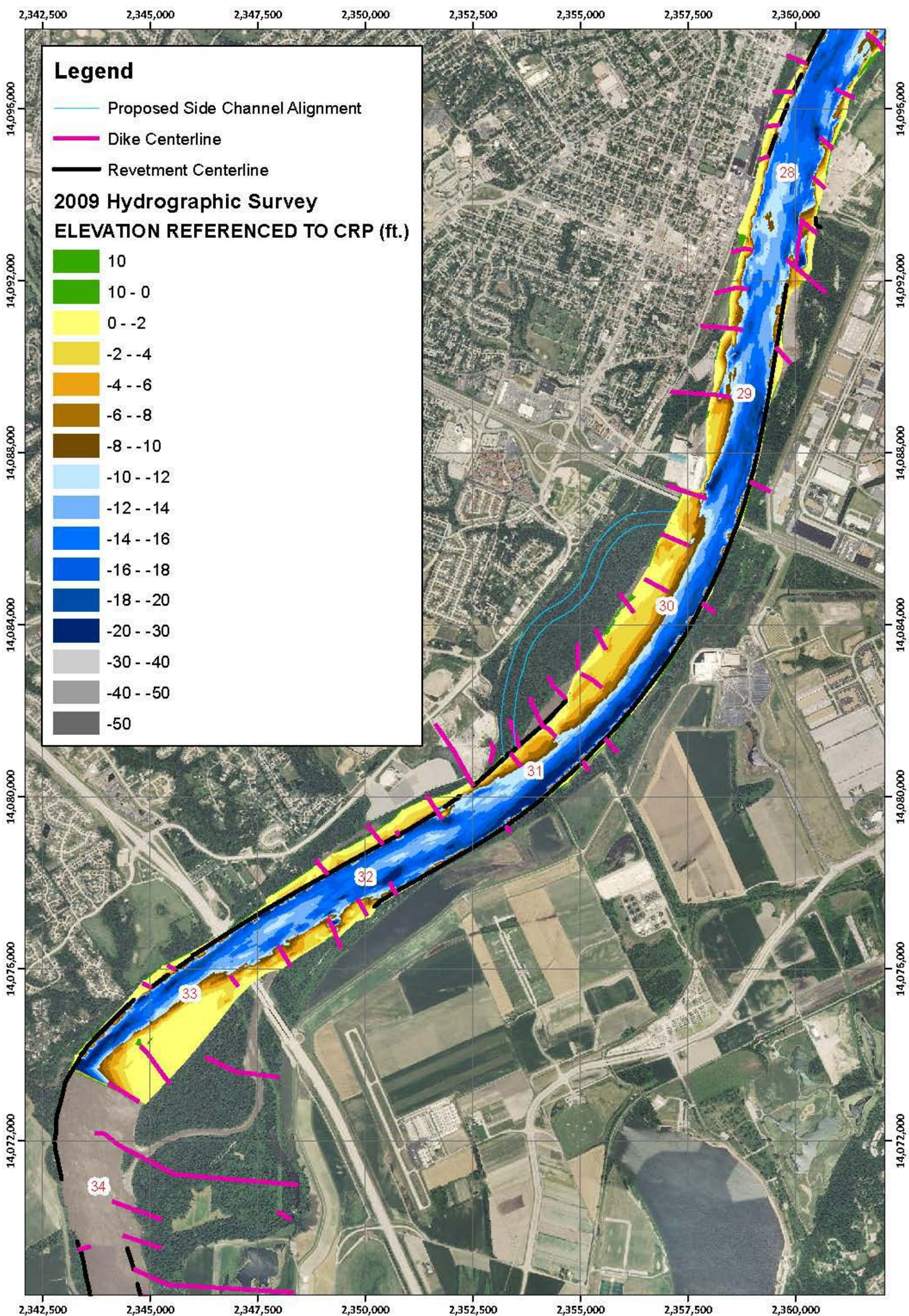
- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
5

0 500 1,000 2,000 3,000 4,000 Feet
2008 Hydrographic Survey
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 2008
		DRAWN BY T LAUTH J BROWN, P.E.	CHECKED BY A CON
Bangert Island HSR Model		COMPILED BY T LAUTH	REVIEWED BY R DAVINROY, P.E.
		PREPARED FOR ... Bangert Island	NO OF PAGES 9/27/11





Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

**2009 Hydrographic Survey
ELEVATION REFERENCED TO CRP (ft.)**

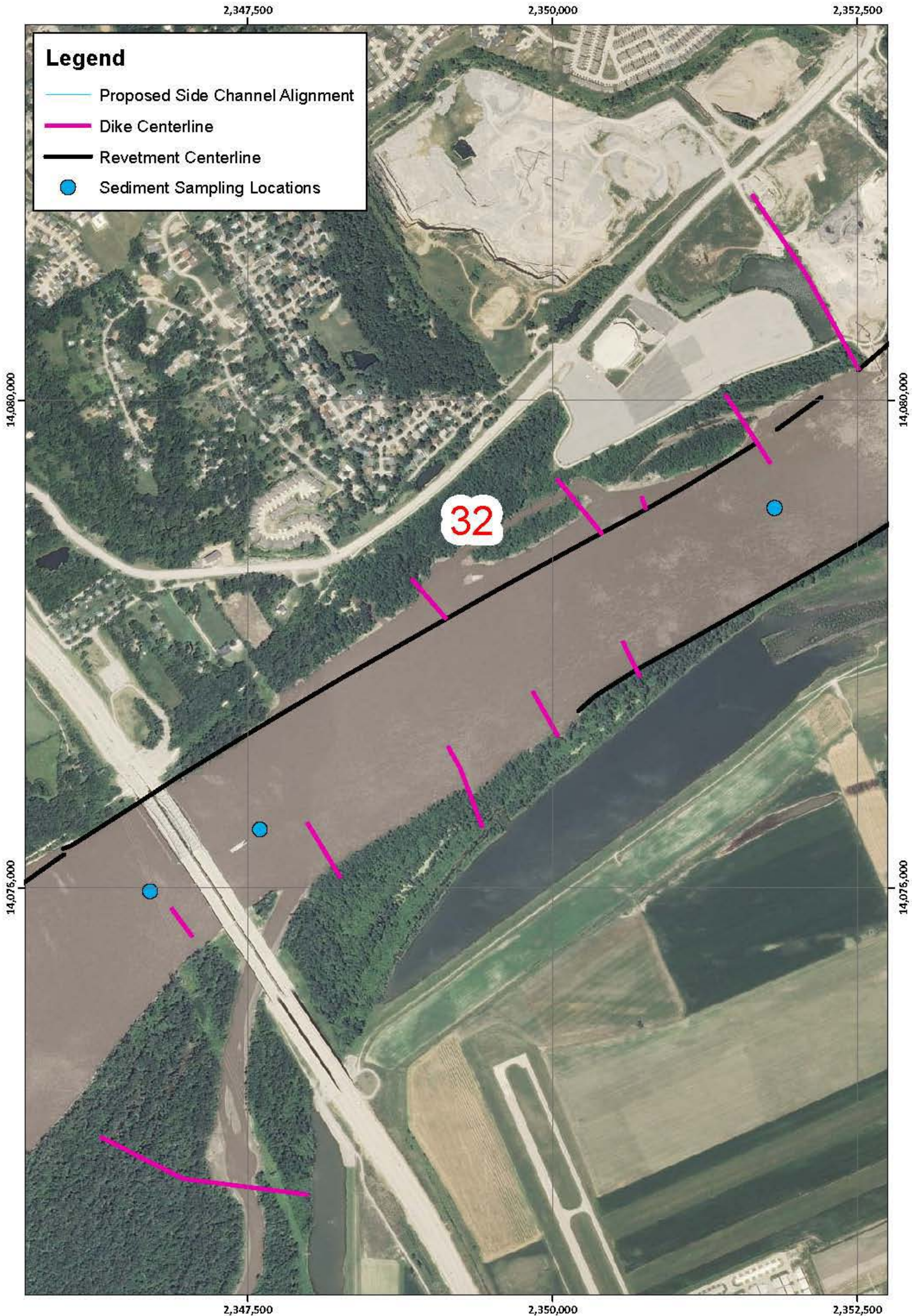
- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
6

0 500 1,000 2,000 3,000 4,000 Feet
2009 Hydrographic Survey
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 2009
		DRAWN BY T LAUTH J BROWN, P.E.	CHECKED BY A CON
Bangert Island HSR Model		REVIEWED BY T LAUTH	DATE 9/27/11
		APPROVED BY ... Bangert/Plaza	DATE 9/27/11



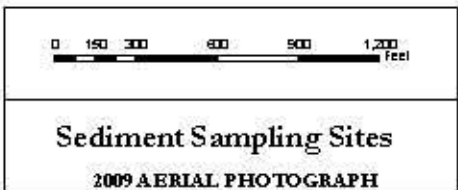


Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline
- Sediment Sampling Locations

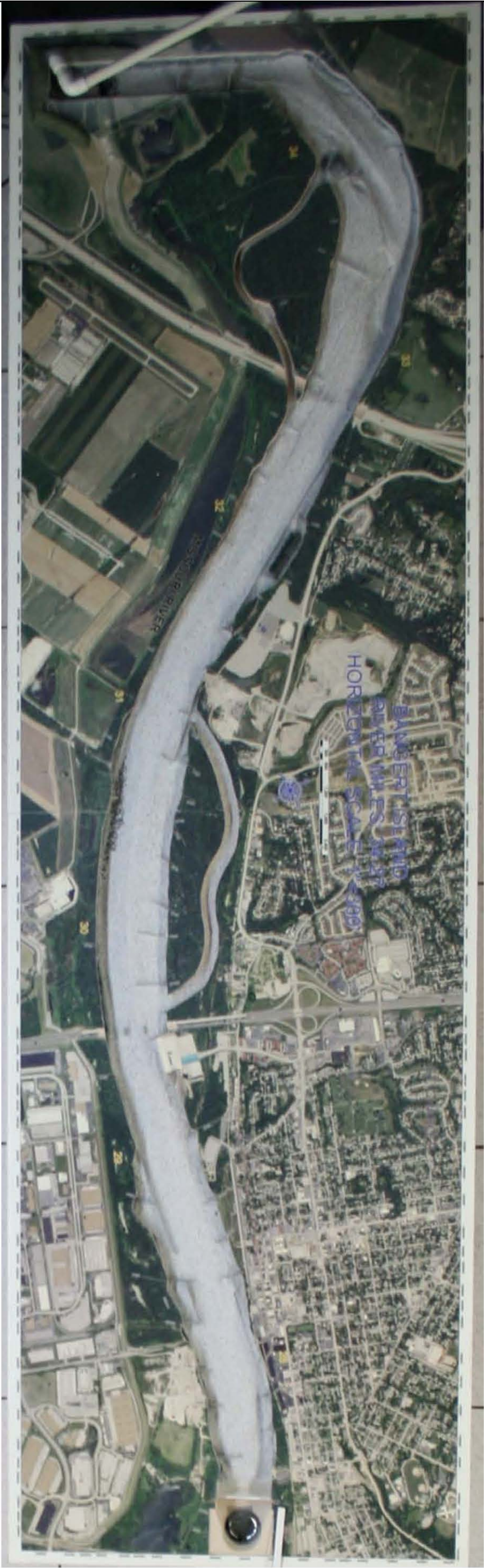
32

PLATE
NUMBER
7



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 3/30/11	
	CHECKED BY T LAUTH	IN CHARGE BY J BROWN, P.E.	CONTRACT NO. A COK	
	SUBMITTED BY T LAUTH		APPROVED BY R DAVINROY, P.E.	
	PROJECT NAME Bangert Island HSR Model		DATE OF SUBMITTAL 9/27/11	





Model Photograph

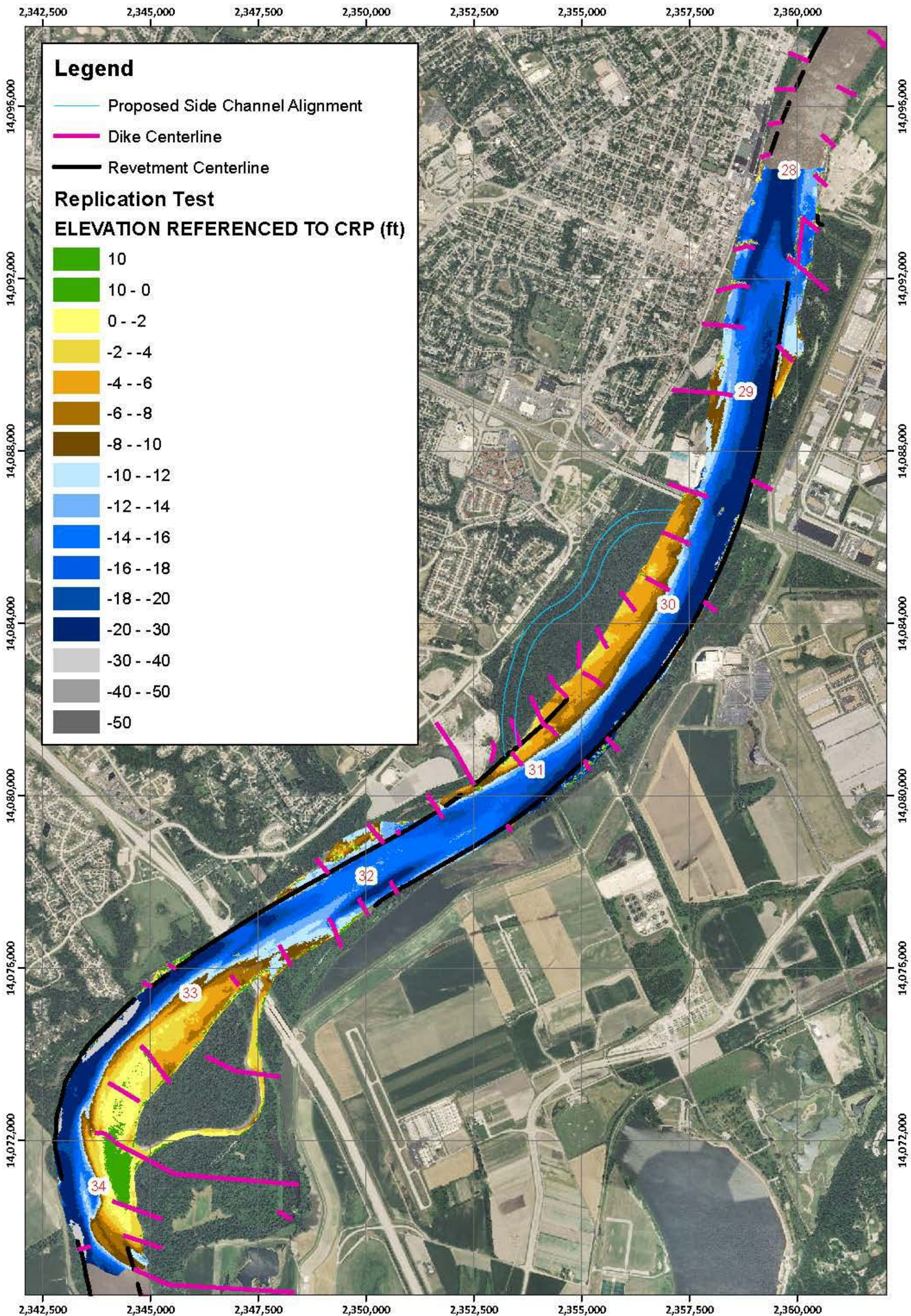
PLATE
NUMBER

8

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY: T LAUTH		SURVEY DATE:	
	DRAWN BY: T LAUTH	REVIEWED BY: J BROWN, P.E.	CHECKED BY: A COX	
	SUBMITTED: T LAUTH		APPROVED: R DAVINROY, P.E.	
	FILE NAME: ... Bangert/Plates		PLOT DATE: 9/27/11	

Bangert Island
HSR Model





Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

Replication Test

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

9

PLATE
NUMBER

0 500 1,000 2,000 3,000 4,000 Feet

Replication Test Scan

2009 AERIAL PHOTOGRAPH

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

Bangert Island

HSR Model

DESIGNED BY T LAUTH	REVIEWED BY J BROWN, P.E.	DATE 6/10/11
DRAWN BY T LAUTH	CHECKED BY A CON	
COMPILED BY T LAUTH	PROJECT MANAGER R DAVINROY, P.E.	
PROJECT NAME Bangert Island	PROJECT NO. 9/27/11	



US Army Corps
of Engineers
St. Louis District



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

Replication Test Upstream LDV No Gate NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
10

0 25 50 75 100 Feet

Replication Test - No Gate
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

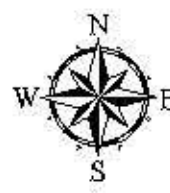
DATE
7/4/11

DESIGNED BY
J BROWN, P.E.

DRAWN BY
A COX

CHECKED BY
R DAVINROY, P.E.

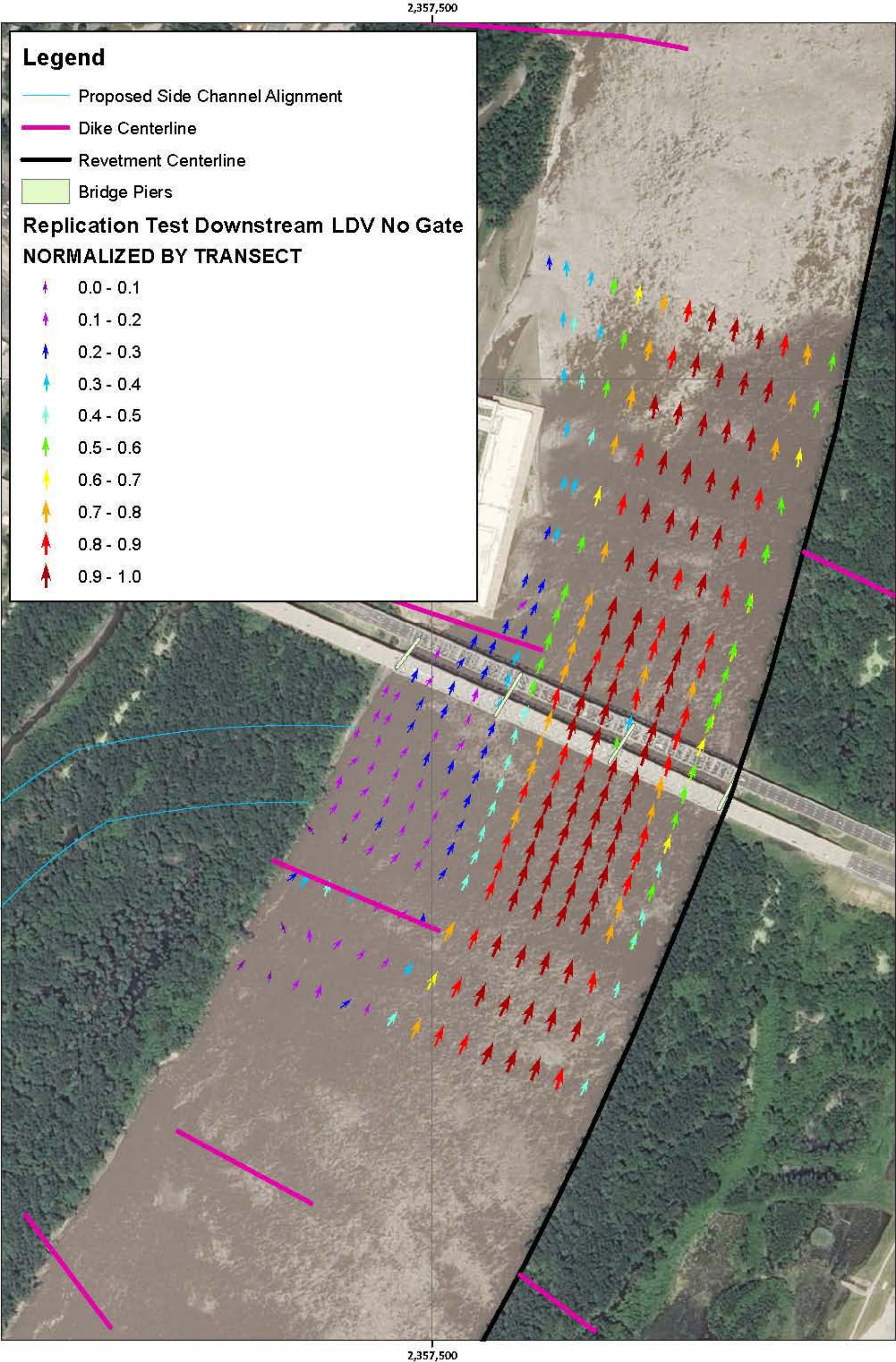
APPROVED BY
9/27/11



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District





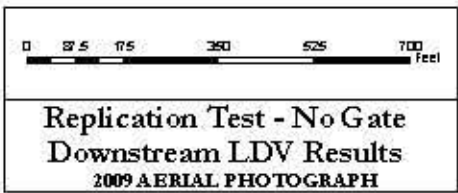
Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline
- Bridge Piers

**Replication Test Downstream LDV No Gate
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

PLATE
NUMBER
11



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 7/4/11
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
	APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
	PROJECT Bangert Island HSR Model	DATE 9/27/11



APPLIED
RIVER
ENGINEERING CENTER

**US Army Corps
of Engineers**
St. Louis District



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

Replication Test Upstream LDV With Gate NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

2,352,500

2,355,000

14,080,000

14,080,000

12

PLATE
NUMBER

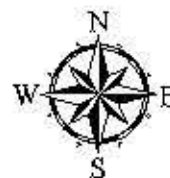
0 15 30 45 60 75 90 105 120 Feet

Replication Test - With Gate
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

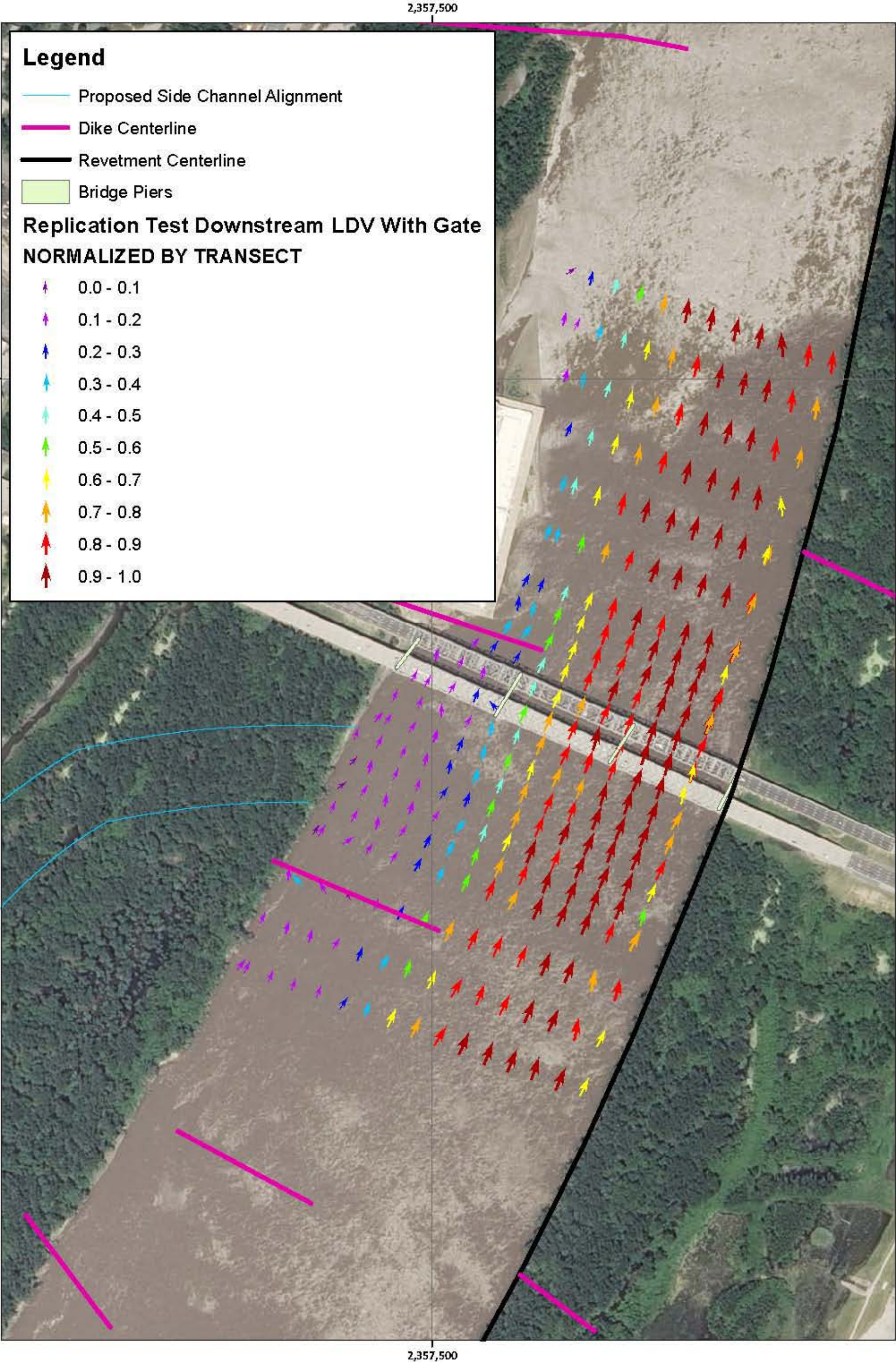
DESIGNED BY T LAUTH	DATE 7/4/11
DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
PROJECT Bangert Island	DATE 9/27/11

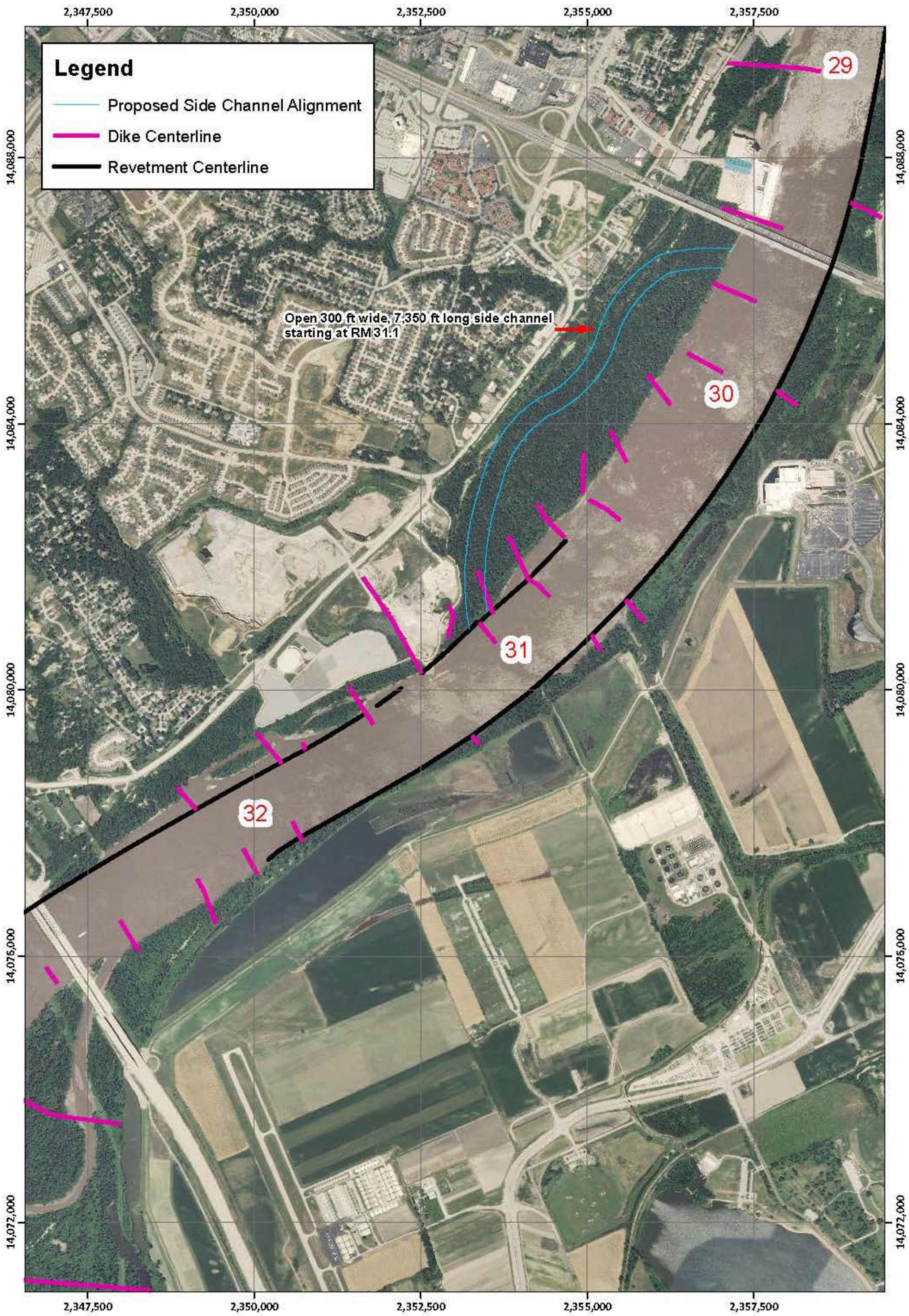


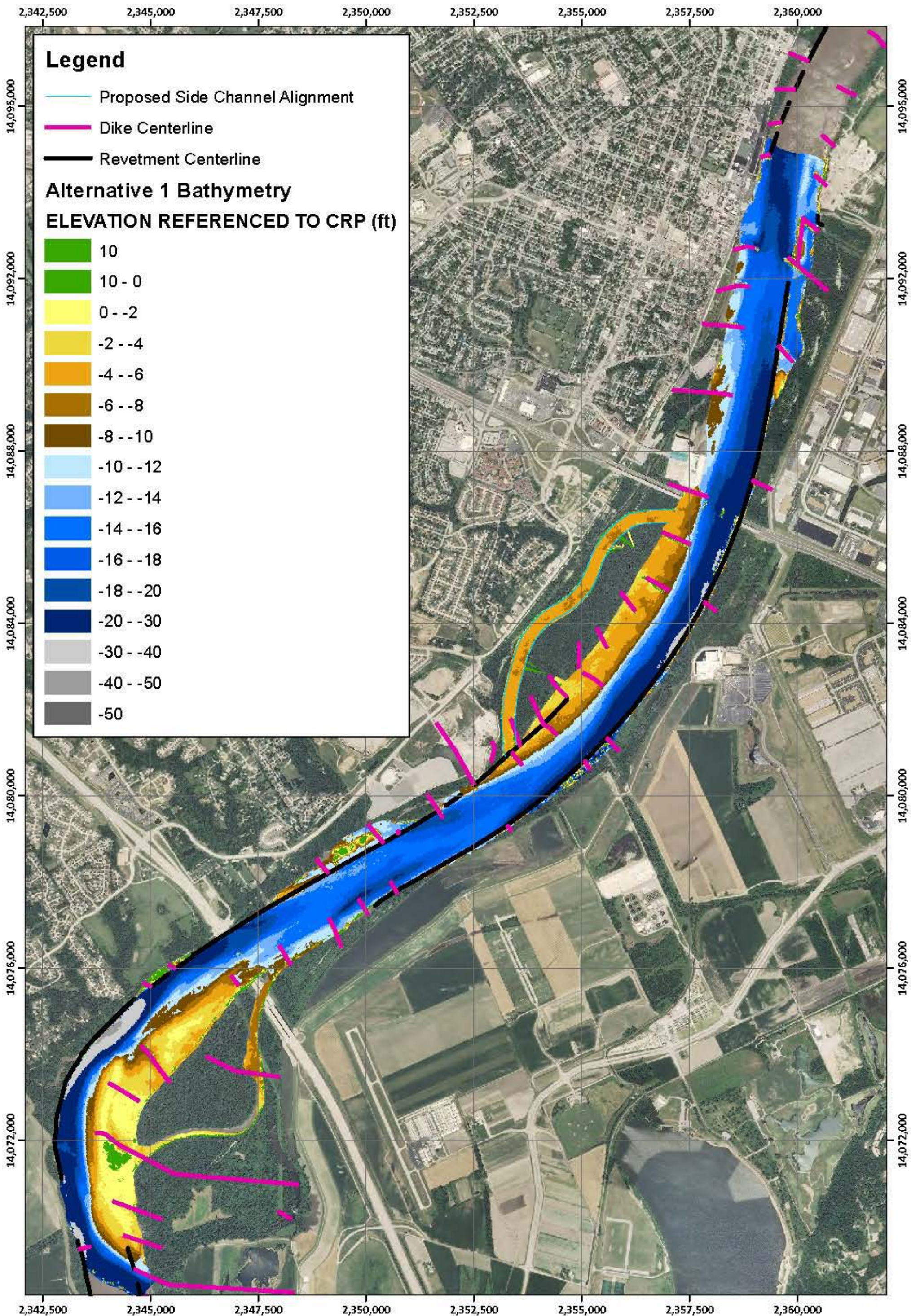
APPLIED
RIVER
ENGINEERING CENTER

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St. Louis District









Legend

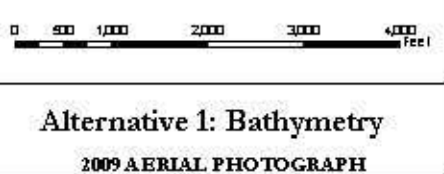
- Proposed Side Channel Alignment
- Dike Centerline
- Revetment Centerline

Alternative 1 Bathymetry

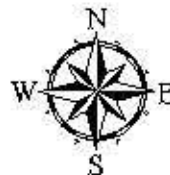
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
15



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 6/26/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

Proposed Side Channel Alignment

Dike Centerline

Revetment Centerline

Alternative 1 Upstream LDV NORMALIZED BY TRANSECT

0.0 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

0.5 - 0.6

0.6 - 0.7

0.7 - 0.8

0.8 - 0.9

0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

16

PLATE
NUMBER

0 87.5 175 350 525 700 Feet

Alternative 1:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

DATE
6/27/11

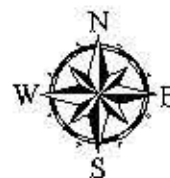
DESIGNED BY
T LAUTH

DRAWN BY
J BROWN, P.E.

CHECKED BY
A CON

APPROVED BY
R DAVINROY, P.E.

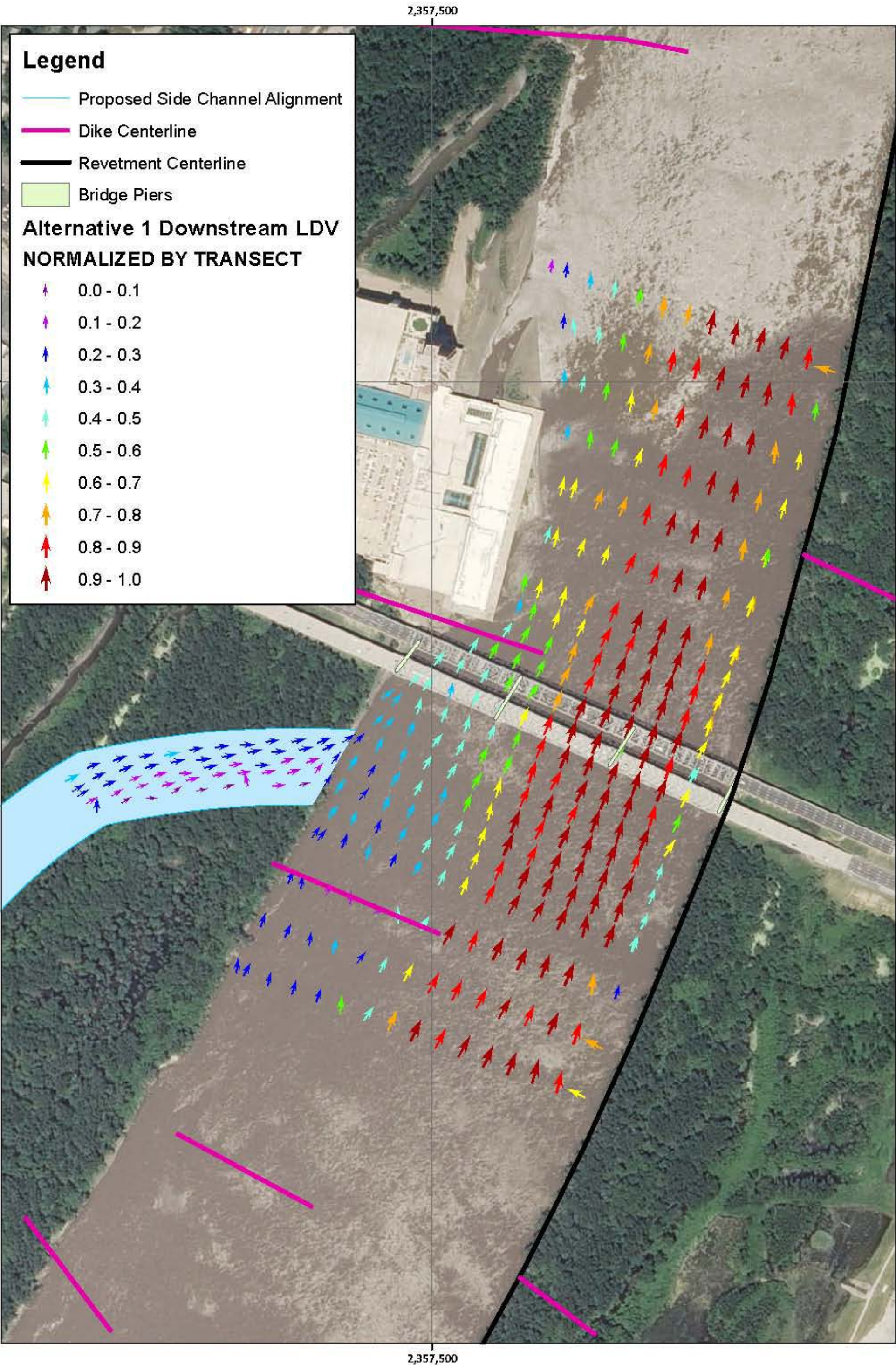
DATE
9/27/11

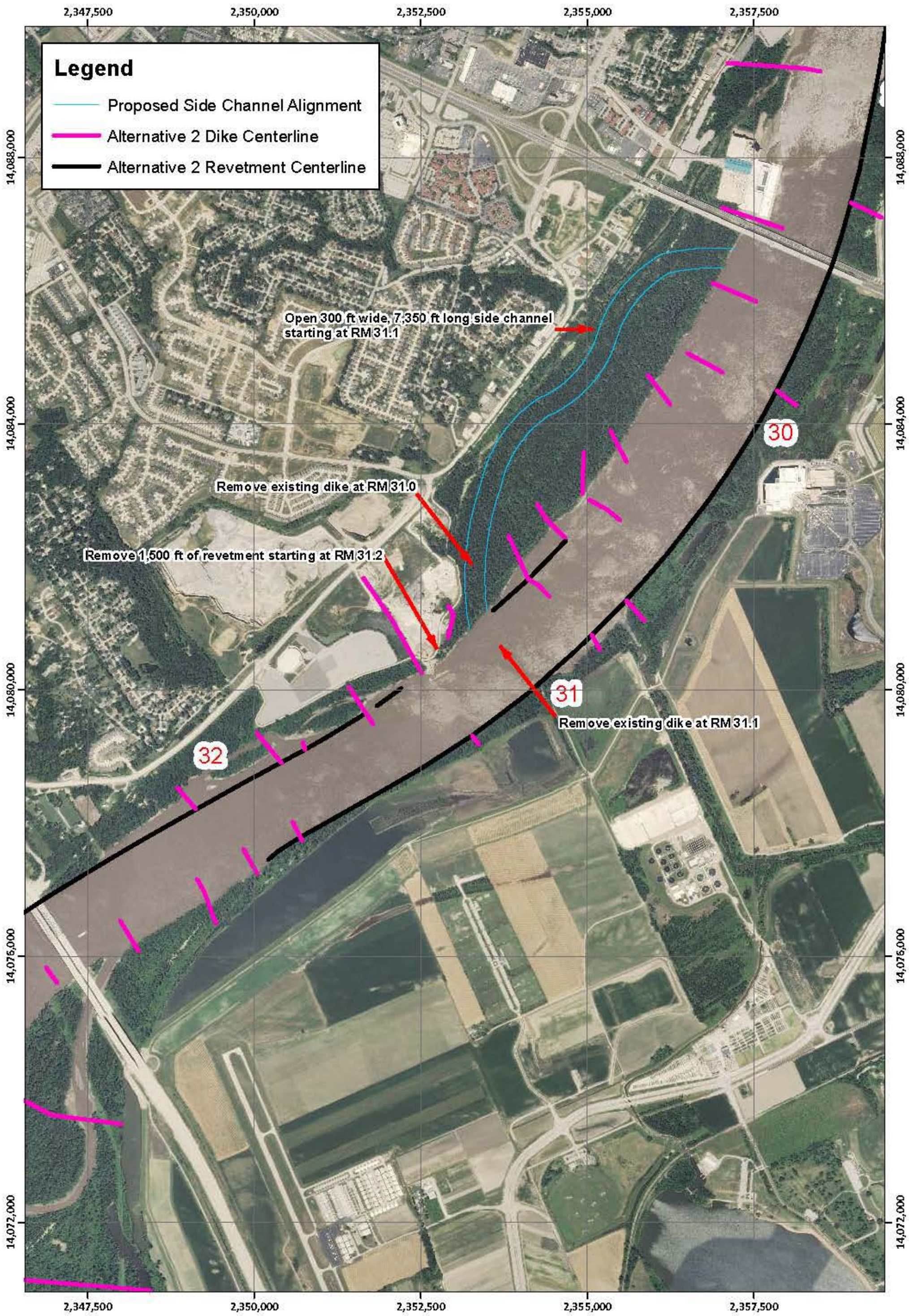


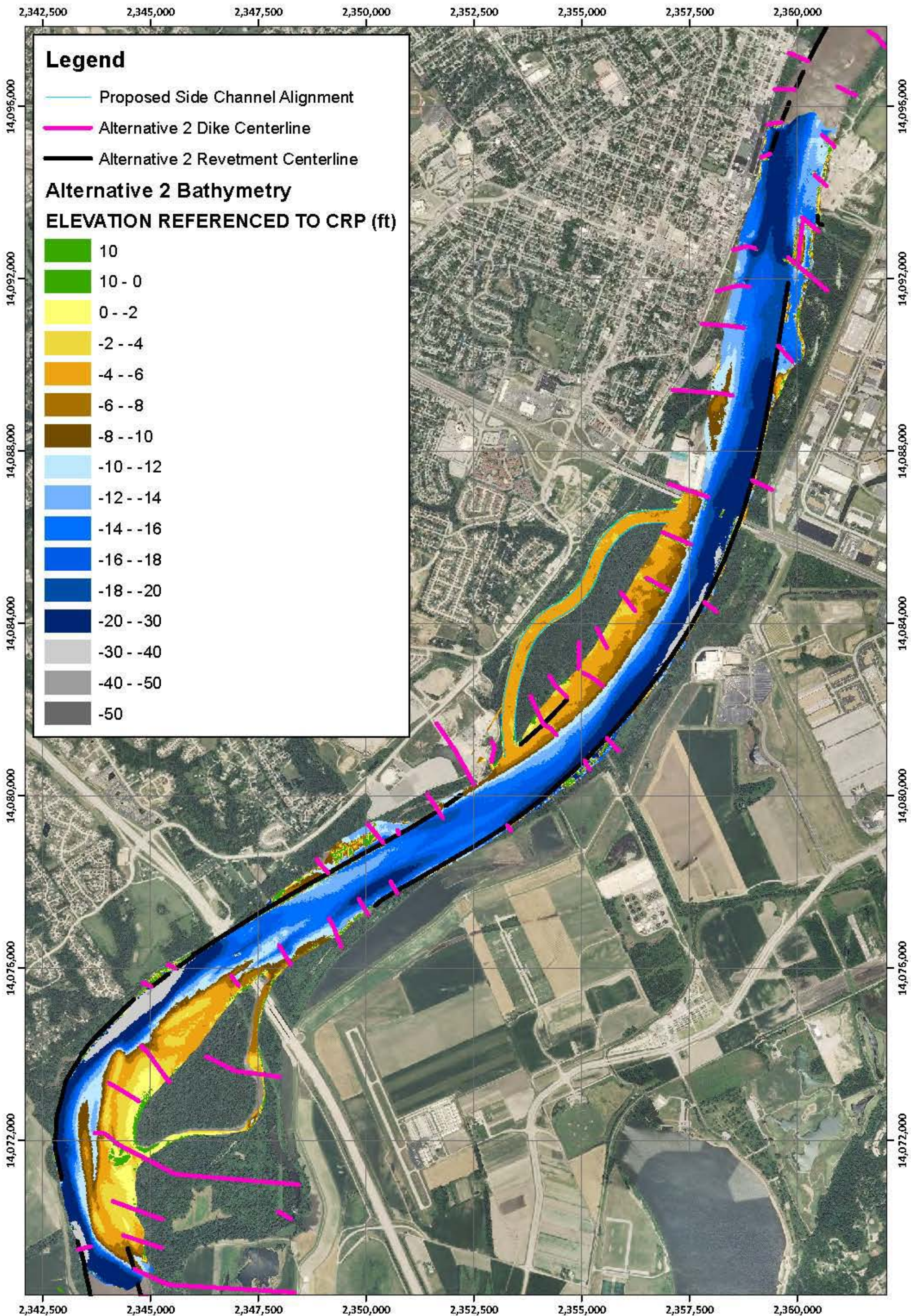
APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District









Legend

- Proposed Side Channel Alignment
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 2 Bathymetry

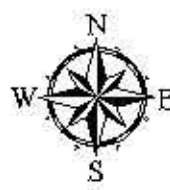
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
19

0 500 1000 2000 3000 4000 Feet
Alternative 2: Bathymetry
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY	T LAUTH	DATE	6/30/11
	DRAWN BY	T LAUTH	IN CHARGE	J BROWN, PE.
	CHECKED BY	T LAUTH	APPROVED	R DAVINROY, PE.
	PROJECT	Bangert Island HSR Model		



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District

2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 2 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

20

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 2:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

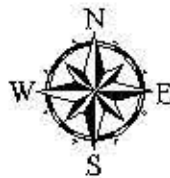
DATE
6/30/11

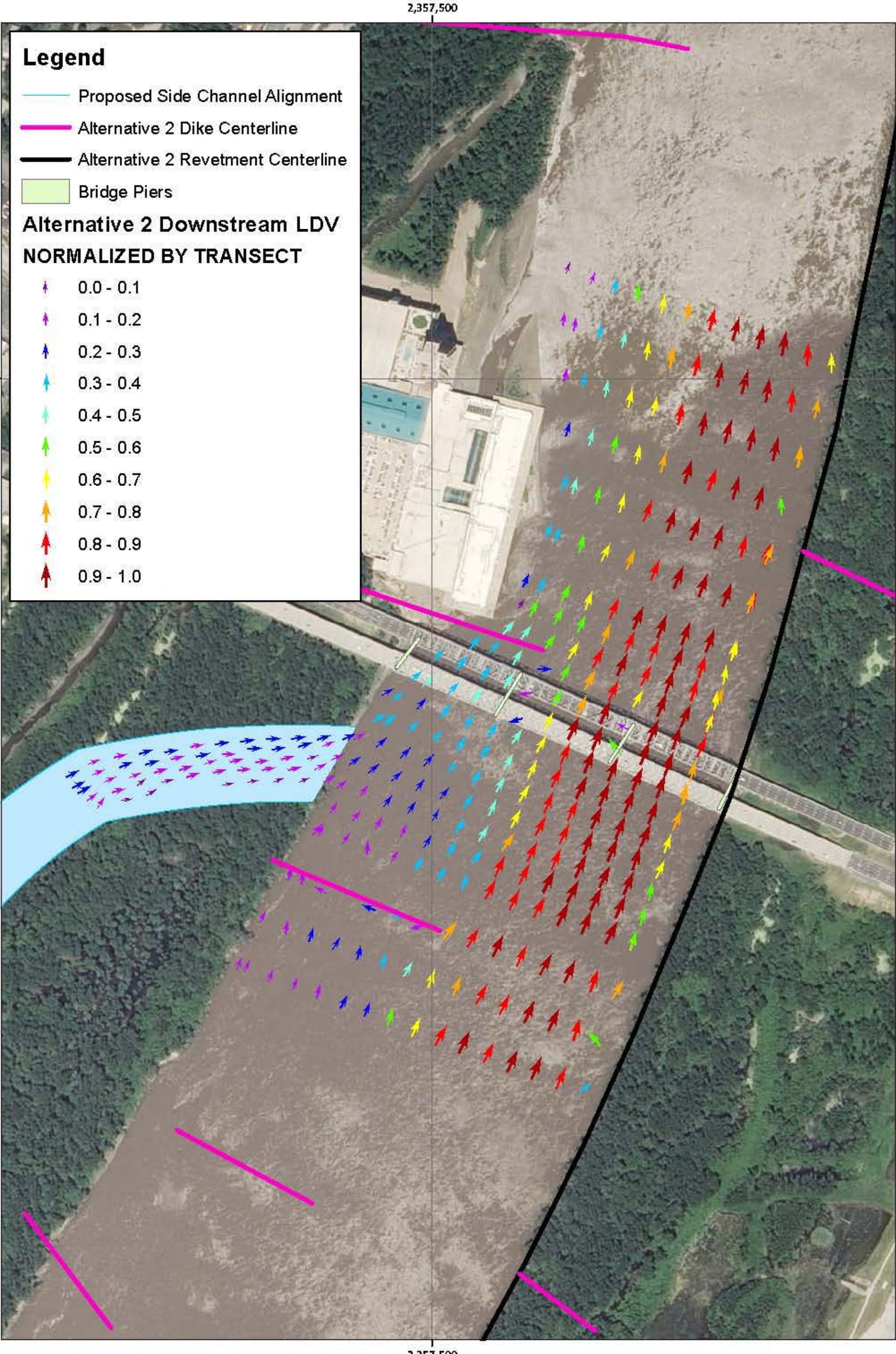
DESIGNED BY
A COX

DRAWN BY
R DAVINROY, P.E.

CHECKED BY
R DAVINROY, P.E.

APPROVED BY
R DAVINROY, P.E.



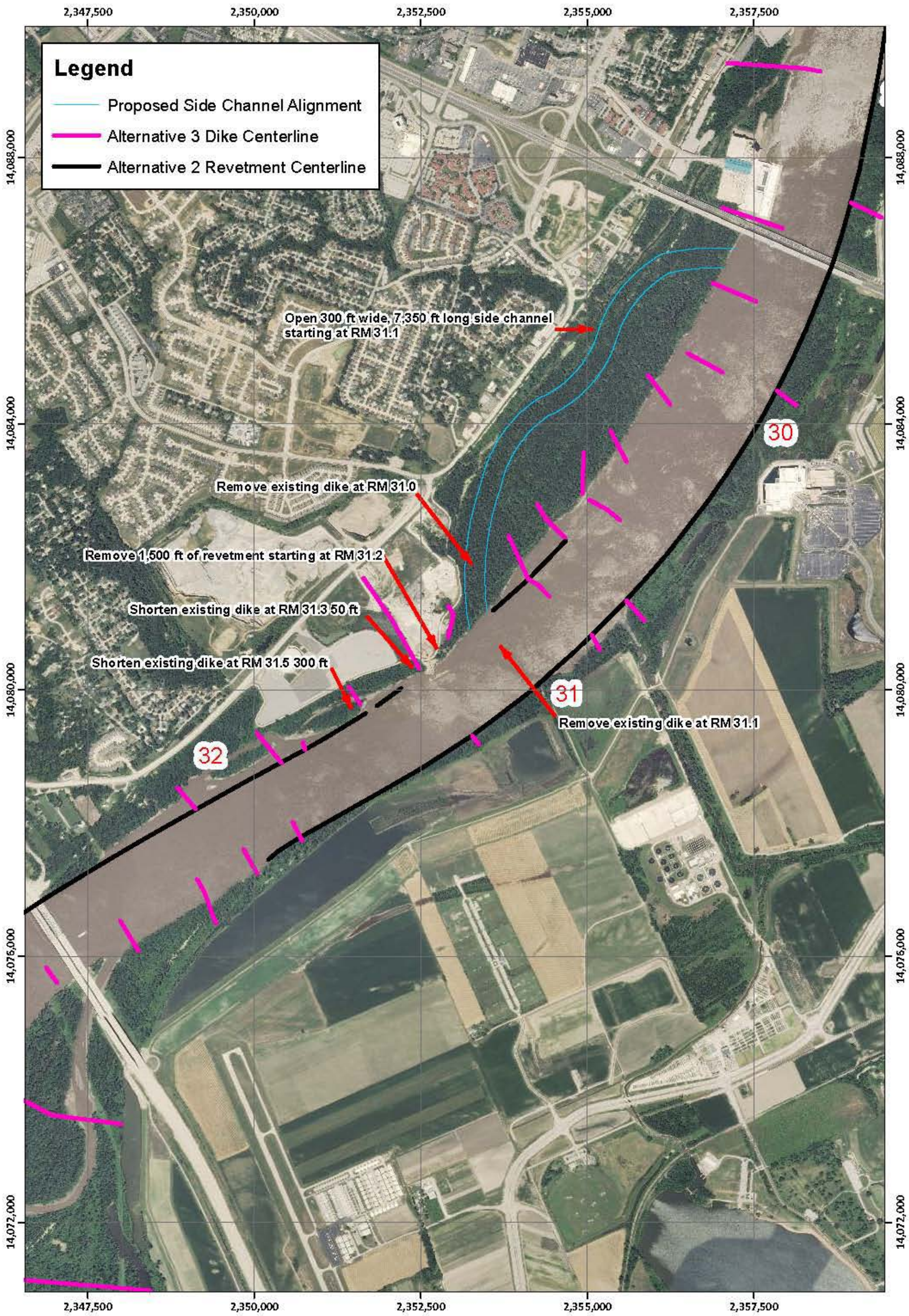


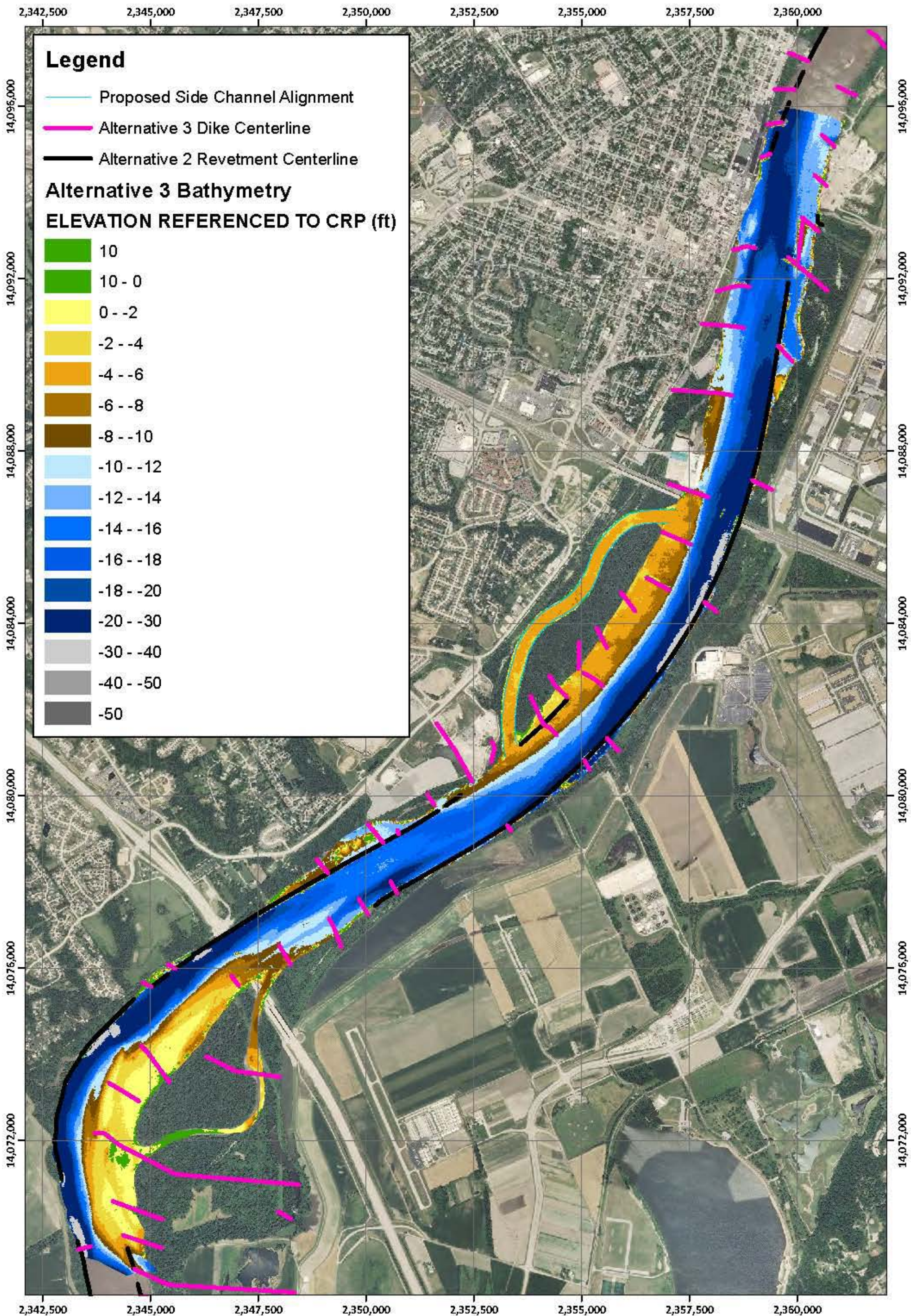
Legend

- Proposed Side Channel Alignment
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

Alternative 2 Downstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0





Legend

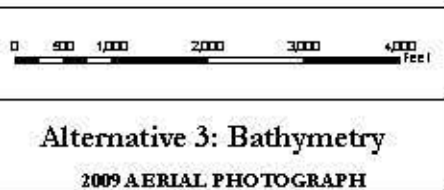
- Proposed Side Channel Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 3 Bathymetry

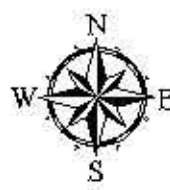
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
23



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY	7/5/11
	DRAWN BY	
	CHECKED BY	
	APPROVED BY	
Bangert Island HSR Model	DESIGNED BY	T LAUTH
	DRAWN BY	J BROWN, P.E.
	CHECKED BY	A CON
	APPROVED BY	
	DESIGNED BY	T LAUTH
	DRAWN BY	R DAVINROY, P.E.
	CHECKED BY	
	APPROVED BY	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 3 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

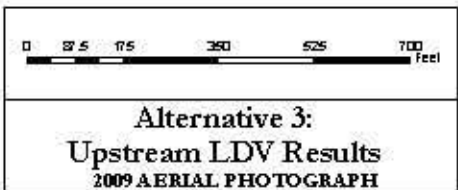
14,080,000

14,080,000

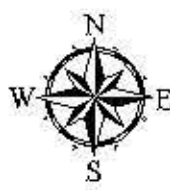
2,352,500

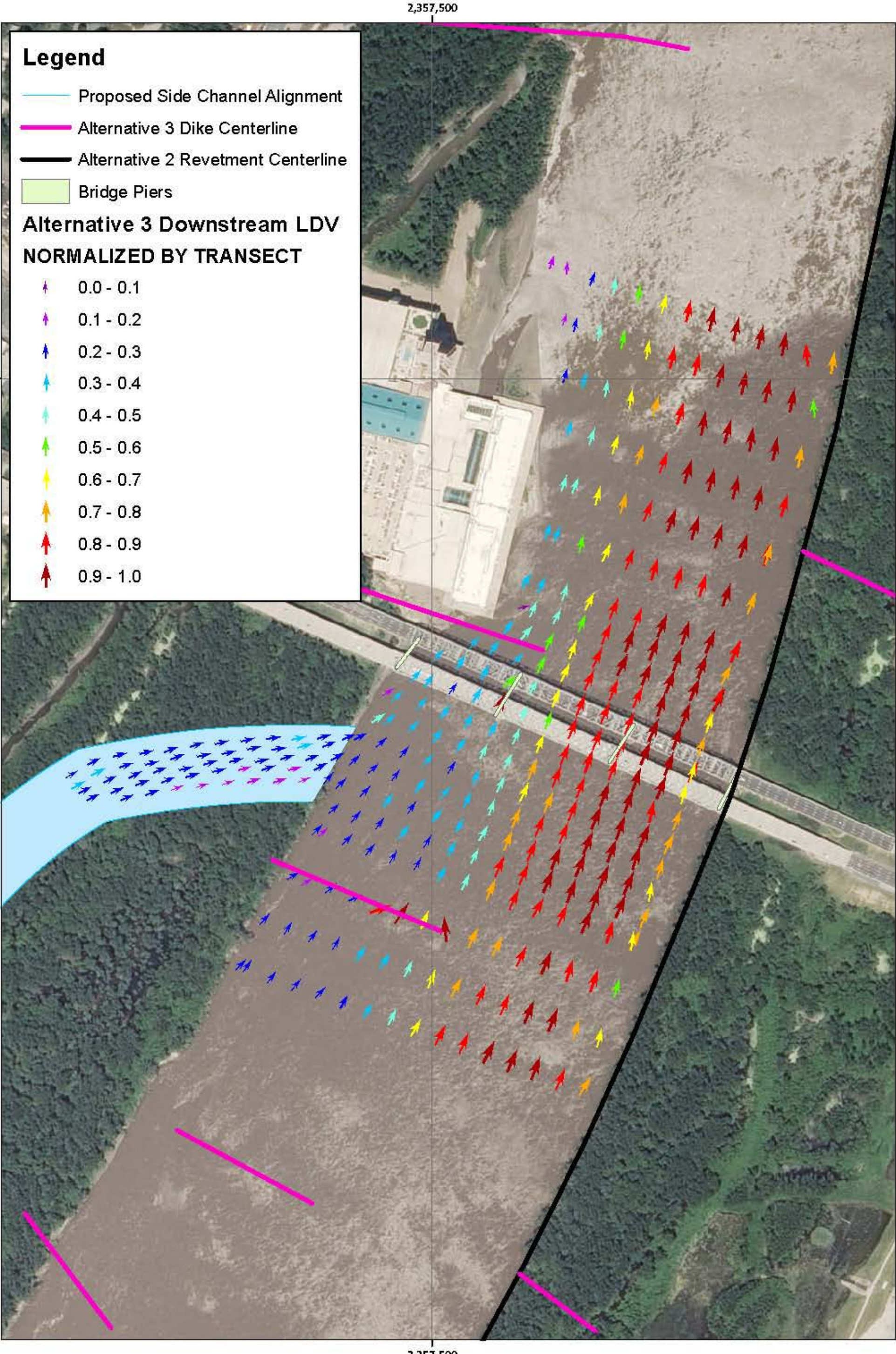
2,355,000

PLATE
NUMBER
24



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 7/6/11	
	CHECKED BY T LAUTH		DESIGNED BY J BROWN, P.E.	
	APPROVED BY T LAUTH		DESIGNED BY R DAVINROY, P.E.	
	PROJECT NAME Bangert Island HSR Model		DATE 9/27/11	





Legend

- Proposed Side Channel Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 3 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

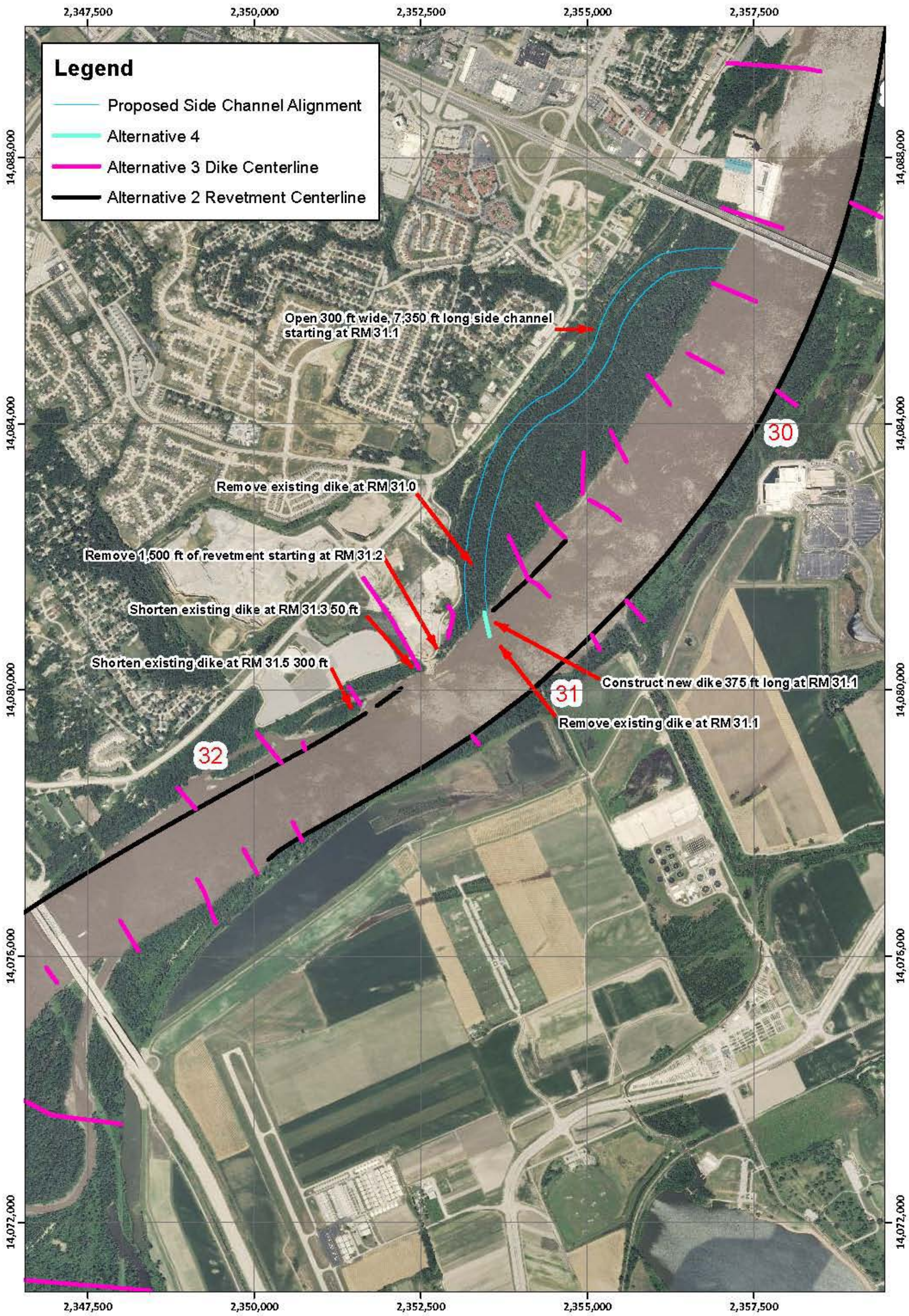
PLATE
NUMBER
25

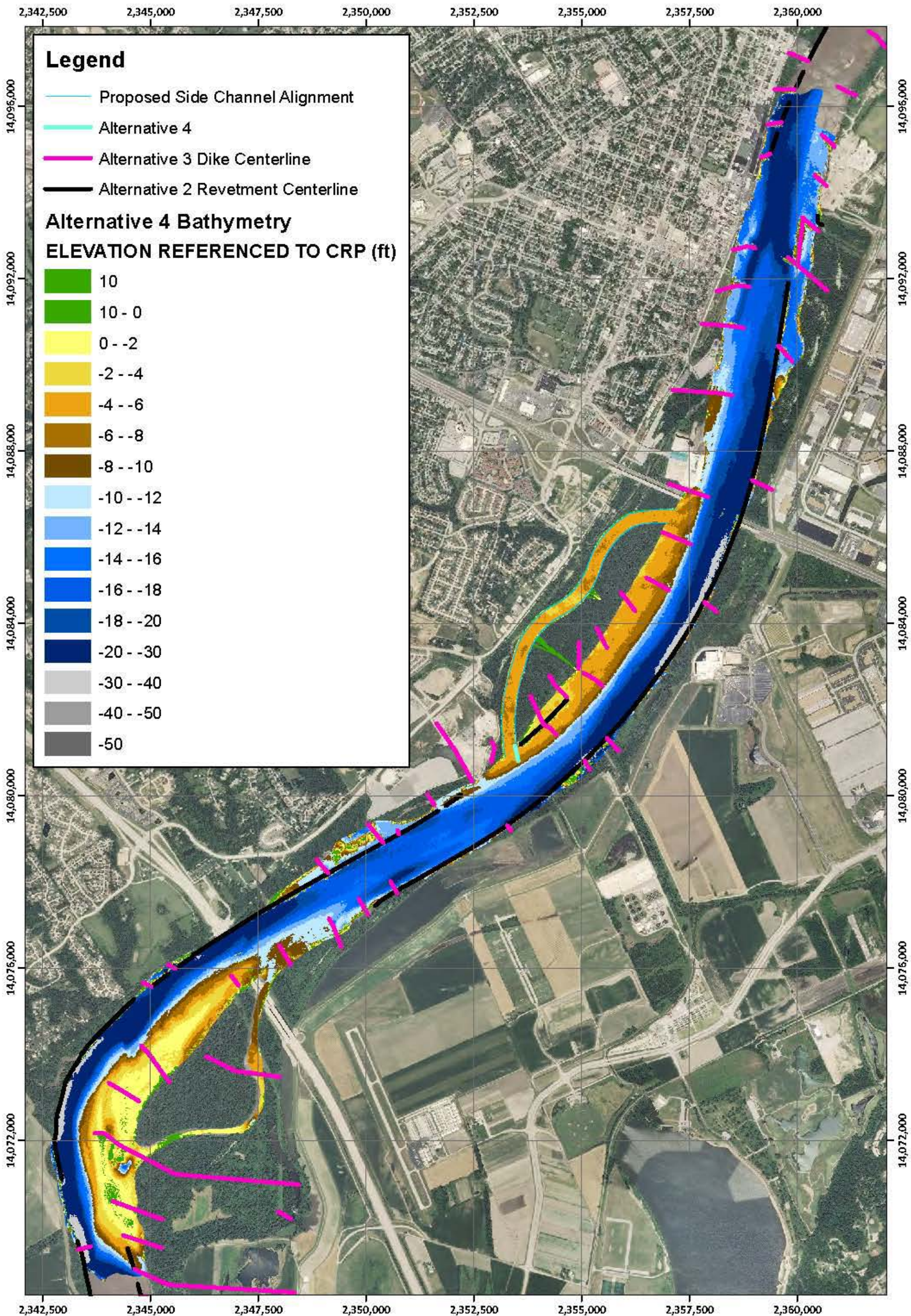
0 87.5 175 350 525 700 Feet

Alternative 3:
Downstream LDV Results
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 7/6/11	
	CHECKED BY T LAUTH		DESIGNED BY A CON	
	APPROVED BY T LAUTH		APPROVED BY R. DAVIN ROY, P.E.	
	PROJECT NAME Bangert Island HSR Model		DATE 9/27/11	







2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 4 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
28

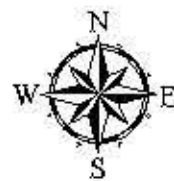
0 87.5 175 350 525 700 Feet

Alternative 4:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

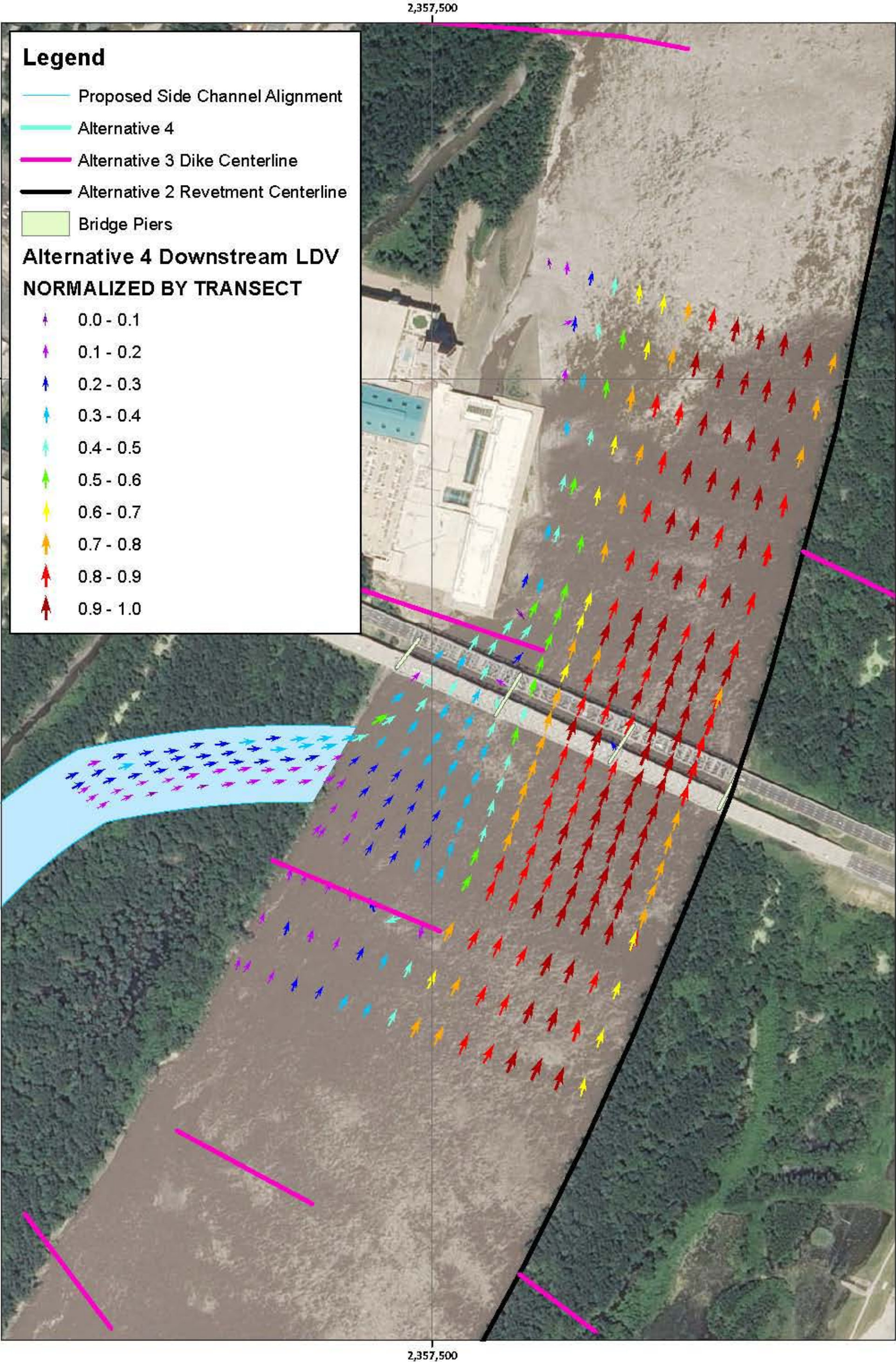
Bangert Island
HSR Model

DESIGNED BY T LAUTH	DATE 7/8/11
DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
APPROVED BY T LAUTH	DATE 9/27/11



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RIVER
ENGINEERING CENTER

**US Army Corps
of Engineers**
St. Louis District

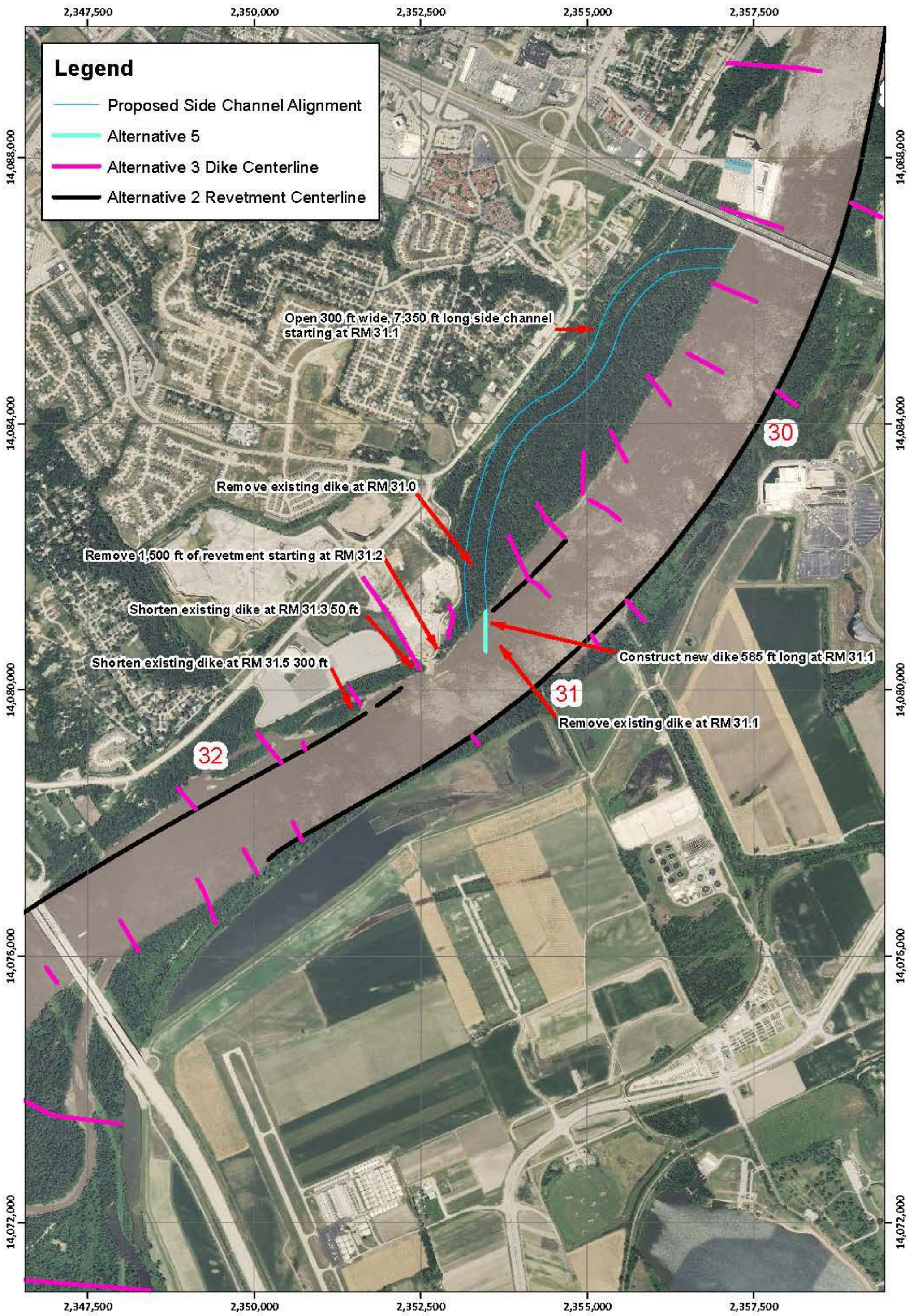


Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 4 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0



30
PLATE
NUMBER

0 300 600 1,200 1,800 2,400 Feet

Alternative 5: Definition

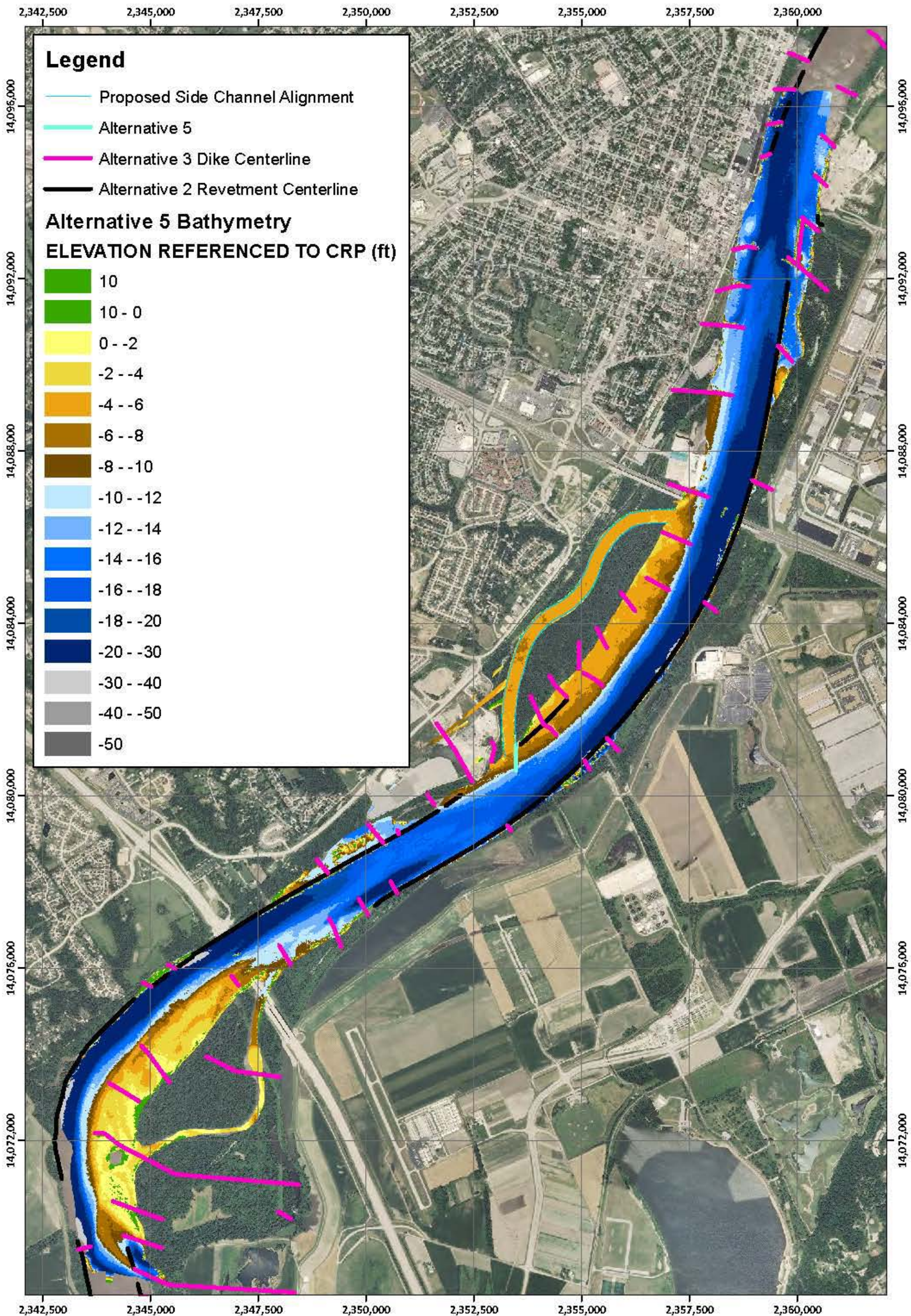
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 7/11/11
BANGERT ISLAND HSR Model		DESIGNED BY T LAUTH	DATE 7/11/11
		DESIGNED BY J BROWN, P.E.	DATE 7/11/11
		DESIGNED BY R DAVIN ROY, P.E.	DATE 7/11/11



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US Army Corps
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St. Louis District



Legend

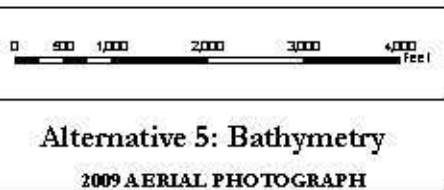
- Proposed Side Channel Alignment
- Alternative 5
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 5 Bathymetry

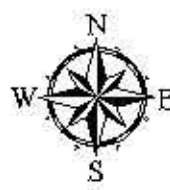
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
31



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 7/11/11
		DESIGNED BY T LAUTH	DESIGNED BY J BROWN, P.E.
		DESIGNED BY T LAUTH	DESIGNED BY R DAVINROY, P.E.
Bangert Island HSR Model		DESIGNED BY ... Bangert/Plaza	DATE 9/27/11



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 5
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 5 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
32

0 87.5 175 350 525 700 Feet

Alternative 5:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

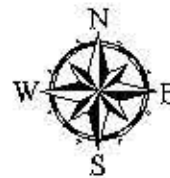
DATE
7/11/11

DESIGNED BY
A CON

DRAWN BY
R DAVINROY, P.E.

CHECKED BY
R DAVINROY, P.E.

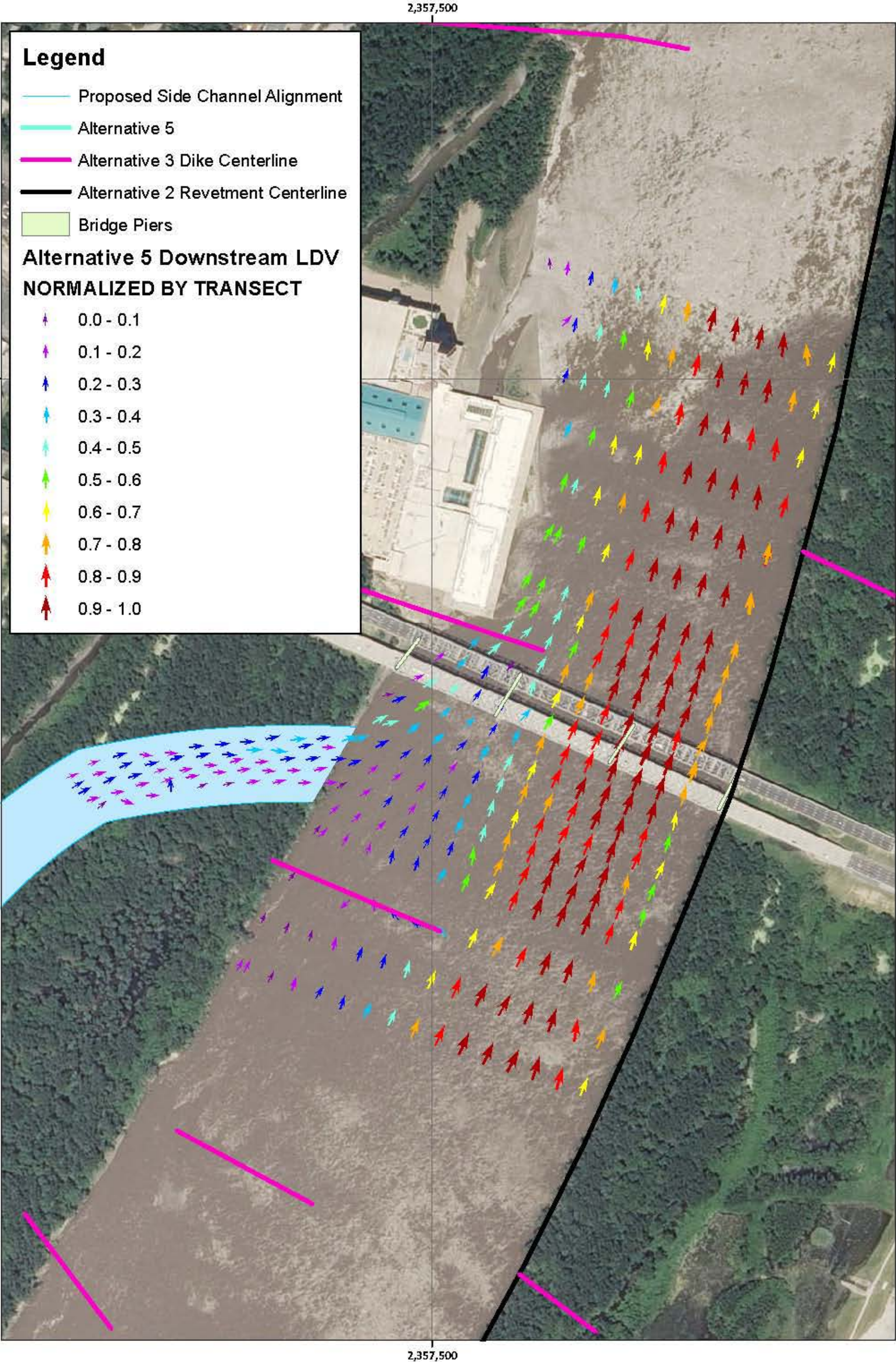
DATE
9/27/11

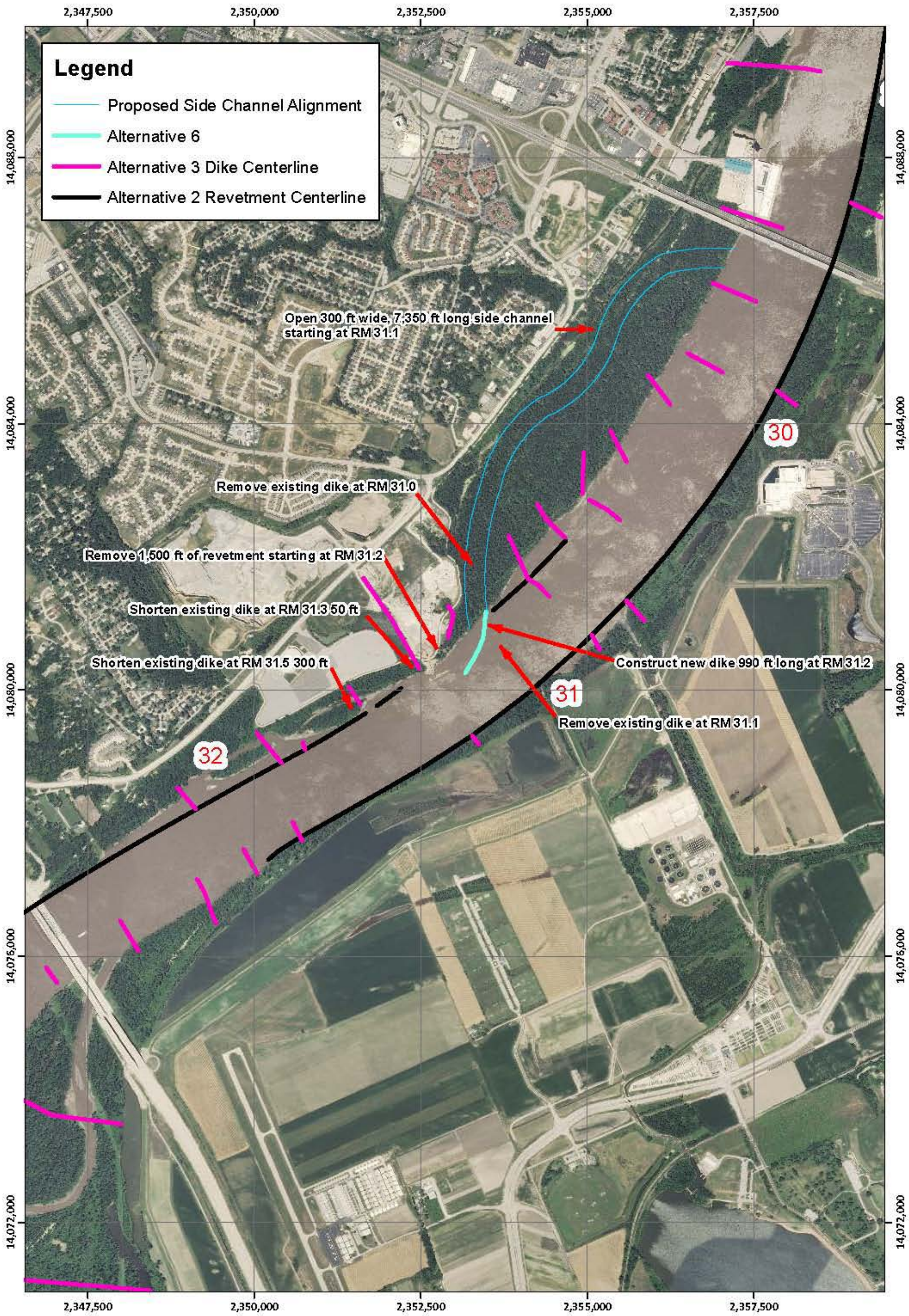


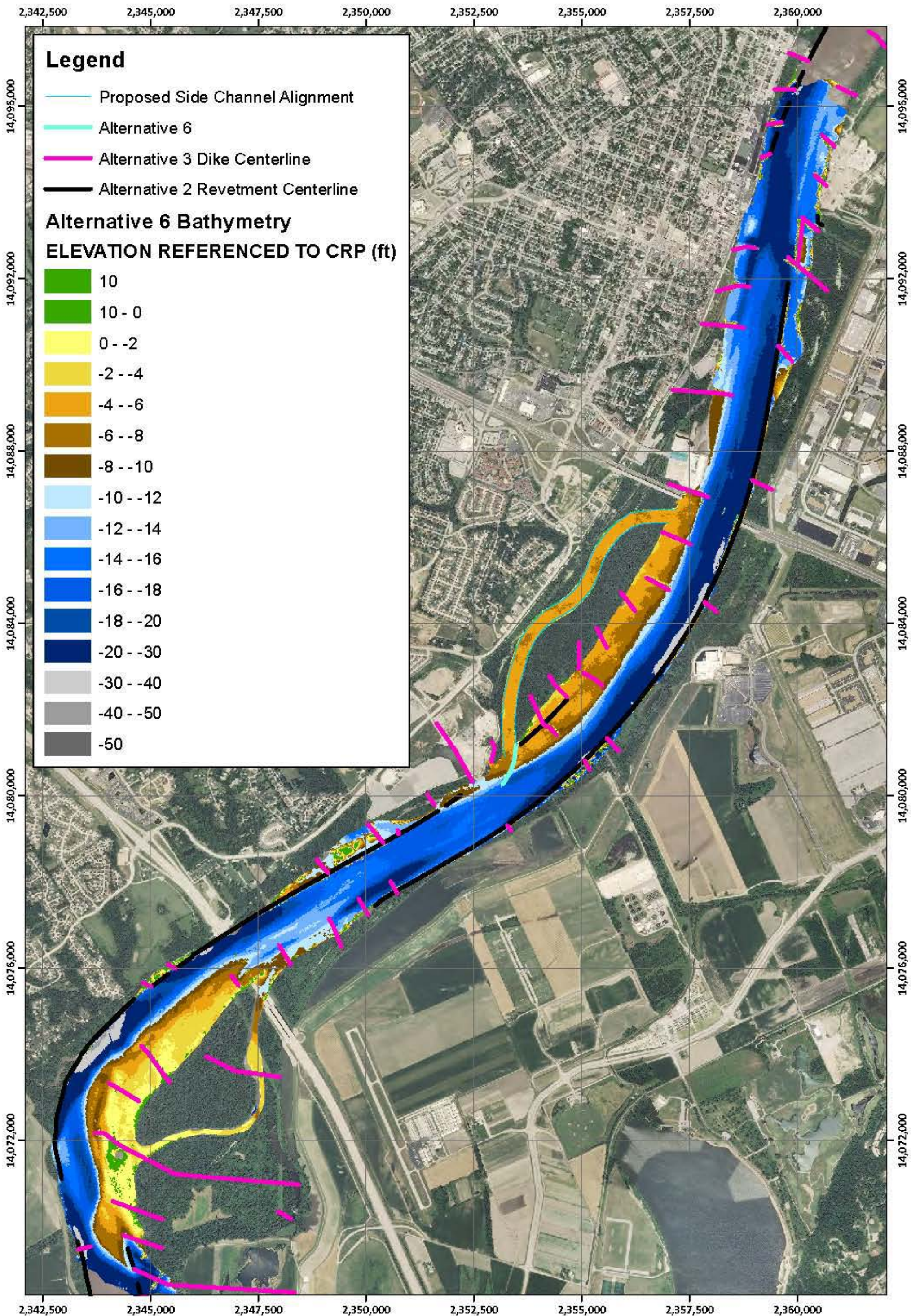
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US Army Corps
of Engineers
St. Louis District









Legend

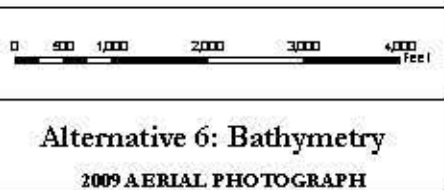
- Proposed Side Channel Alignment
- Alternative 6
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 6 Bathymetry

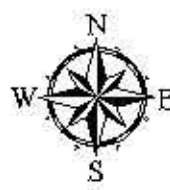
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
35



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 7/13/11
		DESIGNED BY T LAUTH	DESIGNED BY J BROWN, P.E.
		DESIGNED BY T LAUTH	DESIGNED BY R DAVINROY, P.E.
Bangert Island HSR Model		DESIGNED BY T LAUTH	DESIGNED BY R DAVINROY, P.E.



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 7
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 6 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
36

0 125 250 500 750 Feet

Alternative 6:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

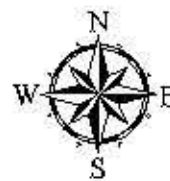
DATE
7/11/11

DESIGNED BY
A COX

DRAWN BY
R DAVINROY, P.E.

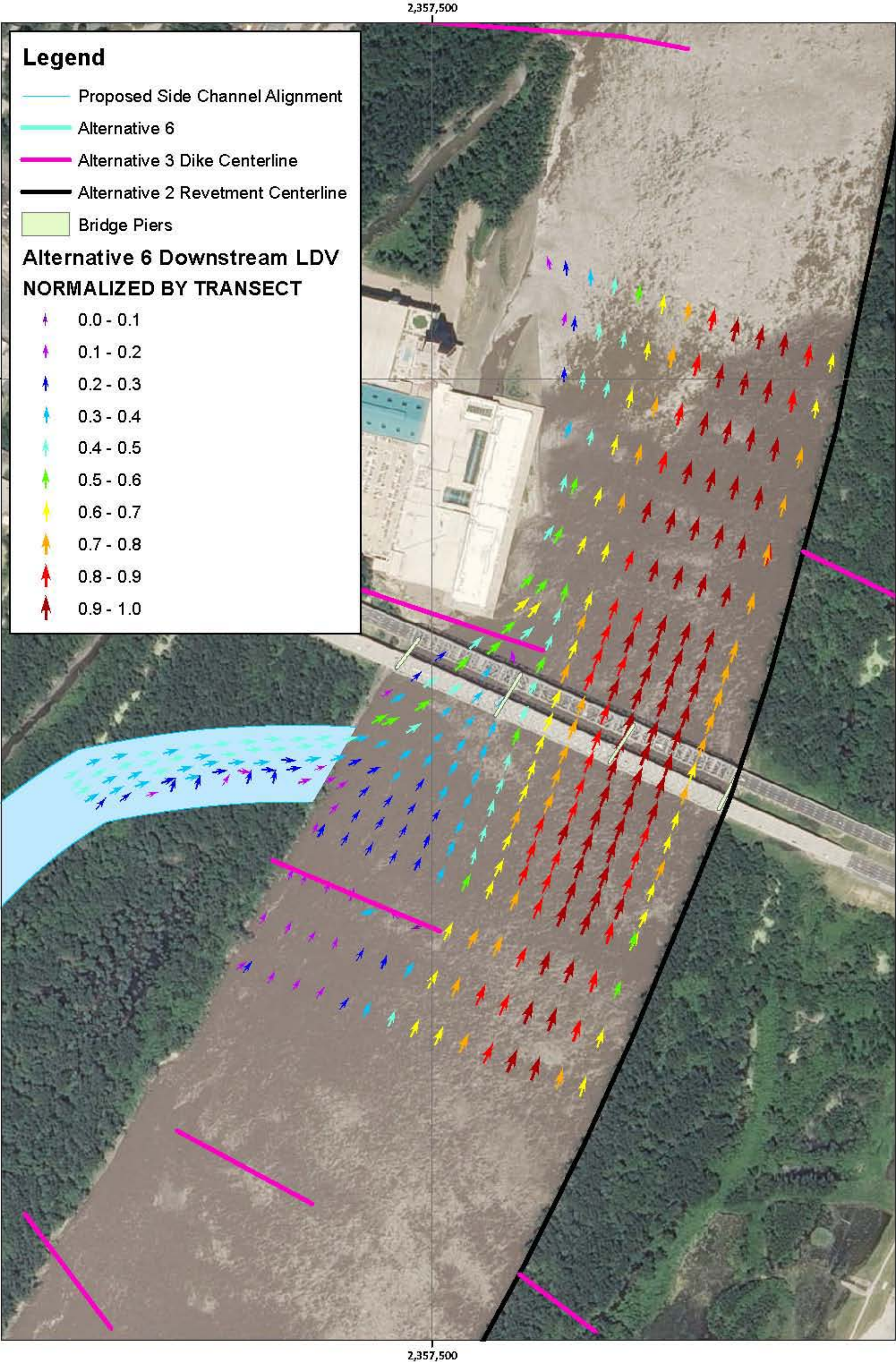
CHECKED BY
R DAVINROY, P.E.

DATE
9/27/11



US Army Corps
of Engineers®
St. Louis District





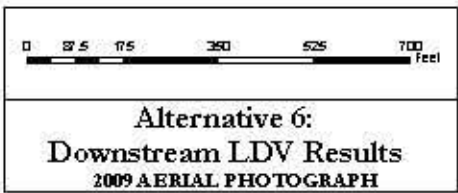
Legend

- Proposed Side Channel Alignment
- Alternative 6
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 6 Downstream LDV
NORMALIZED BY TRANSECT**

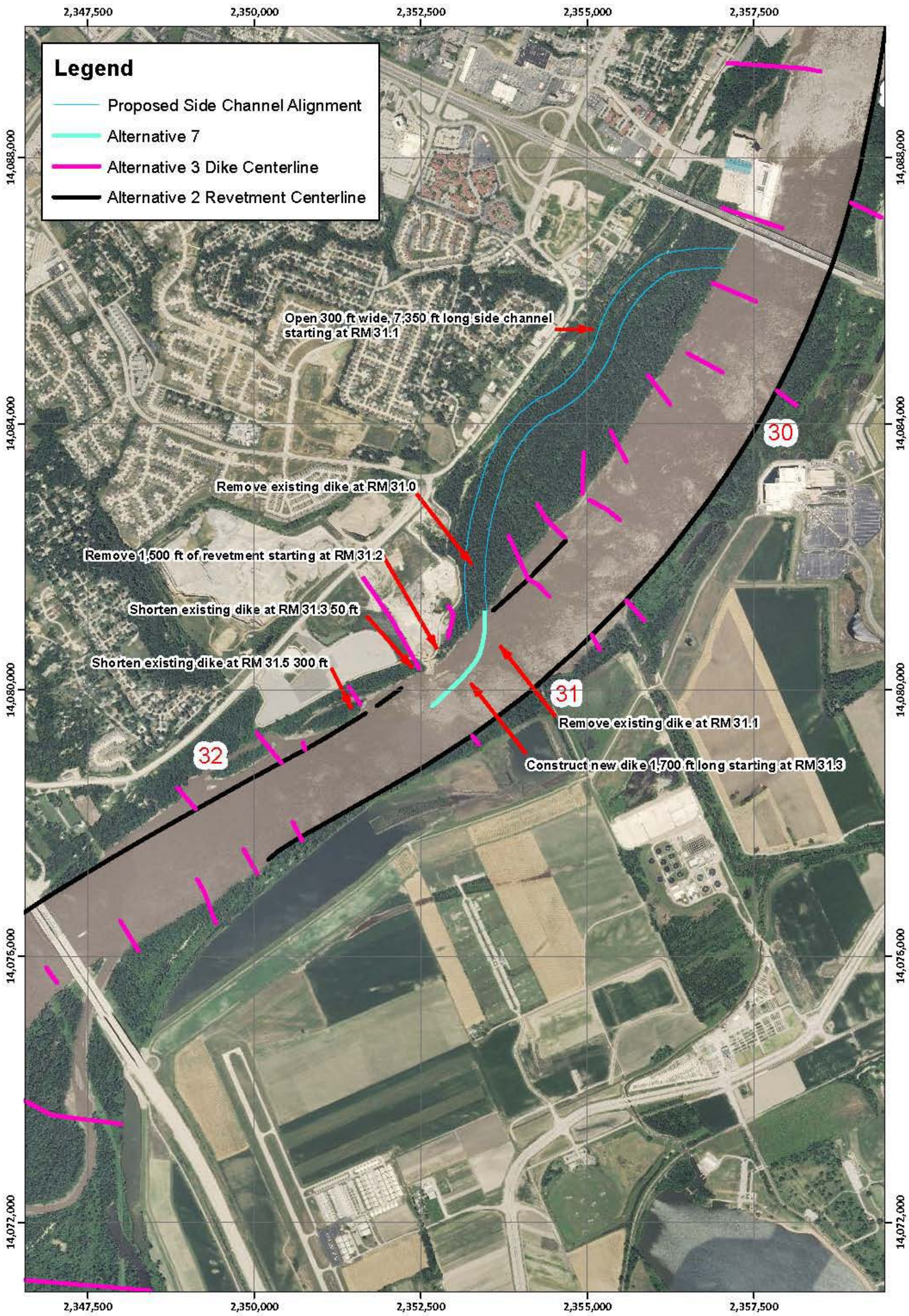
- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

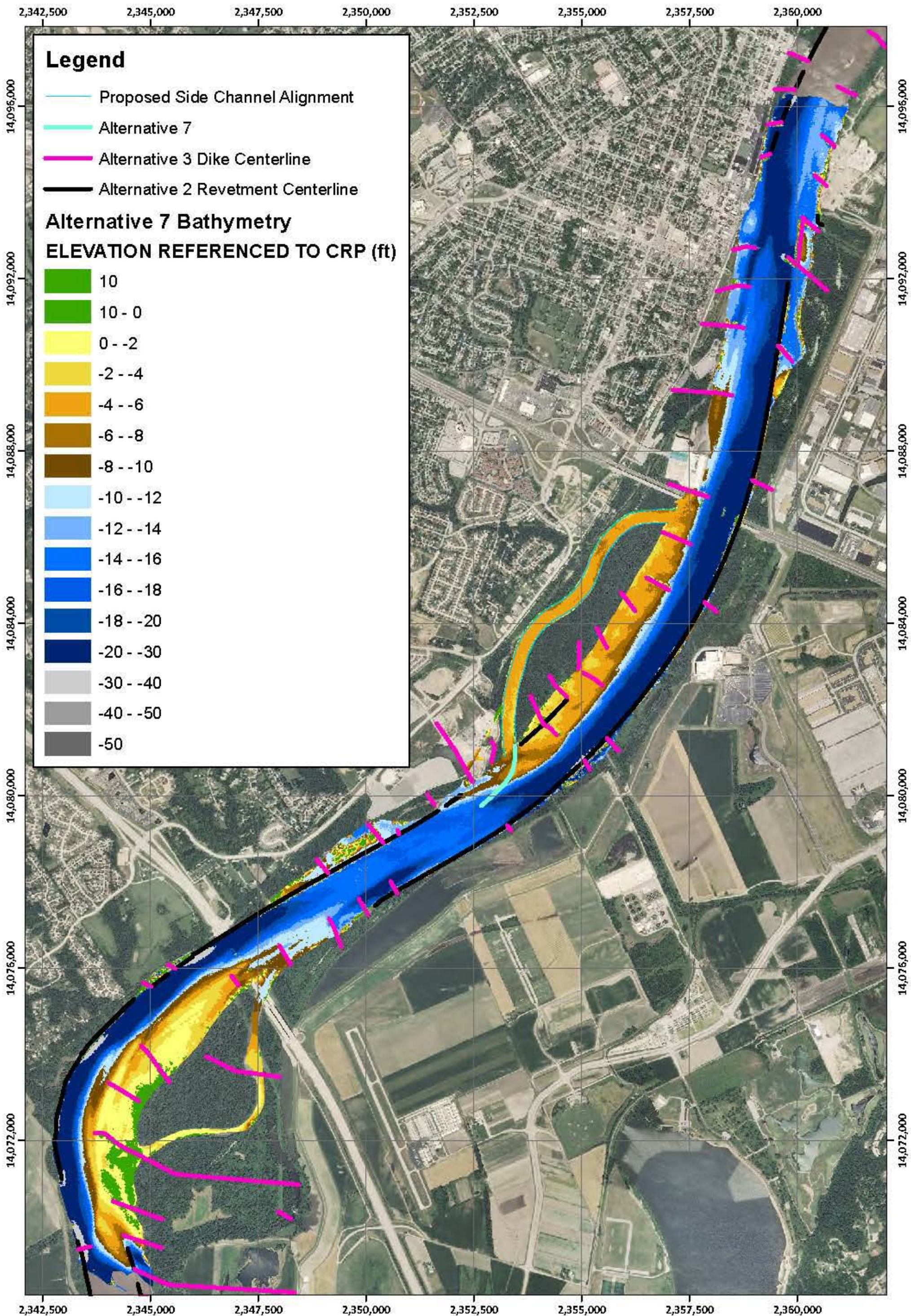
PLATE
NUMBER
37



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 7/14/11
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
	APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
	PROJECT Bangert Island	PROJECT HSR Model







2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 7
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 7 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
40

0 125 250 500 750 Feet

Alternative 7:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T. LAUTH

DRAWN BY
T. LAUTH

CHECKED BY
J. BROWN, P.E.

APPROVED BY
T. LAUTH

DATE
9/27/11

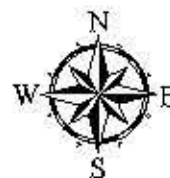
DATE
7/16/11

DESIGNED BY
A. COX

DRAWN BY
R. DAVINROY, P.E.

CHECKED BY
R. DAVINROY, P.E.

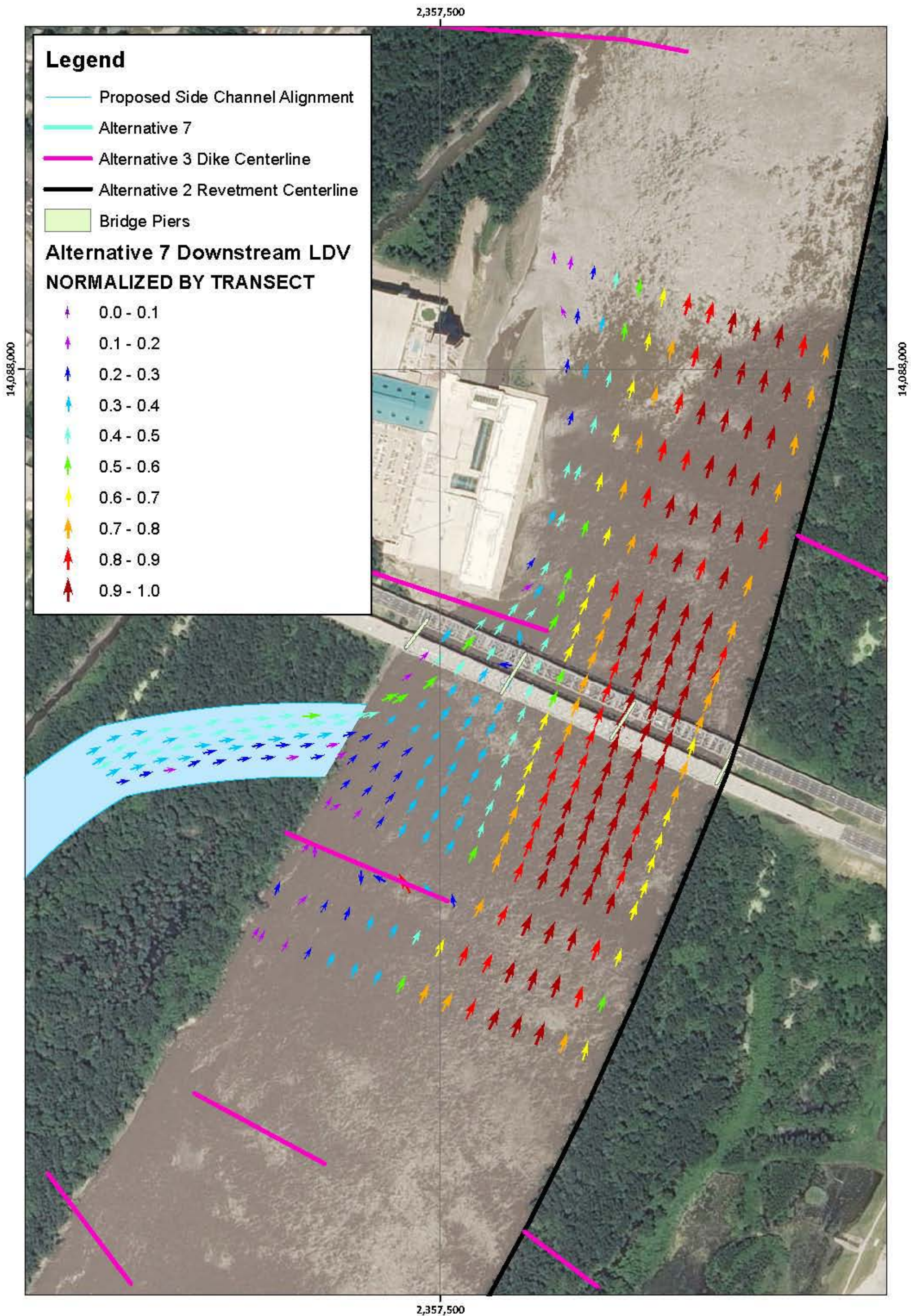
DATE
9/27/11

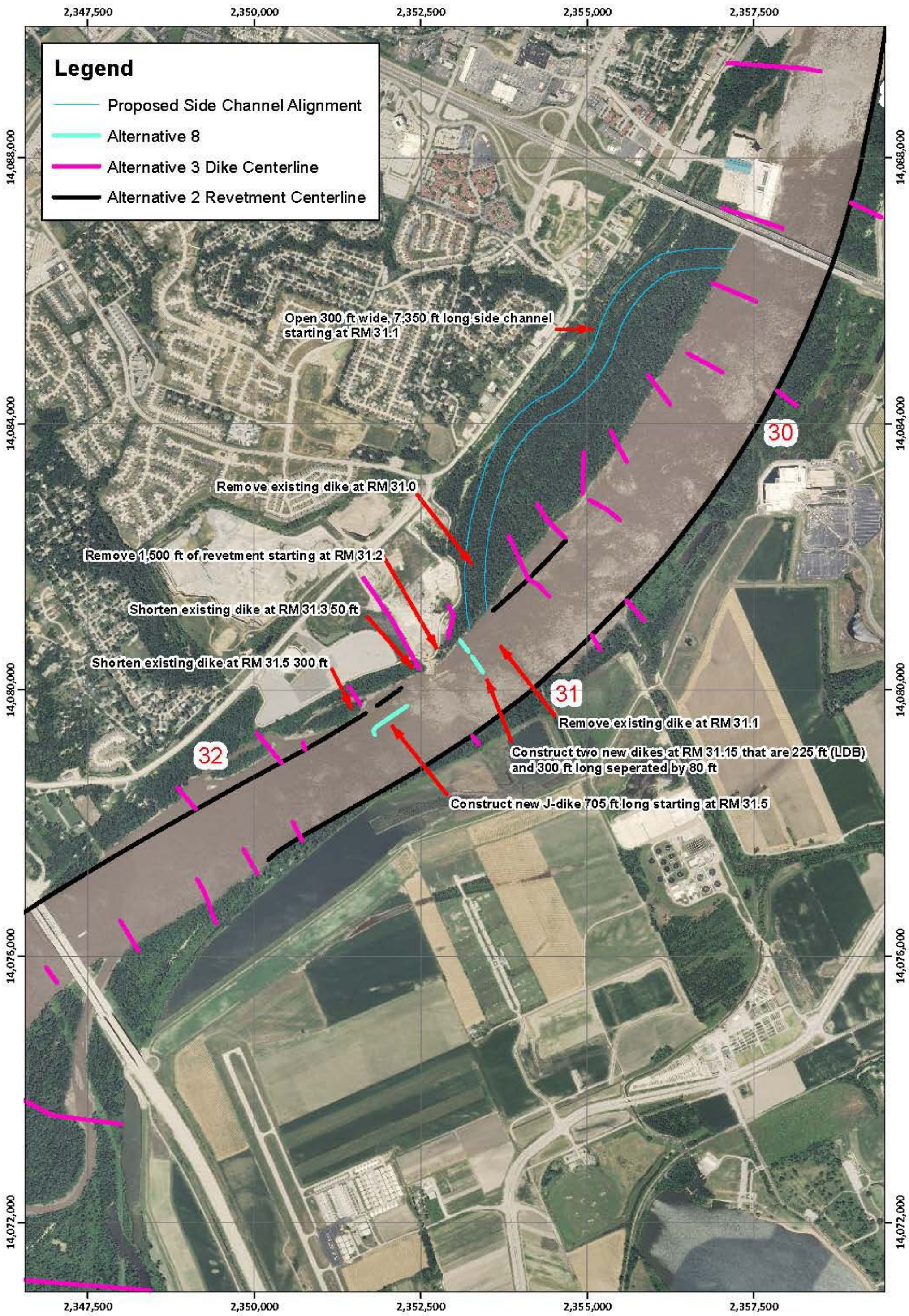


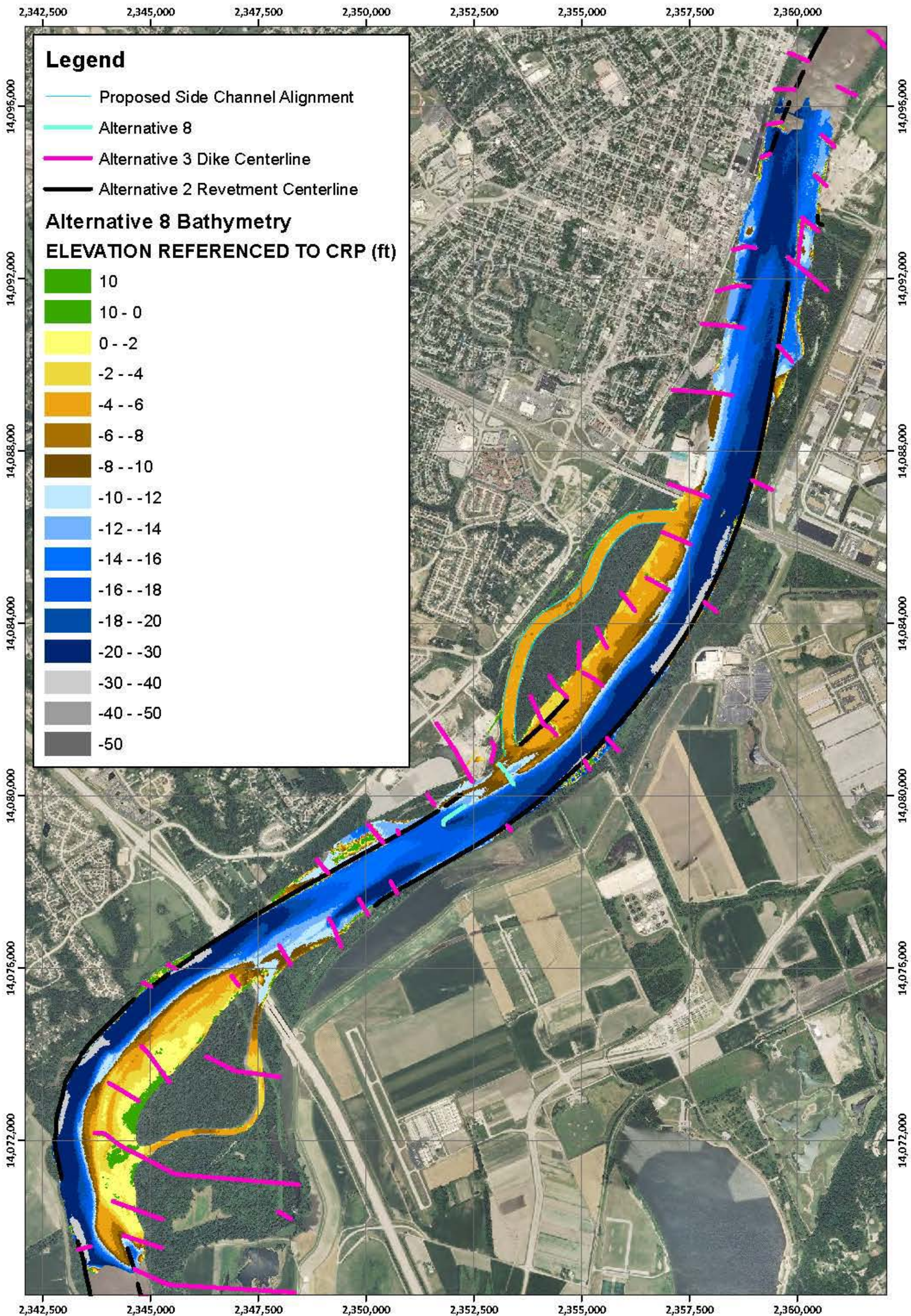
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of Engineers
St. Louis District









Legend

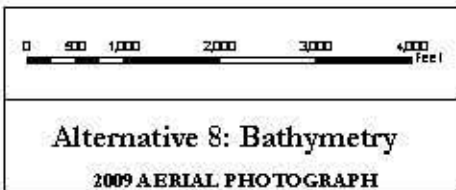
- Proposed Side Channel Alignment
- Alternative 8
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 8 Bathymetry

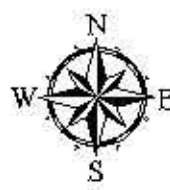
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
43



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 7/8/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 8
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 8 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

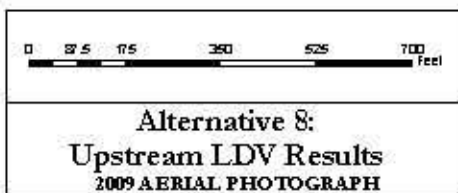
14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
44



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 7/E/11	
	CHECKED BY T LAUTH		DESIGNED BY J BROWN, P.E.	
	APPROVED BY T LAUTH		DESIGNED BY R DAVINROY, P.E.	
	PROJECT NAME Bangert Island		DATE 9/27/11	

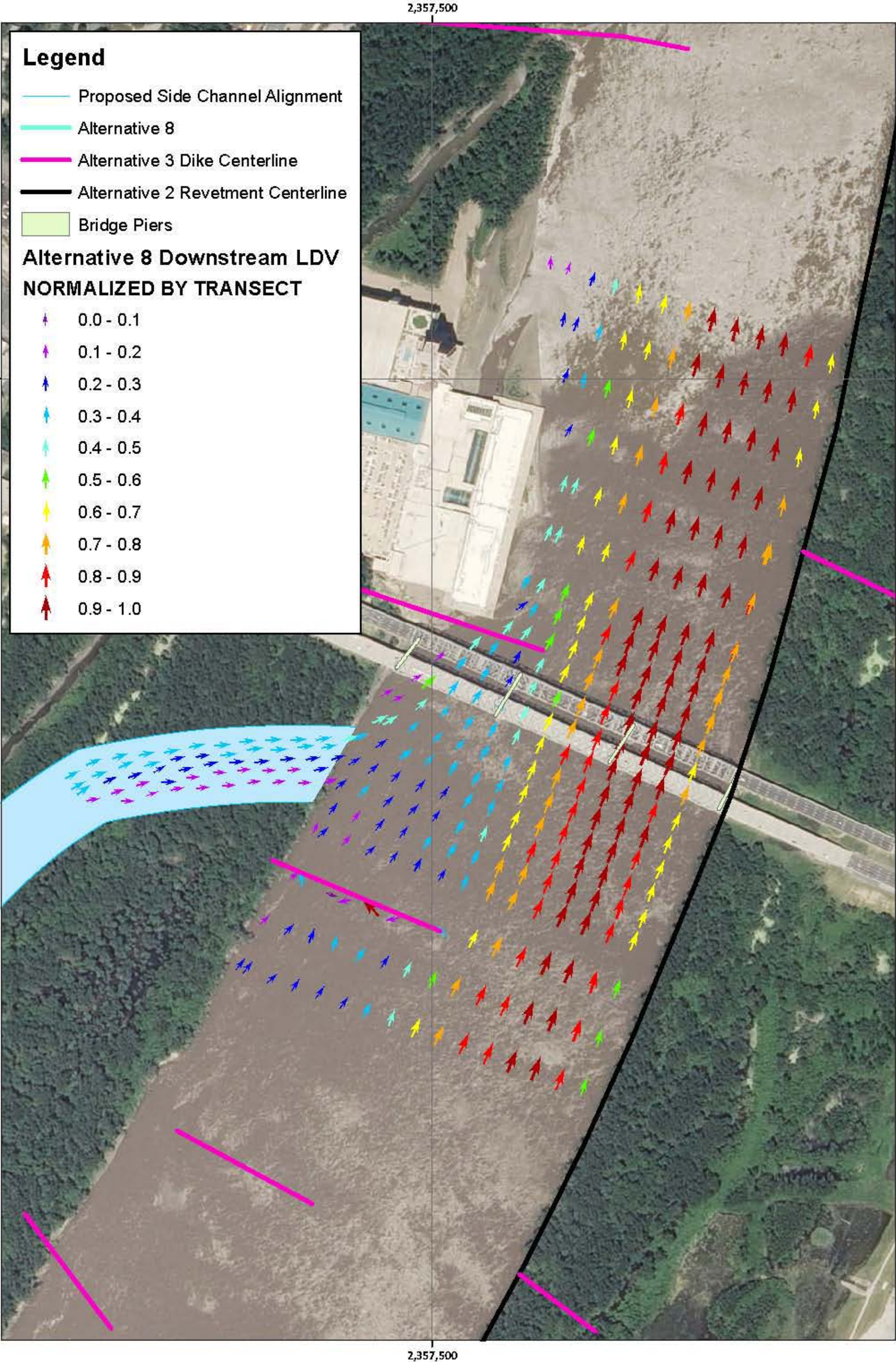
Bangert Island
HSR Model

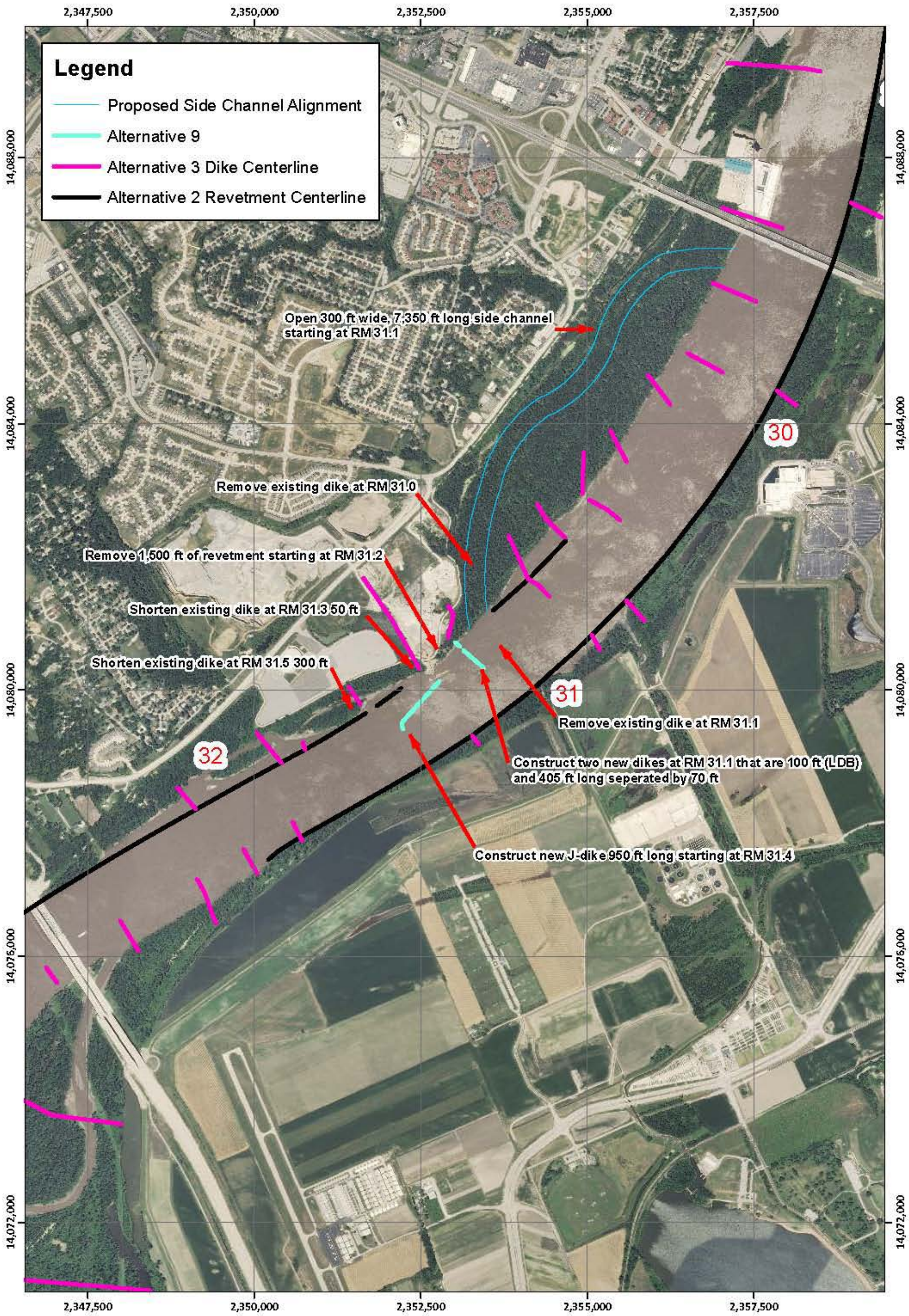


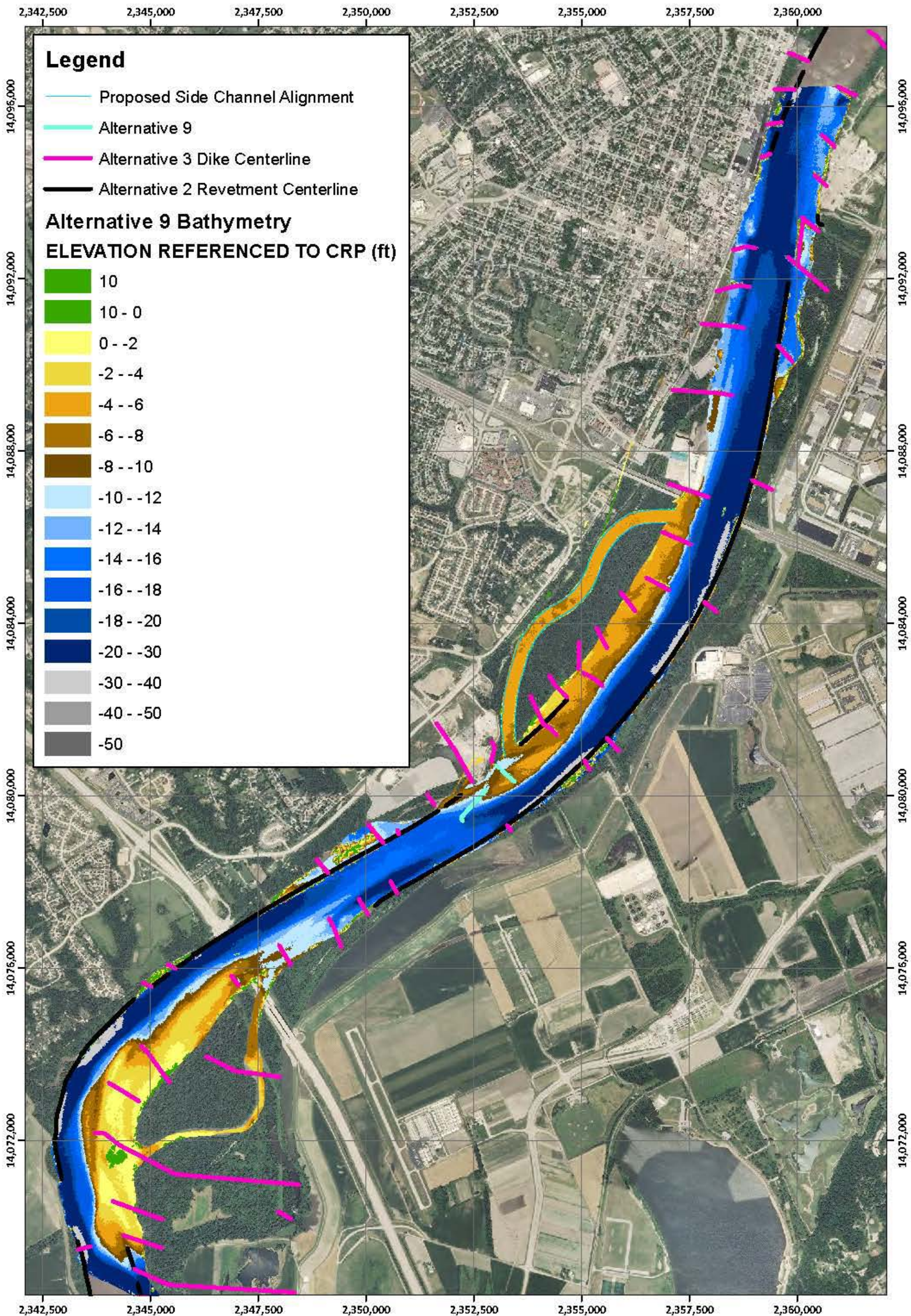
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ENGINEERING CENTER

US Army Corps
of Engineers®
St. Louis District









Legend

- Proposed Side Channel Alignment
- Alternative 9
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 9 Bathymetry

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

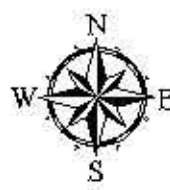
PLATE
NUMBER
47

0 500 1000 2000 3000 4000 Feet

Alternative 9: Bathymetry

2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY	7/21/11
	DRAWN BY	7/21/11
	CHECKED BY	7/21/11
	APPROVED BY	7/21/11
Bangert Island HSR Model	DESIGNED BY	T LAUTH
	DRAWN BY	J BROWN, P.E.
	CHECKED BY	A COX
	APPROVED BY	R DAVINROY, P.E.
... Bangert Island	DESIGNED BY	T LAUTH
	DRAWN BY	J BROWN, P.E.



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 9
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 9 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
48

0 125 250 500 750 Feet

Alternative 9:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

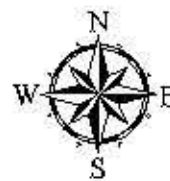
DATE
7/22/11

DESIGNED BY
J BROWN, P.E.

CHECKED BY
A COX

APPROVED BY
R DAVINROY, P.E.

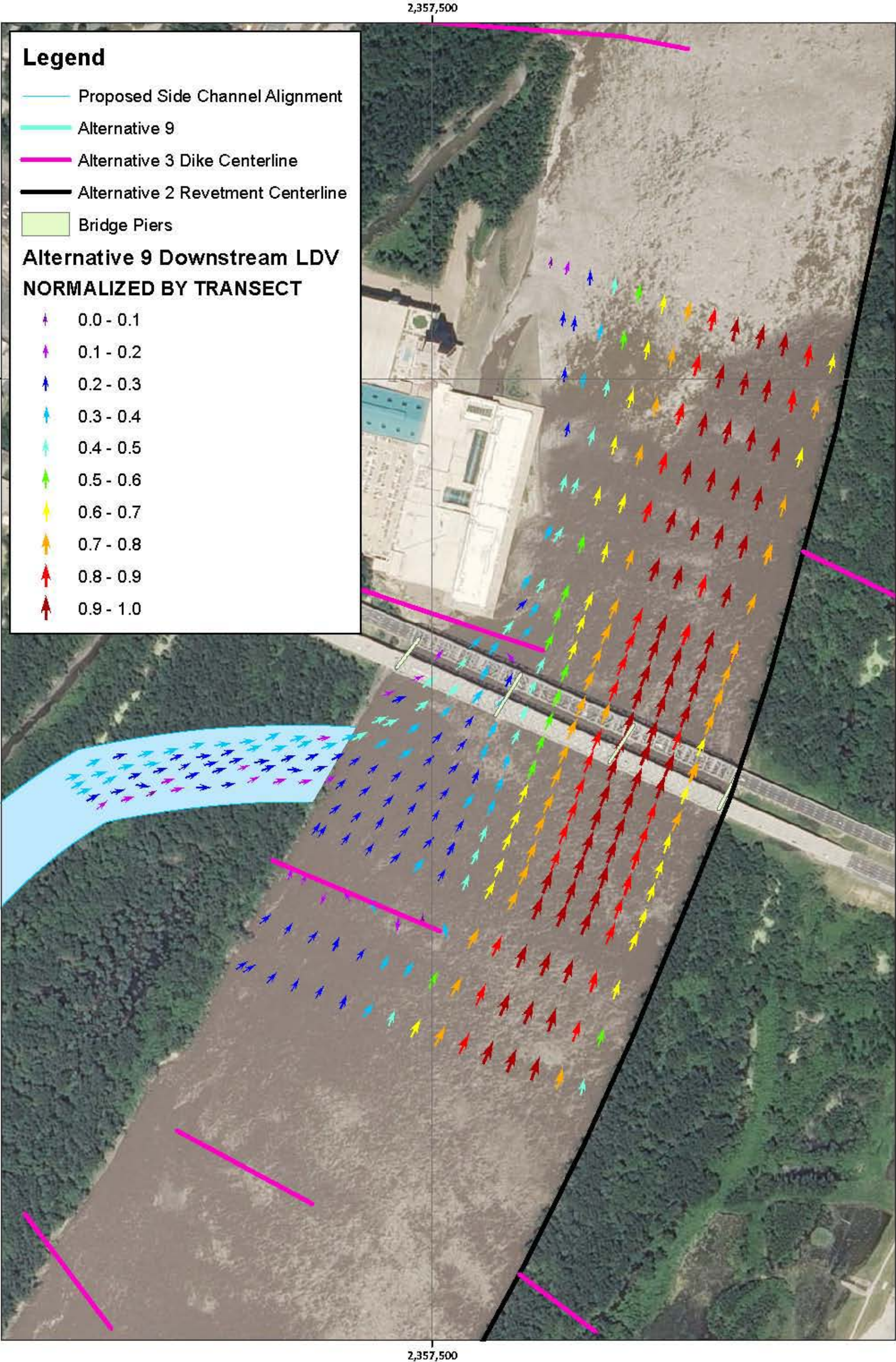
DATE
9/27/11

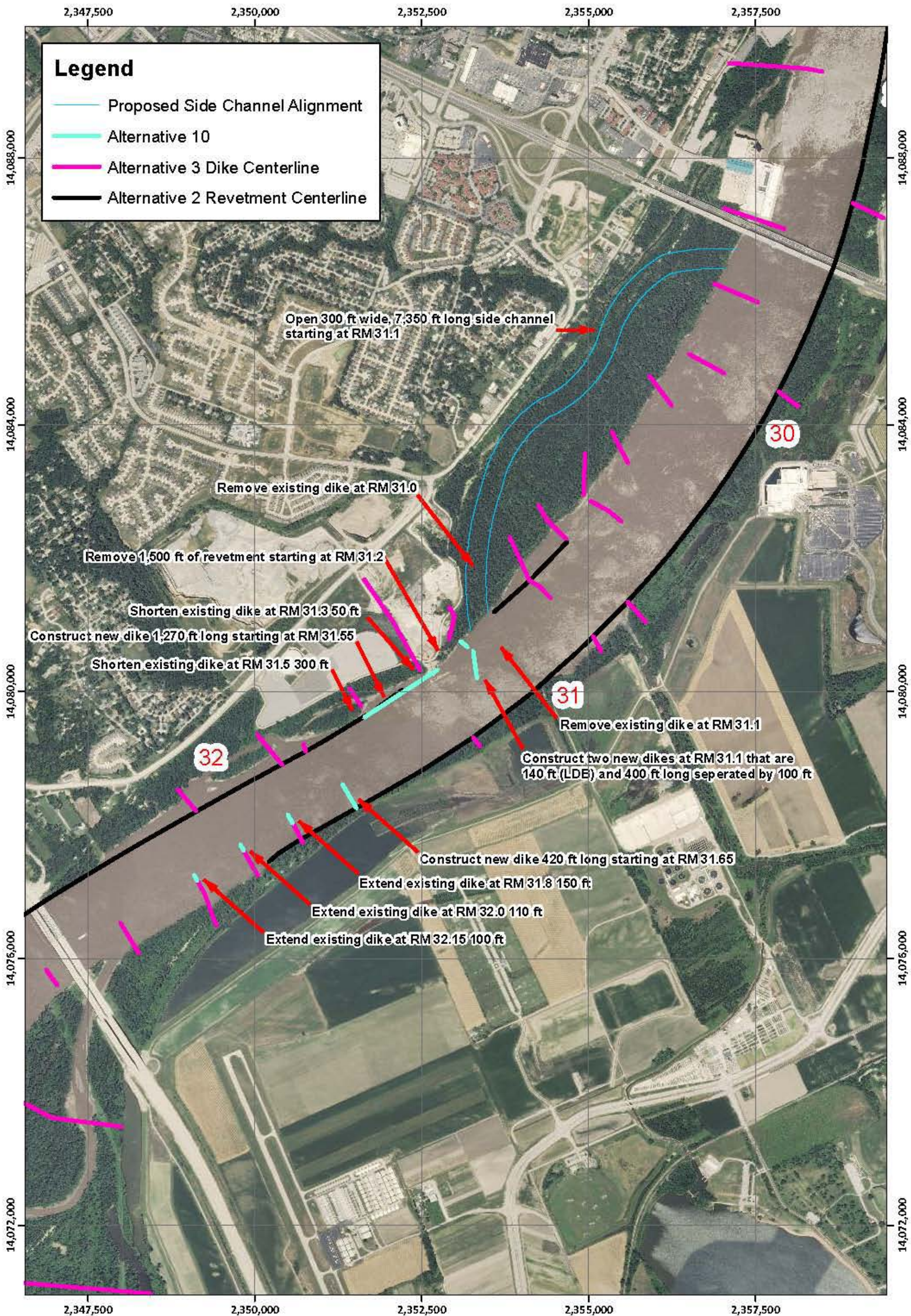


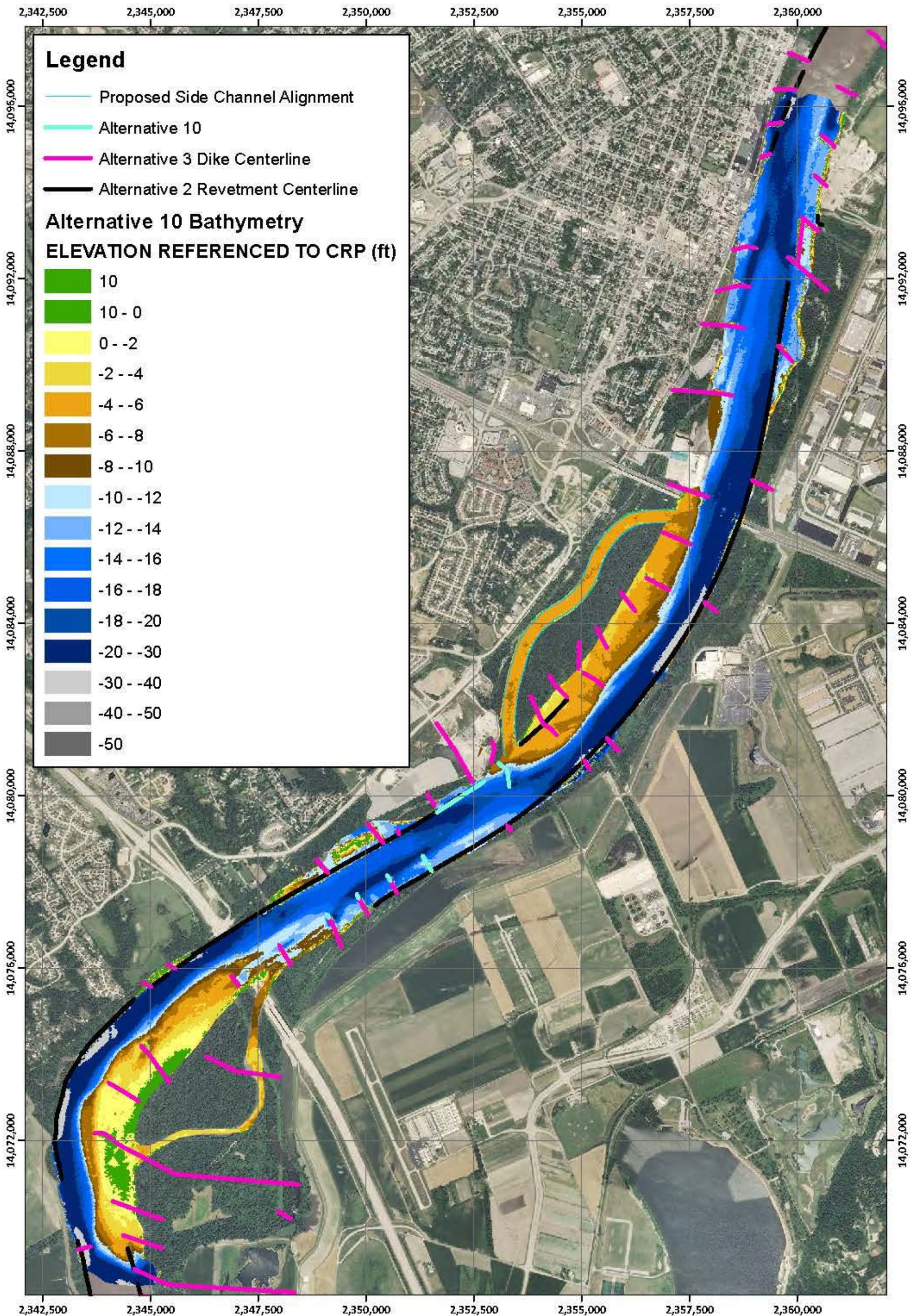
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ENGINEERING CENTER

US Army Corps
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St. Louis District









Legend

- Proposed Side Channel Alignment
- Alternative 10
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 10 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
51

0 500 1000 2000 3000 4000 Feet

Alternative 10: Bathymetry

2009 AERIAL PHOTOGRAPH

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Bangert Island HSR Model		PROJECT Bangert Island	PROJECT 9/27/11



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 10
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 10 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

52

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 10:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T. LAUTH

DRAWN BY
T. LAUTH

CHECKED BY
J. BROWN, P.E.

APPROVED BY
T. LAUTH

DATE
9/27/11

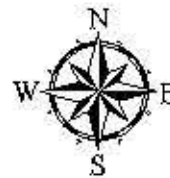
DATE
7/26/11

DESIGNED BY
A. COX

DRAWN BY
R. DAVINROY, P.E.

CHECKED BY
R. DAVINROY, P.E.

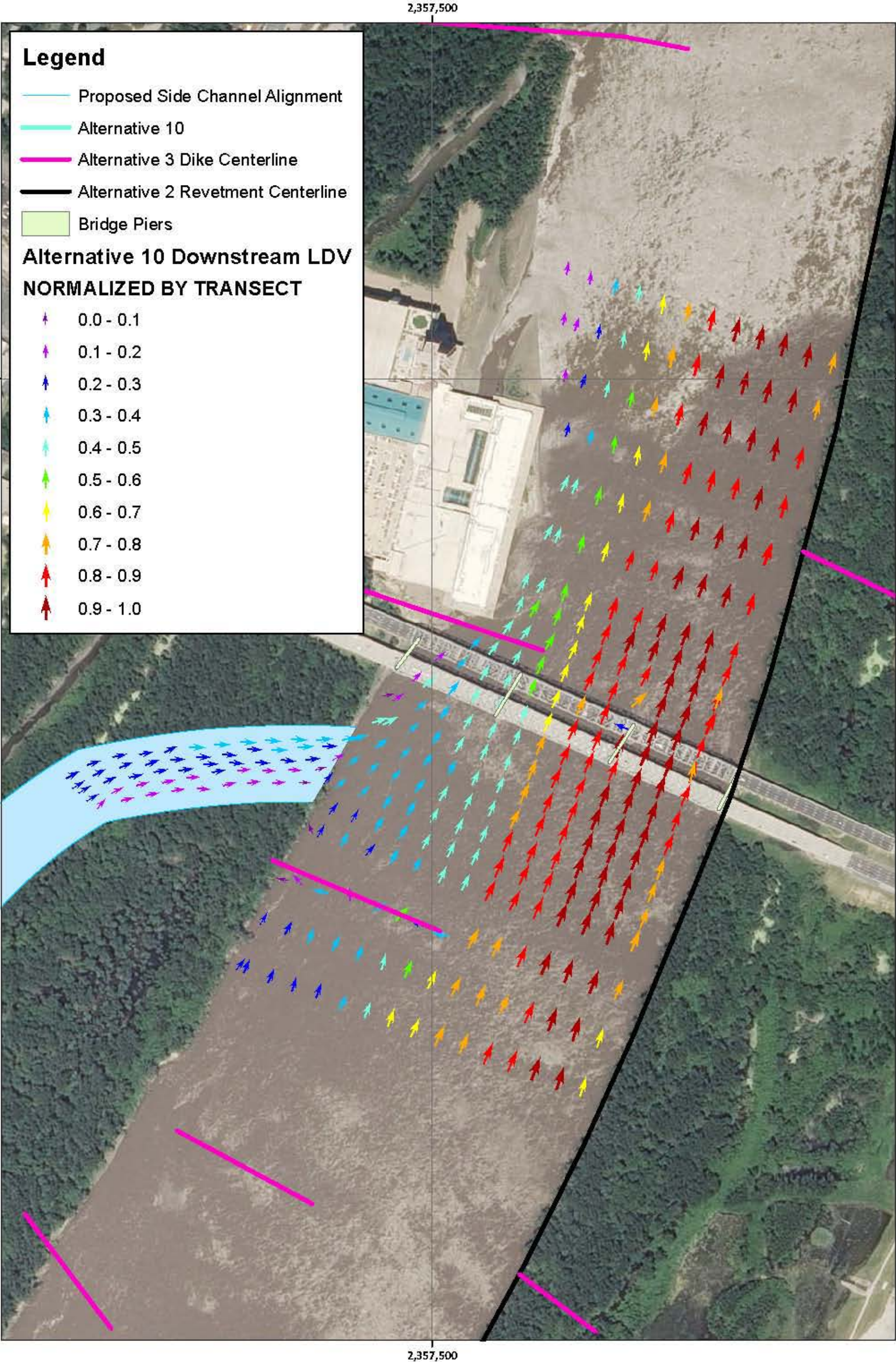
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Legend

- Proposed Side Channel Alignment
- Alternative 10
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

Alternative 10 Downstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

PLATE
NUMBER
53

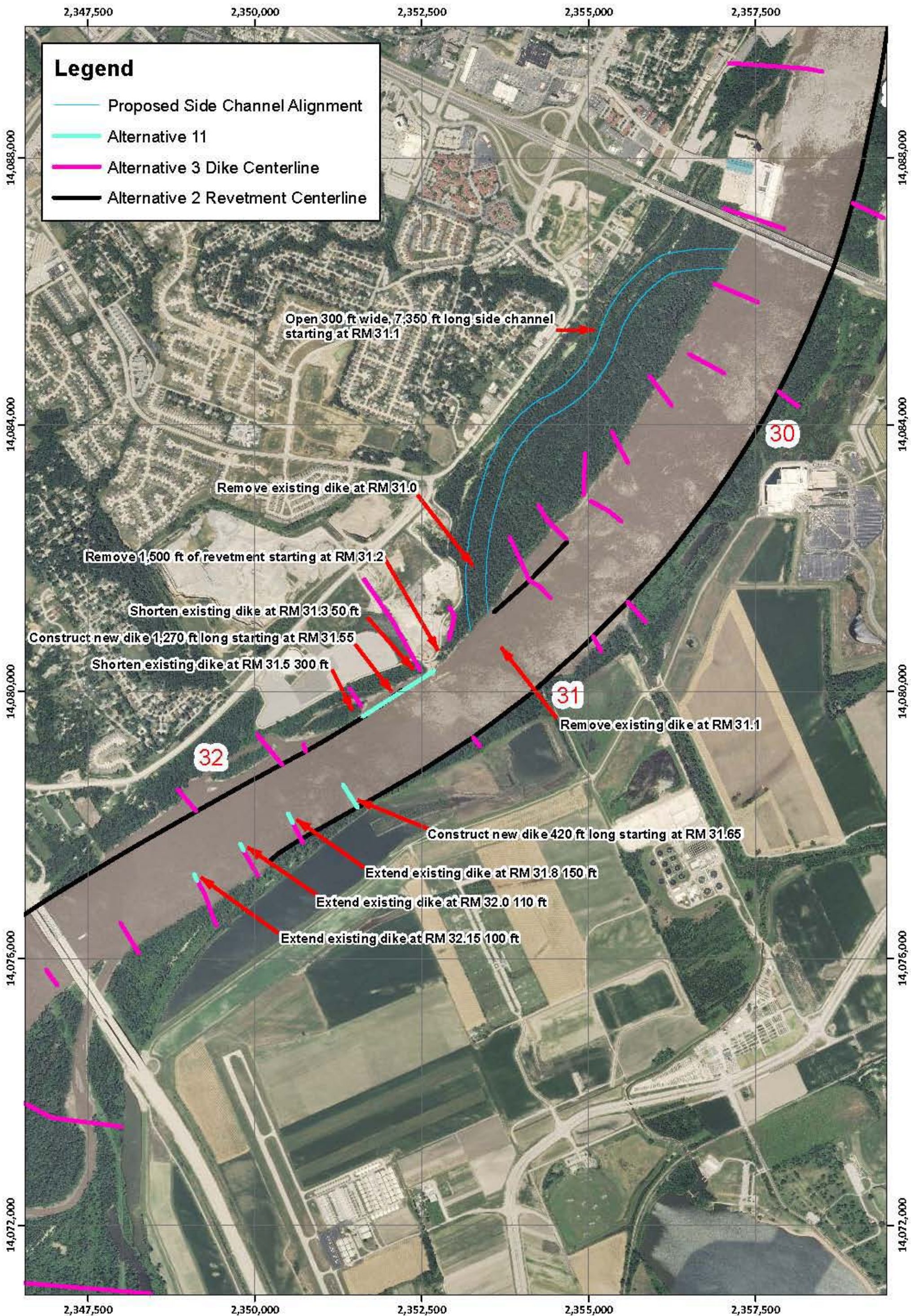
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Alternative 10:
Downstream LDV Results
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 7/26/11
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	PROJECT Bangert Island HSR Model	NO. OF PAGES 9/27/11



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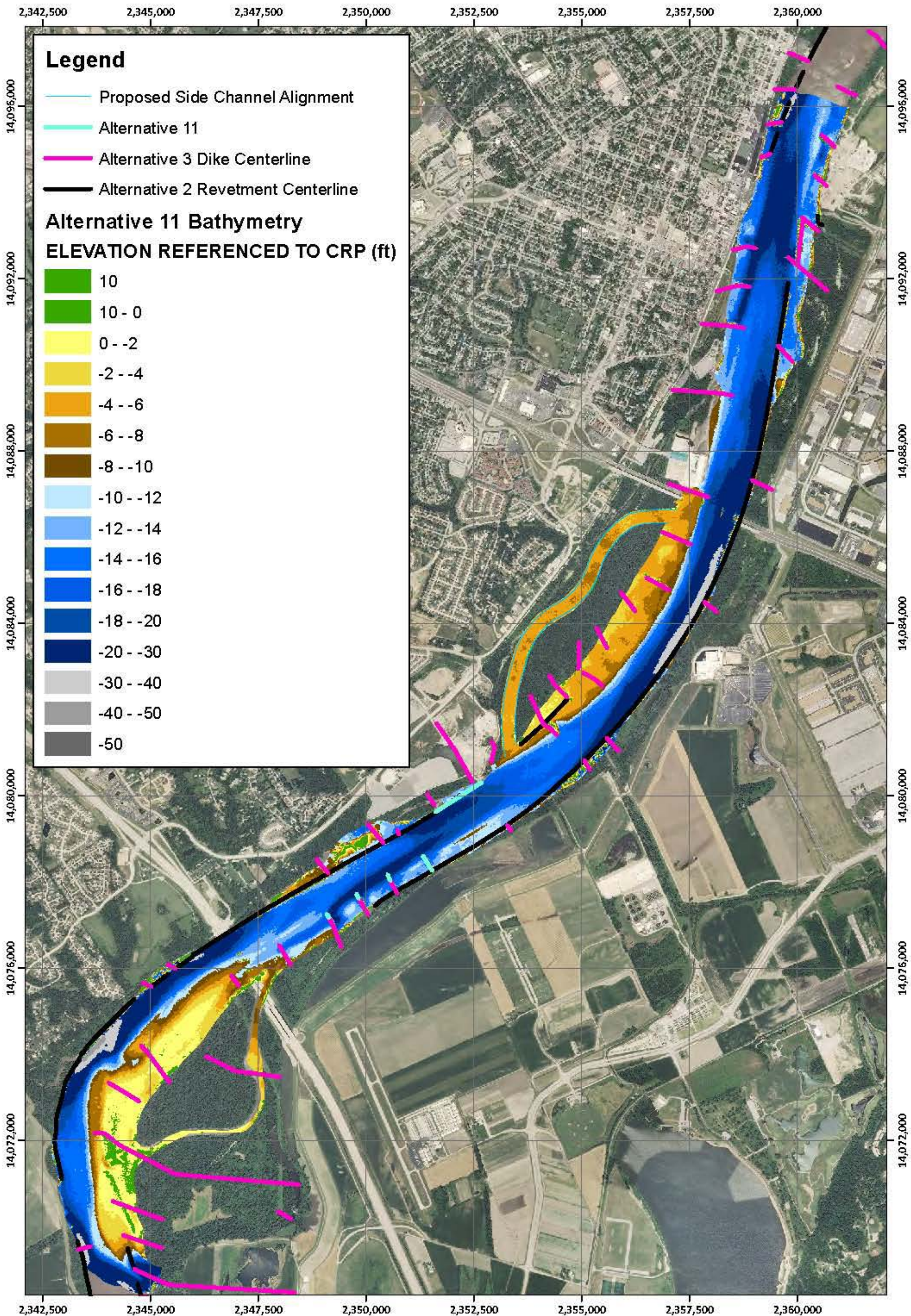
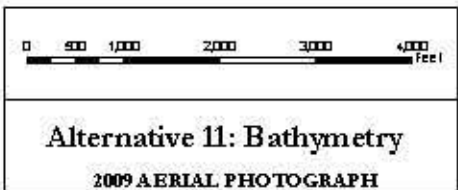
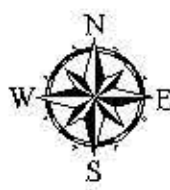


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55



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Bangert Island HSR Model		PROJECT NAME	Bangert Island	
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2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 11
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 11 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

56

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 11:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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ST. LOUIS, MISSOURI

Bangert Island
HSR Model

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DATE
7/29/11

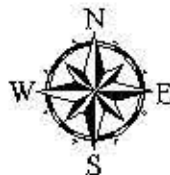
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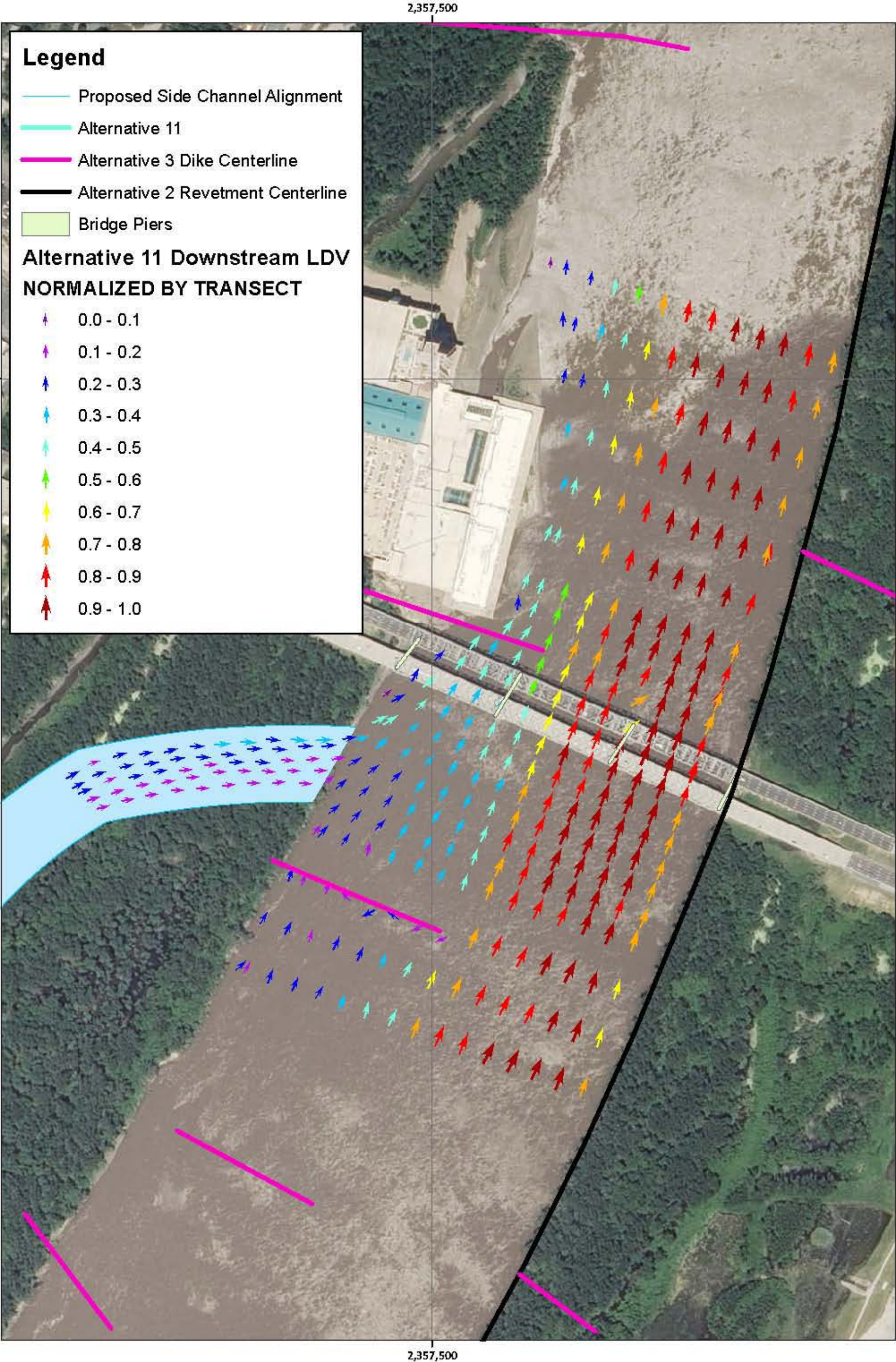
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Legend

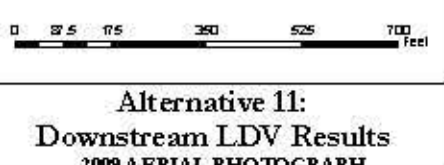
- Proposed Side Channel Alignment
- Alternative 11
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

Alternative 11 Downstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

57

PLATE
NUMBER



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	PROJECT NAME Bangert Island HSR Model		DATE 9/27/11	



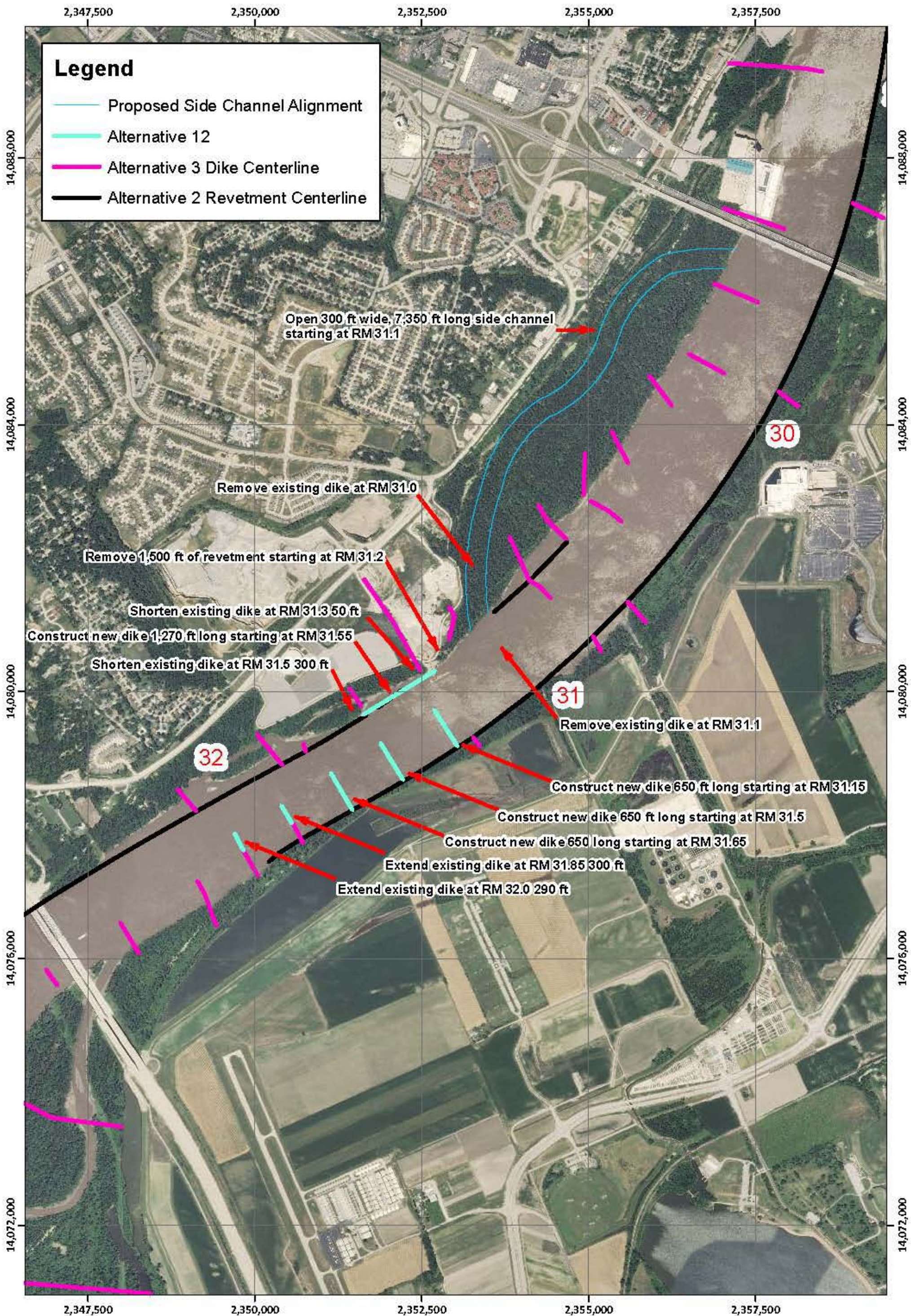


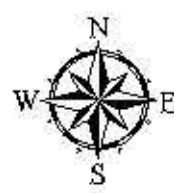
PLATE
NUMBER
58

0 300 600 1,200 1,800 2,400 Feet

Alternative 12: Definition

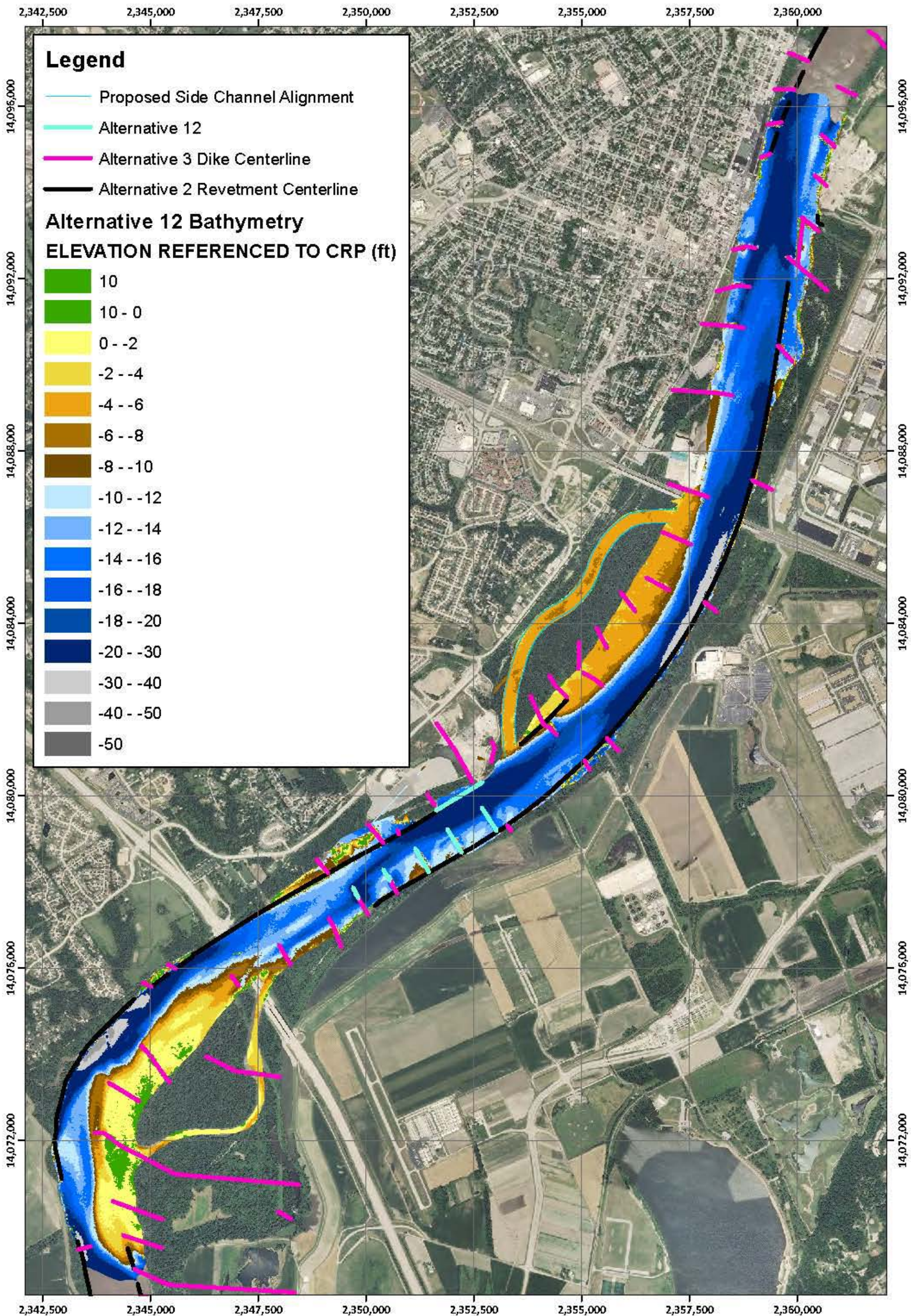
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	PROJECT NAME Bangert Island HSR Model		DATE 9/27/11	



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Legend

- Proposed Side Channel Alignment
- Alternative 12
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 12 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
59

0 500 1000 2000 3000 4000 Feet

Alternative 12: Bathymetry

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Bangert Island HSR Model		DESIGNED BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 12
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 12 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
60

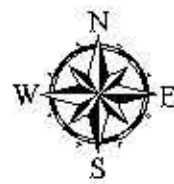
0 125 250 500 750 Feet

Alternative 12:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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ST. LOUIS, MISSOURI

Bangert Island
HSR Model

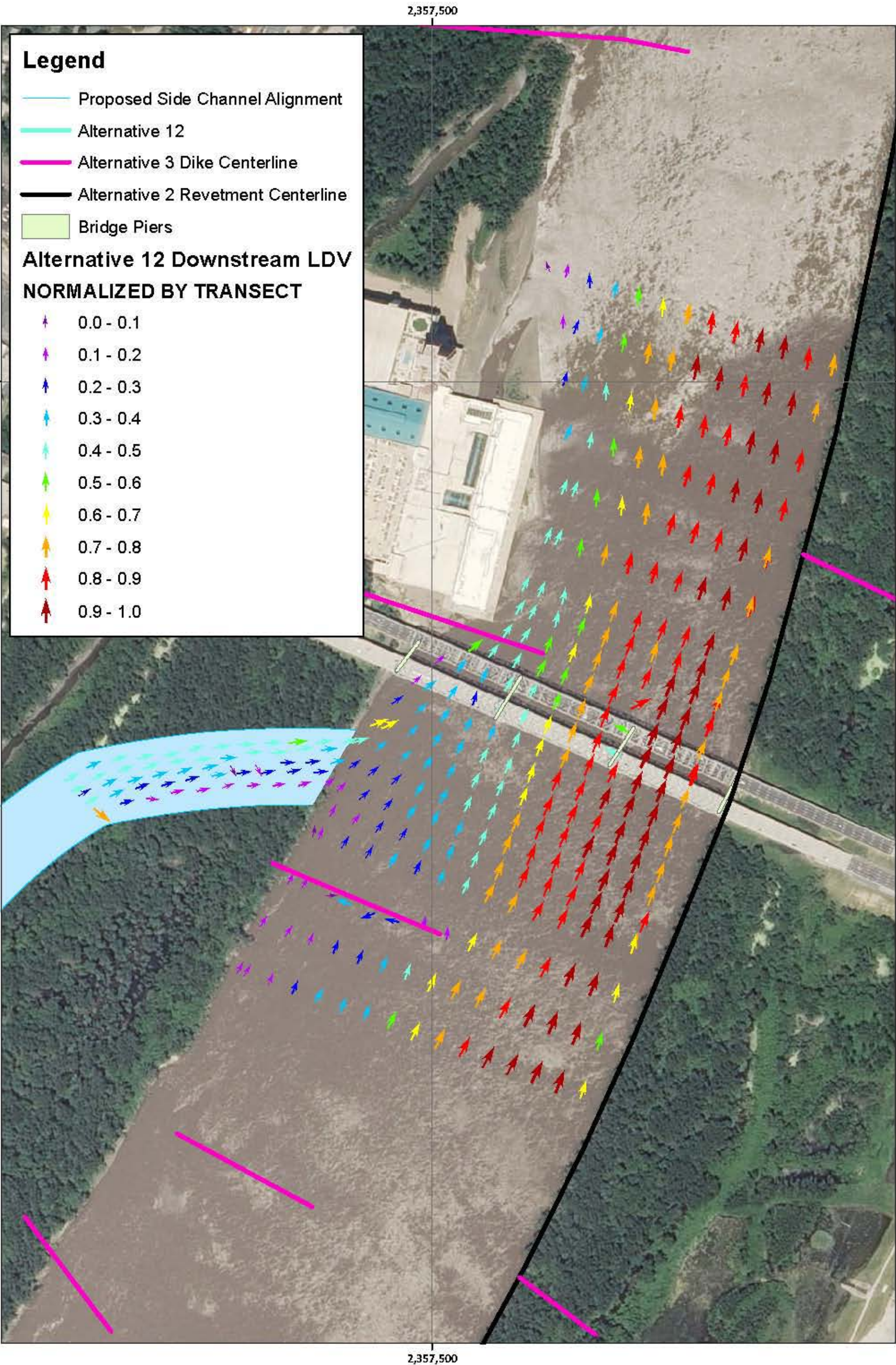
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DESIGNED BY T LAUTH	DRAWN BY R DAVINROY, P.E.	CHECKED BY ...
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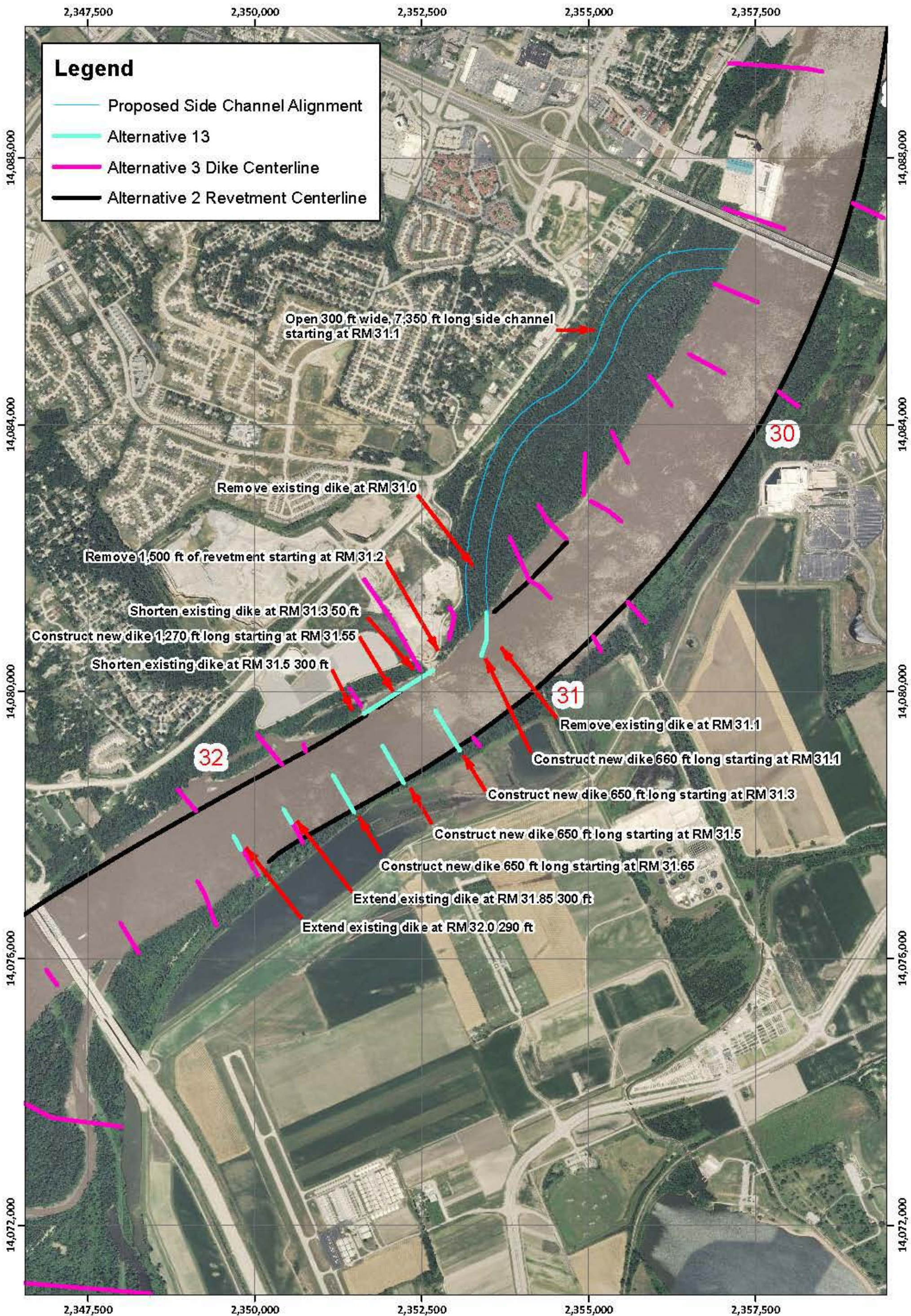


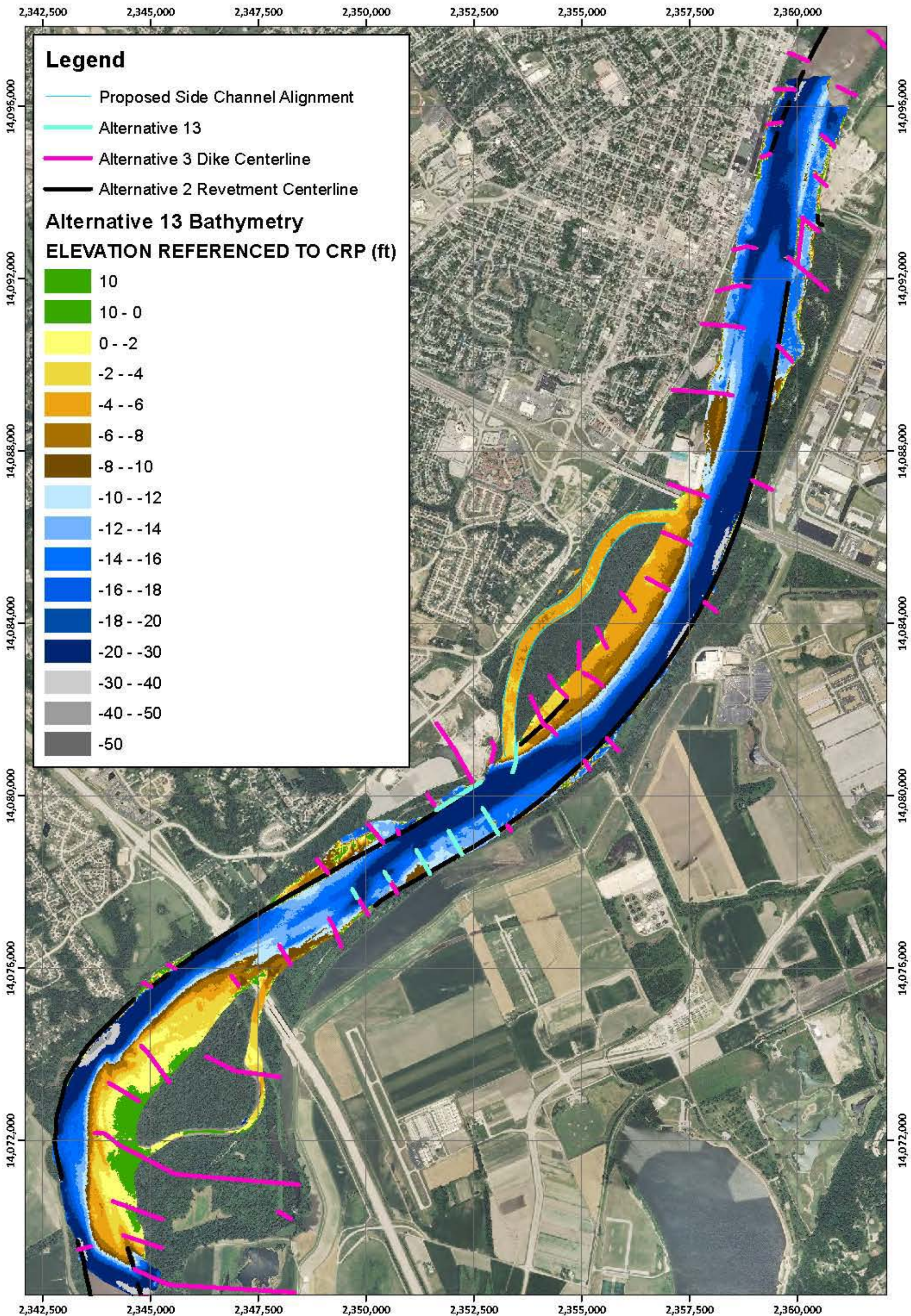
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St. Louis District









Legend

- Proposed Side Channel Alignment
- Alternative 13
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 13 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

63

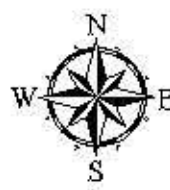
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feet

Alternative 13: Bathymetry

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		APPROVED BY T LAUTH	DATE 8/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 13
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 13 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

64

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 13:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

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T LAUTH

CHECKED BY
J BROWN, P.E.

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T LAUTH

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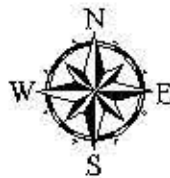
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A CON

DRAWN BY
R DAVINROY, P.E.

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R DAVINROY, P.E.

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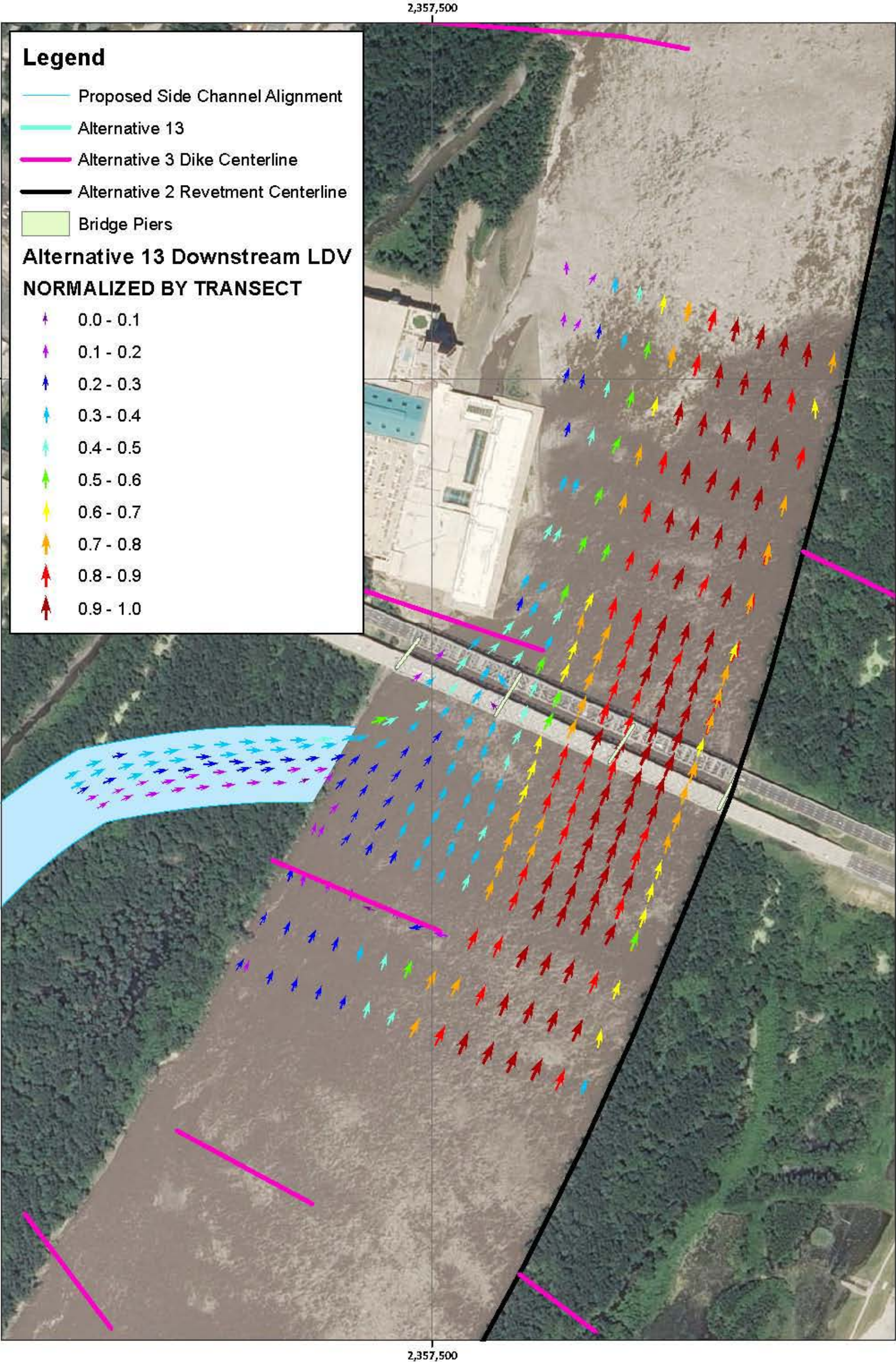
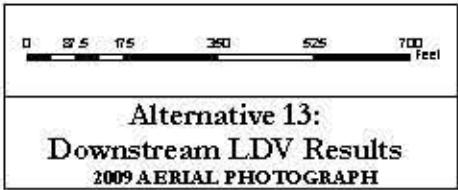
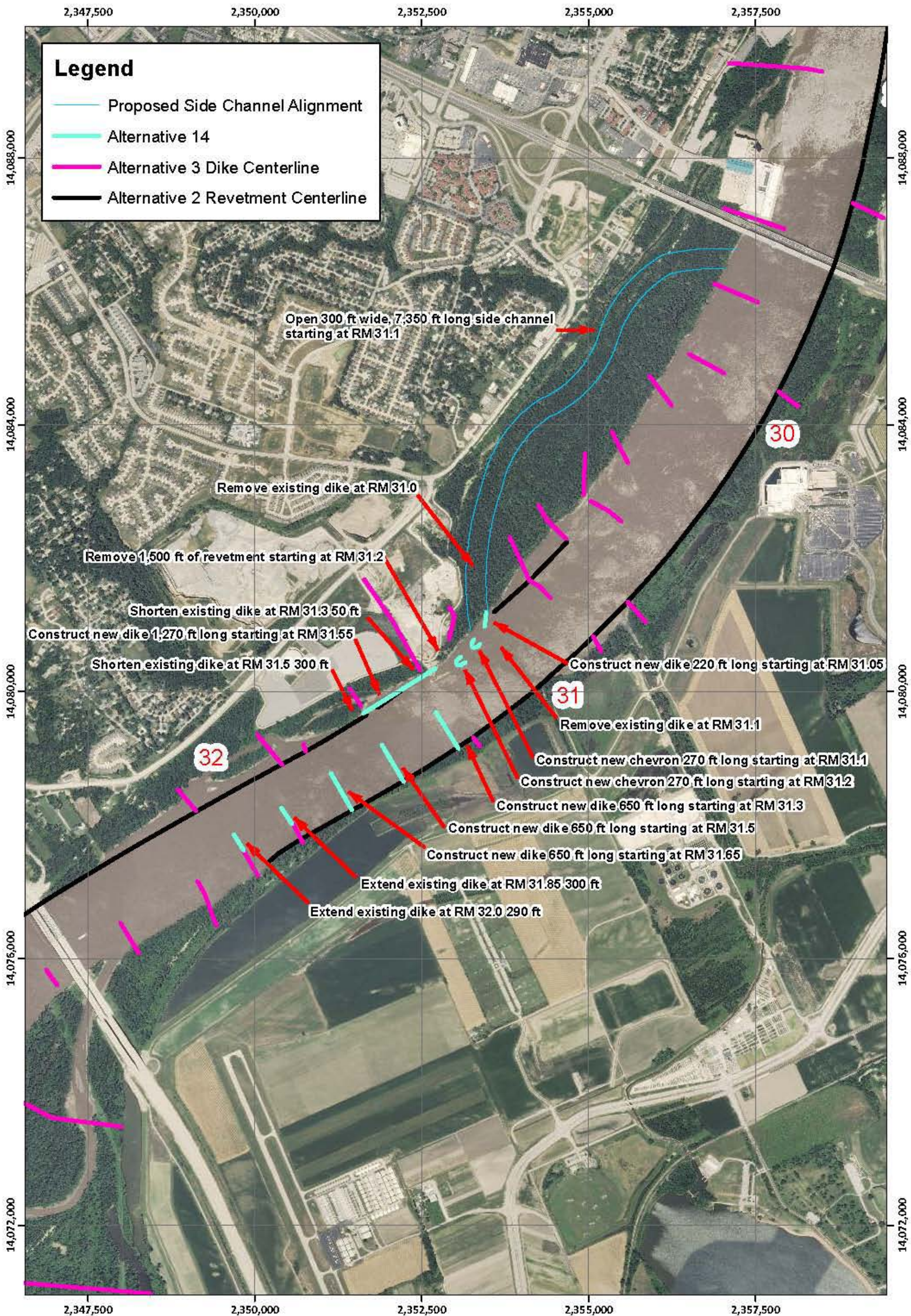


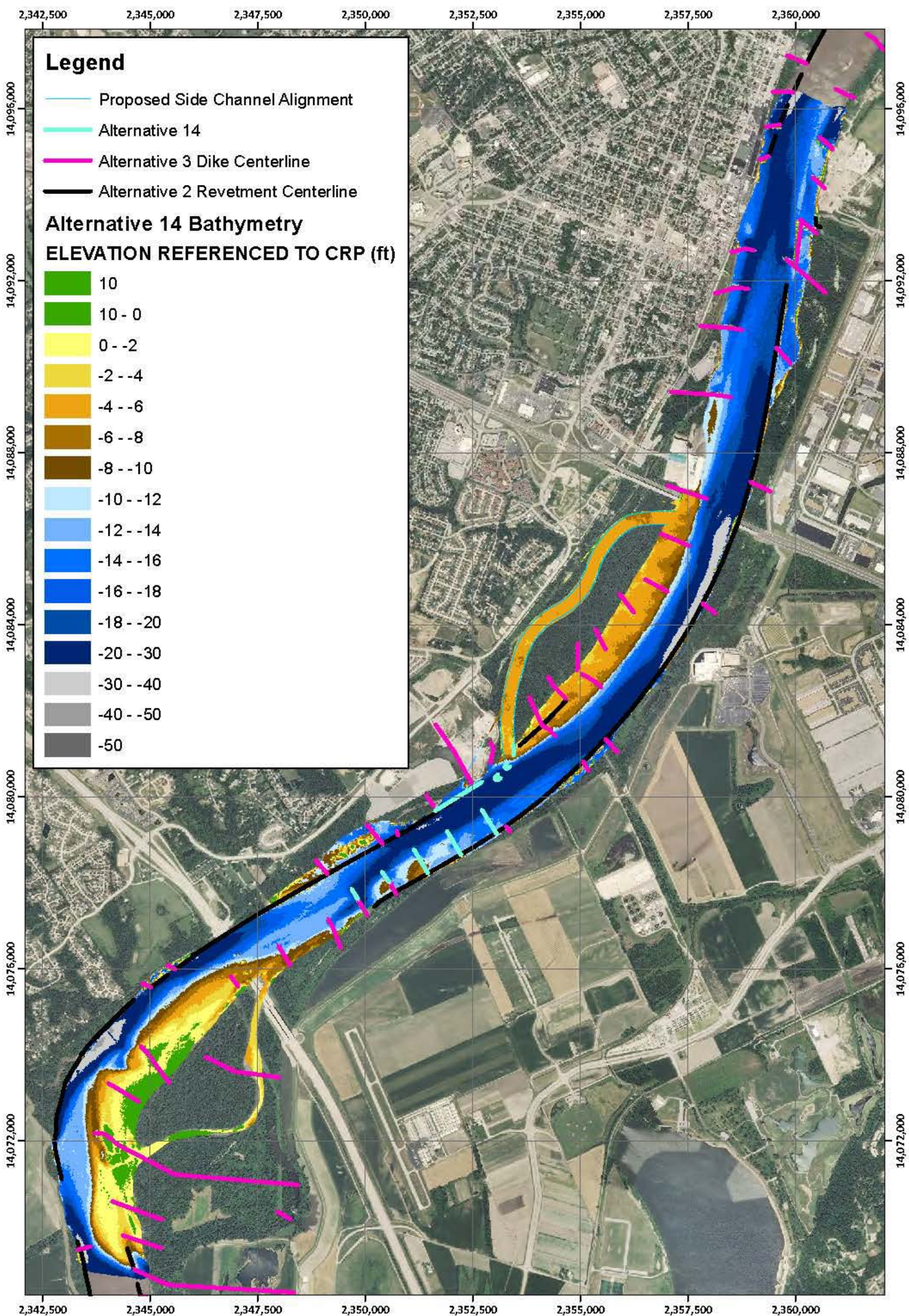
PLATE
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65



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	PROJECT Bangert Island HSR Model	NO. OF PAGES 9/21/11







Legend

- Proposed Side Channel Alignment
- Alternative 14
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 14 Bathymetry

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

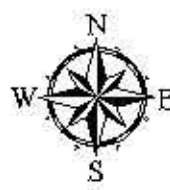
PLATE
NUMBER
67

0 500 1000 2000 3000 4000 Feet

Alternative 14: Bathymetry

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Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 14
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 14 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
68

0 125 250 500 750 Feet

Alternative 14:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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ST. LOUIS, MISSOURI

Bangert Island
HSR Model

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T. LAUTH

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T. LAUTH

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APPROVED BY
T. LAUTH

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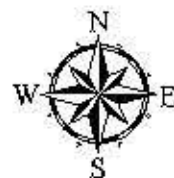
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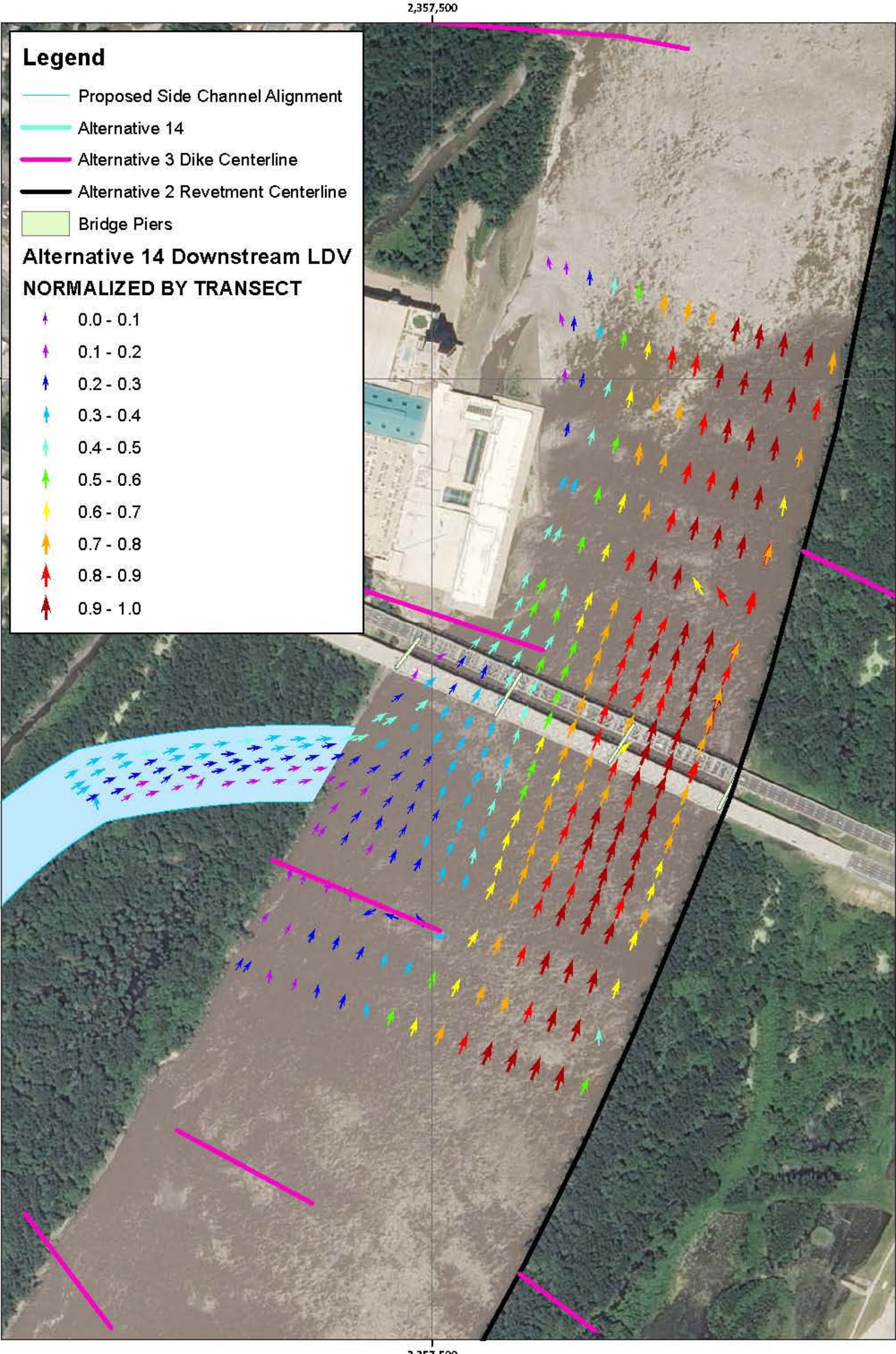
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R. DAVINROY, P.E.

DATE
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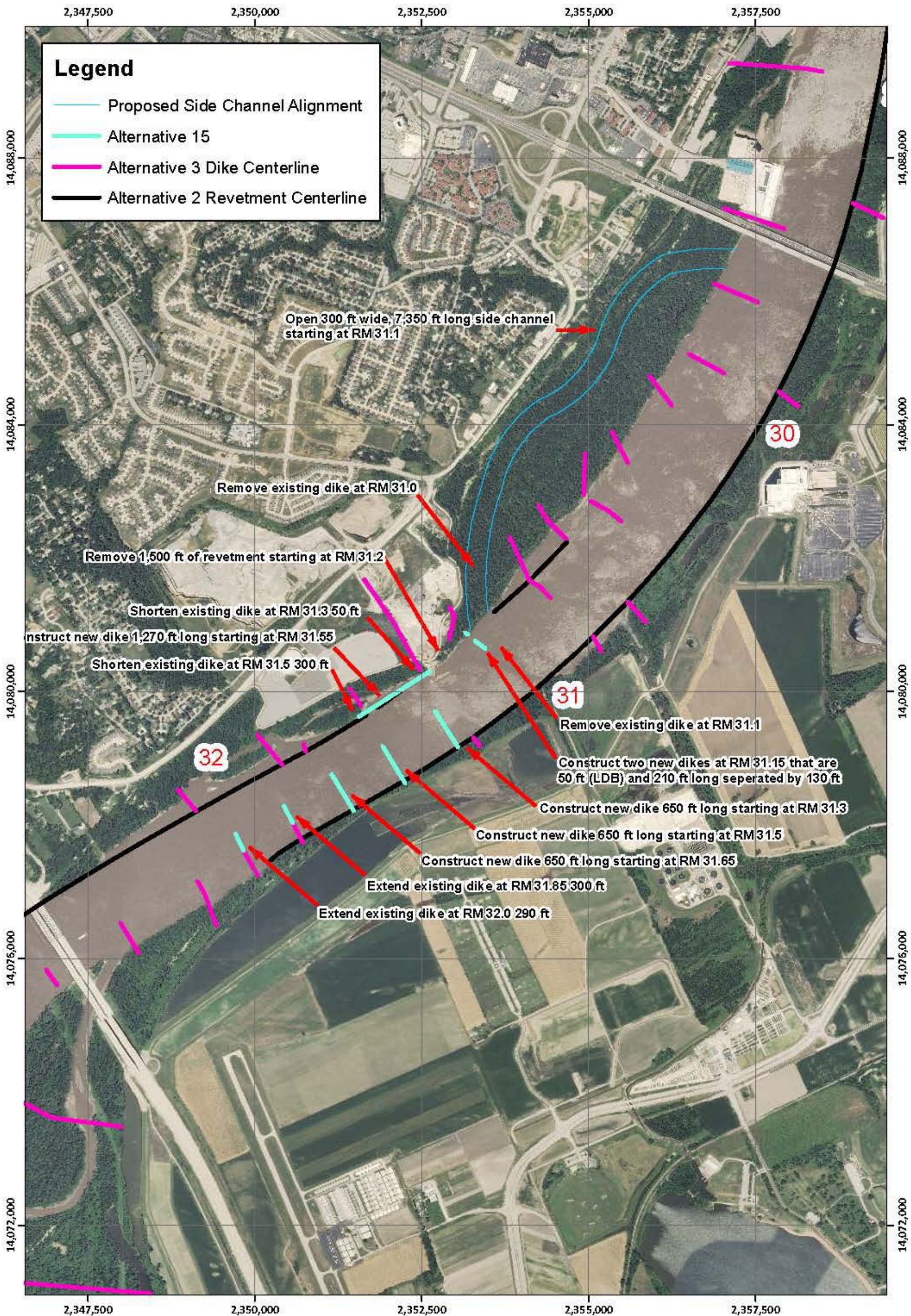


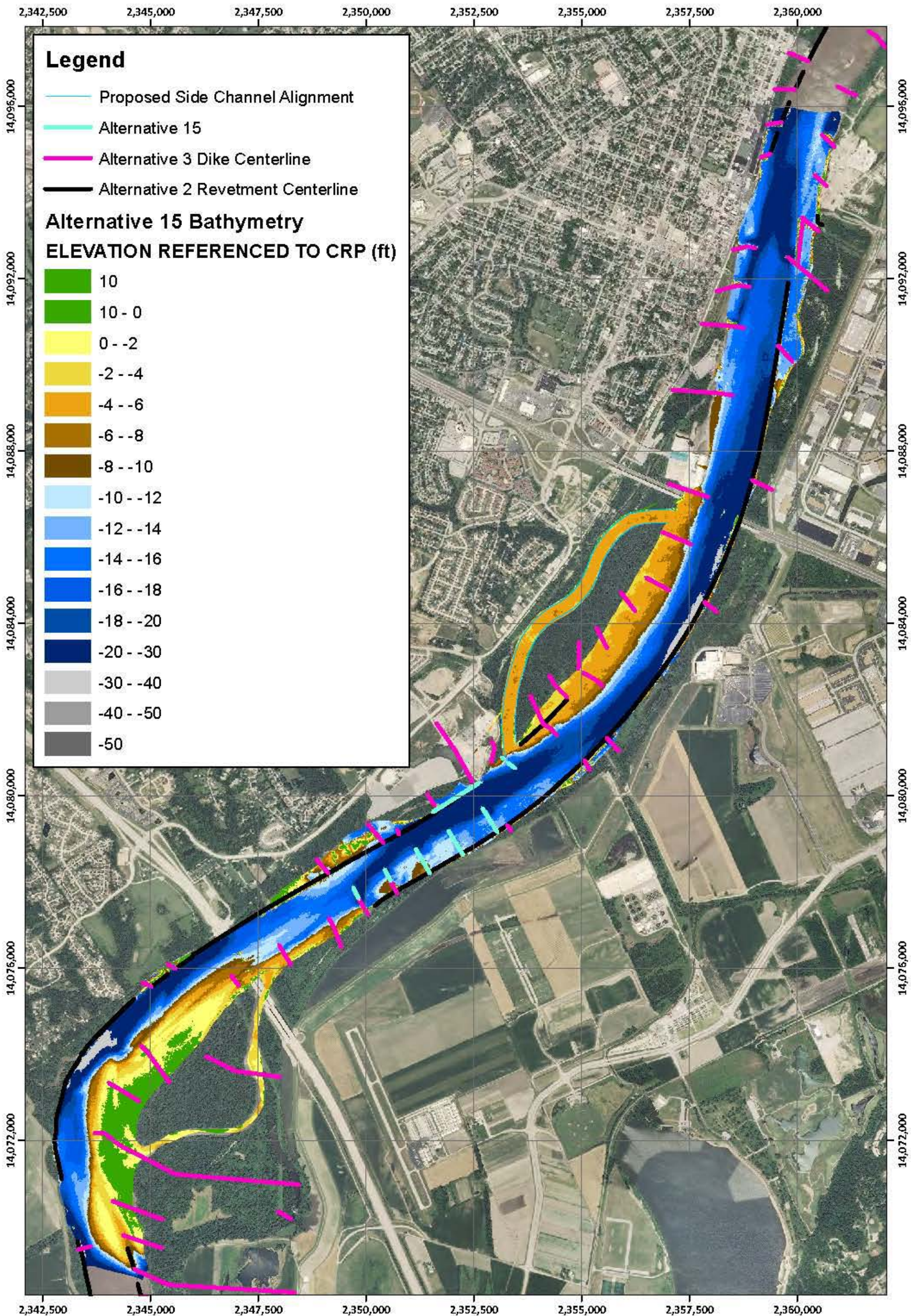
Legend

- Proposed Side Channel Alignment
- Alternative 14
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 14 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0





Legend

- Proposed Side Channel Alignment
- Alternative 15
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 15 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
71

0 500 1000 2000 3000 4000 Feet

Alternative 15: Bathymetry

2009 AERIAL PHOTOGRAPH

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Bangert Island HSR Model		PROJECT Bangert Island	PROJECT 9/27/11



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 15
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 15 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

72

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 15:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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ST. LOUIS, MISSOURI

Bangert Island
HSR Model

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J BROWN, P.E.

APPROVED BY
T LAUTH

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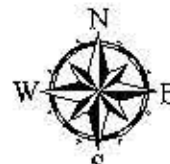
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DRAWN BY
R DAVINROY, P.E.

CHECKED BY
R DAVINROY, P.E.

DATE
9/27/11



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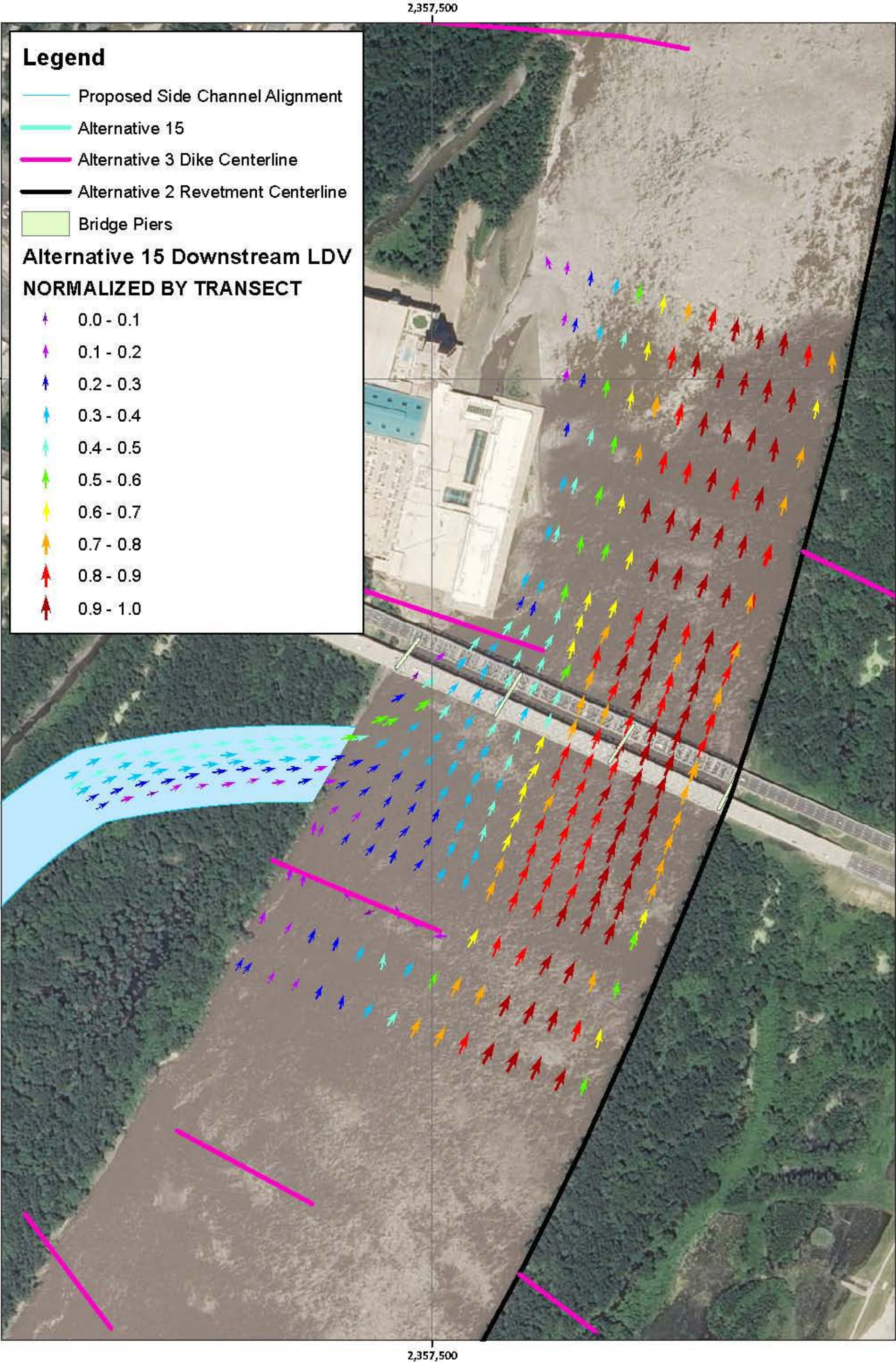
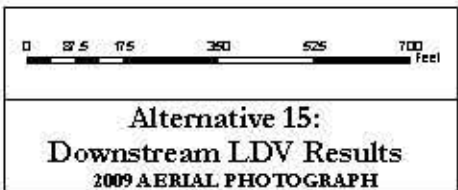
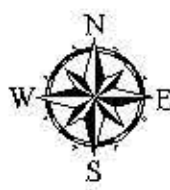
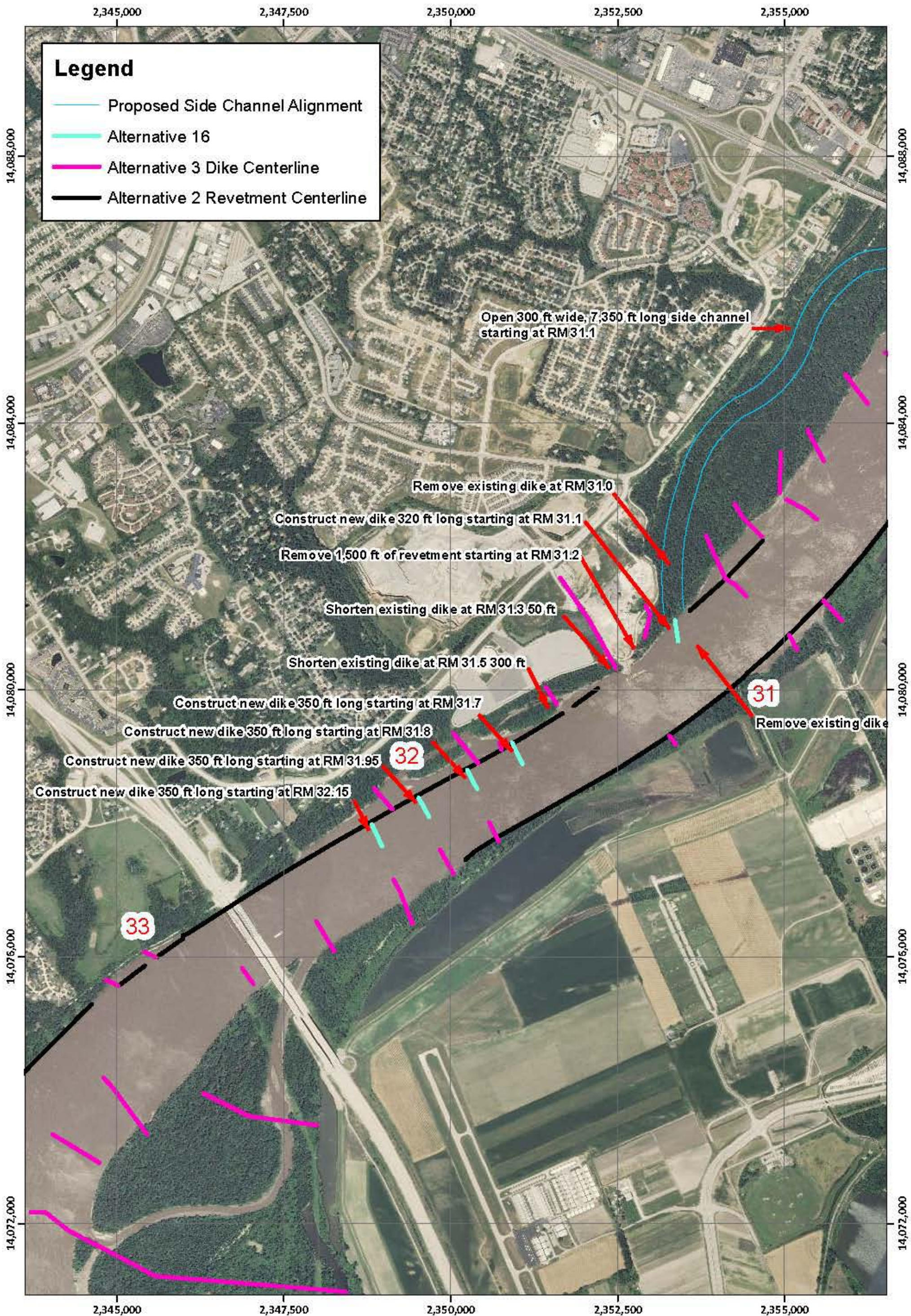


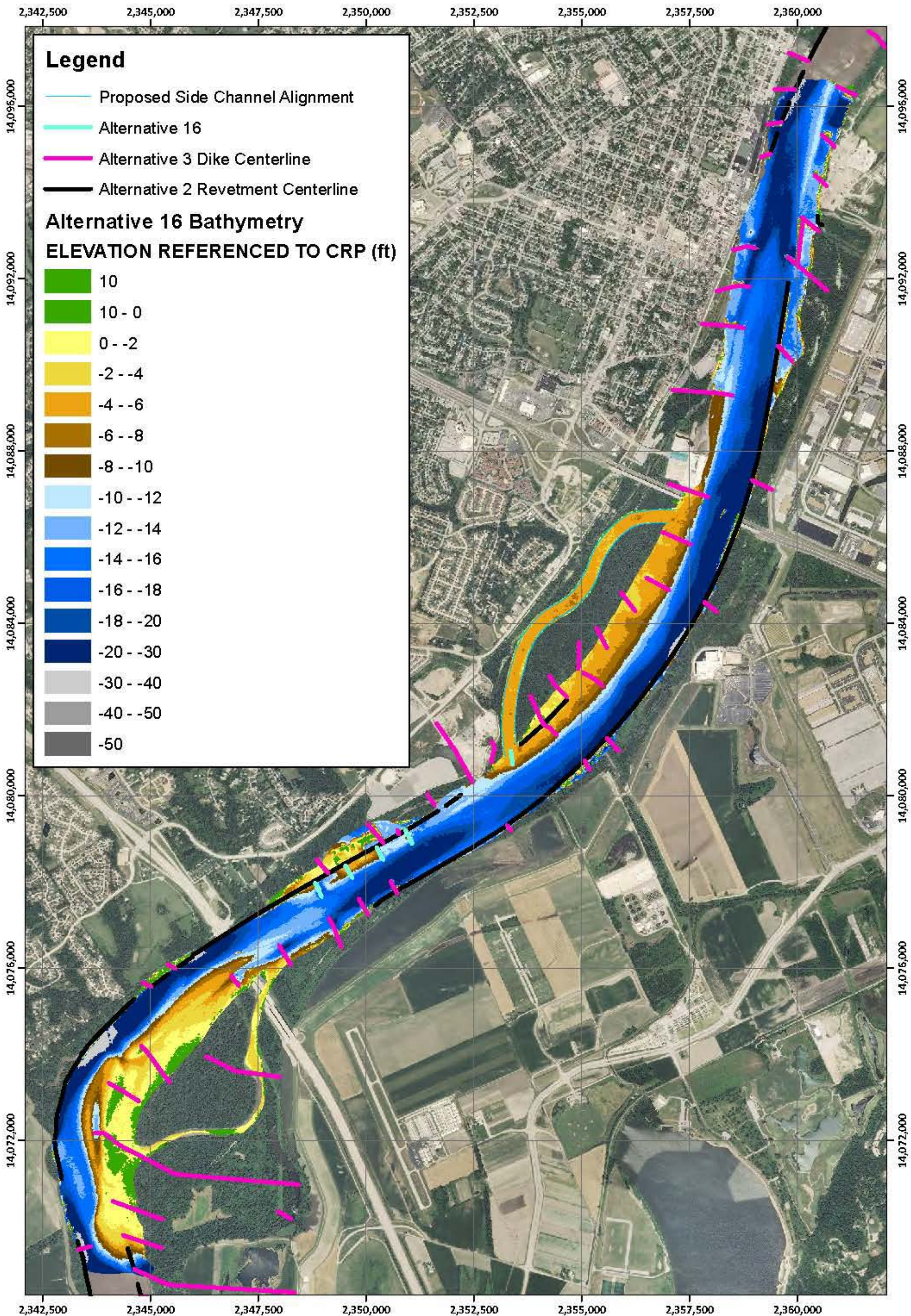
PLATE
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73



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	PROJECT Bangert Island HSR Model	NO. OF PAGES 9/27/11







Legend

- Proposed Side Channel Alignment
- Alternative 16
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 16 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

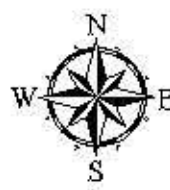
PLATE
NUMBER
75

0 500 1000 2000 3000 4000 Feet

Alternative 16: Bathymetry

2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 8/24/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
Bangert Island HSR Model		PROJECT Bangert Island	PROJECT 9/27/11



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 16
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 16 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
76

0 125 250 500 750 Feet

Alternative 16:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

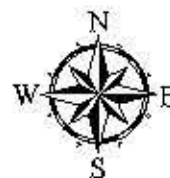
DATE
8/25/11

DESIGNED BY
A CON

DRAWN BY
R DAVINROY, P.E.

CHECKED BY
R DAVINROY, P.E.

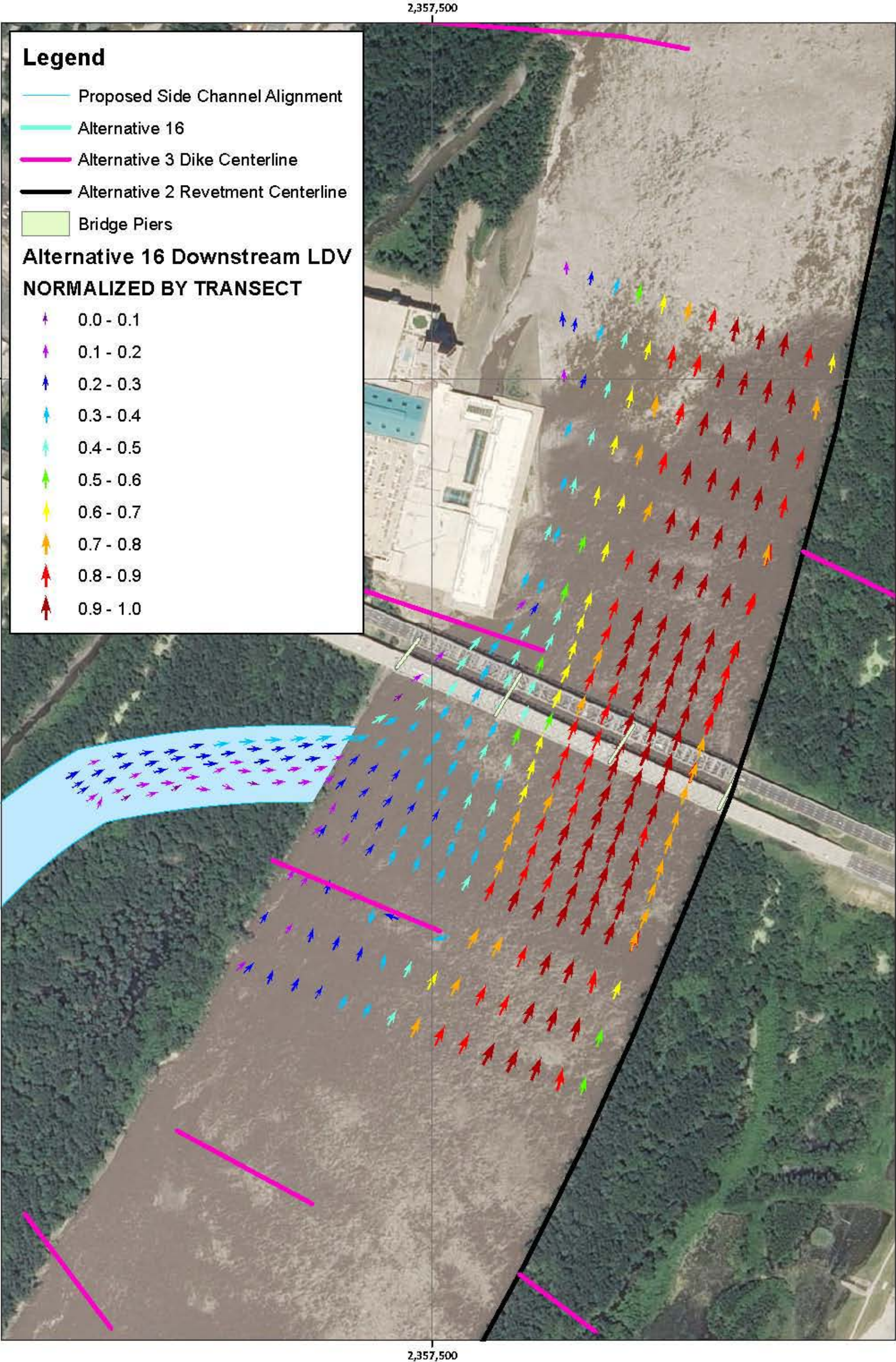
DATE
9/27/11



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District





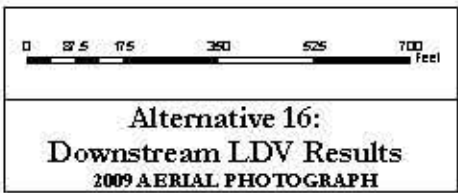
Legend

- Proposed Side Channel Alignment
- Alternative 16
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 16 Downstream LDV
NORMALIZED BY TRANSECT**

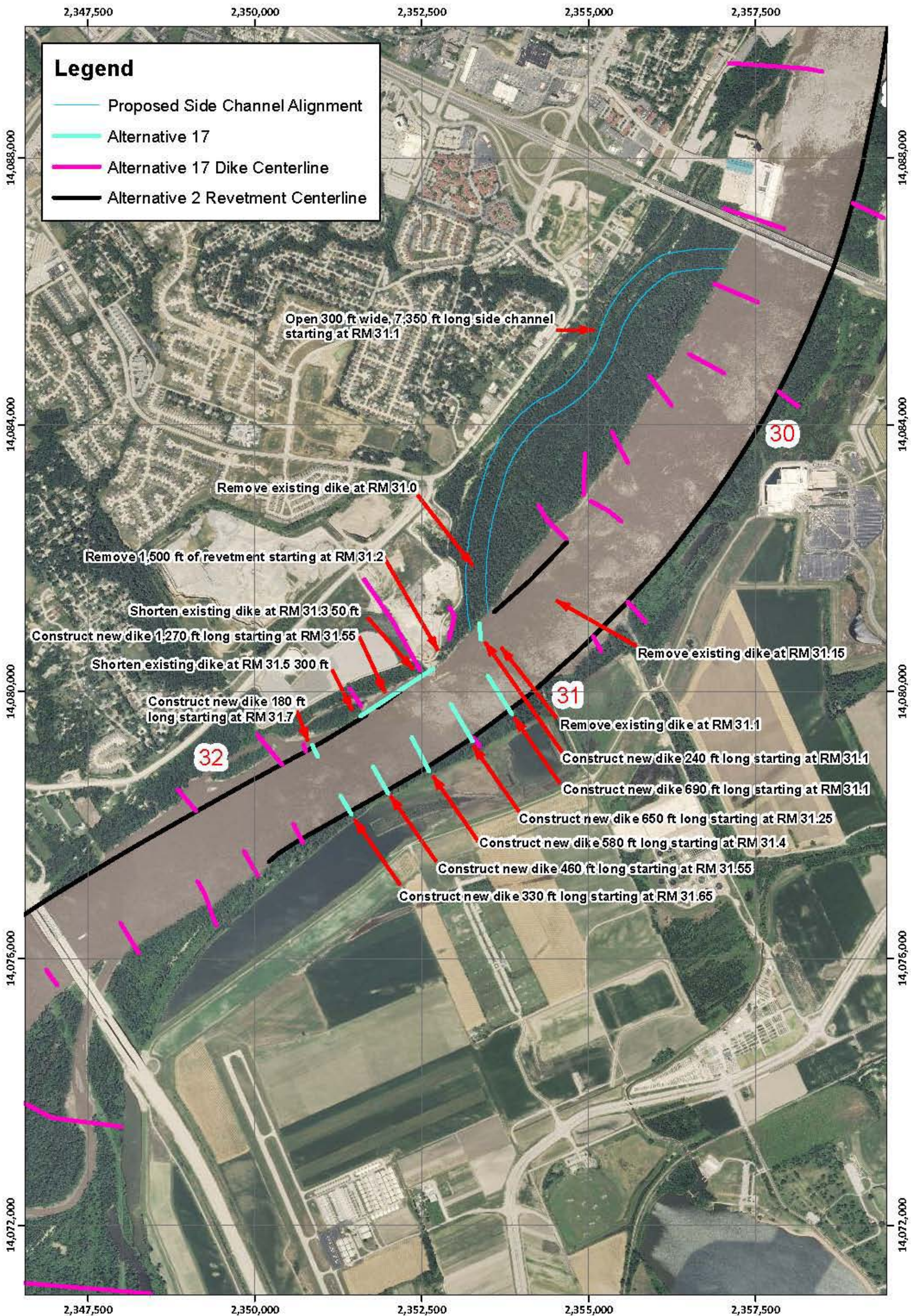
- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

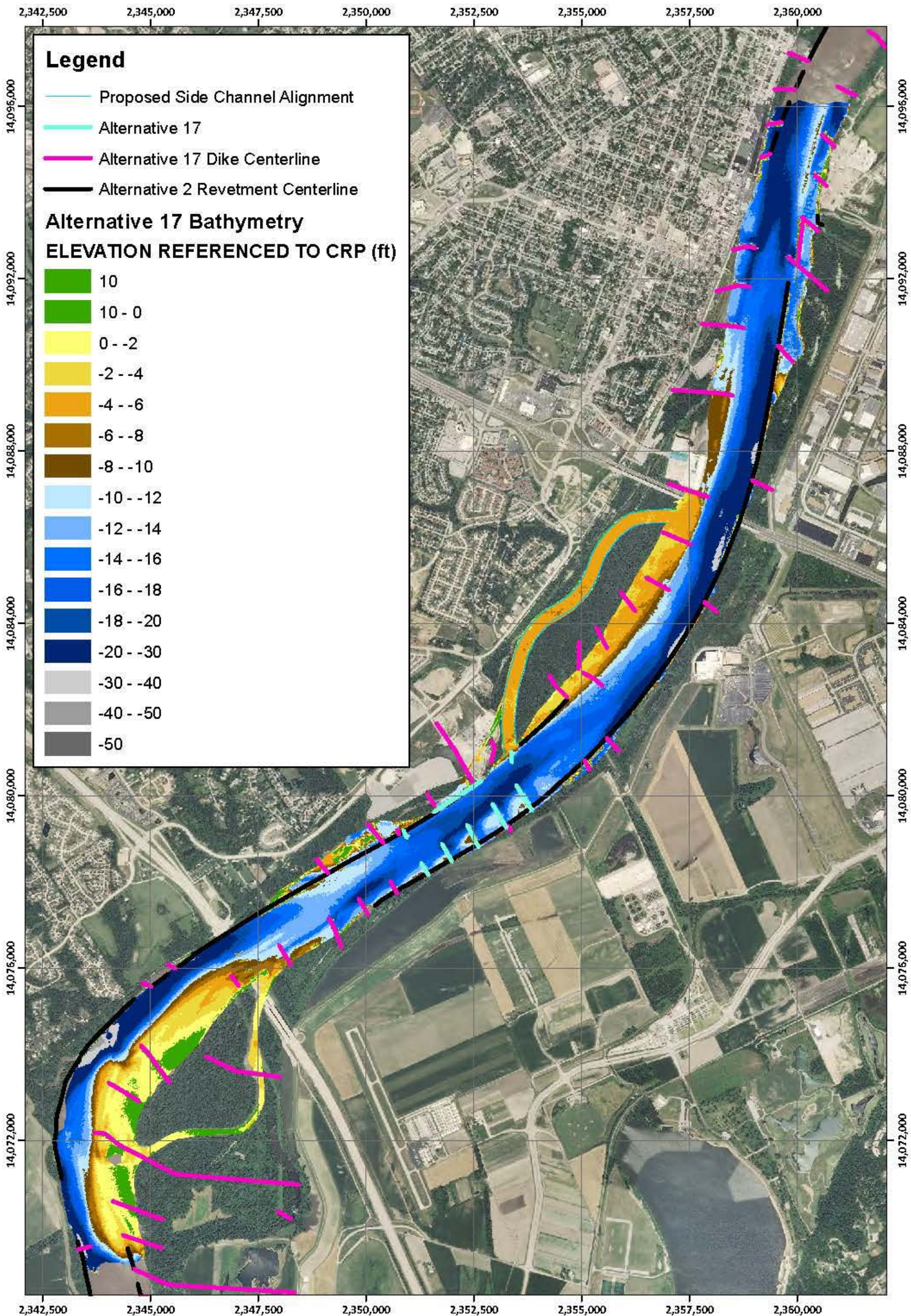
PLATE
NUMBER
77



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 8/25/11
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
	APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
	PROJECT NAME Bangert Island HSR Model	PROJECT NO. 9/27/11







Legend

- Proposed Side Channel Alignment
- Alternative 17
- Alternative 17 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 17 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

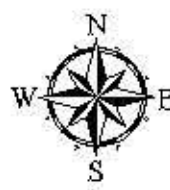
PLATE
NUMBER
79

0 500 1,000 2,000 3,000 4,000 Feet

Alternative 17: Bathymetry

2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 8/25/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 17
- Alternative 17 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 17 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

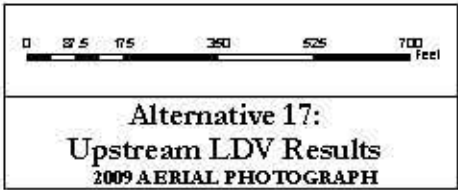
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14,080,000

2,352,500

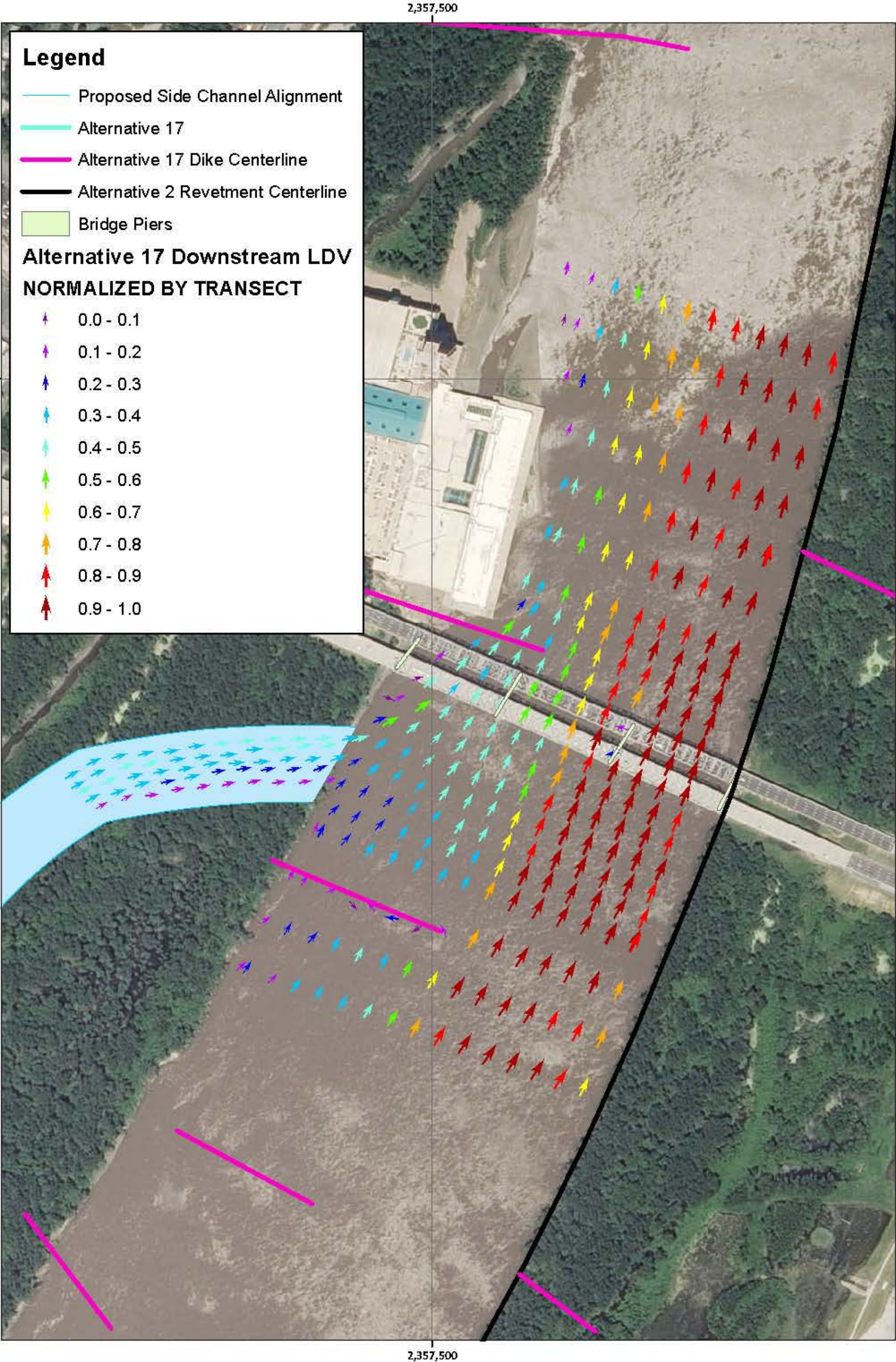
2,355,000

80
PLATE
NUMBER



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 6/27/11	
	CHECKED BY T LAUTH		DESIGNED BY J BROWN, P.E.	
	APPROVED BY T LAUTH		DESIGNED BY A COX	
Bangert Island HSR Model	DESIGNED BY T LAUTH		APPROVED BY R DAVINROY, P.E.	
	DATE 6/27/11		DATE 9/27/11	



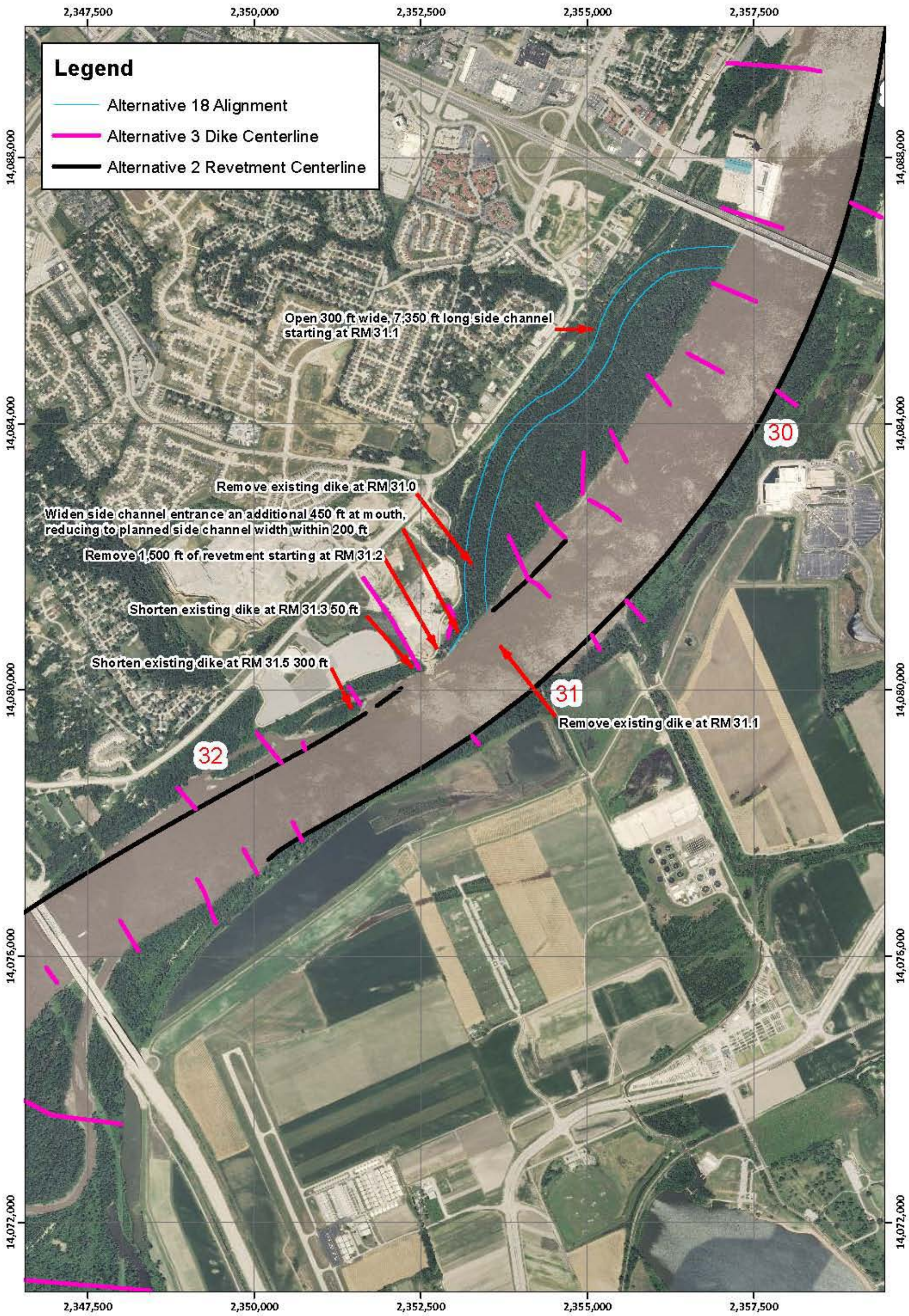


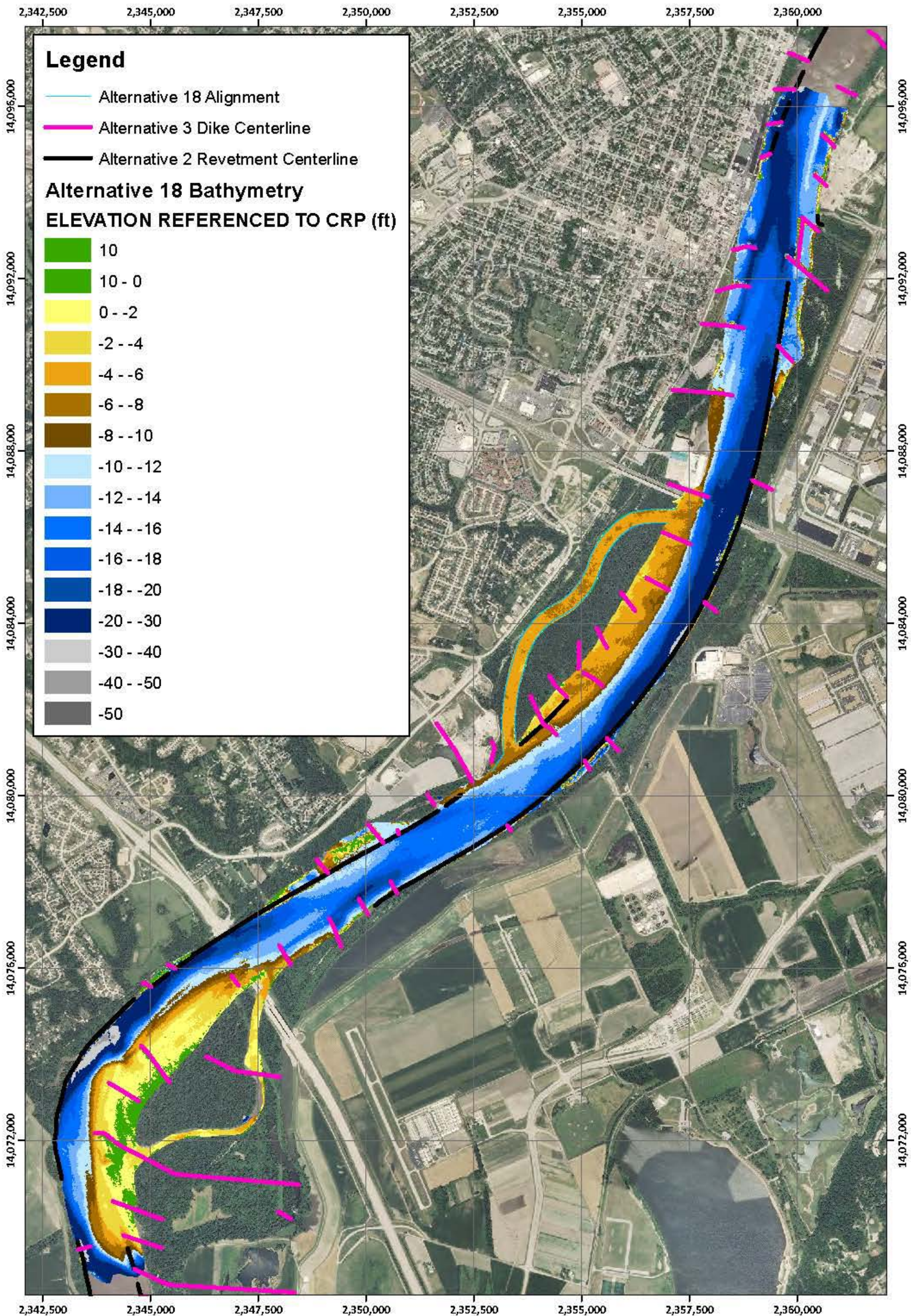
Legend

- Proposed Side Channel Alignment
- Alternative 17
- Alternative 17 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 17 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0





Legend

- Alternative 18 Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 18 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

83

0 500 1,000 2,000 3,000 4,000 Feet

Alternative 18: Bathymetry
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH		DRAWN BY 8/28/11	
		CHECKED BY T LAUTH		CHECKED BY J BROWN, P.E.	
		APPROVED BY T LAUTH		APPROVED BY R DAVINROY, P.E.	
		PROJECT NAME Bangert Island		PROJECT NO. 9/27/11	

Bangert Island
HSR Model



2,352,500

2,355,000

Legend

- Alternative 18 Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 18 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

84

PLATE
NUMBER

0 125 250 500 750 feet

Alternative 18:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T. LAUTH

DRAWN BY
T. LAUTH

CHECKED BY
J. BROWN, P.E.

APPROVED BY
T. LAUTH

DATE
9/27/11

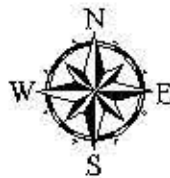
DATE
8/29/11

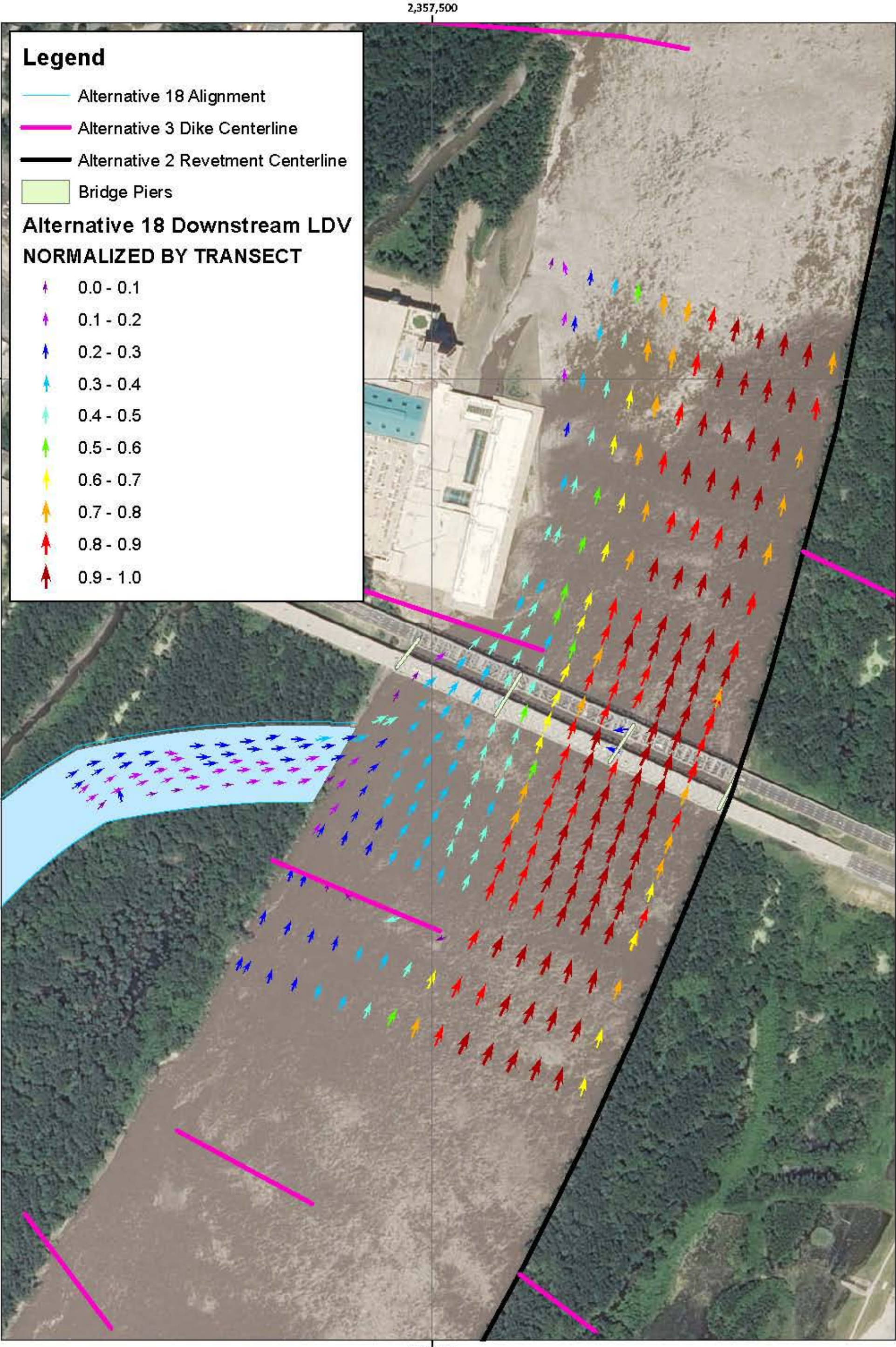
DESIGNED BY
R. DAVINROY, P.E.

CHECKED BY
A. COX

APPROVED BY
R. DAVINROY, P.E.

DATE
9/27/11



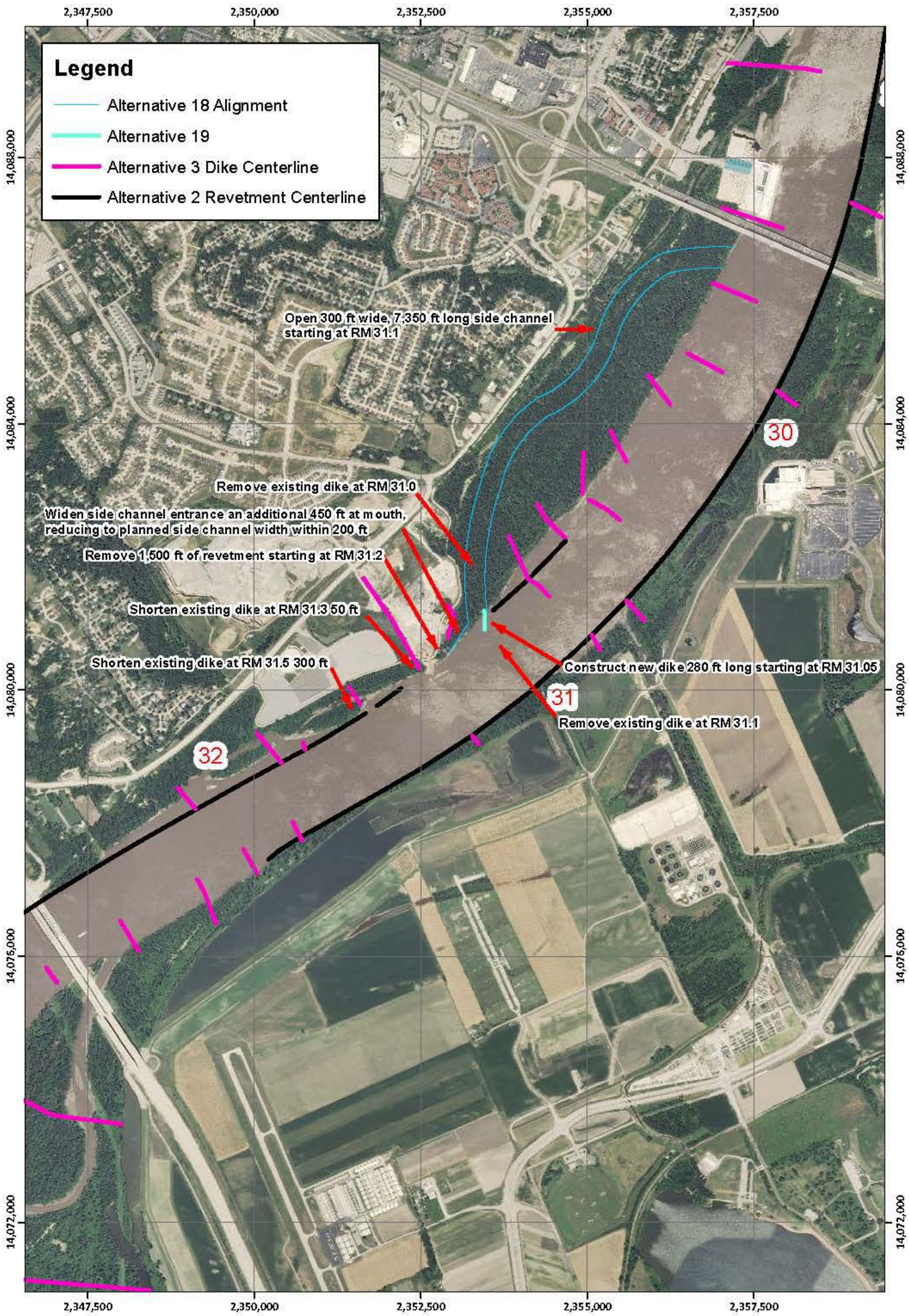


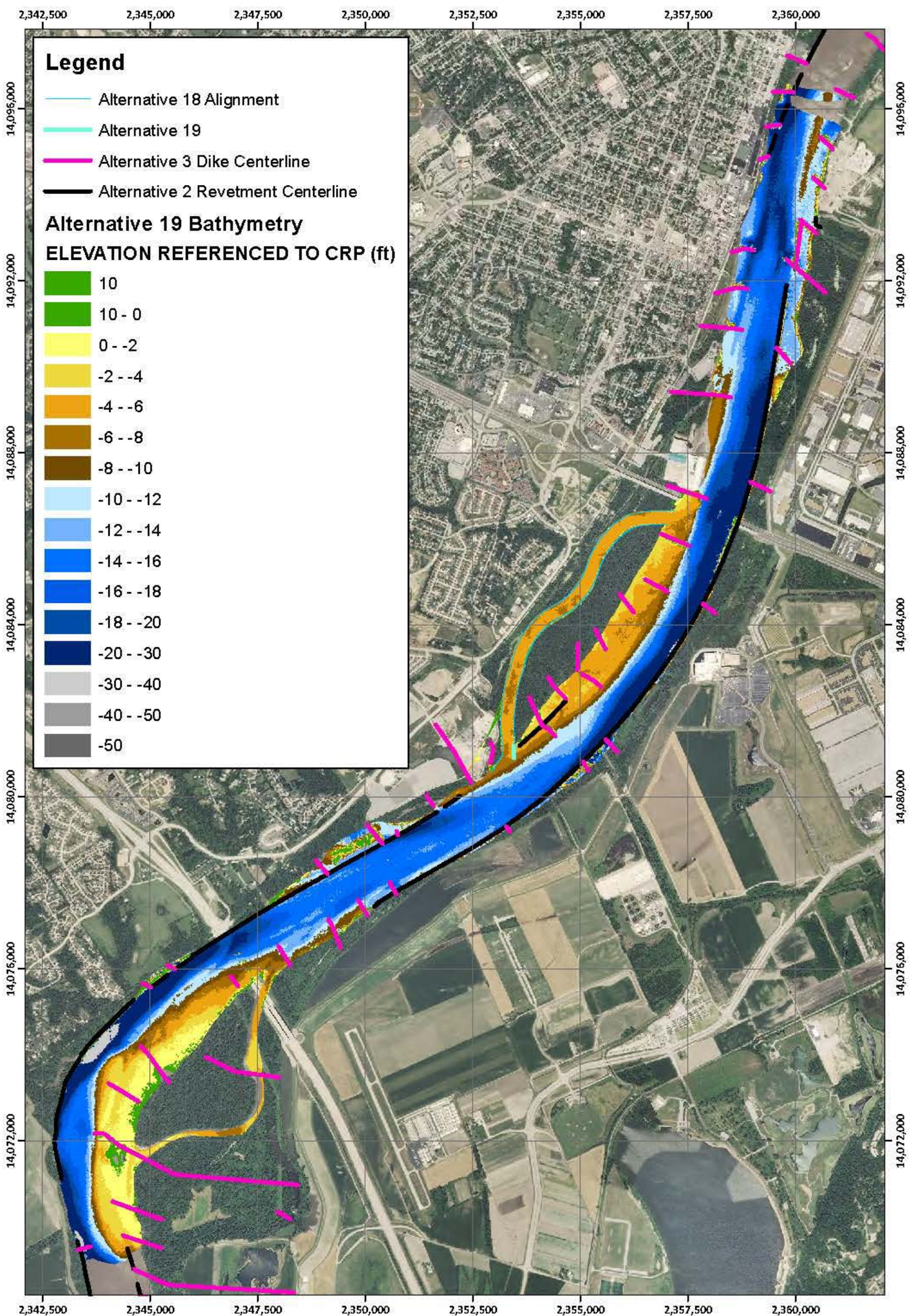
Legend

- Alternative 18 Alignment
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 18 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0





Legend

- Alternative 18 Alignment
- Alternative 19
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 19 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
87

0 500 1000 2000 3000 4000 Feet

Alternative 19: Bathymetry
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 8/30/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	



2,352,500

2,355,000

Legend

Alternative 18 Alignment

Alternative 19

Alternative 3 Dike Centerline

Alternative 2 Revetment Centerline

Alternative 19 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
88

0 125 250 500 750 Feet

Alternative 19:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T. LAUTH

DRAWN BY
T. LAUTH

CHECKED BY
J. BROWN, P.E.

APPROVED BY
T. LAUTH

DATE
9/27/11

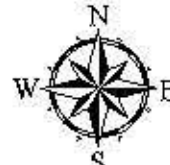
DATE
8/31/11

DESIGNED BY
A. COX

DRAWN BY
R. DAVINROY, P.E.

CHECKED BY
R. DAVINROY, P.E.

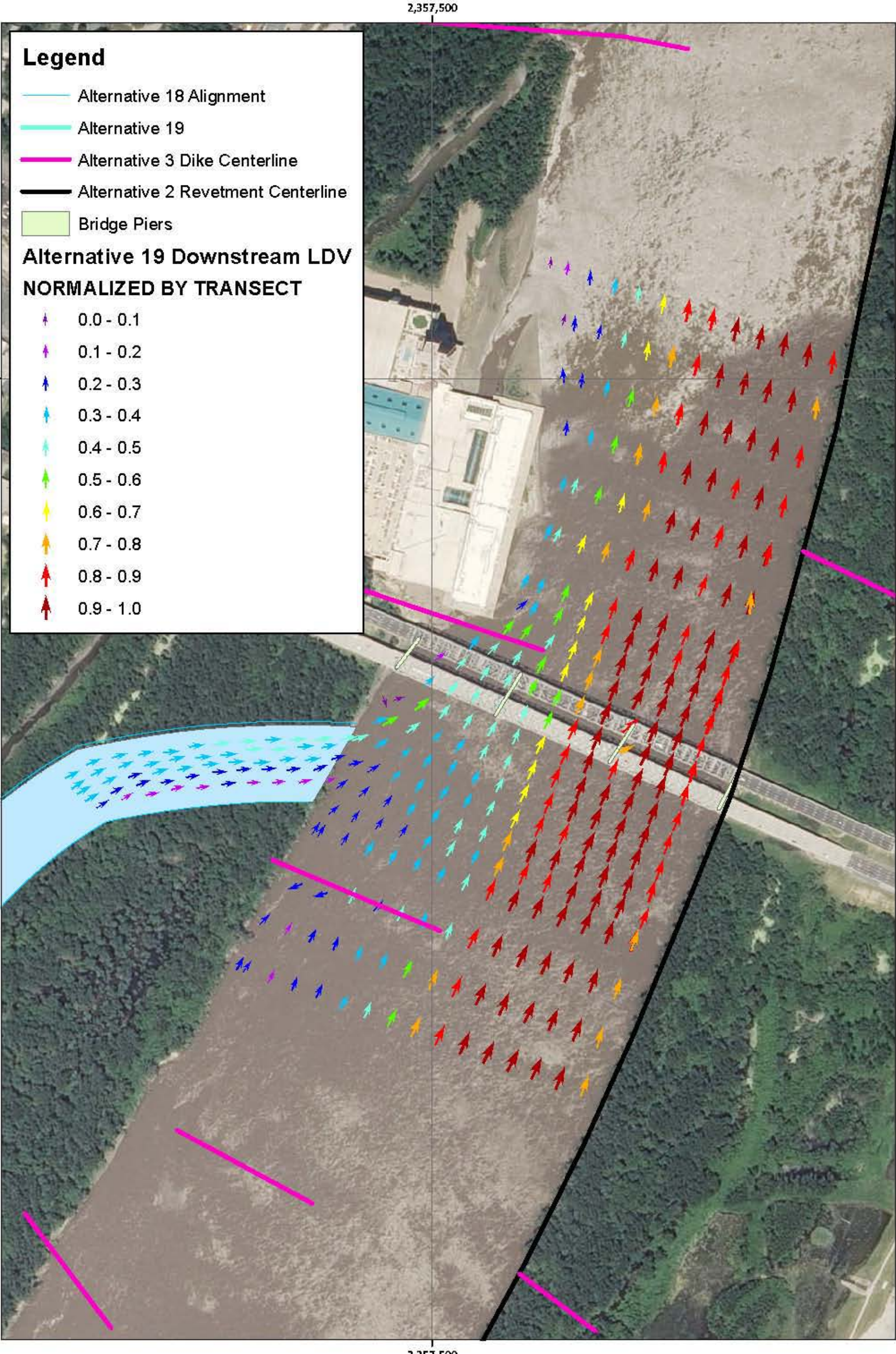
APPROVED BY
R. DAVINROY, P.E.



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District





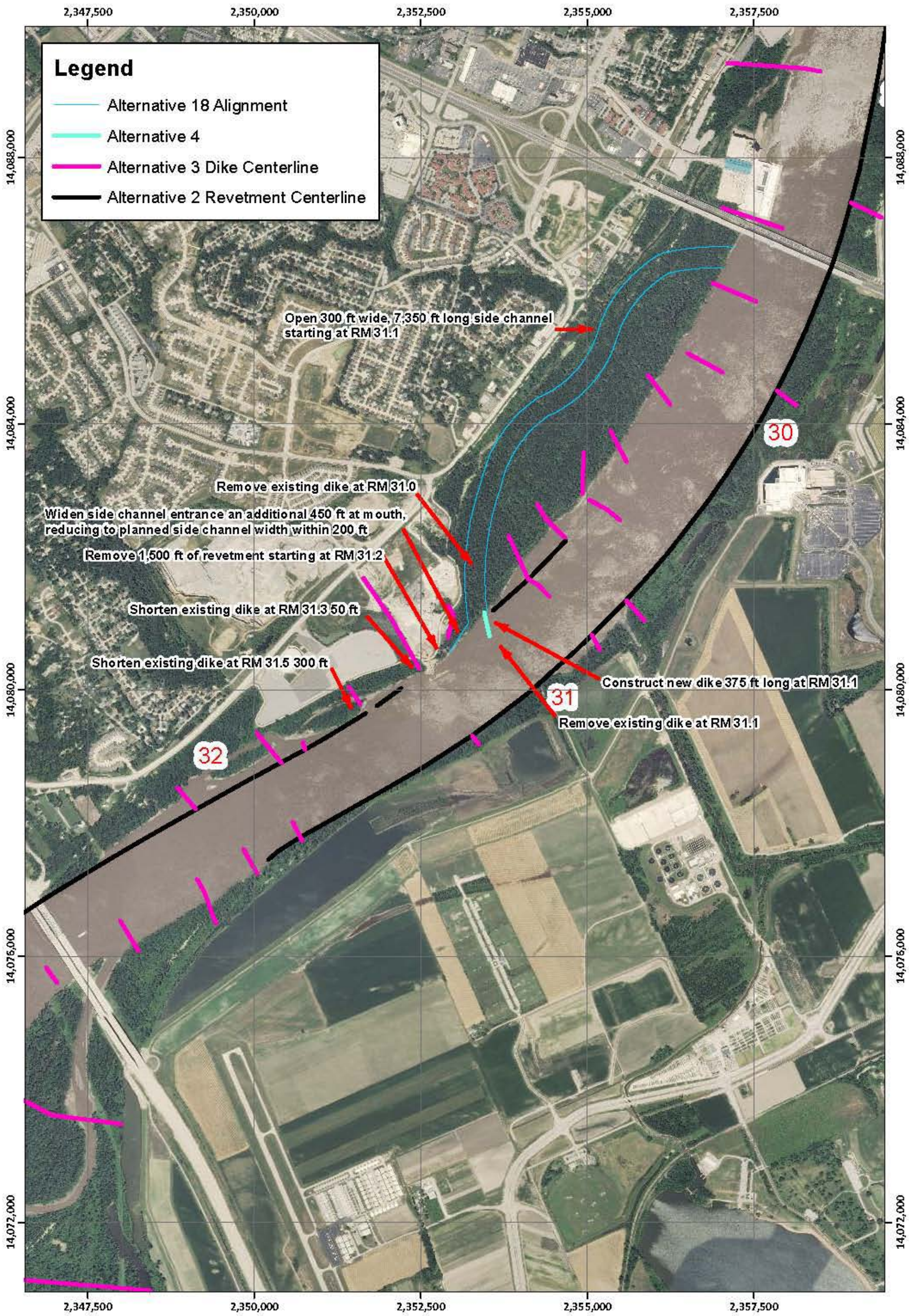


PLATE
NUMBER
90

0 300 600 1,200 1,800 2,400 Feet

Alternative 20: Definition

2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 9/2/11	
	CHECKED BY T LAUTH J BROWN, P.E.		APPROVED BY A CON	
	DESIGNED BY T LAUTH		DRAWN BY R DAVINROY, P.E.	
	CHECKED BY ... Bangert Plaza		APPROVED BY 9/2/11	

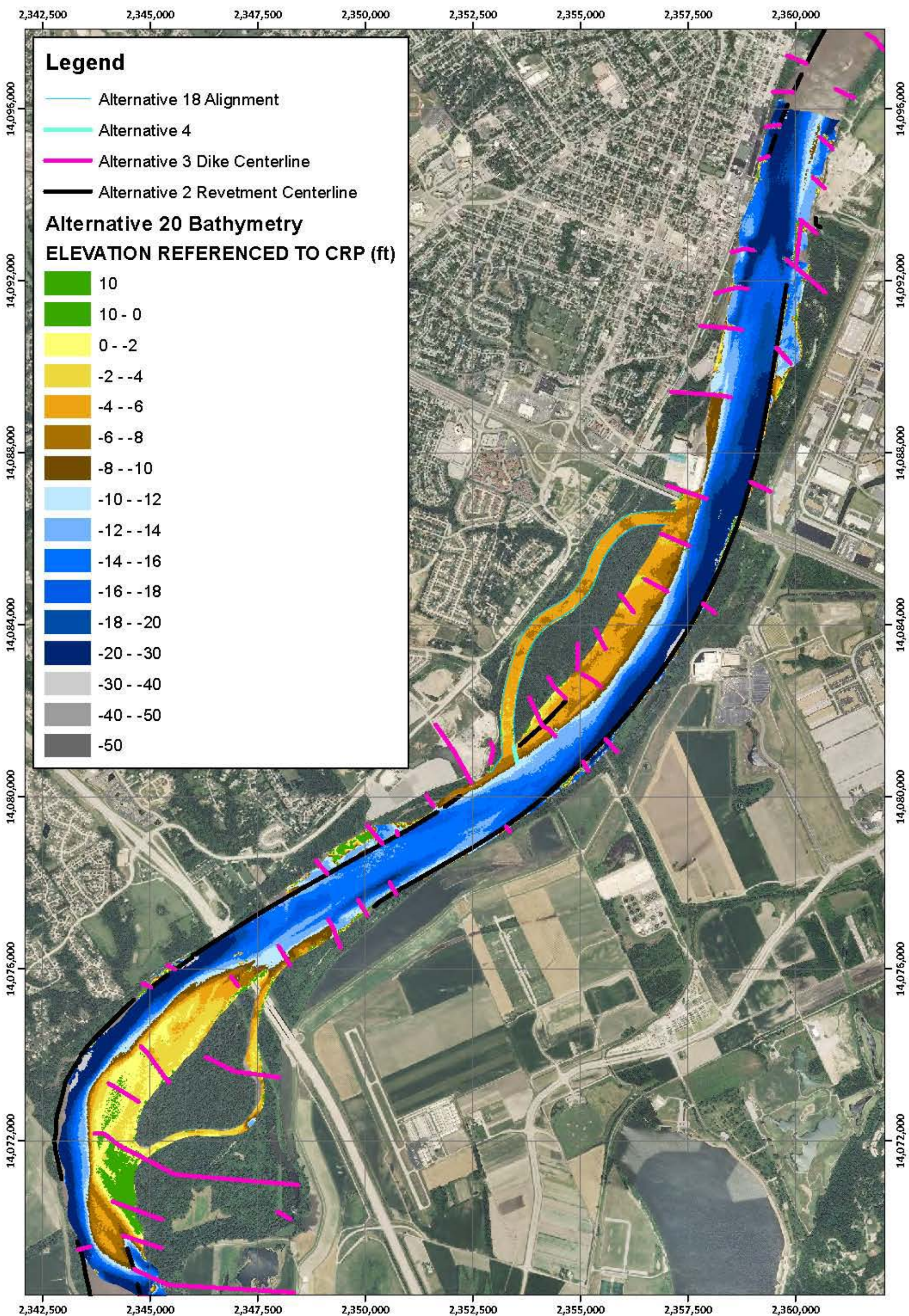
Bangert Island
HSR Model



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District





Legend

- Alternative 18 Alignment
- Alternative 4
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 20 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
91

0 500 1,000 2,000 3,000 4,000 Feet

Alternative 20: Bathymetry
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 9/2/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/2/11
		PROJECT NAME Bangert Island HSR Model	PROJECT NO. R DAVINROY, P.E.



2,352,500

2,355,000

Legend

Alternative 18 Alignment

Alternative 4

Alternative 3 Dike Centerline

Alternative 2 Revetment Centerline

Alternative 20 Upstream LDV NORMALIZED BY TRANSECT

0.0 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

0.5 - 0.6

0.6 - 0.7

0.7 - 0.8

0.8 - 0.9

0.9 - 1.0

2,352,500

2,355,000

14,080,000

14,080,000

92

PLATE
NUMBER

0 125 250 500 750 Feet

Alternative 20:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

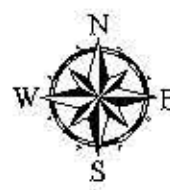
DATE
9/2/11

DESIGNED BY
J BROWN, P.E.

CHECKED BY
A CON

APPROVED BY
R DAVINROY, P.E.

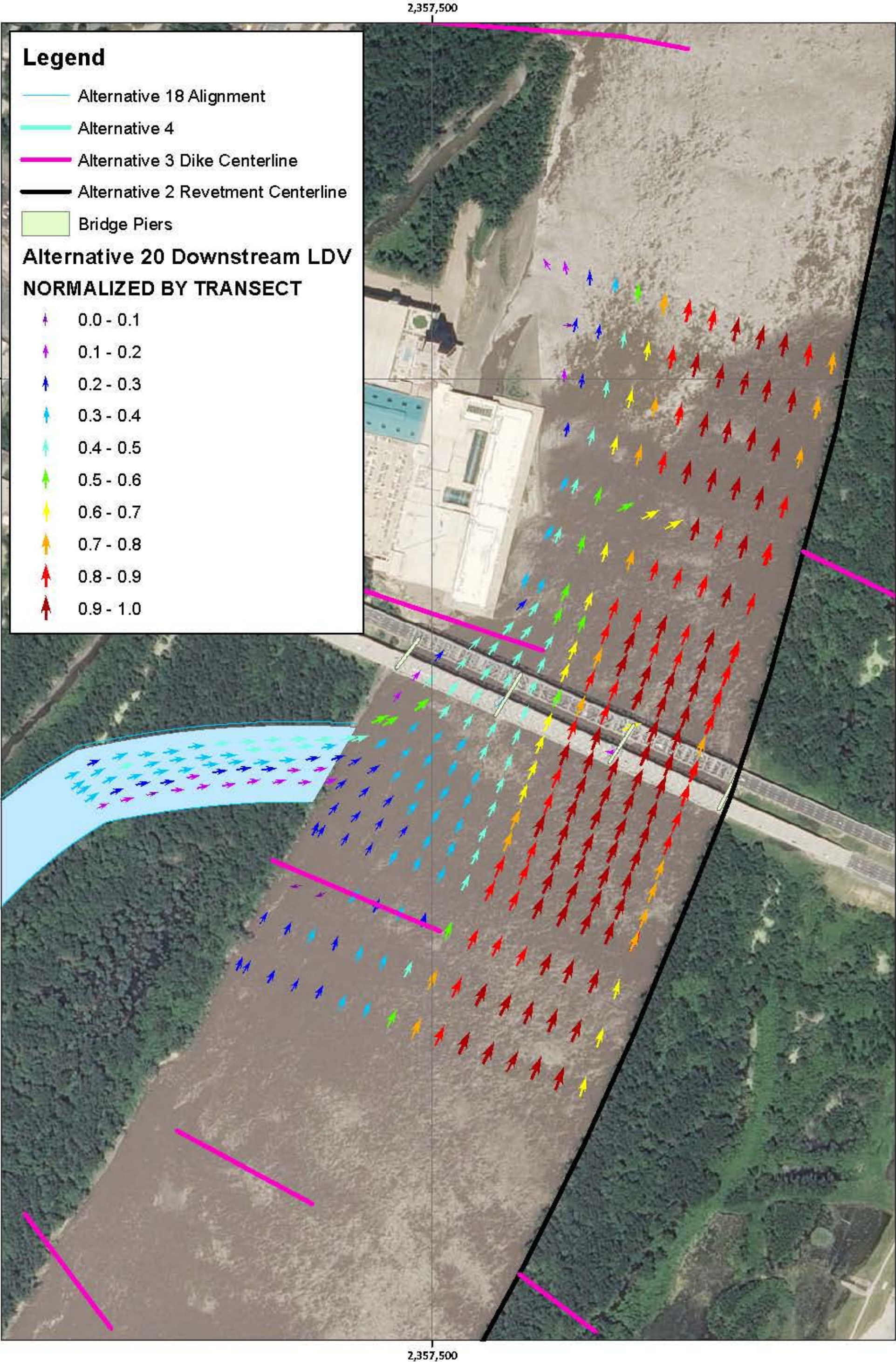
DATE
9/27/11



APPLIED
RIVER
ENGINEERING CENTER

US Army Corps
of Engineers
St. Louis District





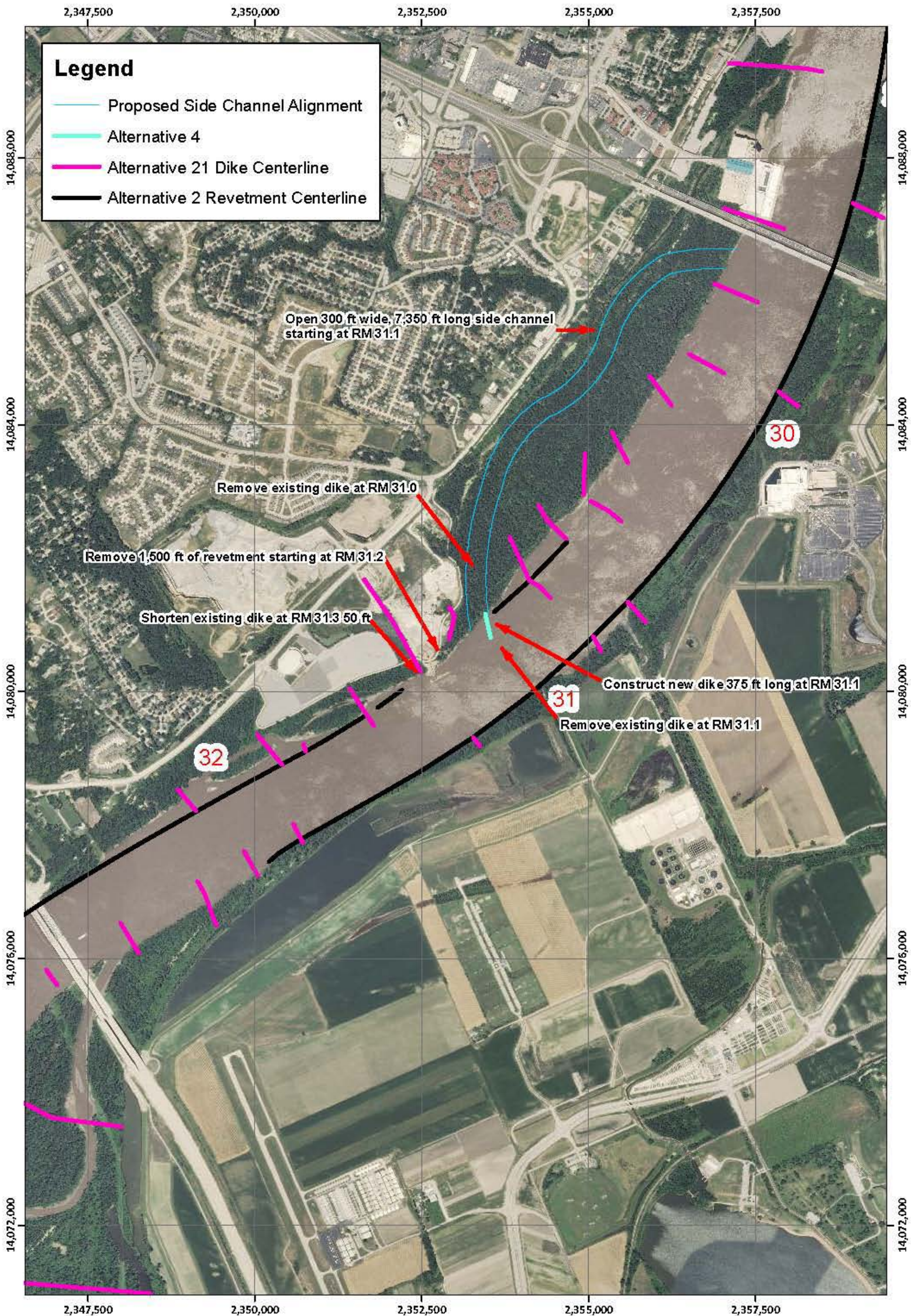


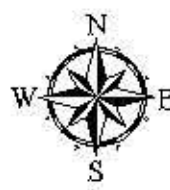
PLATE
NUMBER
94

0 300 600 1,200 1,800 2,400 Feet

Alternative 21: Definition

2009 AERIAL PHOTOGRAPH

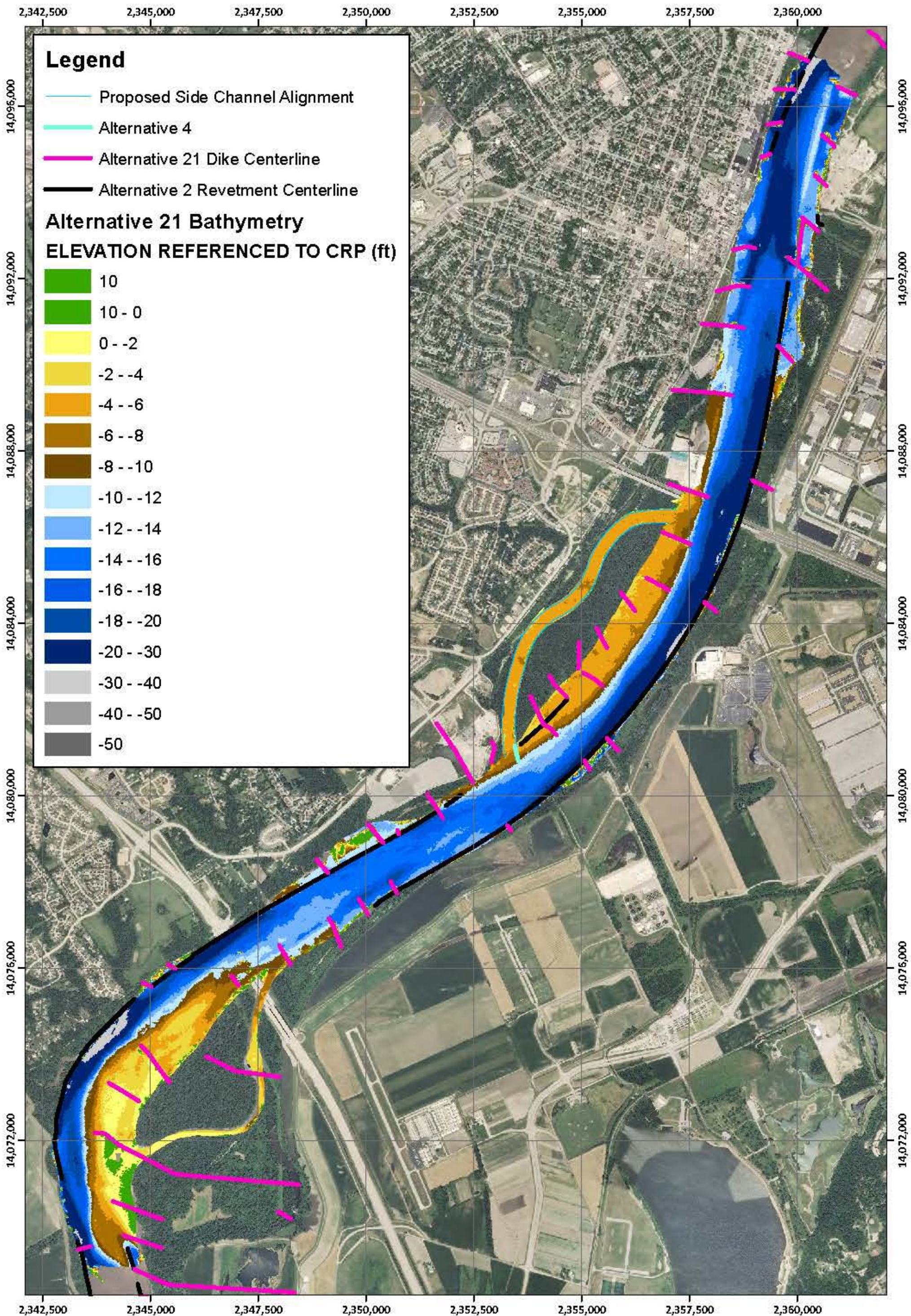
U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 9/3/11	
	CHECKED BY T LAUTH J BROWN, P.E.		APPROVED BY A CON	
Bangert Island HSR Model	DESIGNED BY T LAUTH		DRAWN BY R DAVIN ROY, P.E.	
	DATE ... Bangert/ Plaza		DATE 9/27/11	



APPLIED
RIVER
ENGINEERING CENTER

**US Army Corps
of Engineers**
St. Louis District





Legend

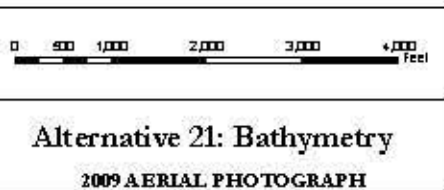
- Proposed Side Channel Alignment
- Alternative 4
- Alternative 21 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 21 Bathymetry

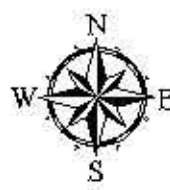
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

95



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY	9/3/11
	DRAWN BY	CHIEF OF STAFF
	T LAUTH	J BROWN, PE. A COX
	REVIEWED BY	
Bangert Island HSR Model	APPROVED BY	R DAVINROY, PE.
	DATE	9/27/11



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 21 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 21 Upstream LDV
NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

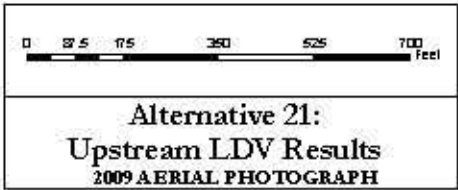
14,080,000

14,080,000

2,352,500

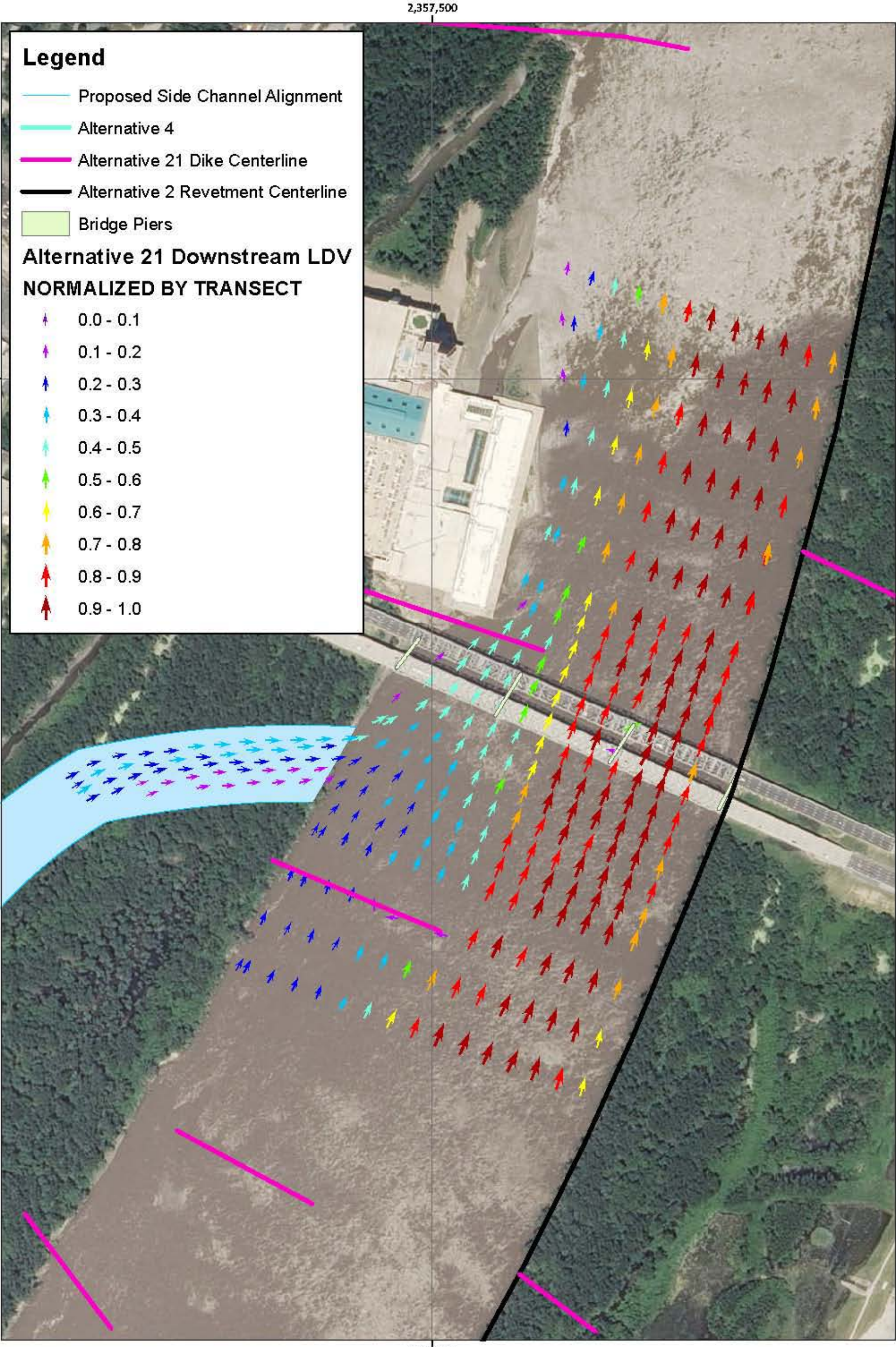
2,355,000

PLATE
NUMBER
96



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 9/5/11	
	CHECKED BY T LAUTH		DESIGNED BY J BROWN, P.E.	
	APPROVED BY T LAUTH		DESIGNED BY R DAVINROY, P.E.	
	PROJECT NAME Bangert Island HSR Model		DATE 9/27/11	





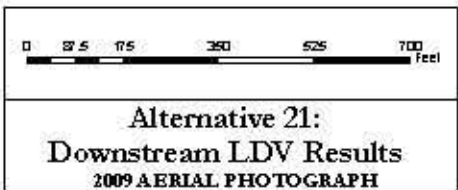
Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 21 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 21 Downstream LDV
NORMALIZED BY TRANSECT**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

PLATE
NUMBER
97



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DATE 9/3/11	
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.	DESIGNED BY A CON	
	PROJECT Bangert Island HSR Model		DESIGNED BY R DAVINROY, P.E.	
	PROJECT ... Bangert Island		DATE 9/21/11	



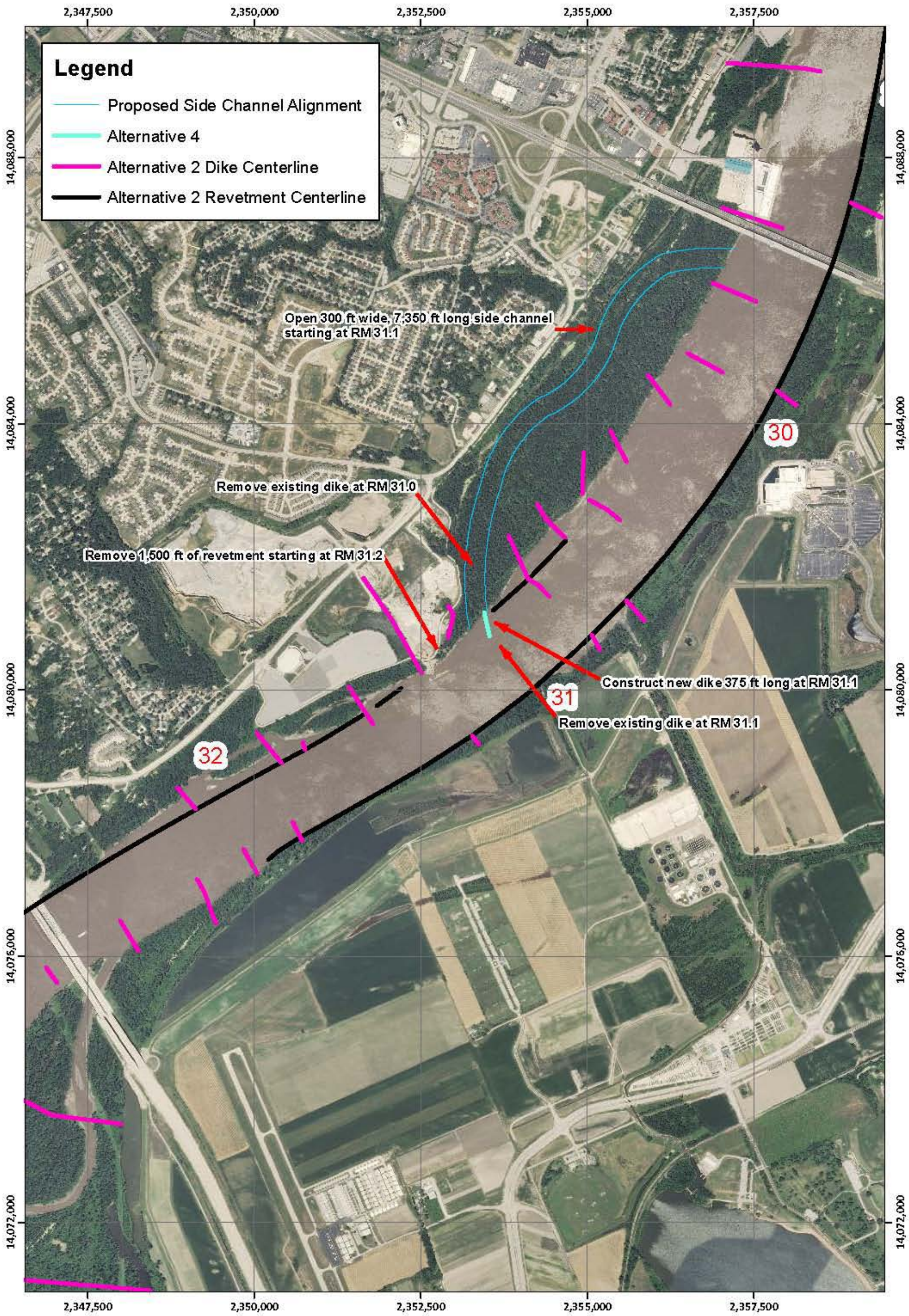


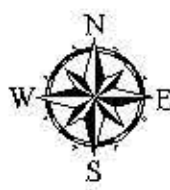
PLATE
NUMBER
98

0 300 600 1,200 1,800 2,400 Feet

Alternative 22: Definition

2009 AERIAL PHOTOGRAPH

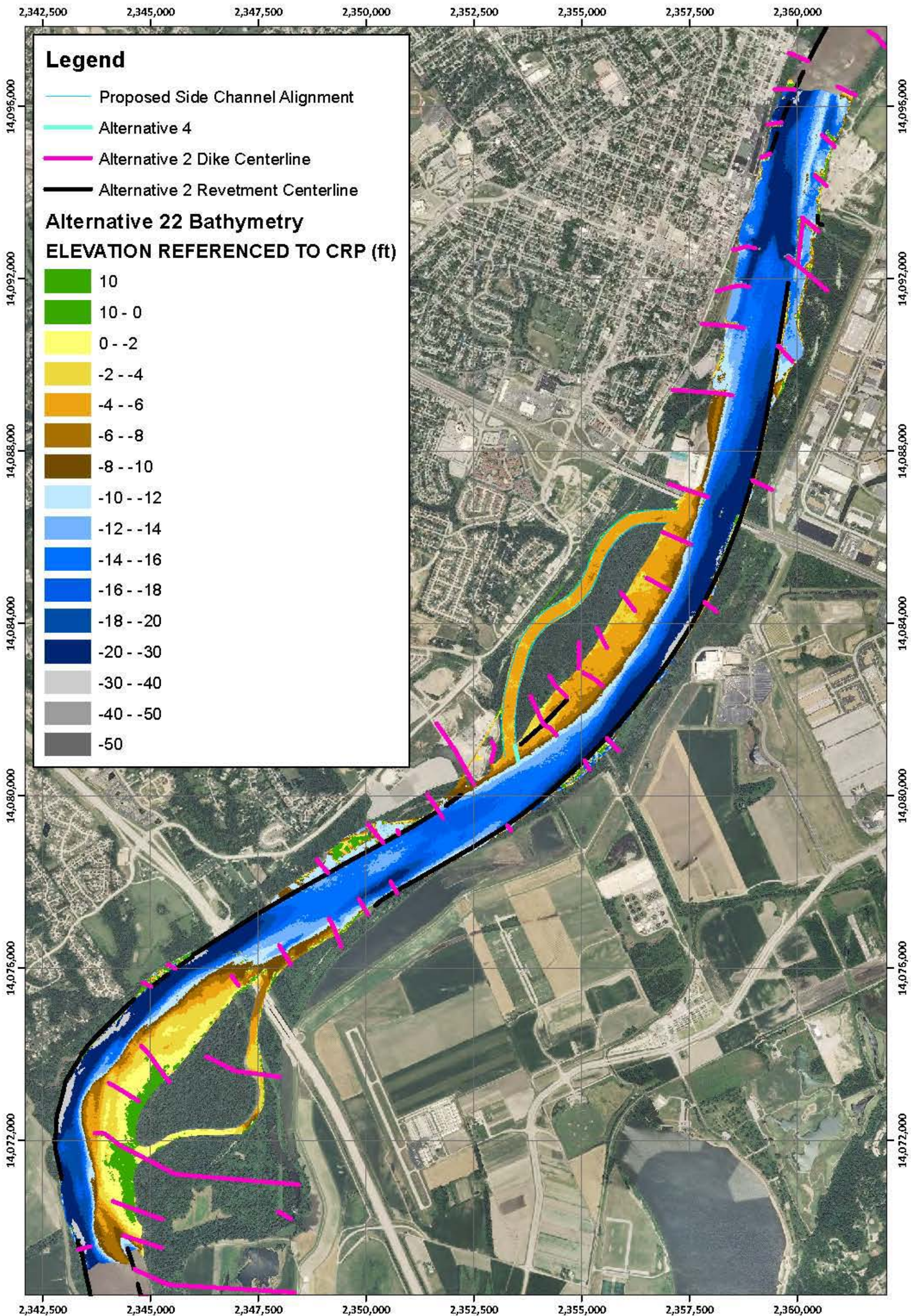
U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH		DRAWN BY 9/6/11	
	CHECKED BY T LAUTH J BROWN, P.E.		APPROVED BY A CON	
Bangert Island HSR Model	DESIGNED BY T LAUTH		DRAWN BY R DAVINROY, P.E.	
	CHECKED BY ... Gargery/Plaza		APPROVED BY 9/27/11	



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St. Louis District





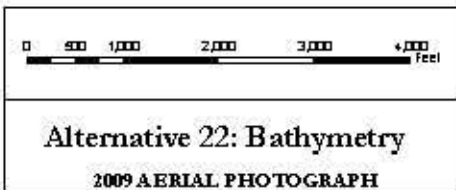
Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline

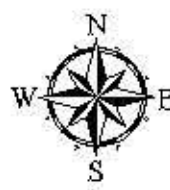
Alternative 22 Bathymetry
ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
99



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 9/6/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		R. DAVIN ROY, P.E.	



2,352,500

2,355,000

Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 22 Upstream LDV NORMALIZED BY TRANSECT

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

14,080,000

14,080,000

2,352,500

2,355,000

PLATE
NUMBER
100

0 125 250 500 750 Feet

Alternative 22:
Upstream LDV Results
2009 AERIAL PHOTOGRAPH

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

Bangert Island
HSR Model

DESIGNED BY
T LAUTH

DRAWN BY
T LAUTH

CHECKED BY
J BROWN, P.E.

APPROVED BY
T LAUTH

DATE
9/27/11

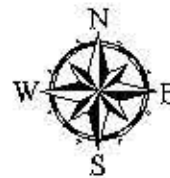
DATE
9/8/11

DESIGNED BY
A CON

DRAWN BY
R DAVINROY, P.E.

CHECKED BY
R DAVINROY, P.E.

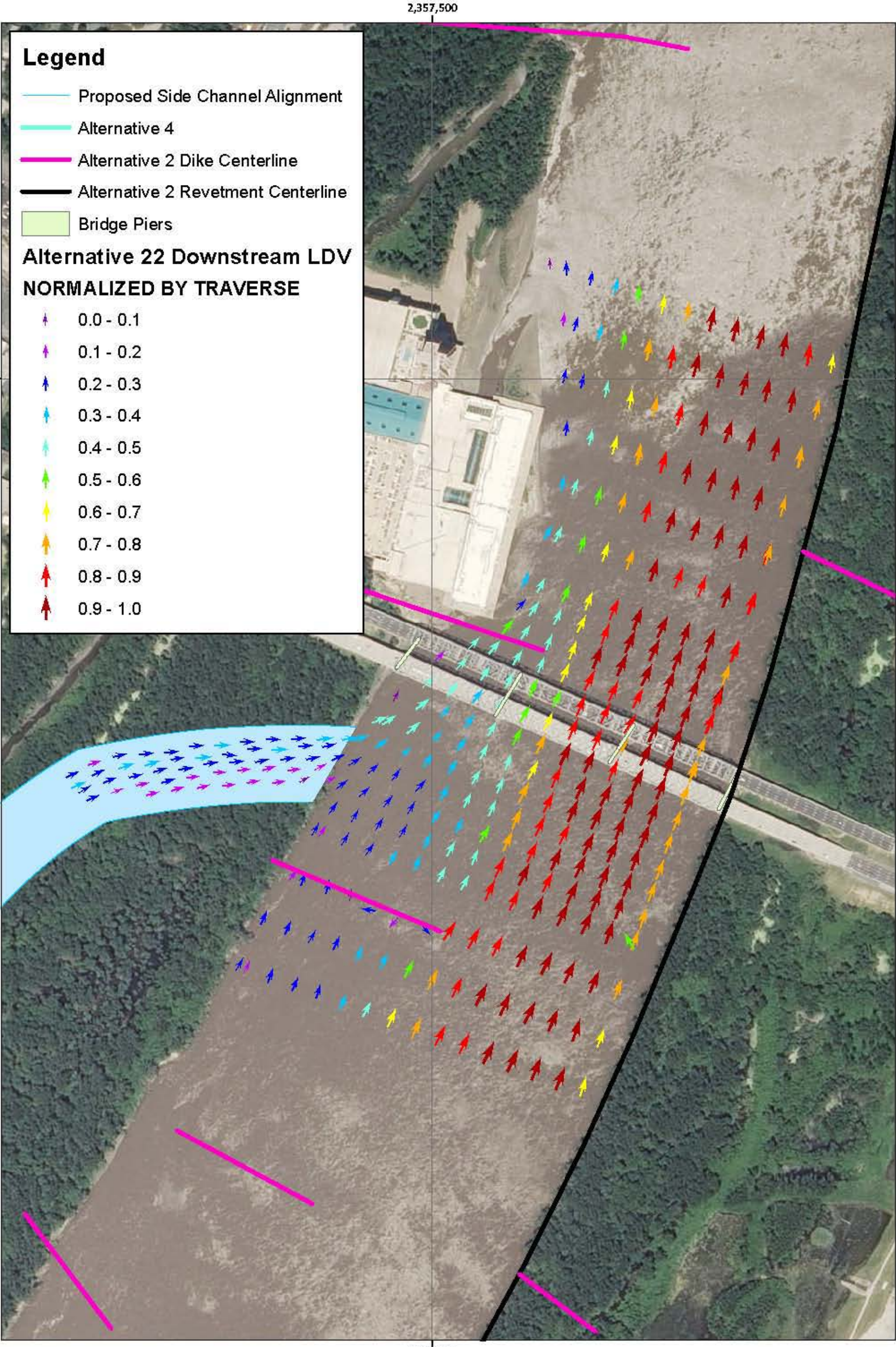
DATE
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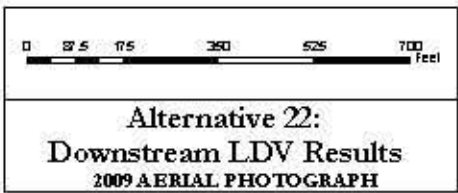
Legend

- Proposed Side Channel Alignment
- Alternative 4
- Alternative 2 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

**Alternative 22 Downstream LDV
NORMALIZED BY TRAVERSE**

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

PLATE
NUMBER
101



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 9/8/11
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
	APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
	PROJECT Bangert Island HSR Model	NO. OF PAGES 9/21/11



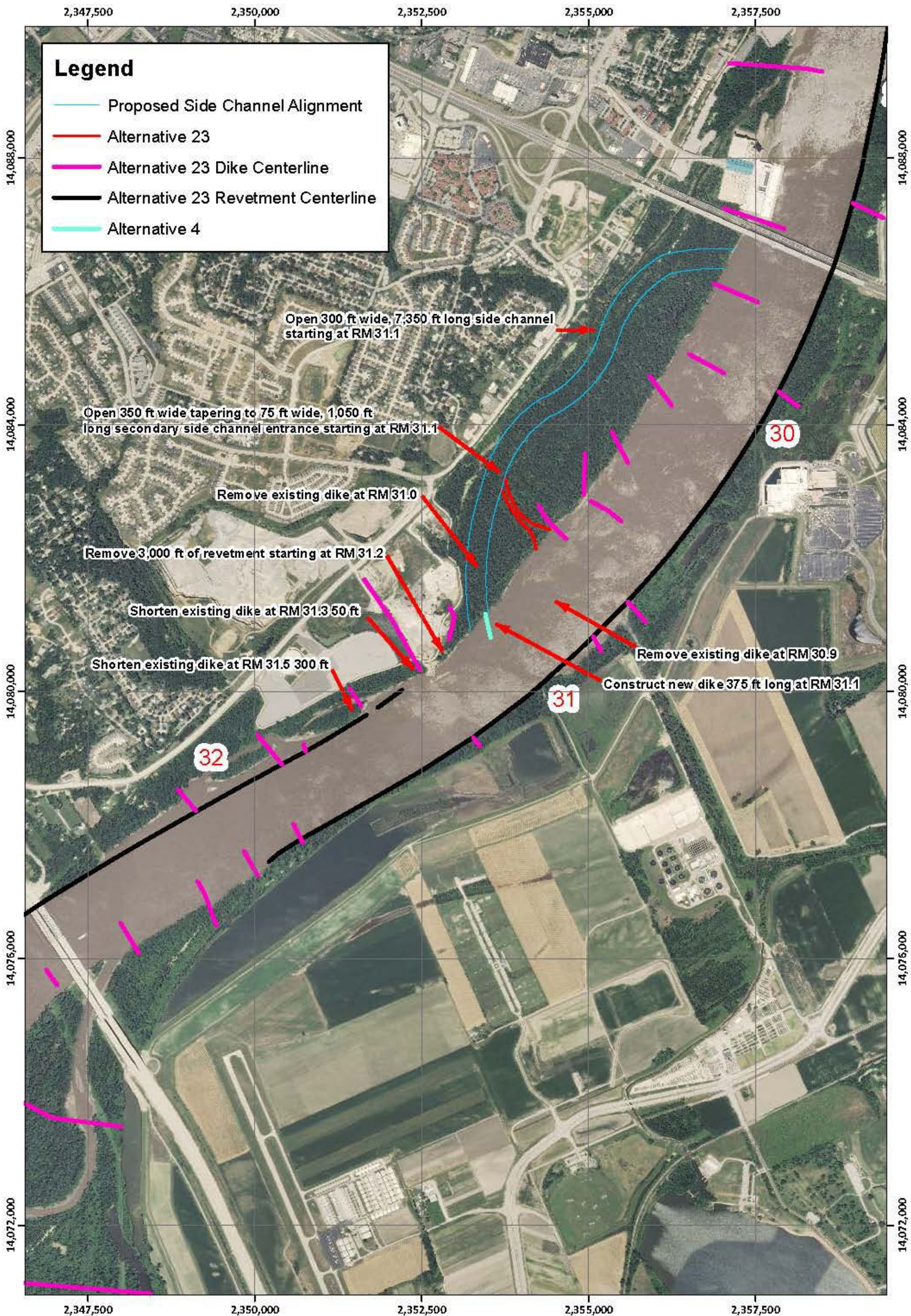


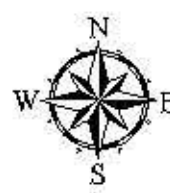
PLATE
NUMBER
102

0 300 600 1,200 1,800 2,400
Feet

Alternative 23: Definition

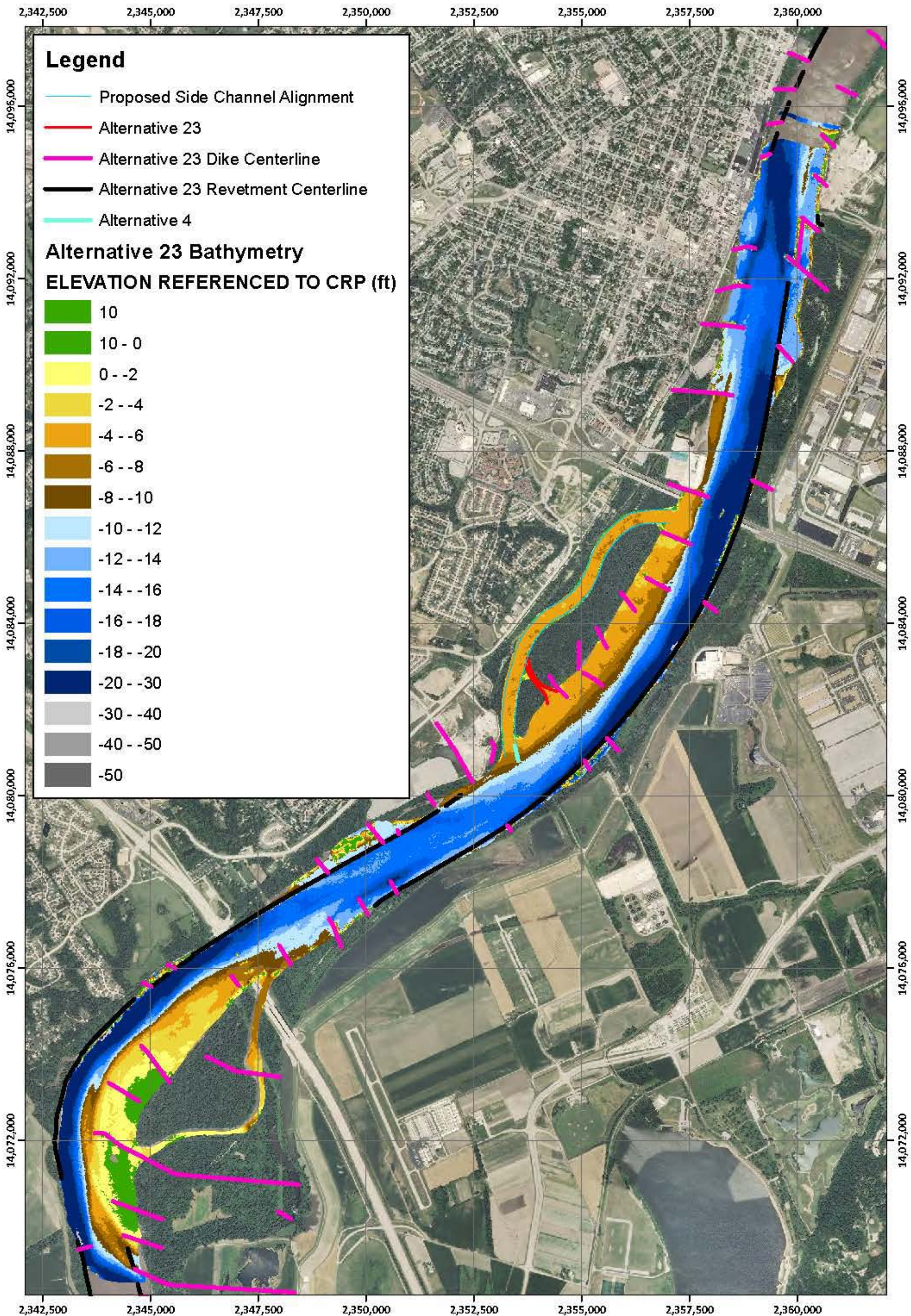
2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 9/16/11
BANGERT ISLAND HSR Model		REVIEWED BY T LAUTH J BROWN, PE.	CHECKED BY A CON
		DESIGNED BY T LAUTH	DATE 9/27/11
		REVIEWED BY R DAVINROY, PE.	DATE 9/27/11



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Legend

- Proposed Side Channel Alignment
- Alternative 23
- Alternative 23 Dike Centerline
- Alternative 23 Revetment Centerline
- Alternative 4

Alternative 23 Bathymetry

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
103

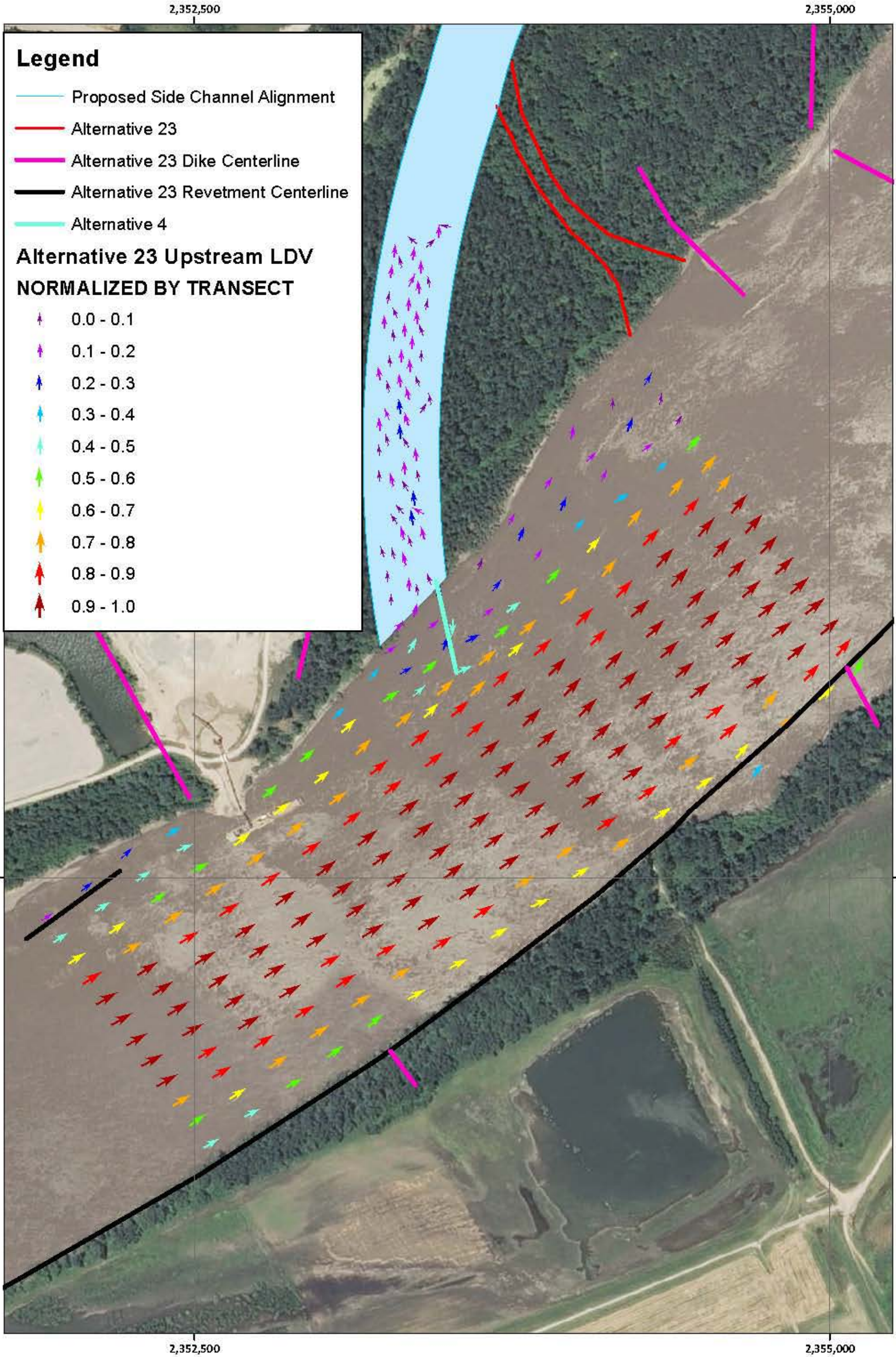
0 500 1,000 2,000 3,000 4,000 Feet

Alternative 23: Bathymetry

2009 AERIAL PHOTOGRAPH

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 9/16/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	





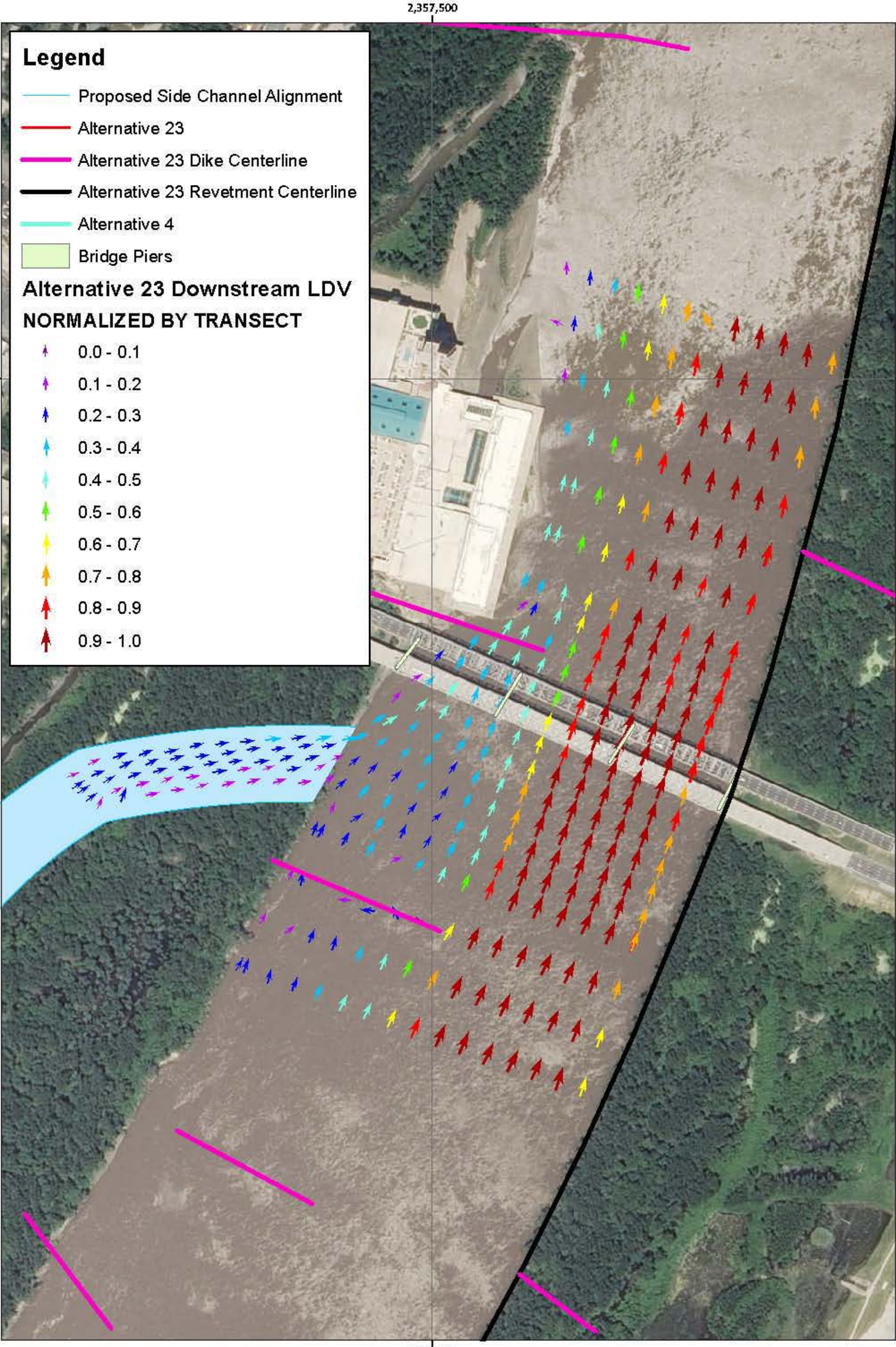
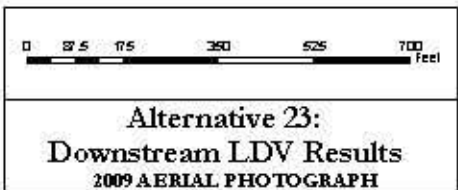
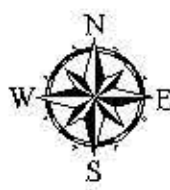
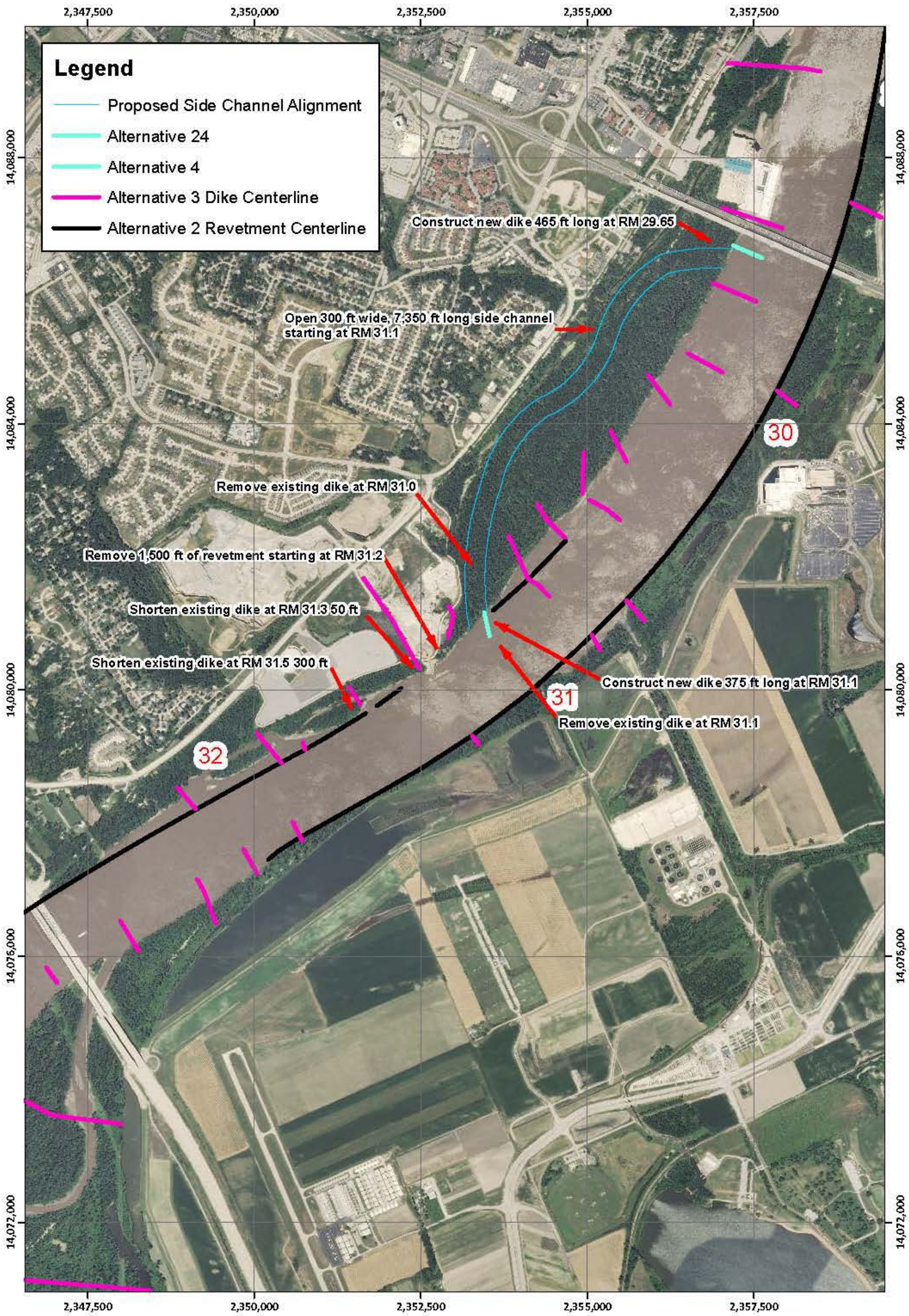


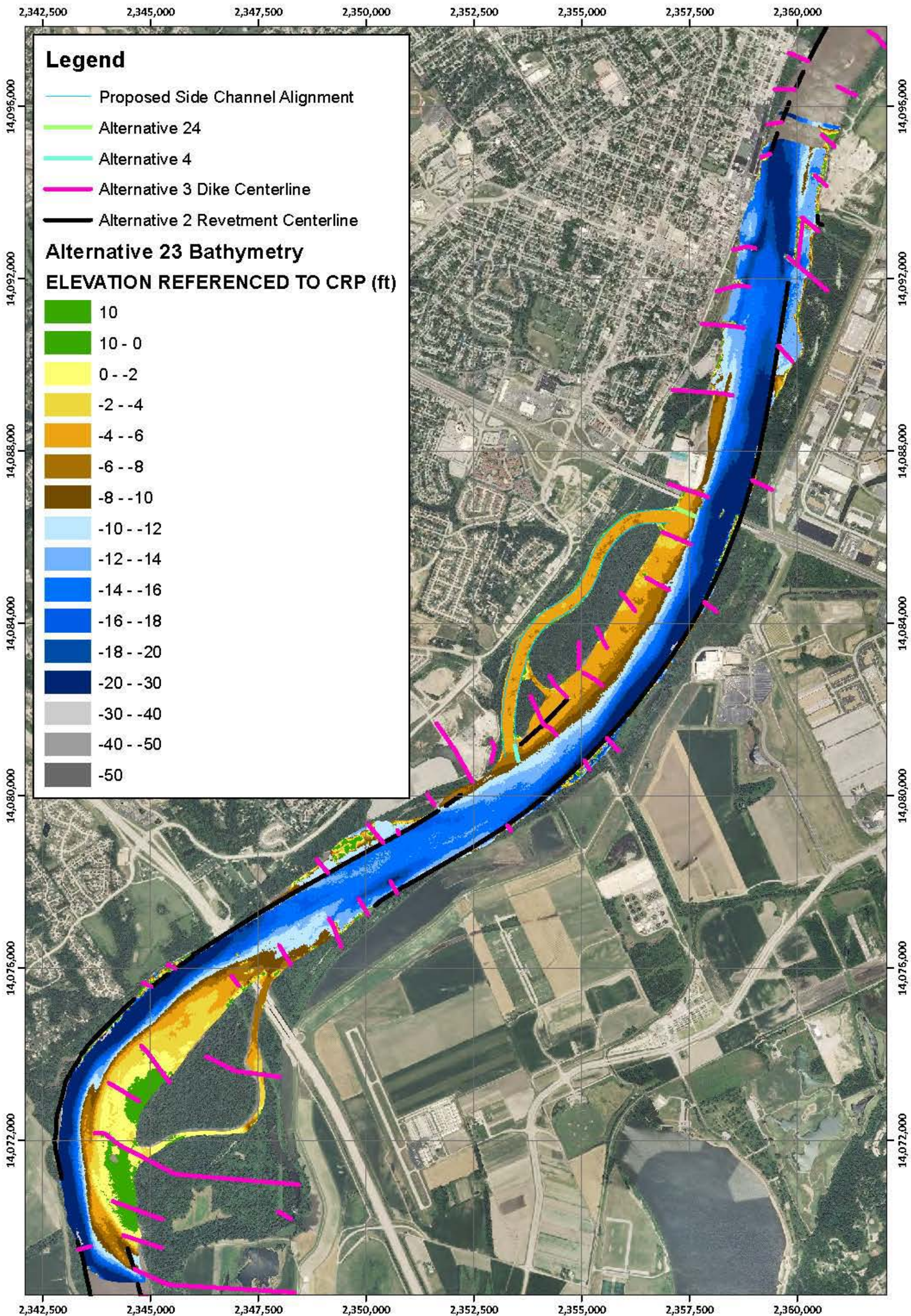
PLATE
NUMBER
105



U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	DESIGNED BY T LAUTH	DATE 9/16/11
	DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
	APPROVED BY T LAUTH	APPROVED BY R DAVINROY, P.E.
	PROJECT Bangert Island HSR Model	NO. OF PAGES 9/21/11







Legend

- Proposed Side Channel Alignment
- Alternative 24
- Alternative 4
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline

Alternative 23 Bathymetry

ELEVATION REFERENCED TO CRP (ft)

- 10
- 10 - 0
- 0 - -2
- 2 - -4
- 4 - -6
- 6 - -8
- 8 - -10
- 10 - -12
- 12 - -14
- 14 - -16
- 16 - -18
- 18 - -20
- 20 - -30
- 30 - -40
- 40 - -50
- 50

PLATE
NUMBER
107

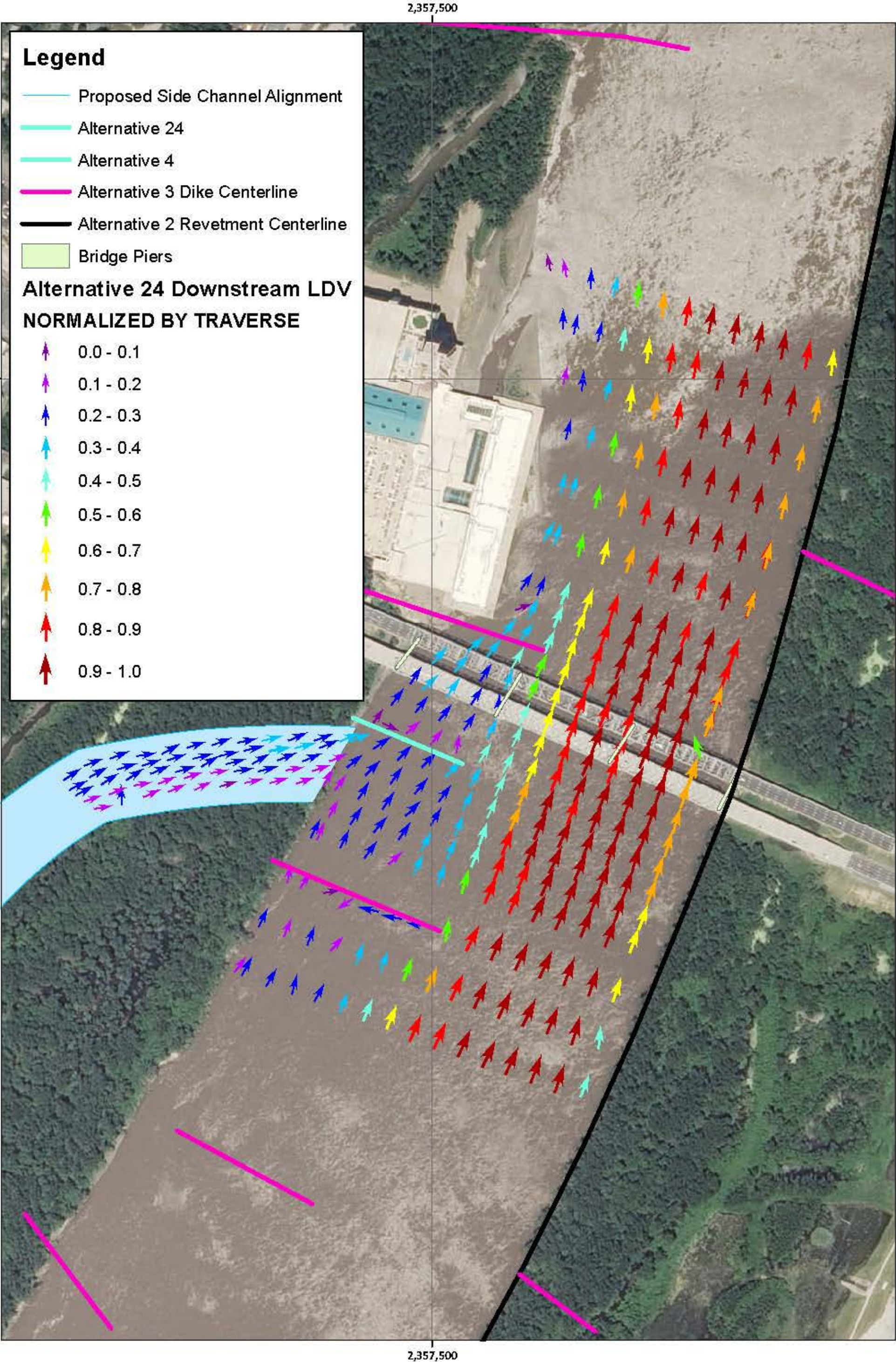
0 500 1000 2000 3000 4000 Feet

Alternative 24: Bathymetry

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U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		DESIGNED BY T LAUTH	DATE 9/11/11
		DRAWN BY T LAUTH	CHECKED BY J BROWN, P.E.
		APPROVED BY T LAUTH	DATE 9/27/11
Bangert Island HSR Model		BY R DAVINROY, P.E.	





Legend

- Proposed Side Channel Alignment
- Alternative 24
- Alternative 4
- Alternative 3 Dike Centerline
- Alternative 2 Revetment Centerline
- Bridge Piers

Alternative 24 Downstream LDV NORMALIZED BY TRAVERSE

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0