

# US 51 BRIDGE PROJECT

KYTC Item No. 1-100.00 & 1-1140.00 Wickliffe, KY to Cairo, IL October 2013



# **Agency Coordination Notebook**



US 51 Ohio River Bridge Study between Wickliffe, KY, and Cairo, IL
Kentucky Transportation Cabinet
Item No. 1-100.00 and 1-1140.00

October 18, 2013

Submitted to:
Kentucky Transportation Cabinet
Division of Planning
200 Mero Street
Frankfort, Kentucky 40622

Prepared by:
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1648 McGrathiana Parkway, Suite 340
Lexington, Kentucky 40511





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# Section 1:

Agency Coordination Plan



US 51 Ohio River Bridge Study between Wickliffe, KY, and Cairo, IL
Kentucky Transportation Cabinet
Item No. 1-100.00 and 1-1140.00
February 22, 2013

## **REVISION HISTORY**

The following table summarizes changes which have been made to this Agency Coordination Plan.

Version	Date	Name	Description of Changes
2	4-15-13	Rebecca Thompson	Updated contact list

### I. PURPOSE OF THE PLAN

The purpose of this Agency Coordination Plan (Plan) will be to coordinate agency participation and comments during the environmental review process associated with the preparation of the US 51 Ohio River Bridge Study. The Plan addresses the roles and responsibilities for the Federal Lead Agency, Joint Lead Agencies, Cooperating Agencies, and Participating Agencies. The Plan will integrate National Environmental Policy Act (NEPA) requirements with other environmental review and consultation requirements in order to reduce delay in the environmental review process. The Plan will be carried out in collaboration with KYTC, IDOT, and FHWA.

This Plan will outline (1) the coordinating agencies, including Federal Lead, Joint Leads, Cooperating, and Participating Agencies; (2) how the lead agencies have divided the responsibilities; and (3) when and how the lead agencies will provide the opportunities for input from the public and other agencies, in accordance with applicable laws, regulations, and policies. A separate Public Involvement Plan outlines the steps which will be undertaken to solicit public input for the project.

The Coordination Plan will be updated periodically to reflect any changes to the project schedule and other items that typically require updating over the course of the project.

#### II. AGENCY DEFINITIONS AND PARTICIPANTS

The following agencies were invited to participate in this project.

**A. Federal Lead Agency**: The Department of Transportation agency conducting the NEPA analysis:

Federal Lead Agency Con	ontact Person/Title	Phone/Email
Federal Highway Administration (FHWA) Kentucky Division Rya Tra	nthony Goodman, nvironmental pecialist  yan Tenges, ransportation ngineer	Anthony.Goodman@dot.gov (502) 223-6742 Ryan.Tenges@dot.gov (502) 223-6750

**B. Joint Lead Agency**: A project sponsor that is a state or local government receiving SAFETEA-LU funds:

Joint Lead Agency	Contact Person/Title	Phone/Email
Kentucky Transportation Cabinet (KYTC)	Mike McGregor	Mike.McGregor@ky.gov (270)-898-2431

**C. Participating Agencies**: Federal, state or local agencies who have been invited to participate in the project (as of 4-15-13) include the following:

Contact Person Title	Organization
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Contact Person	Title	Organization	
Carla Hildebrand	Parks Manager	Kentucky Department of Parks, Wickliffe Mounds	
Garia i madoraria	Director, Office of State	Tremadity Department of Family Production	
George Crothers	Archaeology	Dept. of Anthropology, University of Kentucky	
	Regional Environmental	Federal Emergency Management Agency,	
Dr. William Straw	Officer	Region IV	
James Comer	Commissioner	Kentucky Department of Agriculture	
came come.		Kentucky Department for Environmental	
Ronald Price	Commissioner	Protection Protection	
		Kentucky Department of Fish and Wildlife	
Dan Steolb	Wildlife Biologist	Resources	
Carl Campbell	Commissioner	Kentucky Department of Nat'l. Resources	
		Kentucky Department of Nat'l. Resources,	
Stephen A. Coleman	Director	Division of Conservation	
John Adams	Commissioner	Kentucky Department of State Police	
Joe Forgacs	Commissioner	Kentucky Division of Air Quality	
Leah W. MacSwords	Director	Kentucky Division of Forestry	
Lean W. Macewords	Birector	Kentucky State Police, Commercial Vehicle	
Jack Miniard		Enforcement	
George Gilbert		DEP Division of Waste Management	
Sandy Gruzesky	Director	DEP Division of Water	
Holland Spade	Chief of Staff	Kentucky Cabinet for Economic Development	
Tioliand Spade	Crilei di Stali	Kentucky Geological Survey, University of	
Dave Williams	State Geologist	Kentucky Geological Survey, Onliversity of Kentucky	
Burcum Keeton	State Geologist	Kentucky Heritage Council	
Kent Whitworth	Director	Kentucky Historical Society	
Jamie Fipke	President/CEO	Kentucky Motor Transport Association	
Leonard Peters Sara Hines	Secretary	Kentucky Energy and Environmental Cabinet	
	Data Manager	Kentucky Nature Preserves	
Vickie Bourne	Executive Director	Kentucky Office of Transportation Delivery	
Beecher Hudson	Executive Director	Kentucky Public Transit Association	
Ray Berggren	President	Kentucky Tourism Council	
Marchetta Sparrow	Secretary	Kentucky Commerce Cabinet	
Bart Asher	Branch Manager	KYTC, Geotech Branch	
Joseph Meyer	Secretary	Education and Workforce Cabinet	
Jeff Lape	NEPA Team Leader	Environmental Programs Branch	
		U.S. Dept. of Agriculture, Natural Resources	
Thomas Perrin	State Conservationist	Conservation Service	
Lee Andrews	Field Supervisor	U.S. Dept. of the Interior, Fish and Wildlife	
Phil DeGarmo		Service	
Later Addition	F: 11000 5:	U.S. Department of Housing & Urban	
Krista Mills	Field Office Director	Development, Ky. Louisville Field Office	
Kentucky Division			
Buddy Yount	Administrator	Federal Motor Carrier Safety Administration	
		American Association of Truckers	
		Ballard County Road Department	
Jennifer Beck-Walker	Executive Director	Purchase Area Development District	
Bethany Cain	City Clerk	City of Wickliffe, KY	
Chan Chase	Mayor	City of Wickliffe, KY	
		Ballard County Chamber of Commerce and	
Beth Hurt	Executive Director	Tourism Community Center	
Vickie Viniard	Judge Executive	Ballard County Judge Executive	
	Director	Wickliffe Public Works	

Contact Person	Title	Organization	
John Wood	Mayor	City of Barlow, KY	
Anne Haaker	Deputy SHPO	Illinois Historic Preservation Agency	
	Transportation Review		
Steve Hamer	Project Manager	Illinois Department of Natural Resources	
		Illinois Department of Agriculture, Bureau of	
Terry Savko		Land & Water Resources	
Dr. Thomas Emerson		Illinois State Archaeological Survey	
Terrance Martin		Illinois State Museum	
Jerry Smith	Chairman	Alexander-Cairo Port District	
Tyrone Coleman	Mayor	City of Cairo, IL	
Alvin Blumenberg	Village President	Village of East Cape, IL	
Cheryle Dillon	Village President	Village of McClure, IL	
Lamar Houston	Village President	Village of Tamms, IL	
John Kennedy	Village President	Village of Thebes, IL	
Craig Bradley	Village President	Village of Karnak, IL	
Sam Johnson	Mayor	City of Mound City, IL	
Waymon Butler, Jr.	Village President	Village of Mounds, IL	
Kent Dover	Village President	Village of Grand Chain, IL	
Curtis Marshall	Village President	Village of Olmsted, IL	
Dean Rogan, Sr.	Village President	Village of Pulaski	
Mike DeWitt	Village President	Village of Ullin	
Harold McNelly	Chairman	Alexander County Commissioners	
Rollie Matlock			
Chalen Tatum			
Monte Russell	Chairman		
Rex Wilburn			
David Sharp		Pulaski County Commissioners	
Lisa Thurston		Southern Five Regional Planning District	
Lyndell Hubbard		Pulaski County Development Association	
Tabatha Smith	Director	SIDEZ	
Monica Smith	President	Cairo Chamber of Commerce	
Jeff Denny		Alexander County Highway Engineer	
Stacy Earnhart		Pulaski County Highway Engineer	

**D. Cooperating Agencies**: Federal agencies other than the Federal Lead Agency who have jurisdiction by law or special expertise with respect to any environmental impact significantly affecting the quality of the human environment. Agencies that have been invited to participate in the project (as of 4-15-13) include the following:

Cooperating Agencies	Contact Person/Title
U.S. Army Corps of Engineers, Louisville District	David Dale Jr, District Engineer
U.S. Coast Guard, Bridge Branch	David Orzechowski
KY Environmental and Public Protection Cabinet (EPPC)	
Illinois Environmental Protection Agency	
U.S. Environmental Protection Agency	

**E. Section 106 Agencies**: Section 106 coordination will begin in the next phase of the project.

#### III. AGENCY EXPECTATIONS

# A. Lead Agency Expectations

The Federal Lead Agency and Joint Lead Agencies are responsible for

- (1) Taking such actions as necessary to facilitate the expedited review of the environmental review process;
- (2) Ensuring that any documents required under NEPA are completed in accordance with SAFETEA-LU and other applicable federal laws;
- (3) Identifying and inviting appropriate agencies to participate in the Section 6002/Section 106 processes;
- (4) Providing project information on purpose and need, environmental resources, alternatives, and proposed methodologies in a timely manner;
- (5) Providing this Plan to Participating and Cooperating Agencies;
- (6) Developing a project purpose and need statement, the range of alternatives to be considered, and other procedural manners; and
- (7) Involving tribal governments in the NEPA process.

The Federal Lead Agency has the ultimate responsibility for reviewing and adopting the appropriate NEPA document and for ensuring the Joint Lead Agencies comply with design and mitigation commitments.

## **B. Participating Agency Expectations**

Participating Agencies are responsible for

- (1) Identifying issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;
- (2) Identifying issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- (3) Providing input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- (4) Responding in writing within 30 days to letters of invitation;
- (5) Providing input on this Plan and schedule; and
- (6) Participating as needed in issues resolution processes.

### **C.** Cooperating Agency Expectations

Cooperating Agencies are responsible for

(1) Identifying issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;

- (2) Identifying issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- (3) Sharing information that may be useful to other agencies related to the project;
- (4) Participating in meetings and field reviews;
- (5) Providing input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- (6) Responding in writing within 30 days to letters of invitation;
- (7) Assuming responsibility, at the request of the Federal Lead Agency, for preparing analyses in the Cooperating Agency's area of expertise;
- (8) Having support staff available to assist the Federal Lead Agency at its request;
- (9) Using their own resources and funds; and
- (10) Reviewing and commenting on draft and final environmental documents.

### **D. Section 106 Consulting Party Expectations**

Section 106 Consulting Parties are responsible for:

- (1) Providing input on the identification, eligibility, effects, and mitigations of historic resources;
- (2) Identifying issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- (3) Providing input on environmental documents and baseline reports within 30 days of receipt of mailed materials;
- (4) Responding in writing within 30 days to letters of invitation;
- (5) Providing input on this Plan and schedule;
- (6) Attending and participating in meetings as part of the Section 106 process; and
- (7) Providing input into the development and execution of the Memorandum of Agreement (MOA), if applicable.

#### IV. PROJECT SPECIFIC COORDINATION POINTS AND RESPONSIBILITIES: SECTION 6002

Throughout the study process, multiple opportunities for agency coordination will be provided to gather input on study issues. When possible, meetings will be held using teleconference or web meetings to reduce travel time and costs for agencies. Coordination points include:

<u>Kick-off Coordination</u>: An initial letter will be sent to all participating (and/or cooperating) agencies. This letter will follow the format of Appendix B of FHWA SAFETEA-LU Environmental Review Process Guidance. The letter will include the explanation of the project, invitation to be a Participating Agency and an explanation of their responsibilities under SAFETEA-LU.

Agencies are requested to respond to this invitation with 30 days. If the invitation is accepted, the agency will be added to the database of Cooperating/Participating Agencies.

- Purpose and Need, Screening Criteria Coordination: Activities under this task include:
  - Develop and Distribute Purpose and Need Letter and Backup Materials
  - Conduct a Meeting
  - Summary of Meeting Issues This will serve as meeting minutes and will be transmitted to the Participating Agencies for review prior to issuance of the final product.
  - Address Comments In addition to making any appropriate changes to the document, responses to comments will be provided.
  - Distribute Final Purpose and Need Statement and Screening Criteria.
- Final Alternative(s) and Next Steps Coordination: Activities under this task include:
  - Develop and Distribute Final Alternative(s) and Next Steps Summary and Backup Materials
  - Conduct a Meeting
  - Summary of Meeting Issues This will serve as meeting minutes and will be transmitted to the Participating Agencies for review prior to issuance of the final product.
  - Address Comments In addition to making any appropriate changes to the document, responses to comments will be provided.
  - Distribute Final Alternatives

In addition to the milestone coordination points described above, the Lead Agencies will give Participating and Cooperating Agencies written notice (paper or electronic) of each Public Meeting.

### V. PROJECT SPECIFIC COORDINATION POINTS AND RESPONSIBILITIES: SECTION 106

Section 106 coordination will begin in the next phase of the project. Initial Section 106 Coordination will be conducted with Tribes to introduce the project and document initial concerns of Native American Tribes.

#### VI. DOCUMENTATION

A notebook will be kept that includes the correspondence to the agencies and any responses received.

## **VII. SCHEDULE MILESTONES**

Projected dates are presented on the schedule below for key agency involvement activities, and public. These dates will be amended as the project progresses to reflect realistic estimates.

Coordination Point	Date	
Agency Kick-Off Coordination Letter	February 22, 2013	
Agency Meeting #1: Purpose and Need, Screening Criteria	March 27, 2013	
Newsletter April 19, 2013		
Public Meeting in Kentucky	May 15, 2013	
Public Meeting in Illinois	May 15, 2013	
Agency Meeting #2: Final Alternatives and Next Steps Coordination	July 2, 2013	

<sup>\*</sup>Note: Dates subject to change as the project progresses.

# Section 2:

River Navigation Coordination with USACE and USCG

# Harper, Leonard S.

From: Pruitt, Richard L LRL [Richard.L.Pruitt@usace.army.mil]

**Sent:** Thursday, April 11, 2013 12:12 PM

To: Stover, Aaron

Cc: Blanton, Jamison F LRL; Wilson, David L LRL Subject: FW: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

#### Aaron:

The average elevation for the month of June at Cairo equals 298.1 ft Ohio River Datum. The elevation at this same site that is exceeded only 2% of the time equals 321.0 ft Ohio River Datum. To obtain the National Geodetic Vertical Datum, subtract 0.4 feet from the Ohio River Datum. I don't have available to me at this time the conversion to NAVD. Let us know if you have further questions.

#### Richard

Richard Pruitt, P.E.
Ch, Hydrology & Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone - 502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059

----Original Message----From: Blanton, Jamison F LRL

Sent: Monday, April 08, 2013 2:07 PM

To: Wilson, David L LRL Cc: Pruitt, Richard L LRL

Subject: FW: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I know I just took this class, but I cannot think of a way to find this value using DSSVue. Am I missing something? Can you think of a way to get the average June elevation at Cairo for its period of record? Is Excel capable of such a computation? See below...

### Thanks, Jamie

----Original Message-----From: Pruitt, Richard L LRL

Sent: Friday, April 05, 2013 2:47 PM

To: Blanton, Jamison F LRL

Subject: FW: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Jamie:

At Cairo, for a miscellaneous request, would we have the elevation that is exceeded 2% of the time. Also, and this may be harder, do we have an average June elevation at Cairo? Thanks for your help.

#### Richard

----Original Message----

From: Stover, Aaron [mailto:ASTOVER@mbakercorp.com]

Sent: Friday, April 05, 2013 2:39 PM

To: Pruitt, Richard L LRL

Subject: RE: Ohio River Data (UNCLASSIFIED)

#### Richard,

You are correct, I am looking for the 2% exceeded (time).

As for the Normal Pool, I am convinced that condition does not exist at the Cairo site. You astutely caught my error in my statement below. I am interested in the Average June Elevation and am currently not concerned with the average June flow. My apologies for any confusion this may have caused. From my conversation with David Orzechowski the 69ft may be related to that Avg June Elevation at this site.

Thanks, Aaron

----Original Message----

From: Pruitt, Richard L LRL [mailto:Richard.L.Pruitt@usace.army.mil]

Sent: Friday, April 05, 2013 2:33 PM

To: Stover, Aaron

Subject: RE: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

#### Aaron:

Let me be sure I understand what you're requesting. For the 2% flow, are you talking about the elevation that is only exceeded 2% of the time, or the elevation equal to the 2% chance, 50-year flood? I think you're talking about the per cent of the time.

The second one might be more difficult. For 69 feet above the normal pool, we will have to check with the St. Louis district on that one. As for the average June flow, that might not give you the answer you want since Cairo is in the backwater of the Mississippi River. You may want the average June elevation if that information is available. I'll look into that.

#### Richard

Richard Pruitt, P.E.
Ch, Hydrology & Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone - 502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059

----Original Message----

From: Stover, Aaron [mailto:ASTOVER@mbakercorp.com]

Sent: Friday, April 05, 2013 2:10 PM

To: Pruitt, Richard L LRL

Subject: RE: Ohio River Data (UNCLASSIFIED)

Mr. Pruitt,

Thank you once again for the flow rates and velocity data you provided. We are now looking more closely at setting grades for new river crossing. The USCG guidance establishes vertical clearance requirements for the Ohio River of

- 55ft over the 2% flow and
- 69ft above the normal pool (or in this case average June Flow)

Would your office be able to provide these elevations. Thank you for your time.

Aaron L. Stover

----Original Message----

From: Pruitt, Richard L LRL [mailto:Richard.L.Pruitt@usace.army.mil]

Sent: Wednesday, February 27, 2013 8:10 AM

To: Stover, Aaron

Subject: FW: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

#### Aaron:

Attached are the daily stage readings at Cairo from Jan 1930 to present. As for the velocities, based upon an old HEC-2 computer model, they vary from about 4.2 feet per second for a 1-year flood up to about 7.0 feet per second for a 100-year flood. Please note that these velocities are only approximate as the varying backwater of the Mississippi River influences the velocities for all of the frequency floods.

Richard Pruitt, P.E.
Ch, Hydrology & Hydraulic Design Sec
Louisville District
US Army Corps of Engineers
Phone - 502-315-6380
Fax - 502-315-6477
P.O. Box 59, Louisville, KY 40201-0059

----Original Message----From: Pruitt, Richard L LRL

Sent: Monday, February 25, 2013 7:54 AM

To: Borchers, Michael H LRL; Lamkin, Kenneth H LRL

Subject: FW: Ohio River Data (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

#### Michael:

Can you take care of Aaron Stover's first request?

#### Ken:

Can you help with the velocities that he's requesting. I would think we would include some type of statement if the velocities are based on headwater conditions or backwater from the Mississippi River.

#### Richard

----Original Message----

From: Stover, Aaron [mailto:ASTOVER@mbakercorp.com]

Sent: Sunday, February 24, 2013 8:52 PM

To: Pruitt, Richard L LRL

Cc: Borchers, Michael H LRL; Baron, Michael

Subject: Ohio River Data

Mr. Pruitt,

Some time ago you had supplied my team at Michael Baker with historical river elevations for the Louisville Bridges and Milton Madison Bridge projects. I am writing you with a similar request today.

We at Michael Baker are involved with a planning study for a bridge at Cairo, IL. This environmental study will evaluate transportation needs and alternatives including rehabilitation and replacement of the existing bridge. The existing bridge is located at Ohio River Mile 980.4.

We are in need of two items of data that I am hoping your agency can provide.

- 1. We are looking for nearest gauge data, and historical river elevations. These would be daily elevations similar to the attached spreadsheet. I have copied Mr. Borchers as he had provided me with this data for McAlpine back in January of last year.
- 2. The second item that we are in need of is velocity data. We are hoping to gather data about the flow/velocity to determine a range of vessel speeds and also the potential for scour around the existing piers.

Please let me know if you might be able to provide any of the data requested. I thank you for your time.

Aaron L. Stover, P.E., S.E. | Project Manager | Michael Baker Corporation 9750 Ormsby Station Rd, Suite 210 | Louisville, KY 40223 | 502.339.5871 | 502.645.5722 (cell)

http://compass.mbakercorp.com/communities/CorpComm/PublishingImages/Baker%20Logos/Baker\_email
2.GIF

Classification: UNCLASSIFIED

Caveats: NONE

# Harper, Leonard S.

From: Wright, Samantha J

**Sent:** Friday, April 12, 2013 12:44 PM

To: Harper, Leonard S.

**Subject:** FW: US51 Superstructure Depth FW: Ohio River Data (UNCLASSIFIED)

Follow Up Flag: Follow up Flag Status: Flagged

From: Stover, Aaron

Sent: Friday, April 12, 2013 10:44:20 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** Stephanie Blain; Gary Sharpe **Cc:** Wright, Samantha J; Baron, Michael **Subject:** RE: US51 Superstructure Depth

Information from the USACE is attached.

Based on this data, the required clearances are as follows

2% flow = 321.0 ORD (+55ft = 376.0ft) Avg June Pool = 298.1 ORD (+69ft = 367.1ft)

I would like to review what information you all have so we can see what is available for alignments to put before the USCG for navigation to review. Let me know if you are available to discuss.

From: Stover, Aaron

**Sent:** Friday, April 05, 2013 5:01 PM **To:** 'Stephanie Blain'; Gary Sharpe

Cc: Wright, Samantha J (wrightsj@cdmsmith.com); Baron, Michael

Subject: RE: US51 Superstructure Depth

David Orzechowski called me back earlier and confirmed that if we stick with the old bridge elevations we would be fine. One other piece of Info, the Corps provided me with the following datum information, which I will pass along to you. The elevations I listed in my earlier e-mail are ORD datum. Datum would be as follows:

Cario USACE Gage

 River Mile
 979.5

 Datum, ORD
 270.9

 Datum, NGVD 29
 270.47

 Datum, NAVD 88
 270.87

Lastly, David indicated that the vertical clearance requirements for the Ohio River are 55ft over the 2% flow and 69ft above the normal pool (or in this case average June Flow)

We have estimated the following water elevations based on the WSE provided by the Corps. Also have an e-mail into them to confirm.

2% flow ~319.5 ORD (+55ft = 374.5ft) Avg June Pool ~298.0 ORD (+69ft = 367ft) Assuming for the moment these numbers are correct, then the USCG would not likely consider reducing the clearance at the Illinois span, but we might have some grounds to reduce the clearance in the center of the river. i.e. 10 ft of extra pier will have some effect on construction costs, but we are not talking orders of magnitude difference.

#### Aaron

From: Stephanie Blain [mailto:SBlain@palmernet.com]

**Sent:** Friday, April 05, 2013 1:46 PM **To:** Stover, Aaron; Gary Sharpe

Cc: Wright, Samantha J (wrightsj@cdmsmith.com)

Subject: RE: US51 Superstructure Depth

Thanks Aaron. Please let us know what you hear back from the Coast Guard.

Stephanie I. Blain, PE, LEED AP Palmer Engineering 400 Shoppers Drive P.O. Box 747 Winchester, KY 40392-0747

Phone: (859) 355-1352 Fax: (859) 744-1266

Email: <a href="mailto:sblain@palmernet.com">sblain@palmernet.com</a>

From: Stover, Aaron [mailto:ASTOVER@mbakercorp.com]

**Sent:** Friday, April 05, 2013 9:56 AM **To:** Stephanie Blain; Gary Sharpe

Cc: Wright, Samantha J (wrightsj@cdmsmith.com)

Subject: RE: US51 Superstructure Depth

Attached are the Nav Charts that were mentioned yesterday.

Gage Elevation at Cairo is shown at 270.9 Low steel Illinois span is 105.3ft above the zero gage = 376.2 Low steel Center span is 116.4ft above the zero gage = 387.3

This matches very well with the 60ft clear and 327.3ft High Water elevation shown on the 1936 plans from MMB.

I will follow up with David as to what clearance information he wants to see on the profiles and WRT what Water Surface Elevation.

I would recommend we keep the 105.3ft elevation on the Illinois side to keep your grades down. Note the Illinois Central RR bridge has a similar 104.6 clearance. I suspect this is for the full width of the river, so I would recommend similar profiles for all of our alternatives. The only place this may be an issue would be RM 974 where the sailing line is tight against the Illinois shore.

- Aaron

From: Stephanie Blain [mailto:SBlain@palmernet.com]

**Sent:** Monday, April 01, 2013 4:04 PM **To:** Baron, Michael; Stover, Aaron

Cc: Wright, Samantha J (wrightsj@cdmsmith.com); Gary Sharpe

Subject: US51 Superstructure Depth

Mike/Aaron,

We are working on some preliminary vertical and horizontal alignments for the US51 bridge project. Do you have an estimate for the superstructure depth for a completely new structure? We were planning on estimating it at 15 feet, but wanted to check with you to see if you had done any calculations on this yet.

Thanks,

Stephanie I. Blain, PE, LEED AP Palmer Engineering 400 Shoppers Drive P.O. Box 747 Winchester, KY 40392-0747 Phone: (859) 355-1352

Fax: (859) 744-1266

Email: <a href="mailto:sblain@palmernet.com">sblain@palmernet.com</a>



U.S. Army Corps of Engineers Louisville District

# Ohio River Navigation Charts

Cairo, Illinois to Foster, Kentucky

**JUNE 2010** 



#### NAVIGATION CHARTS AND NOTICES

Navigation charts for the OHIO RIVER, within the limits of the LOUISVILLE DISTRICT, are available on our website at <a href="http://www.lrl.usace.army.mil">http://www.lrl.usace.army.mil</a> for viewing and printing. Spiral-bound books are also available for purchase on the U.S. Government Printing Office website: <a href="http://bookstore.gpo.gov">http://bookstore.gpo.gov</a>.

Notices to Navigation Interests, containing data on channel conditions and location of dredges, are issued as occasions demand. Request to be placed on the mailing list to receive these notices by writing to:

U.S. Army Corps of Engineers
Attn: CELRL-OP
600 Dr. Martin Luther King, Jr. Place
Louisville, KY 40202-0059

Charts of the Ohio River are as follows:
PITTSBURGH DISTRICT:
Mile 000.0 - 127.2

HUNTINGTON DISTRICT: Mile 127.2 - 436.2

LOUISVILLE DISTRICT: Mile 436.2 - 981.0

#### MILE POINTS

Mile points are shown on the charts at one mile intervals beginning with Mile O at Pittsburgh, PA (The Point).

#### BUOYS

Buoys used to mark channels in the Mississippi River System conform to the standard lateral system of buoyage on the Western Rivers of the United States. Generally, the unlighted buoys in the Ohio River are equipped with radar reflectors. All buoys are equipped with reflective material. Buoys on the left descending side of the channel reflect red. Buoys on the right descending side of the channel reflect green.

Buoys are set to mark maximum navigation channel available considering channel alignment, the prevailing river stage, and obstructions. Due to ever-changing environmental conditions, the location and number of buoys on-site do not necessarily coincide with these charts. The locations of printed buoys are approximate.

Buoys should always be given as wide a berth in passing as possible consistent with the length and width of vessel or tow and the width of the bend or crossing. Buoys should always be used with caution. They may be carried off position by high water, accumulation of drift, ice, or sunk by collision or other causes. When carried off position, destroyed, or removed to prevent loss, buoys are replaced at the earliest opportunity.

Navigation lights and daybeacons are also shown in approximate locations. For additional information on lights, daymarks, daybeacons, and buoyage, see the U.S Coast Guard Light List, COMDTINST M16502, current edition.

#### FEDERAL MOORING BUOYS

Federal mooring buoys are for emergency use only, except where noted. These buoys shall not be used for recreational use or fleeting operations. Vessels using emergency buoys shall contact the nearest downstream lock upon mooring and again after departure.

#### DAMS

The height of the highest fixed points on the various parts of the locks and dams are shown in feet above the zero of the pass sill gage. Exceptions are noted on pages facing the page containing the dam to which they apply.

#### OHIO RIVER NAVIGATION CHARTS

#### PERMITS - JURISDICTION

In the administration of laws enacted by Congress for the protection and preservation of navigation and the navigable waters of the United States, the U.S. Army Corps of Engineers exercises jurisdiction over the Ohio River and several of its tributary streams. Work or structures in, under, or over the Ohio River or any navigable tributary, between the limits of the ordinary high water lines on both banks of the stream require prior authorization. Inquiries regarding permits for such work or structures should be addressed to:

District Engineer U.S. Army Engineer District, Louisville Attn: CELRL-OP-F 600 Dr. Martin Luther King, Jr. Place Louisville, KY 40202-0059

Inquiries may be made by telephone to: (502)315-6733

#### VERTICAL CLEARANCE

Vertical clearances under bridges and aerial crossings are shown on back of charts preceding page showing respective features at project pool stage. Existing clearances may be determined at open river stages, with reasonable accuracy, by method outlined in "EXAMPLE" below:

# EXAMPLE - CSX R.R. Bridge (Chart 41) (All Clearances are in feet)

(All Clearances are in re	<i>==L)</i>
RR Bridge Low Steel Elevation	= 420.
Evansville Gage "0" Elevation	= 329.3
Current Gage Reading	43.0
Evansville "0" elevation Water Surface elevation	$\frac{329.2}{372.2}$
water Surface elevation	3/4.4
RR Bridge Low Steel	= 420.
Water Surface el.	= 372.3
Vertical Clearance	= 48.

#### (Normal Pool Clearance)

Elevation of Low Steel =	420.7
Evansville Gage	
Project Normal Pool Gage 12.8 =	342.0
Clearance at Normal Pool =	78.7

#### (Using 1937 HW Readings)

Elevacion of how beech = 420.7	
1937 High Water (H.W.)	53.75
Current Reading -	43.00
(Distance in feet below H.W.)=	10.75
CSX R.R. Bridge:	
1937 H.W. Clearance +	39.30
Current Clearance =	50.05

Flavation of Low Steel - 420 7

1937 High Water	(H.W.) Gage I	Reading
GAGE		READING
Meldahl Lower Gage		75.50
Cincinnati, OH	Broadway	80.00
CINCILIIACI, OH	U.S.W.B.	79.99
Markland Dam	Upper Gage	41.10
Markiand Dam	Lower Gage	76.10
Madison, IN		72.30
McAlpine Dam	Upper Gage	52.15
MCAIPINE Dam	Lower Gage	85.44
Cannelton Dam	Upper Gage	34.00
Cammercon Dam	Lower Gage	60.40
Newburgh Dam	Upper Gage	40.00
Newburgh Dam	Lower Gage	58.00
Evansville, IN		53.75
Mt. Vernon, IN		59.15
John T. Myers Dam	Upper Gage	46.50
UOIII 1. Myels Dam	Lower Gage	64.50
Smithland Dam	Upper Gage	39.90
Silicifalia Dalli	Lower Gage	61.90
Paducah, KY		60.50
Dam 52		62.30
Dam 53		64.00
Cairo, IL		59.50

#### WARNING

# TO PLEASURE BOATERS AND FISHERMEN WHO NAVIGATE ON THE OHIO RIVER

Areas immediately upstream and downstream of the navigation dams in the Louisville District have been designated **Restricted Areas**. See the Legend Sheet for symbols that mark Restricted Areas and Danger Areas.

In recent years, there have been several **boating accidents** and **fatalities** as a result of vessels, particularly small fishing craft, operating too closely to navigation structures. Most of these accidents have occurred when boats approach too near the downstream side of a gated dam. Powerful reverse currents, commonly called **backlash**, draw boats in an upstream direction into the dam where there are capsized or smashed against the structure. Furthermore, an additional hazard exists in the vicinity of the lock discharge structures, which are located adjacent to the downstream river wall of the lock chamber. When the water in the locks is released during each locking operation, **sudden turbulent boils** are created which can capsize a boat venturing too near. This turbulence becomes more severe as the downstream pool falls to lower elevations.

On the upstream side of the dam, there is a **strong undertow** created by the flow of water through the gated section of the dam. Boats approaching too closely from the upstream side are in danger of being **lodged against the dam or capsized** by the undertow.

The nature of these river conditions emphasizes the serious danger to boaters and fishermen who operate their craft near either the upstream or downstream side of a dam. Vessel operators who enter these areas risk their lives and property and often preclude necessary gate operations of the locks and dams. Fishermen often fish in the tailwaters below the dam gates because the fishing is good. They must understand, however, that fishing from a boat in these waters can be fatal.

To supplement the **restricted areas**, the remaining area downstream of each dam, extending to the end of the long wall has been established as a **Danger Area**. All boaters and fishermen are urged to wear **Personal Floatation Devices (PFDs)** within this area, since these waters are frequently turbulent. Vessel operators should also heed

the warning sirens which indicate that project personnel will be increasing flow from the dam or releasing water within the lock discharge areas. These sirens will be operated for a period of 30 seconds, after which, there will be a 3-minute delay prior to a release of water.

Navigators should become fully aware of the Restricted and Danger Area boundaries prior to operating their craft within the vicinity of a lock and dam facility. The Restricted Areas are shown in the current publication of the U.S. Army Corps of Engineers, Louisville District, "Ohio River Navigation Charts; Cairo, IL to Foster, KY." Navigators should also observe all warning signs or marker buoys located within the area of each locks and dam structure. The marker buoys are illustrated with reflective orange bands and waterway symbols, and black wording on a white background. Buoys with the words "KEEP OUT" have, as their symbol, a cross enclosed within a diamond. Buoys designated as "DANGER DAM" are denoted with a diamond symbol.

The **regulations** pertaining to the **Restricted Areas** are contained within the U.S. Army Corps of Engineers' "Regulations Prescribed by the Secretary of the Army for Ohio River, Mississippi River above Cairo, IL and their tributaries; Use, Administration, and Navigation" (Blue Book). These regulations are as follows:

33 CFR 207.300 "(s) Restricted Areas at Locks and Dams. All waters immediately above and below each dam, as posted by the respective District Engineers, are hereby designated as Restricted Areas. No vessel or other floating craft shall enter any such Restricted area at any time. The limits of the restricted areas at each dam will be determined by the responsible District Engineer and marked by signs and/or flashing red lights installed in conspicuous and appropriate places."

Lockmasters will enforce adherence to these regulations and, if required, solicit aid from local law enforcement officers. In the interest of public safety, please tell other boaters or fishermen about the dangers of boating near lock and dam structures.

# Section 7 of the River and Harbor Act of August 8, 1917

"That it shall be the duty of the Secretary of War to prescribe such regulations for the use, administration, and navigation of the navigable waters of the United States as in his judgment the public necessity may require for the protection of life and property, or of operations of the United States in channel improvement, covering all matters not specifically delegated by law to some other executive department. Such regulations shall be posted, in conspicuous and appropriate places, for the information of the public; and every person and every corporation which shall violate such regulations shall be deemed guilty of a misdemeanor and on conviction thereof in any district court of the United States within whose territorial jurisdiction such offense may have been committed, shall be punished by a fine not exceeding \$500, or by imprisonment (in the case of a natural person) not exceeding six months, in the discretion of the court."

In pursuance of the law above quoted, the following regulations were prescribed to govern the use, administration, and navigation of the Ohio River above Cairo, IL and its tributaries.

Use, Administration, and Navigation 207.300 Ohio River, above Cairo, IL, and their tributaries; use, administration, and navigation.

#### a) Authority of Lockmasters

The lockmaster shall be charged with the immediate control and management of the lock, and of the area set aside as the lock area, including the lock approach channels. He shall see that all laws, rules, and regulations for the use of the lock and lock area are duly complied with, to which end he is authorized to give all necessary orders and directions in accordance therewith, both to employees of the Government and to any and every person within the limits of the lock or lock area, whether navigating the lock or not. No one shall cause any movement of any vessel, boat, or other floating thing in the lock or approaches except by or under the direction of the lockmaster or his assistants. In the event of an emergency, the lockmaster may depart from these regulations as he deems necessary. The lockmasters shall also be charged with the control and management of federally constructed mooring facilities.

# b) Safety Rules for Vessels Using Navigation Locks

The following safety rules are hereby prescribed for vessels in the locking process, including the act of approaching or departing a lock:

I) Tows with flammable or hazardous cargo barges, loaded or empty

- (i) Stripping barges or transferring cargo is prohibited.
- (ii) All hatches on barges used to transport flammable or hazardous materials shall be closed and latched, except those barges carrying a gas-free certificate.
- (iii) Spark-proof protective rubbing fenders ("possums") shall be used.
- II) All Vessels
- (i) Leaking vessels may be excluded from locks until they have been repaired to the satisfaction of the Lockmaster.
- (ii) Smoking, open flames, and chipping or other spark producing activities are prohibited on deck during the locking cycle.

- (iii) Painting will not be permitted in the lock chamber during the locking cycle.
- (iv) Tow speeds shall be reduced to a rate of travel such that the tow can be stopped by checking should mechanical difficulties develop. Pilots should check with the individual lockmasters concerning prevailing conditions. It is also recommended that pilots check their ability to reverse their energies prior to beginning an approach. Engines shall not be turned off in the lock until the tow has stopped and been made fast.
- (v) U.S. Coast Guard Regulations require all vessels to have on board life saving devices for prevention of drowning. All crew members of vessels required to carry work vests (life jackets) shall wear them during a lockage, except those persons in an area enclosed with a handrail or other device which would reasonably preclude the possibility of falling overboard. All deckhands handling lines during locking procedures shall wear a life jacket. Vessels not required by Coast Guard Regulations to have work vests aboard shall have at least the prescribed life saving devices, located for ready access and use if needed. The lockmaster may refuse lockage to any vessel which fails to conform to the above.

- c) Reporting of Navigation Incidents
  In furtherance of increased safety on
- waterways the following safety rules are hereby prescribed for all navigation interests:
- I) Any incident resulting in uncontrolled barges shall immediately be reported to the nearest lock. The report shall include information as to the number of loose barges, their cargo, and the time and location where they broke loose. The lockmaster or locks shall be kept informed of the progress being made in bringing the barges under control so that he can initiate whatever actions may be warranted.
- II) Whenever barges are temporarily moored at other than commercial terminals or established fleeting areas, and their breaking away could endanger a lock, the nearest lock shall be so notified, preferably the downstream lock.
- III) Sunken or sinking barges shall be reported to the nearest lock both downstream and upstream of the location in order that other traffic passing these points may be advised of the hazards.
- IV) In the event of an oil spill, notify the nearest lock downstream, specifying the time and location of the incident, type of oil, amount of spill,

measures are being employed.

V) Any other activity on the waterways that could conceivably endanger navigation or a navigation structure shall be reported to the nearest lock.

VI) Whenever it is necessary to report an incident involving uncontrolled.

sunken or sinking barges, the cargo in

and what recovery or controlling

the barges shall be accurately

#### d) Precedence at Locks

identified.

I) The vessel arriving first at a lock shall normally be first to lock through, but precedence shall be given to vessels belonging to the United States. Licensed commercial passenger vessels operating on a published schedule or regularly operating in the "for hire" trade shall have precedence over cargo tows and like craft. Commercial cargo tows shall have precedence over recreational craft, except as described in paragraph (f).

II) Arrival posts or markers maybe established above and/ or below the locks. Vessels arriving at or opposite such posts or markers will be considered as having arrived at the locks within the meaning of this paragraph. Precedence may be established visually or by radio communication. The lockmaster may prescribe such departure from the normal order of precedence as in his judgment is warranted to achieve best lock utilization.

#### e) Unnecessary Delay at Locks

Masters and pilots must use every precaution to prevent unnecessary delay in entering or leaving locks. Vessels failing to enter locks with reasonable promptness when signaled to do so shall lose their turn. Rearranging or switching of barges in the locks or in approaches is prohibited unless approved or directed by the lockmaster. This is not meant to curtail "jackknifing" or set-overs where normally practiced.

#### f) Lockage of Recreation Craft

In order to fully utilize the capacity of the lock, the lockage of recreational craft shall be expedited by locking them through with commercial craft, provided that both parties agree

to joint use of the chamber. When recreational craft are locked simultaneously with commercial tows, the lockmaster will direct, whenever practicable, that the recreational craft enter the lock and depart while the tow is secured in the lock. Recreational craft will not be locked through with vessels carrying volatile cargoes or other substances likely to emit toxic or explosive vapors. If the lockage of recreational craft can not be accomplished within the time required for three other lockage of recreational craft shall be made. Recreational craft operators are advised that many locks have a pull chain located at each end of the lock which signals the lockmaster that lockage is desired.

# g) Simultaneous Lockage of Tows with Dangerous Cargoes

Simultaneous lockage of other tows with tows carrying dangerous cargoes or containing flammable vapors normally will only be permitted when there is agreement between the lockmaster and both vessel masters that the simultaneous lockage can be executed safely. He shall make a separate decision each time such action seems safe and appropriate, provided:

- I) The first vessel, or tow in, and the last vessel, or tow out, are secured before the other enters or leaves.

  II) Any vessel or tow carrying dangerous cargoes is not leaking.

  III) All masters involved have agreed to the joint use of the lock chamber.
- h) Stations While Awaiting Lockage
  Vessels awaiting their turn to lock
  shall remain sufficiently clear of the
  structure to allow unobstructed
  departure for the vessel leaving the
  lock. However, to the extent
  practicable under the prevailing
  conditions, vessels and tows shall
  position themselves so as to minimize
  approach time when signaled to do so.

## i) Stations While Awaiting Access Through Navigable Pass

When navigable dams are up or are in the process of being raised or lowered, vessels desiring to use the pass shall wait outside the limits of the approach points unless authorized otherwise by the Lockmaster.

# j) Signals

Signals from vessels shall ordinarily be by whistle; signals from locks to vessels shall be by whistle, another sound device, or visual means.

When a whistle is used, long blasts of the whistle shall not exceed 10 seconds and short blasts of the whistle shall not exceed 3 seconds. Where a lock is not provided with a sound or visual signal installation, the lockmaster will indicate by voice or by the wave of a hand when the vessels may enter or leave the lock. Vessels must approach the locks with caution and shall not enter nor leave the lock until signaled to do so by the lockmaster.

The following lockage signals are prescribed:

- I) Sound Signals by Means of a Whistle
- These signals apply at either a single lock or twin locks.
- (i) Vessels desiring lockage shall on approaching a lock give the following signals at a distance of not more than one mile from the lock:
- (a) If a single lockage only is required: One long blast of the whistle followed by one short blast.(b) If a double lockage is required: One long blast of the whistle followed by two short blasts.

- (ii) When the lock is ready for entrance, the lock will give the following signals:
- (a) One long blast of the whistle indicates permission to enter the lock chamber in the case of a single lock or to enter the landward chamber in the case of twin locks.(b) Two long blasts of the whistle indicates permission to enter the riverward chamber in the case of twin locks.
- (iii) Permission to leave the locks
  will be indicated by the following
  signals given by the lock:
- (a) One short blast of the whistle indicates permission to leave the lock chamber in the case of a single lock or to leave the landward chamber in the case of twin locks.(b) Two short blasts of the whistle
- indicates permission to leave the riverward chamber in the case of twin locks.
- (iv) Four or more short blasts of the lock whistle delivered in rapid succession will be used as a means of attracting attention, to indicate caution, and to signal danger. This signal will be used to attract the attention of the captain and crews of vessels using or approaching the lock or navigating in its vicinity

and to indicate that something unusual involving danger or requiring special caution is happening or is about to take place. When this signal is given by the lock, the captains and crew of vessels in the vicinity shall immediately become on the alert to determine the reason for the signal and shall take the necessary steps to cope with the situation.

II) Lock Signal Lights

At locks where density of traffic or

At locks where density of traffic or other local conditions make it advisable, the sound signals from the lock will be supplemented by signal lights. Flashing lights (showing a one-second flash followed by a two-second eclipse) will be located on or near each end of the land wall to control use of a single lock or of the landward lock of double locks. In addition, at double locks, interrupted flashing lights (showing a one-second flash, a one-second eclipse and a onesecond flash, followed by a threesecond eclipse) will be located on or near each end of the intermediate wall to control use of the riverward lock. Navigation will be governed as follows:

Red Light - Lock cannot be made ready immediately. Vessel shall stand clear.

Amber Light - Lock is being made ready. Vessel may approach but under full control.

Green Light - Lock is ready for entrance.

Green and Amber Lights - Lock is ready for entrance but gates cannot be recessed completely. Vessel may enter under full control and with extreme caution.

III) Radio Communication
VHF-FM radios, operating in the FCC
authorized Maritime Band, have been
installed at all operational locks,
(except those at Lock 3, Green
River). Radio contact may be made
by any vessel desiring passage.
Commercial tows are especially
requested to make contact at least
one half hour before arrival in
order that the pilot may be informed
of current river and traffic
conditions that may affect the safe
passage of his tow.

All locks monitor 156.8 MHz (Ch. 16) and 156.65 MHz (Ch. 13) and can work 156.65 MHz (Ch. 13) and 156.7 MHz (Ch. 14). Ch. 16 is the authorized call, reply and distress frequency, and locks are not permitted to work

on this frequency except in an emergency involving the risk of immediate loss of life or property. Vessels may call and work Ch. 13, without switching, but are cautioned that vessel to lock traffic must not interrupt or delay Bridge to Bridge traffic which has priority at all times.

#### k) Rafts

Rafts to be locked through shall be moored in such manner as not to obstruct the entrance of the lock, and if to be locked in sections, shall be brought to the lock as directed by the lockmaster. After passing the lock the sections shall be reassembled at such distance beyond the lock as not to interfere with other vessels.

1) Entrance to and Exit from Locks
In case two or more boats or tows
are to enter for the same lockage,
their order of entry shall be
determined by the lockmaster.
Except as directed by the
lockmaster, no boat shall pass
another in the lock. In no case
will boats be permitted to enter or
leave the locks until directed to do
so by the lockmaster. The sides of
all craft passing through any lock

shall be free from projections of any kind which might injure the lock walls. All vessels shall be provided with suitable fenders, and shall be used to protect the lock and guide walls until it has cleared the lock and guide walls.

### m) Mooring

- I) At Locks
- (i) All vessels when in the locks shall be moored as directed by the lockmaster. Vessels shall be moored with bow and stern lines leading in opposite directions to prevent the vessel from "running" in the lock. All vessels will have one additional line available on the head of the tow for emergency use. The pilothouse shall be attended by qualified personnel during the entire locking procedure. When the vessel is securely moored, the pilot shall not cause movement of the propellers except in emergency or unless directed by the lockmaster. Tying to lock ladders is strictly prohibited.
- (ii) Mooring of unattended or nonpropelled vessels or small craft at the upper or lower channel approaches will not be permitted within 1200 feet of the lock.

- II) Outside of Locks
- (i) No vessel or other craft shall regularly or permanently moor in any reach of a navigation channel. The approximate centerline of such channels is marked as the sailing line on Corps of Engineers navigation charts. Nor shall any floating craft, except in an emergency, moor in any narrow or hazardous section of the waterway. Furthermore, all vessels or other craft are prohibited from regularly or permanently mooring in any section of navigable waterways which are congested with commercial facilities or traffic unless it is moored at facilities approved by the Secretary of the Army or his authorized representative. The limits of the congested areas shall be marked on Corps of Engineers navigation charts. However, the District Engineer may authorize in writing exceptions to any of the above if, in his judgment, such mooring would not adversely affect navigation and anchorage. (ii) No vessel or other craft shall be moored to railroad tracks, to riverbanks in the vicinity of

railroad tracks when such mooring

threatens the safety of equipment

- using tracks, to telephone poles or power poles, or to bridges or similar structures used by the public.
- (iii) Except in case of great emergency, no vessel or craft shall anchor over revetted banks of the river, and no floating plant other than launches and similar small craft shall land against banks protected by revetment except at regular commercial landings. In all cases, every precaution to avoid damage to the revetment works shall be exercised. The construction of log rafts along mattressed or paved banks or the tying up and landing of log rafts against such banks shall be performed in such a manner as to cause no damage to the mattress work or bank paving. Generally, mattress work extends out into the river 600 feet from the low water line. (iv) Any vessel utilizing a federally constructed mooring facility (e.g. cells, buoys, anchor rings) at the points designated on the current issue of the Corps navigation charts shall advise the lockmaster at the nearest lock that from point by the most expeditious means.

#### n) Draft of Vessels

No vessel shall attempt to enter a lock unless its draft is at least three inches less than the least depth of water over the guard sills or over the gates sills if there be no guard sills. Information concerning controlling depth over sills can be obtained from the lockmaster at each lock or by inquiry at the office of the district engineer of the district in which the lock is located.

# o) Handling Machinery

No one but employees of the United States shall move any lock machinery except as directed by the lockmaster. Tampering or meddling with the machinery or other parts of the lock is strictly forbidden.

## p) Refuse in Locks

Placing or discharging refuse of any description into the lock, on lock walls or esplanade, canal or canal bank is prohibited.

# q) Damage to Locks or Other Work

To avoid damage to plant and structures connected with the construction or repair of locks and dams, vessels passing structures in

the process of construction or repair shall reduce their speed and navigate with special caution while in the vicinity of such work. The restrictions and admonitions contained in these regulations shall not affect the liability of the owners and operators of floating craft for any damage to locks or other structures caused by the operation such craft.

### r) Trespass on Lock Property

Trespass on locks or dams or other United States property pertaining to the locks and dams is strictly prohibited except in those areas specifically permitted. Parties committing any injury to the locks and dams or to any part thereof will be responsible therefore. Any person committing a willful injury to any United States property will be prosecuted. No fishing will be permitted from lock walls, guide walls, or quard walls of any lock or from any dam, except in areas designated and posted by the responsible District Engineer as fishing areas. Personnel from commercial and recreational craft will be allowed on the lock structure for legitimate business

reasons; e.g., crew changes, emergency phone calls, etc.

# s) Restricted Areas at Locks and Dams

All water immediately above and below each dam, as posted by the respective District Engineers, are hereby designated as restricted areas. No vessel or other floating craft shall enter any such restricted area at any time. The limits of the restricted areas at each dam will be determine by the responsible District Engineer and marked by signs and/or flashing red lights installed in conspicuous and appropriate places.

#### t) Statistical Information

- I) Masters of vessels shall furnish to the lockmaster such statistics of passengers or cargo as may be requested.
- II) The owners or masters of vessels sunk in the navigable waters of the United States shall provide the appropriate District Engineer with a copy of the sunken vessel report furnished to the U.S. Coast Guard Marine Inspection Office in accordance with Code of Federal

Regulations Title 33 Subpart 64.10-1.

# u) Operations during High Water and Floods in Designated Vulnerable Areas

Vessels operating on these waters during periods when river stages exceed the level of "ordinary high water, " as designated on Corps of Engineers navigation charts, shall exercise reasonable care to minimize the effect of their bow waves and propeller washes on river banks; submerged or partially submerged structures or habitations; terrestrial growth such as trees and bushes; and manmade amenities that may be present. Vessels shall operate carefully when passing close to levees and other flood protection works, and shall observe minimum distances from banks which may be prescribe from time to time in Notices to Navigation Interests. Pilots should exercise particular care not to direct propeller wash at river banks, levees, revetments, structures or other appurtenances subject to damage from wave action.

## v) Navigation Lights for Use at All Locks and Dams

- I) At locks at all fixed dams and at locks at all movable dams when the dams are up so that there is no navigable pass through the dam, the following navigation lights will be displayed during hours of darkness: (i) Three green lights visible through an arc of 360° arranged in a vertical line on the upstream end of the river (guard) wall unless the intermediate wall extends farther upstream. In the latter case, the lights will be placed on the upstream end of the intermediate wall.
- (ii) Two green lights visible through an arc of 360° arranged in a vertical line on the downstream end of the river (guard) wall unless the intermediate wall extends farther downstream. In the latter case, the lights will be placed on the downstream end of the intermediate wall.
- (iii) A single red light, visible through an arc of 360° on each end (upstream and downstream) of the land (guide) wall.
- II) At movable dams when the dam has been lowered or partly lowered so

- that there is an unobstructed navigable pass through the dam, the navigation lights indicated in the following paragraphs will be displayed during hours of darkness until lock walls and weir piers are awash.
- (i) Three red lights visible through an arc of 360° arranged in a vertical line on the upstream end of the river (guard) wall.
- (ii) Two red lights visible through an arc of 360° arranged in a vertical line on the downstream end of the river (guard) wall.
- (iii) A single red light visible through an arc of 360° on each end (upstream and downstream) of the land (guide) wall.
- III) After lock walls and weir piers are awash they will be marked as prescribed in paragraph (x) below.

  IV) If one or more bear traps or weirs are open or partially open, and may cause a set in current conditions at the upper approach to the locks, this fact will be indicated by displaying a white circular disk 5 feet in diameter, on or near the light support on the upstream end of the land (guide) wall during the hours of daylight,

- and will be indicated during hours of darkness by displaying a white (amber) light vertically under and 5 feet below the red light on the upstream end of the land (guide) wall.
- V) At Locks No. 1 and 2, Green River, when the locks are not in operation because of high river stages, a single red light visible through an arc of 360° will be displayed on each end (upstream and downstream) of the lock river (guard) wall at which time the lights referred to above will not be visible.
- w) Navigation Lights for Use at Locks and Dams on the Green River

A single red light visible through an arc of 360° shall be displayed during hours of darkness at each end of the river wall or extending guard structures until these structures are awash.

#### x) Buoys at Movable Dams

I) Whenever the river (quard) wall of the lock and any portion of the dam are awash, and until covered by a depth, the limits of the navigable pass through the dam will be marked by buoys located at the upstream and downstream ends of the river (quard) wall, and by a single buoy over the end or ends of the portion or portions of the dam adjacent to the navigable pass over which project depth is not available. A red nuntype buoy will be used for such structures located on the left-hand side (facing downstream) of the river and a green can-type buoy for such structures located on the right-hand side. Buoys will be lighted, if practicable. II) Where powerhouses or other substantial structures projecting considerably above the level of the lock wall are located on the river (guard) wall, a single red light located on top of one of these structures maybe used instead of river wall buoys prescribed above until these structures are awash, after which they will be marked by a

buoy of appropriate type and color (red nun or green can buoy) until

covered by a depth of water equal to the project depth. Buoys will be lighted, if practicable.

### y) Vessels to Carry Regulations

A copy of these regulations shall be kept at all times on board each vessel regularly engaged in navigating the rivers to which these regulations apply. Copies may be obtained from any lock office or District Engineer's office on request. Masters of such vessels are encouraged to have on board copies of the current edition of appropriate navigation charts.

#### SECTION 15

That it shall not be lawful to tie up or anchor vessels or other craft in navigable channels in such a manner as to prevent or obstruct the passage of other vessels or craft; or to sink, or permit or cause to be sunk, vessels or other craft in navigable channels; or to float loose timber and logs, or to float what is known as sack rafts of timber and logs in streams or channels actually navigated by steamboats in such manner as to obstruct, impede, or endanger navigation. And whenever a vessel, raft, or other craft is wrecked and sunk in a navigable channel, it shall be the duty of the owner, lessee, or operator of such sunken craft to immediately mark it with a buoy or beacon during the day and a lighted lantern at night, and to maintain such marks until the sunken craft is removed or abandoned, and the neglect or failure of the said owner, lessee, or operator to do so shall be unlawful; and it shall be the duty of the owner, lessee, or operator of such sunken craft to commence the immediate removal of the same, and prosecute such removal diligently, and failure to do so shall be considered as an abandonment of such craft, and subject the same to removal by the United States as hereinafter provided for (30 St. 1152; 33 U.S.C. §409).

#### SECTION 16

That every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize, or instigate a violation of the provisions of sections thirteen, fourteen, and fifteen of this Act shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding twenty-five hundred dollars nor less than five hundred dollars, or by imprisonment (in the case of a natural person) for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court, one-half of said fine to be paid to the person or persons giving information which shall lead to conviction (30 Stat. 1153; 33 U.S.C §411). And any and every master, pilot, and engineer, or person or persons acting in such capacity,

respectively, on board of any boat or vessel who shall knowingly engage in towing any scow, boat, or vessel loaded with any material specified in section thirteen of this Act to any point or place or deposit or discharge in any harbor or navigable water, elsewhere than within the limits defined and permitted by the Secretary of War, or who shall willfully injure or destroy any work of the United States contemplated in section fourteen of this Act, or who shall willfully obstruct the channel of any waterway in the manner contemplated in section fifteen of this Act, shall be deemed quilty of a violation of this Act, and shall upon conviction be punished as hereinbefore provided in this section, and shall also have his license revoked or suspended for a term to be fixed by the judge before whom tried and convicted. And any boat, vessel, scow, raft, or other craft used or employed in violating any of the provisions of sections thirteen. fourteen, and fifteen of this Act shall be liable for the pecuniary penalties specified in this section, and in addition thereto for the amount of the damages done by said boat, vessel, scow, raft, or other craft, which latter sum of the harbor or waterway in which the damage occurred, and said boat, vessel, scow, raft, or other craft may be proceeded against summarily by way of libel in any district court of the United States having jurisdiction thereof (30 Stat. 1153; 33 U.S.C. §412).

#### SECTION 19

(a) That whenever the navigation of any river, lake, harbor, sound, bay, canal, or other navigable waters of the United States shall be obstructed or endangered by any sunken vessel, boat, watercraft, raft, or other similar obstruction, and such obstruction has existed for a longer period than thirty days, or whenever the abandonment of such obstruction can be legally established in a less space of time, the sunken vessel, boat, watercraft, raft, or other obstruction shall be subject to be broken up, removed, sold, or otherwise disposed of by the

#### EXTRACT FROM THE RIVER AND HARBOR ACT OF 1899

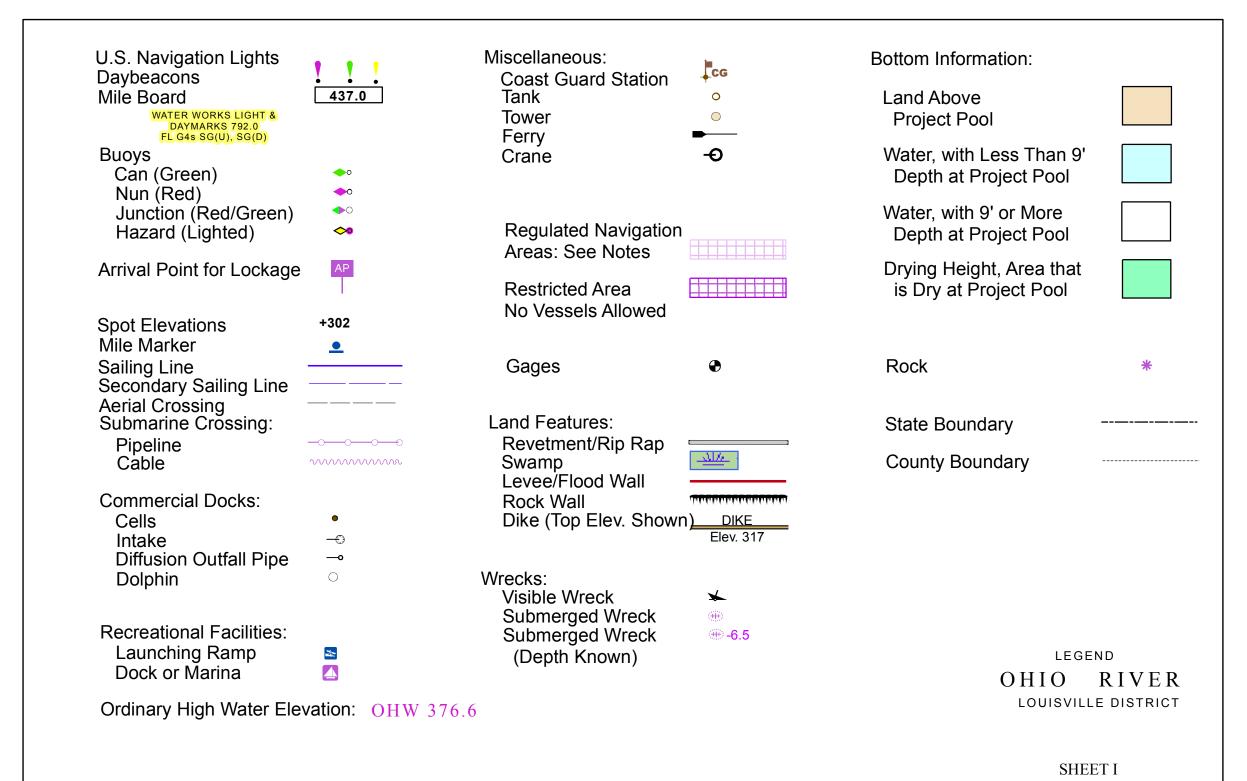
Secretary of War at his discretion, without liability for any damage to the owners of the same; PROVIDED, That in his discretion, the Secretary of War may cause reasonable notice of such obstruction of not less than thirty days, unless the legal abandonment of the obstruction can be established in less time, to be given by publication, addressed "To whom it may concern", in a

newspaper published nearest to the locality of the obstruction, requiring the removal thereof; AND PROVIDED ALSO, That the Secretary of War may, in his discretion, at or after the time of giving such notice, cause sealed proposals to be solicited by public advertisement, giving reasonable notice of less than ten days, for the removal of such obstruction as soon as possible after the expiration of the above specified thirty days' notice, in case it has not in the meantime been so removed, these proposals and contracts, at his discretion, to be conditioned that such vessel, boat, watercraft, raft, or other obstruction, and all cargo and property contained therein, shall become the property of the contractor, and the contract shall be awarded to the bidder making the proposition most advantageous to the United States; PROVIDED. That such bidder shall give satisfactory security to execute the work; PROVIDED FURTHER. That any money received from the sale of any such wreck, or from any contractor for the removal of wrecks, under this paragraph shall be covered into the Treasury of the United States (30 Stat. 1154; 33 U.S.C. §414).

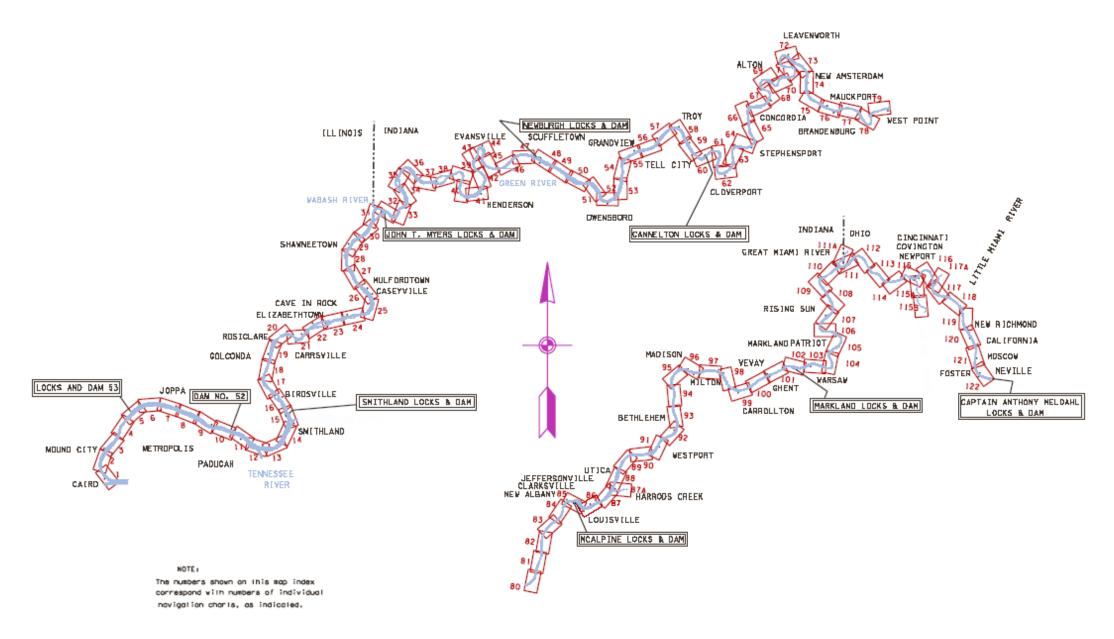
(b) The owner, lessee, or operator of such vessel, boat, watercraft, raft, or other obstruction as described in this section shall be liable to the United States for the cost of removal or destruction and disposal as described which exceeds the costs recovered under subsection (a). Any amount recovered from the owner, lessee, or operator of such vessel pursuant to this subsection to recover costs in excess of the proceeds from the sale or disposition of such vessel shall be deposited in the general fund of the Treasury of the United States.

# SECTION 20

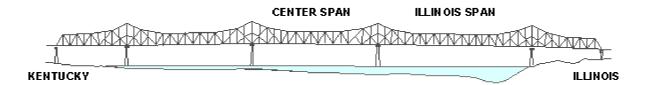
- (a) That under emergency, in the case of any vessel, boat, watercraft, raft, or similar obstruction, sinking or grounding, or being unnecessarily delayed in any Government canal or lock, or in any navigable waters mentioned in section nineteen, in such manner as to stop, seriously interfere with, or specially endanger navigation, in the opinion of the Secretary of War, or any agent of the United States to whom the Secretary may delegate proper authority, the Secretary of War or any such agent shall have the right to take immediate possession of such boat, vessel, or other watercraft, or raft, so far as to remove or to destroy it and to clear immediately the canal, lock, or navigable waters aforesaid of the obstruction thereby caused, using his best judgment to prevent any unnecessary injury; and no one shall interfere with or prevent such removal or destruction; PROVIDED. That the officer or agent charged with the removal or destruction of an obstruction under this section may in his discretion give notice in writing to the owners of any such obstruction requiring them to remove it; AND PROVIDED FURTHER, That the expense of removing any such obstruction as aforesaid shall be a charge against such craft and cargo; and if the owners thereof fall or refuse to reimburse the United States for such expense within thirty days after notification, then the officer or agent aforesaid may sell the craft or cargo, or any part thereof that may not have been destroyed in removal, and the proceeds of such sale shall be covered into the Treasury of the United States (30 Stat. 1154; 33 U.S.C. §415).
- (b) The owner, lessee, or operator of such vessel, boat, watercraft, raft, or other obstruction as described in this section shall be liable to the United States for the cost of removal or destruction and disposal as described which exceeds the costs recovered under subsection (a). Any amount recovered from the owner, lessee, or operator of such vessel pursuant to this subsection to recover costs in excess of the proceeds from the sale of disposition of such vessel shall be deposited in the general fund of the Treasury of the United States.



#### OHIO RIVER NAVIGATION CHARTS



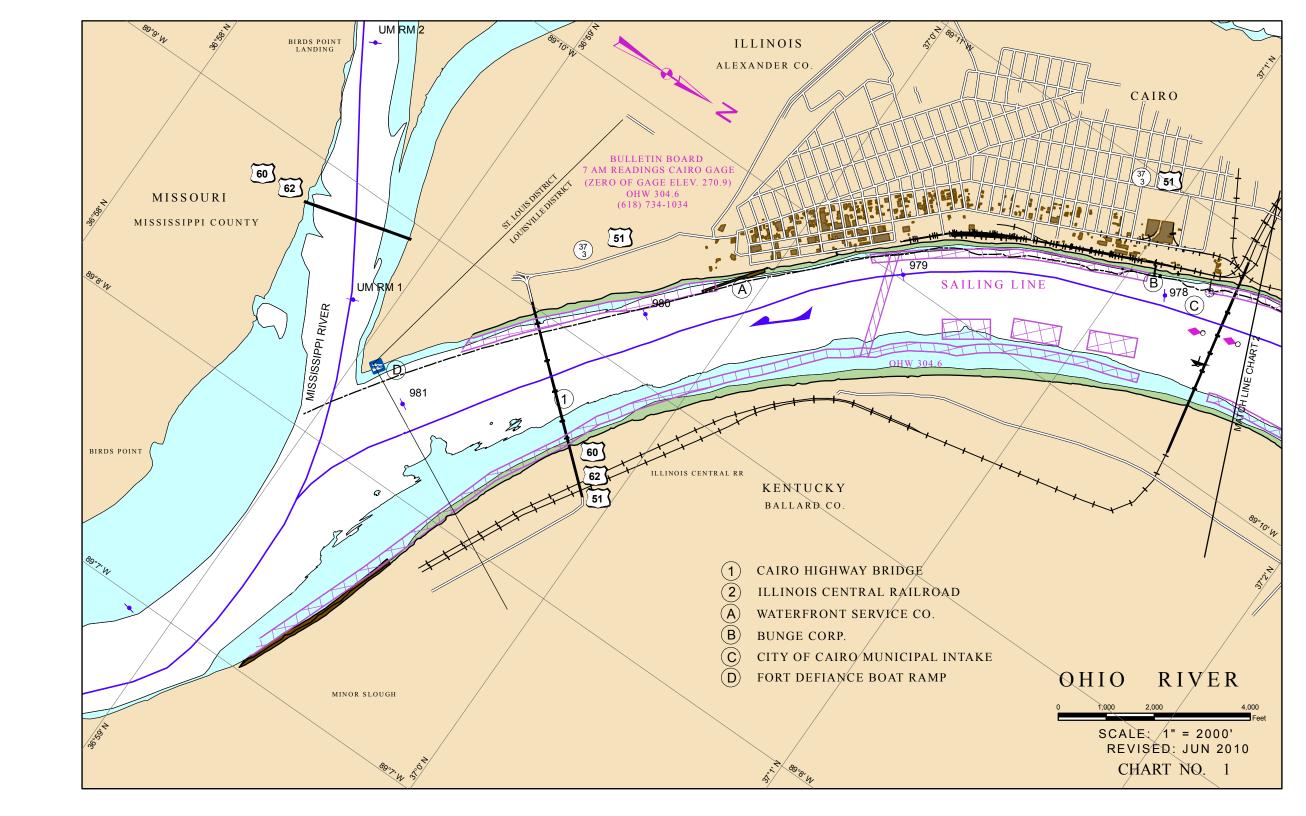
UNITED STATES ARMY CORPS OF ENGINEERS - LOUISVILLE DISTRICT
CHART INDEX - SHEET J



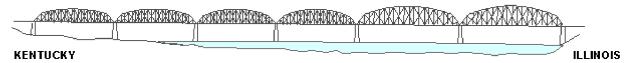
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CAIRO HIGHWAY (US 60) BRIDGE (Ohio River Mile 980.4)



#### **CHANNEL SPAN**

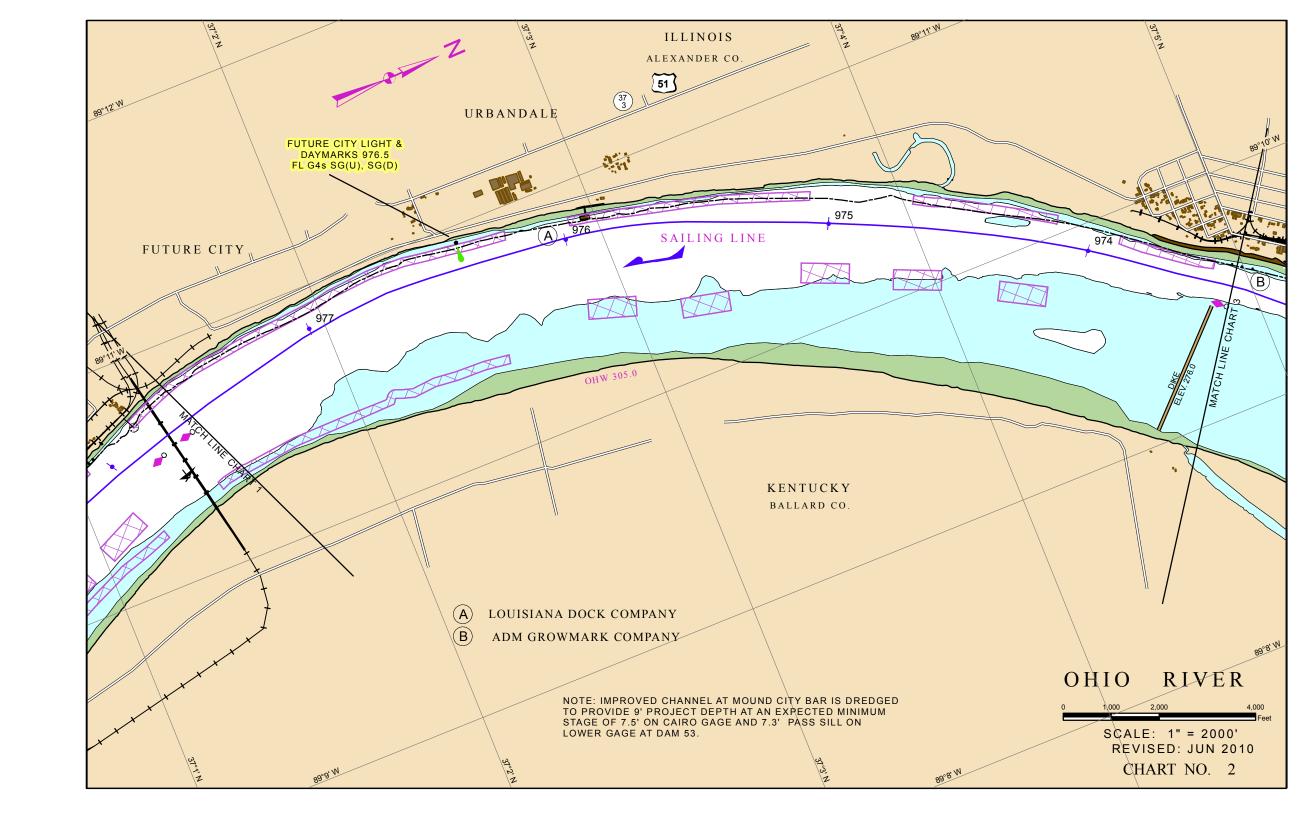


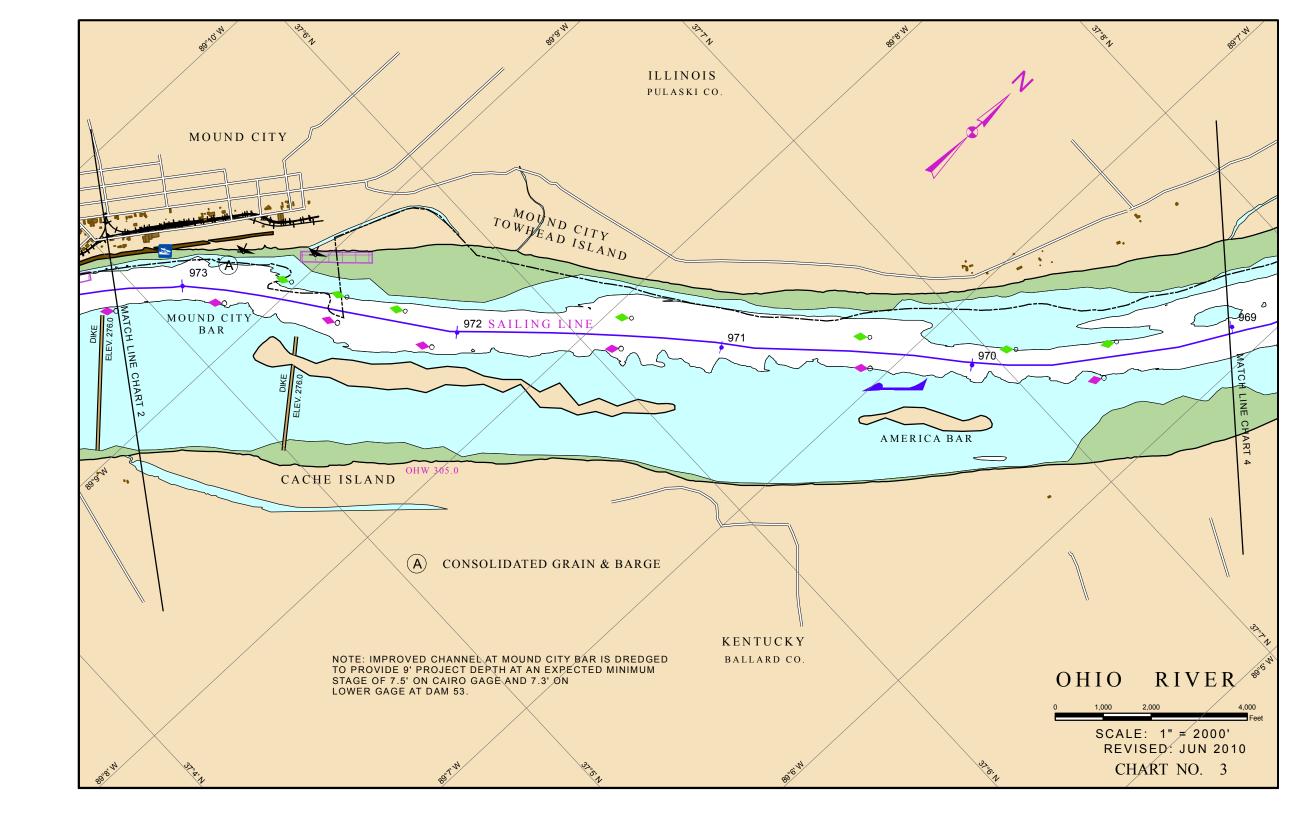
ELEVATION OF LOW STEEL 375.5'
VERTICAL CLE ARANCE AT POOL STAGE 104.6'
HORIZONTAL CLEARANCE 500.5'

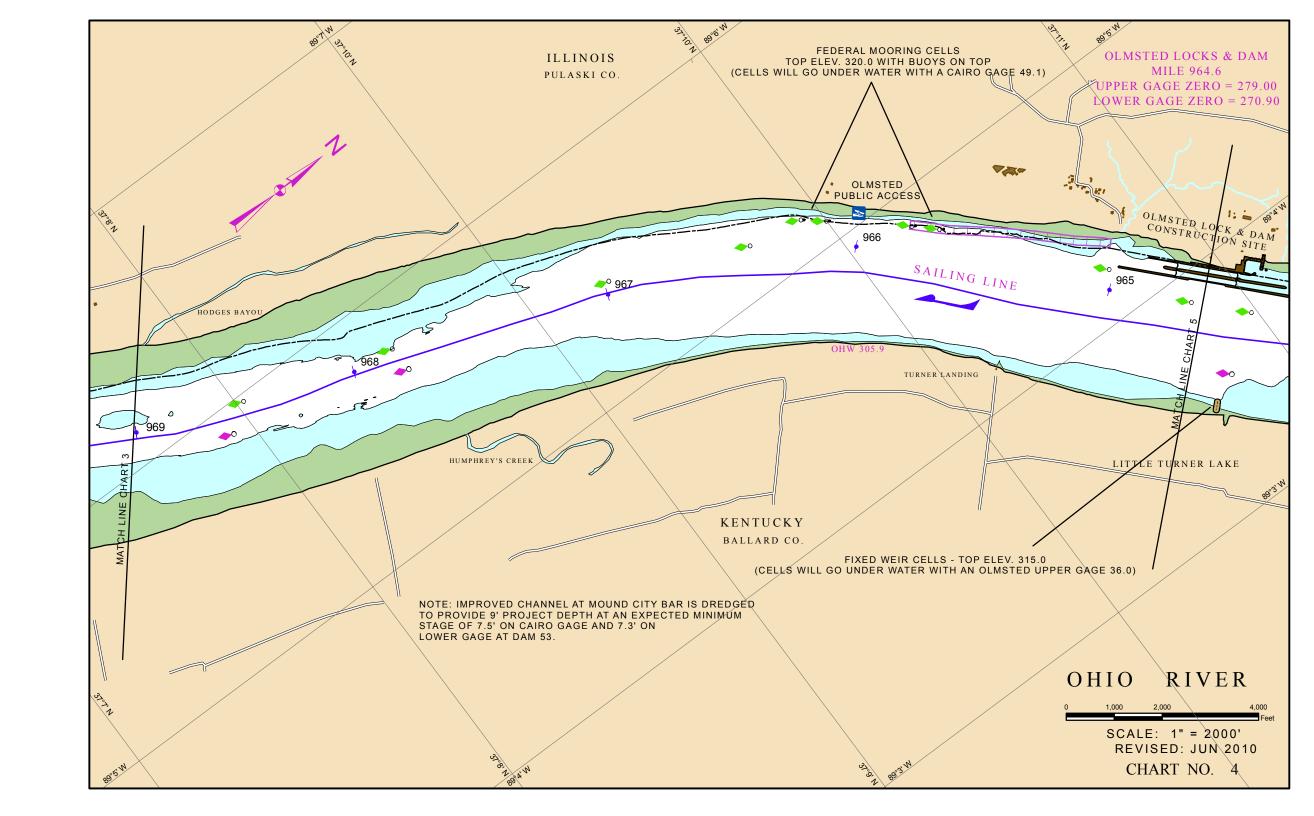


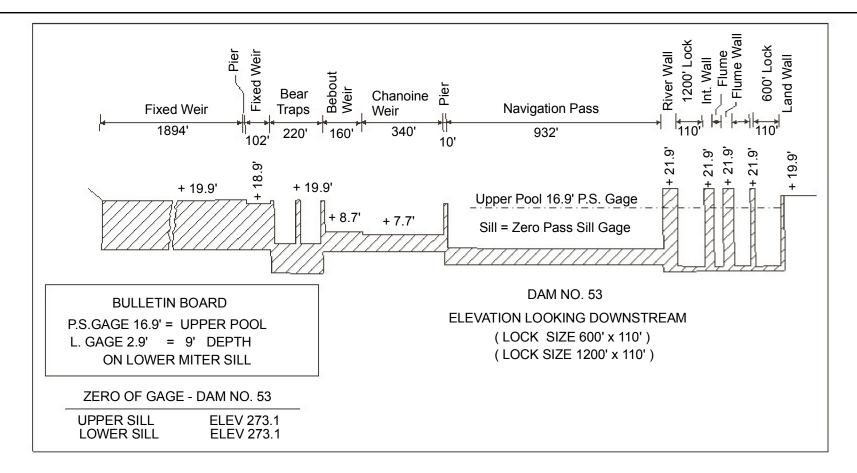
ILLINOIS CENTRAL RAILROAD BRIDGE (Ohio River Mile 977.7)

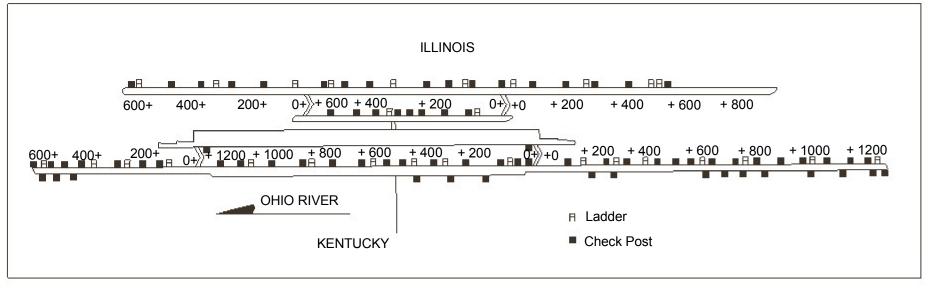
Downstream View

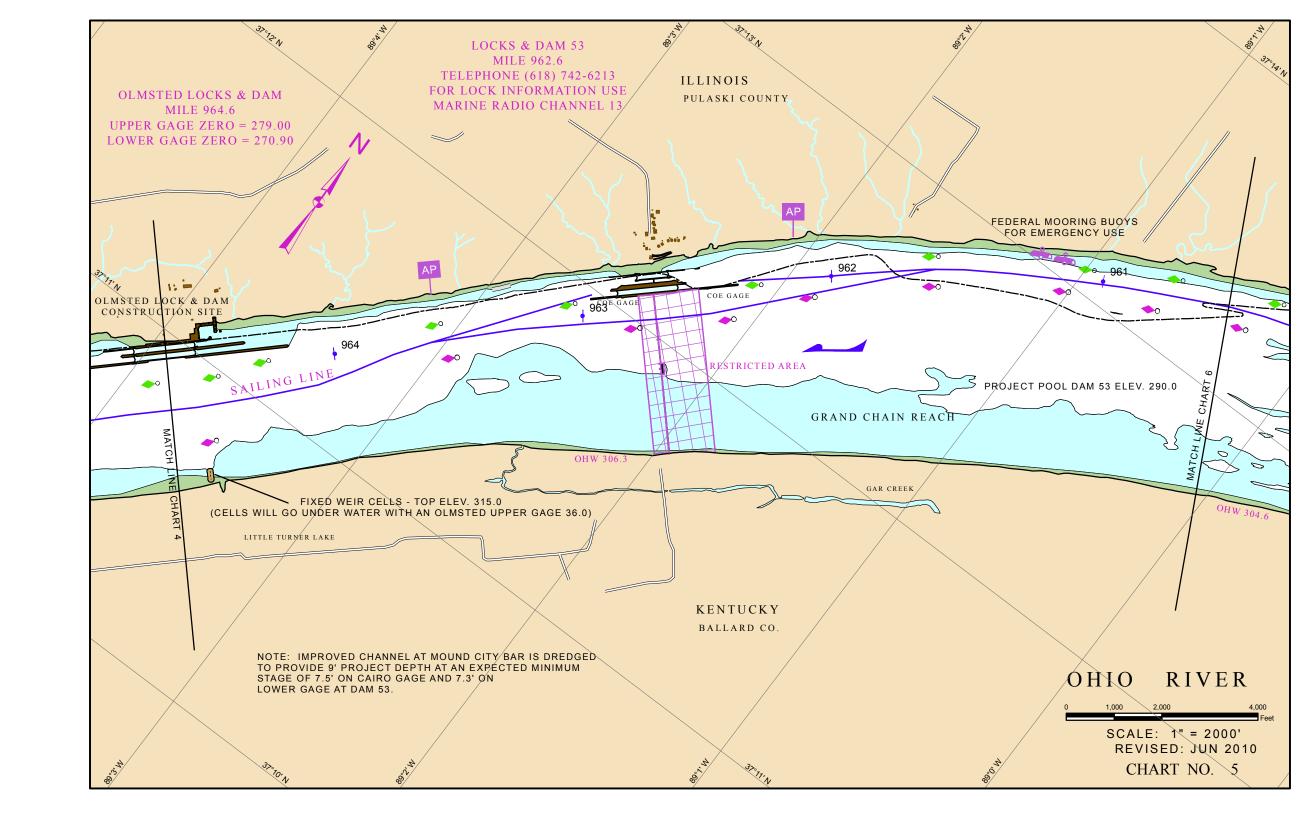












MILE	LOCATION	OWNER or OPERATOR	TYPE of FREIGHT	SHELTER	MECHANICAL APPLIANCES	RAIL CONNECTION	REMARKS
943.0R	Metropolis, IL	TECO Barge Line	NONE	Workshop	Wharf Barge	NONE	Mid-stream Fueling Service
944.0R	Metropolis, IL	Delta Materials Co.,Inc	Sand & Gravel	NONE	Portable Hopper	NONE	
946.0L	West Paducah, KY	Shawnee Steam Plant	Coal	NONE	Covered Conveyors & Crane	IC RR	
947.5R	Metropolis, IL	Cook Coal Dock	Coal	Silos	Pipelines & Conveyor	Burlington- Northern RR	(33) Mooring Cells
952.3R	Joppa, IL	Joppa Steam Plant Electric Energy Inc.	Coal	NONE	Covered Conveyor & Crane	IC RR	
953.2R	Joppa, IL	LaFarge Cement Corporation	Cement & Crushed Rock	Silos	Pipelines & Conveyors	IC RR	9 Mooring Cells With Covered Storage Area
972.9R	Mound City, IL	Consolidated Grain & Barge Co.	Grain	NONE	Conveyor	IC RR	3 Cells
973.5R	Mound City, IL	ADM/Growmark Co.	Grain & Grain By-Products	Storage Tanks	Conveyor	IC RR	Loading Only
975.8R	Cairo, IL	L.D. Street Oil Co., Inc.	Gasoline, Kerosene, Diesel & Fuel Oil	Storage Tanks	Pipelines	IC RR	
976.0R	Cairo, IL	Louisiana Dock Co.	NONE	Office Barge	4 Permanently Moored Barges & Office Barge	NONE	5 Wood Pile Cluster
978.0R	Cairo, IL	Bunge Corporation	Grain	Storage Tanks	Conveyors	NONE	6 Mooring Cells
979.5R	Cairo, IL	Waterfront Services Company	Marine Supplies	Storage Barges	Floating Crane With Loading & Unloading From Ramp & Gangplank	NONE	Midstream Fueling, Fleeting & Tug Service Salvage Operation & Above Water Welding
1.1R	LICKING RIVER	Piver Motels Providing	Scrap Metal	NONE	Cranes	CSX	One Cell
I.IK	Newport, KY	River Metals Recycling	Scrap Wetai				
1.2R	Newport, KY	River Metals Recycling	Scrap Metal	NONE	Crane	CSX	Two Errantly Moored Barges
2.1R	Wilder, KY	IOSCO Tubulars, Inc.	Scrap Metal	Warehouses	Gantry Crane	CSX	4 Small & One Large Cell
2.8L	Covington, KY	Marathon	Oil Products	Storage Tanks	Pipelines	CSX	3 Cells & Permanently Moored Barge

### Harper, Leonard S.

From: Wright, Samantha J

**Sent:** Monday, April 01, 2013 5:24 PM

To: Harper, Leonard S.

Subject: FW: USCG Initial Call 3/28/13 - Phone Record

Follow Up Flag: Follow up Flag Status: Flagged

From: Stover, Aaron

Sent: Monday, April 01, 2013 3:24:20 PM (UTC-07:00) Mountain Time (US & Canada)

To: Wright, Samantha J

Cc: Baron, Michael; Stephanie Blain

Subject: FW: USCG Initial Call 3/28/13 - Phone Record

See phone record below for conversation with the USCG.

From: Stover, Aaron

Sent: Saturday, March 30, 2013 11:13 PM

To: David Orzechowski (<u>David.A.Orzechowski@uscq.mil</u>)

Cc: Stiles, Gregory

Subject: USCG Initial Call 3/28/13 - Phone Record

#### David,

We appreciate you taking the time to discuss the Cairo bridge study with Greg and myself last week. Appearing below is a phone record of our discussion. Please let me know if anything during our conversation was misinterpreted. Attached is the basemap that you should have received with the agency coordination letter dated March 15, 2013.

My contact information is also shown below, please feel free to contact me should you need any additional information on the project.

#### Thanks, Aaron

#### Participants:

David Orzechowski (United States Coast Guard) Aaron Stover (Baker) Greg Stiles (Baker)

#### Agenda/Minutes

- 1. USCG Contact Mr. Orzechowski confirmed that he is the bridge specialist assigned to this particular crossing. He received the march 15 letter but without attached map. Baker will forward the study area map.
- 2. Purpose and Overview Aaron provided an overview of this study, including discussion of the previous I-66 study and future study by IDOT. The KYTC project is an independent bridge repair/replacement study.
- 3. Area of Study Discussed the range of the study area with Mr. Orzechowski. The project limits extend from the confluence of the Ohio and Mississippi up to river mile 974. The possible alternatives were discussed as a group near the existing bridge RM 980, alternatives just upstream of the Railroad Bridge, RM 977, and an upstream alternative near RM 974.
- 4. Horizontal Clearances

- a. Mr. Orzechowski indicated that Barge tows of 20-30 barges were not uncommon in this area since the first lock and dam is 18 miles up the Ohio River from the confluence. Barges in this configuration would run in a 4 wide by 5 long configuration to a 6 wide x 5 long configuration.
- b. The additional width of vessel and bend in the river and frequent high water are considered in setting clearance.
- c. The USCG navigation unit typically requires additional clearance when bridges are replaced.
- d. Baker discussed the possible option to replace the superstructure atop the existing piers, Mr. Orzechowski indicated that this would be an acceptable option. Aaron further indicated that this may require some reduction of the navigation clearance due to strengthening, which could be on the order of 50ft to which Mr. Orzechowski indicated that Navigation may need to be consulted.
- e. Baker will provide alignments for the alternatives considered, along with profiles at group of crossings so that the USCG navigation group can determine appropriate horizontal clearance.
- f. The USCG does utilize Seamans Church Institute to validate pier placement and also evaluate reduced clearances as was done in Louisville. This work is possible in a future phase of the project.
- 5. Vertical Clearances The existing bridge clearance is measured from 0 on the river guage at the confluence. The USCG will require that the existing clearance is met or exceeded, rarely is it reduced. Correspondence dated 7/3/2003 from the USACE indicated a minimum low steel elevation, Mr. Orzechowski indicated that the USCG will establish the clearances.

**Aaron L. Stover, P.E., S.E.** | Project Manager | Michael Baker Corporation 9750 Ormsby Station Rd, Suite 210 | Louisville, KY 40223 | 502.339.5871 | 502.645.5722 (cell) astover@mbakercorp.com | www.mbakercorp.com

Baker



**Steven L. Beshear** Governor

Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

May 15th, 2013

Mr. David Orzechowski United States Coast Guard 1222 Spruce Street St. Louis, MO 63103

SUBJECT: Proposed Clearances of US-51 Highway Bridge Replacement, River Mile 980.4, Ohio River

Dear Mr. Orzechowski,

Reference is made to the letter sent by our agency sent on March 15, 2013. The Kentucky Transportation Cabinet is conducting a preliminary engineering and environmental study of alternatives to rehabilitate or replace the functionally obsolete US-51 Bridge over the Ohio River at Cairo, Illinois. The attached drawings and following discussion present the alternatives currently being studied. It is noted that the attached alternatives are preliminary and subject to modification. Further input is being sought from the United States Coast Guard, Bridge Branch to establish the navigation needs at the proposed sites.

#### RM980.4 - Alternative 1 - Superstructure Replacement using the existing piers.

With this alternative the existing piers would be strengthened and re-used, allowing for a wider superstructure to be placed atop the piers. The existing bridge piers and foundations would likely require some modifications outside of the existing pier dimensions. Conceptually, 15 feet on each side of each pier would be needed for the rehabilitation. The corresponding Center Channel would be reduced 30 feet from 630ft to 600ft and the Illinois Channel would be reduced 30 feet from 780ft to 750ft. The attached drawings indicate the conceptual alignment and clearances for Alternate 1.

#### RM980.0 to RM980.4 - Alternative 2, 2A, 2B - New Alignments

These alignments are located just upstream of the existing bridge. After construction the existing US-51 Bridge at RM 980.4 would be demolished and removed. Our Team has reviewed the clear span of existing bridges on the Ohio River in Kentucky, proposed cable stay bridges at Louisville, and the new bridge at Cape Girardeau on the Mississippi River. Consistent with those projects, we are respectfully requesting consideration of a 900ft clearance perpendicular to the sailing line at this location. The attached drawings indicate the conceptual alignment and clearances for Alternates 2, 2A and 2B. If necessary, additional navigational clearances can be provided in secondary channels or side spans similar to the configuration of the existing bridge.

RM977.4 to RM977.7 - Alternative 3 & 3A - New Alignments



These two alternatives share an alignment are located just upstream of the existing Illinois Central Railroad bridge between RM 977.7 and RM 977.4. After construction, the existing US-51 Bridge at RM 980.4 would be demolished and removed. To line up proposed piers with the railroad bridge piers, a clear span of slightly more than 1,000 feet would be provided at this location. The span layout would line up the left descending pier of the new bridge with the left descending pier of the navigation channel of the railroad bridge. The right descending pier would be placed on the right descending bank in line with the existing railroad bridge pier at that location. The attached drawings indicate the conceptual alignment and clearances for Alternates 3 and 3A.

#### RM977.0 to RM973.0 - Alternatives 4 & 5- New Alignments

Both of these alignments are located upstream of the existing Illinois Central Railroad bridge between RM 977.0 and RM 973.0. After construction the existing US-51 Bridge at RM 980.4 would be demolished and removed. We respectfully request consideration of a 900ft clear span perpendicular to the sailing line be used in this stretch of the river.

#### **Vertical Clearances**

From our telephone conversation on March 28, 2013 we understand the two vertical clearance requirements for this reach of the Ohio River are:

- 55ft over the 2% flood and
- 69ft above the normal pool (as defined by the average June Flow).

Based on the elevation data provided by the United States Army Corps of Engineers Hydraulics section for the gage at the Mississippi/Ohio confluence, the minimum low steel elevations for all alternates would be as follows:

- 2% flood = Elev. 321.0 ORD +55ft = Elev. 376.0ft ORD
- Avg June Pool = Elev. 298.1 ORD +69ft = Elev. 367.1ft ORD

All alternatives would be designed to meet or exceed the required vertical clearances with a minimum low steel in the navigation span(s) of at least Elev. 376.0.

Thank you for reviewing these proposed concepts for the US-51 Bridge rehabilitation/replacement. This investment represents a significant commitment to the roadway transportation network in the region. We appreciate the need to meet reasonable needs of commercial navigation while maximizing the limited resources for highway funding. We look forward to your feedback.

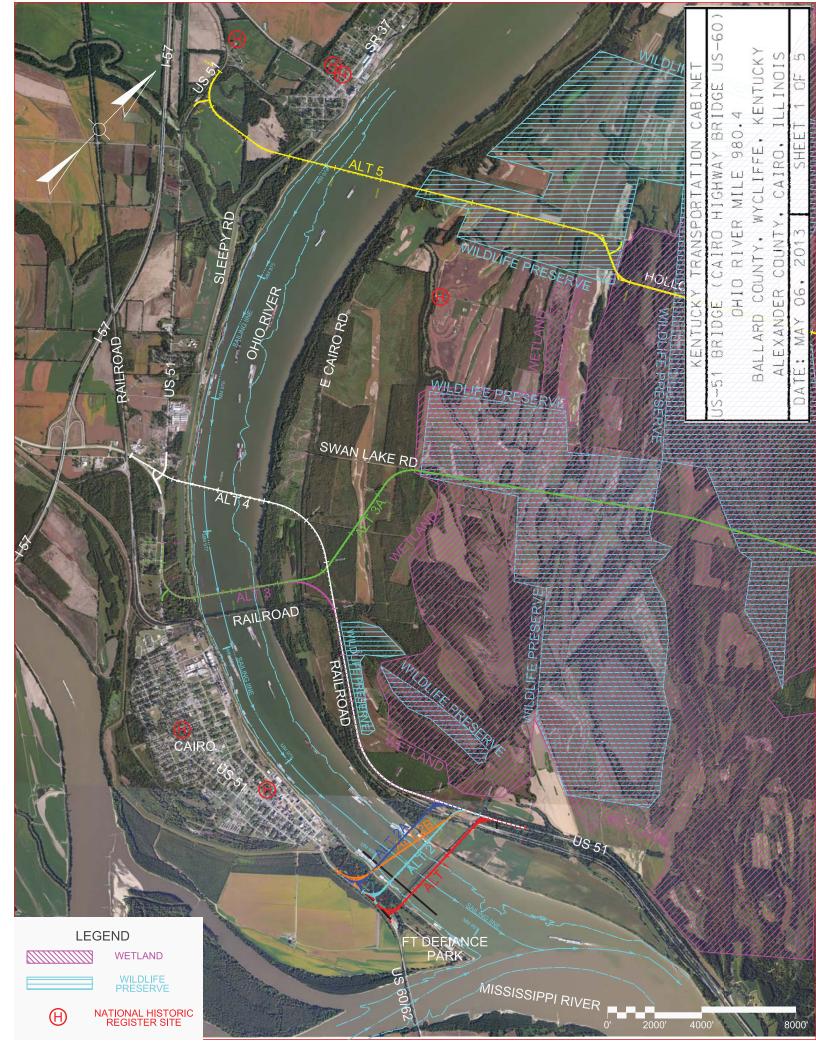
Sincerely,

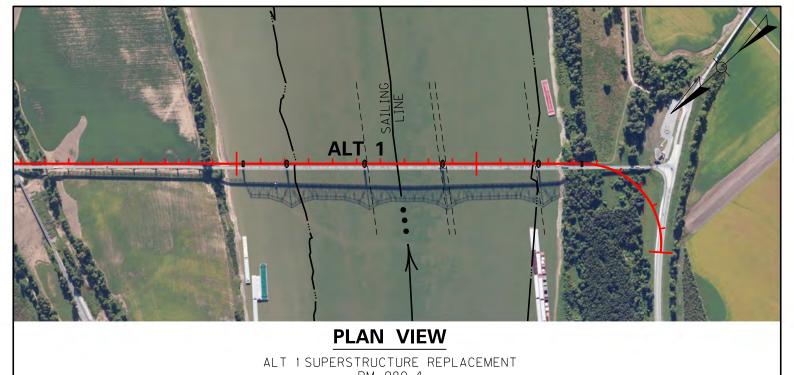
MalP. Mely Michael P. McGregor, P.E.

Transportation Engineering Branch Manager

for Project Development

Cc: Aaron L. Stover (Michael Baker Jr., Inc.)

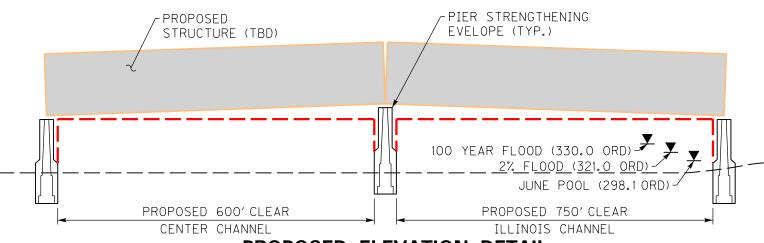




RM 980.4



### **EXISTING ELEVATION VIEW**



### PROPOSED ELEVATION DETAIL

#### ALT 1 - SUPERSTRUCTURE REPLACEMENT PROPOSED CLEARANCES

LOW STEEL ELEV. = 376.2' ORD ZERO GUAGE (OLMSTEAD) = 105.3' 2% FLOW (321.0' ORD) = 55.2' JUNE POOL (298.1' ORD) = 78.1'

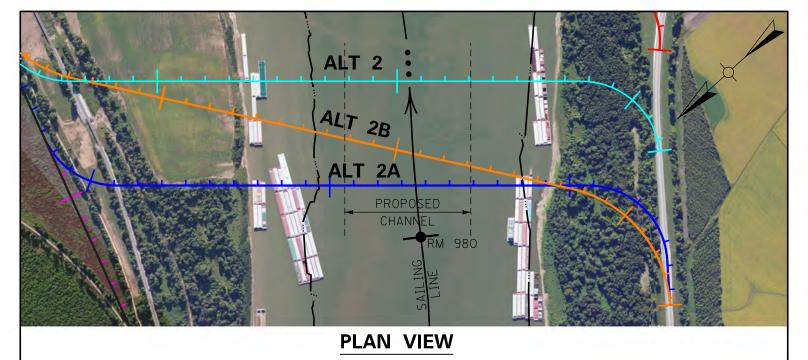
ORD (Ohio River Datum)

KENTUCKY TRANSPORTATION CABINET

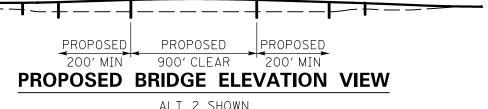
US-51 BRIDGE (CAIRO HIGHWAY BRIDGE US-60) OHIO RIVER MILE 980.4

BALLARD COUNTY, WYCLIFFE, KENTUCKY ALEXANDER COUNTY, CAIRO, ILLINOIS

DATE: MAY 06, 2013 SHEET 2 OF



ALT 2, ALT 2A, ALT 2B UPSTREAM REPLACEMENT RM 980.0 TO RM 980.4



ALT 2 SHOWN ALT 2A & 2B SIMILAR

### PROPOSED ELEVATION DETAIL

PROPOSED 900' CLEAR

PROPOSED CLEARANCES LOW STEEL ELEV. = 376.2' ORD ZERO GUAGE (OLMSTEAD) = 105.3' 2% FLOW (321.0' ORD) = 55' JUNE POOL (298.1' ORD) = 77.9'

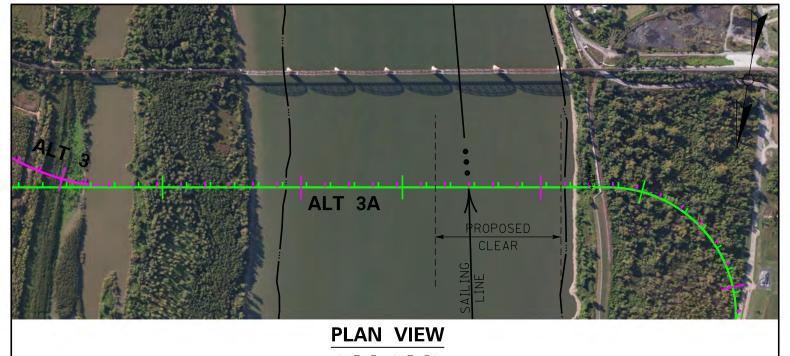
PROPOSED

STRUCTURE (TBD)

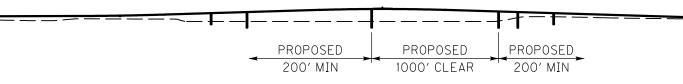
KENTUCKY TRANSPORTATION CABINET
US-51 BRIDGE (CAIRO HIGHWAY BRIDGE US-60)
OHIO RIVER MILE 980.4
BALLARD COUNTY, WYCLIFFE, KENTUCKY
ALEXANDER COUNTY, CAIRO, ILLINOIS

JUNE POOL (298.1 ORD)-

ORD (Ohio River Datum) | DATE: MAY 06, 2013 | SHEET 3 OF 5



ALT 3, ALT 3A UPSTREAM REPLACEMENT RM 977.4 TO RM 977.7



### PROPOSED BRIDGE ELEVATION VIEW

ALT 3 SHOWN

100 YEAR FLOOD (330.0 ORD)

2% FLOOD (321.0 ORD)

JUNE POOL (298.1 ORD)

PROPOSED 1000' CLEAR

### PROPOSED ELEVATION DETAIL

PROPOSED CLEARANCES LOW STEEL ELEV. = 376.2' ORD ZERO GUAGE (OLMSTEAD) = 105.3' 2% FLOW (321.0' ORD) = 55' JUNE POOL (298.1' ORD) = 77.9'

3′

PROPOSED

STRUCTURE (TBD)

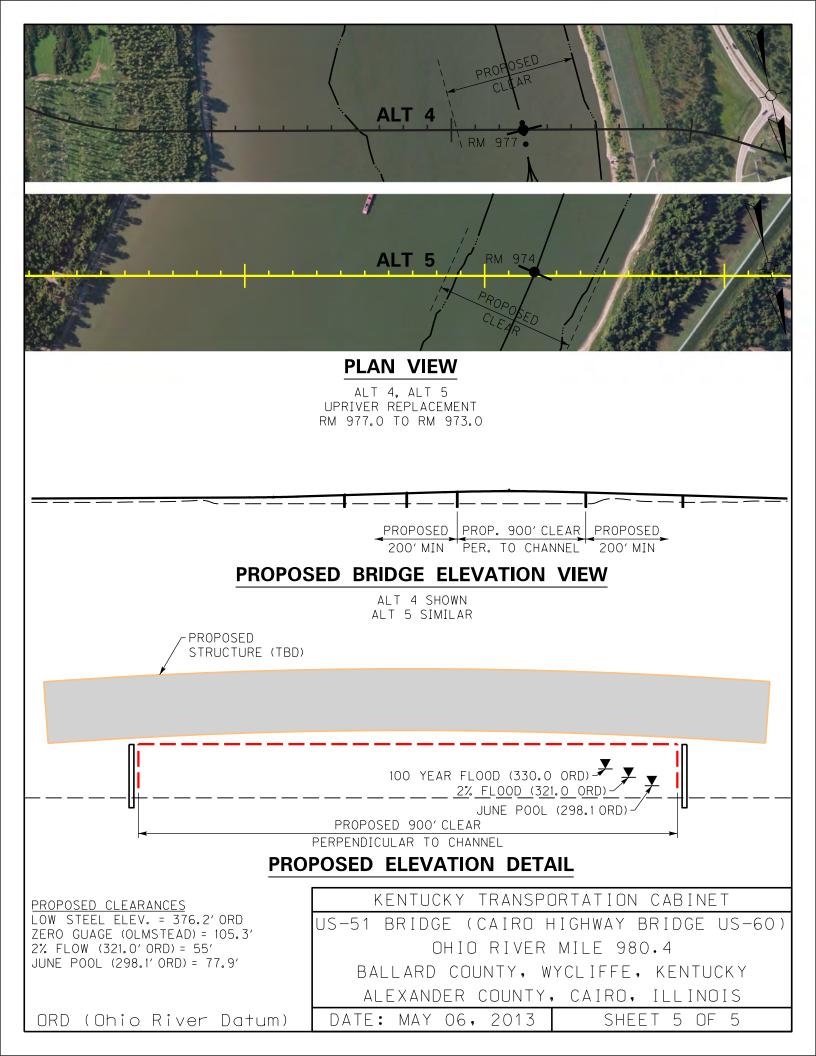
ORD (Ohio River Datum)

KENTUCKY TRANSPORTATION CABINET

US-51 BRIDGE (CAIRO HIGHWAY BRIDGE US-60)
OHIO RIVER MILE 980.4

BALLARD COUNTY, WYCLIFFE, KENTUCKY ALEXANDER COUNTY, CAIRO, ILLINOIS

DATE: MAY 06, 2013 | SHEET 4 OF 5



1222 Spruce Street, Room 2.102D St. Louis, MO 63103-2832 Staff Symbol: dwb Phone: (314)269-2382 Fax: (314)269-2737 Email: david.a.orzechowski@uscg.mil www.uscg.mil/d8/westernriversbridges

16591.1/980.41 OHR July 2, 2013

Mr. Michael P. McGregor, P.E. Transportation Engineering Branch Manager Kentucky Transportation Cabinet Department of Highways, District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003

Subj: PROPOSED CAIRO HIGHWAY BRIDGE REPLACEMENT, MILE 980.41,

OHIO RIVER

Dear Mr. McGregor:

This is in reply to your letter of May 15, 2013 regarding proposed alternatives for the subject bridge and provided the following response:

Alternative 1 – Reducing the Illinois and center navigational channels each by 30 feet is not conducive to the overall flow of navigation through a smaller horizontal navigational opening with the existing piers in place. This alternative is not recommended.

'Alternative 2 and 2B – These alternatives will not work where proposed pier placement is in the middle of the river with fleeting on both sides, also, during the state of high and low water, causes increased navigational issues for fleeting. These alternatives are not recommended.

Alternative 2A – No navigational issues. Proposed pier in the water acts like a protection for fleeting on the Illinois bank. This alternative would satisfy the reasonable needs of navigation and is recommended for further development.

Alternatives 3 and 3A – These alternatives are recommended based on proposed pier alignments, however, a 1200-foot horizontal navigation opening is recommended vs. 1000-feet.

Alternatives 4 and 5 – The middle pier on Alternative 5 needs to be shifted towards the left descending bank approximately 200 feet and the horizontal clearance increased to 1000 feet vs. 900 feet. Both alternative locations are in a less congestive area and each would satisfy the reasonable needs of navigation and are recommended for further development.

All alternatives presented shall provide a vertical clearance of at least 105.3 feet above zero on the Cairo gage.

I appreciate the opportunity to comment on the proposed bridge project. Should you have questions, please call Mr. David Orzechowski at above phone number.

Sincerely,

ERIC A. WASHBURN Bridge Administrator, Western Rivers

By direction of the District Commander

### Harper, Leonard S.

From: Stover, Aaron <ASTOVER@mbakercorp.com>

**Sent:** Thursday, July 11, 2013 8:40 AM

To: Gary Sharpe; Wright, Samantha J; Sorenson, Timothy P

Cc: Harper, Leonard S.; Stephanie Blain; Will Conkin (WConkin@palmernet.com); Bondi, Robert

**Subject:** FW: Cairo Bridge Alternatives ltr

#### Team.

I can't recall who has/has not seen the documentation of my additional discussion/Clarification with the USCG. David has reviewed and agrees. Bottom line, All Alternates are on the Table. Alt 1, we are looking at a way to reduce impacts to navigation, but it will increase costs for this alternate. Our goal remains to wrap up the cost estimate this week.

#### Aaron

----Original Message-----

From: David.A.Orzechowski@uscg.mil [mailto:David.A.Orzechowski@uscg.mil]

Sent: Thursday, July 11, 2013 8:26 AM

To: Stover, Aaron

Subject: RE: Cairo Bridge Alternatives Itr

Aaron,

You covered everything - thanks.

#### David

----Original Message-----

From: ASTOVER@mbakercorp.com [mailto:ASTOVER@mbakercorp.com]

Sent: Wednesday, July 10, 2013 7:01 PM

To: Orzechowski, David A CIV

Subject: FW: Cairo Bridge Alternatives ltr

#### David,

Just confirming that I didn't miss the mark with my phone record below. Please let me know if this accurately captures our discussion.

#### Aaron

----Original Message-----From: Stover, Aaron

Sent: Monday, July 08, 2013 5:29 PM To: 'David.A.Orzechowski@uscg.mil' Subject: RE: Cairo Bridge Alternatives Itr

#### David,

Here are some notes from our follow up conversation this morning by phone. Please let me know if anything stated below is inaccurate.

Alternative 1, As discussed this alternative would not be preferred and is not recommended by the USCG, but is not specifically disallowed. Our team may still investigate solutions to reduce the impacts to navigation and those could be

considered by the USCG in the future, should this alternative be advanced as one of the preferred alternatives that results from the study.

Alternative 2 and 2B, per our discussion it appears that the larger stationing tick marks may have been misconstrued as piers by others providing input to the USCG. Per our discussion, the pier placement would be outside the dashed lines shown by the proposed 900ft channel in the plan view and would be in a similar configuration to Alternative 2A. Based on our discussion, Alternatives 2 and 2B should be considered similarly to Alternative 2A.

Alternative 3 and 3A, The right descending pier for this alternative should align with the pier on the right descending bank for the railroad bridge. A 1,200ft clearance into the river is then required.

Again, I appreciate the opportunity to follow up with you and clarify these items.

Thanks, Aaron

Aaron L. Stover, P.E., S.E. | Project Manager | Michael Baker Corporation 9750 Ormsby Station Rd, Suite 210 | Louisville, KY 40223 | 502.339.5871 | 502.645.5722 (cell) astover@mbakercorp.com | www.mbakercorp.com

----Original Message----

From: David.A.Orzechowski@uscg.mil [mailto:David.A.Orzechowski@uscg.mil]

Sent: Tuesday, July 02, 2013 2:01 PM

To: mike.mcGregor@ky.gov

Cc: Stover, Aaron

Subject: Cairo Bridge Alternatives Itr

Mike,

Here is a scanned copy of our response to your letter dtd May 15, 2013 for the Alternatives for the Cairo Highway Bridge Replacement, Mile 980.4, Ohio River.

The original has been mailed to you this date.

Any questions, please feel free to give me a call.

Thanks,

David Orzechowski Coast Guard Bridge Office St. Louis, MO 314.269.2382



Commander Eighth Coast Guard District 1222 Spruce Street, Room 2.102D St. Louis, MO 63103-2832 Staff Symbol: dwb Phone: (314) 269-2382 Fax: (314) 269-2737 Email: david.a.orzechowski@uscg.mil www.uscg.mild8/westernriversbridges

16591.1/980.41 OHR August 23, 2013

Mr. Michael P. McGregor, P.E. Transportation Engineering Branch Manager Kentucky Transportation Cabinet Department of Highways, District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003

Subj: PROPOSED CAIRO HIGHWAY BRIDGE REPLACEMENT, MILE 980.41, OHIO RIVER

Dear Mr. McGregor:

Please refer to your letter dated August 15, 2013. The Combined Alternative 2 (2, 2A and 2B) would be acceptable from a navigational stand point. A navigation opening that provides a minimum horizontal clearance of 900 feet, a vertical clearance of at least 105.3 feet at the right descending pier and for the mid 700 feet of the horizontal span a vertical clearance of at least 113 feet measured above zero on the Cairo gage should satisfy the reasonable needs of navigation.

I appreciate the opportunity to comment on the proposed bridge project. Should you have questions, please call Mr. David Orzechowski at (314) 269-2382.

Sincerely,

ERIC A. WASHBURN

Bridge Administrator, Western Rivers

By direction

## Section 3:

Coordination with KYTC Division of Structural Design



## Action Item Summary KYTC Bridge Maintenance Staff Meeting to Review Deficiencies US 51 Bridge – Item 1-100.00 and 1-1140.00

KYTC Central Office Frankfort, Kentucky February 22, 2013 10:00 AM EST

A meeting with the KYTC Bridge Maintenance Staff for the US 51 Ohio River Bridge project was at the Kentucky Transportation Cabinet's Central Office in Frankfort, Kentucky at 11:00 a.m. EST. The purpose of the meeting was to review the Cairo Bridge deficiencies. Participants at the meeting included:

David Steele KYTC, Central Office
Josh Rogers KYTC, Central Office
Harold Gibson KYTC, District 1
Aaron Stover Michael Baker Jr., Inc.
Michael Baron Michael Baker Jr., Inc.

Len Harper CDM Smith

A copy of the meeting presentation is attached. A summary of the key decisions and action items from this meeting are provided below.

#### **Key Decisions:**

- The existing superstructure and substructure have a 6 rating which is good for a bridge this age. Ratings of 3 and 4 would indicate poor condition
- Widening the existing truss structure would likely cost as much as a superstructure replacement.
- KYTC's load rating analysis is nearly complete. KYTC will provide Baker with a copy of the report.
- The existing bridge can carry all legal loads but it does not allow permit loads because of the narrow bridge width and poor roadway alignment.
- We are trying to locate Ogden's full Scour Report (1990's). Michael Baker will try and contact Ogden to see if they can get a copy of the full report.
- A bridge rehabilitation project is scheduled for a spring letting. The project will repair or replace
  the deck joints and stringer end cracks. The load rating will stay the same after the bridge
  rehabilitation with no permit loads allowed. During the bridge rehab there will be an 8'-9" width
  restriction.
- The bridge bearings are starting to show wear. KYTC District 1 will look at removing the pack rust around the bearings. Although not likely to be completed for this study it will help the project team better understand their condition in the next phase of the project.
- KYTC has used a rough estimate cost for Bridge paint of approximately \$14 per SF.
- The gusset plates have been measured but not rated.

- The existing bridge would be considered eligible for replacement when the Sufficiency Rating falls below 50. When the rating drops below 50 it is eligible for Federal Funding. CDM Smith and Baker will verify this is still the funding trigger under MAP-21. The current sufficiency rating is 22.4.
- Rehabilitation items that will likely be looked at as part of the US 51 Study are; miscellaneous steel repairs, pavement overlay, painting, pier patching, and replacing the barriers/railing. The purpose of the rehabilitation option is to determine what needs to be done to keep the bridge operational for another 25 years without lowering the load rating.
- As part of the US 51 bridge project Michael Baker will also look at the existing piers for seismic, scour, and barge impact concerns. Most of this will be based on a literature review of existing documents.
- For the purposes of assessing the no-build option, the group determined that the bridge maintenance would continue at minimal levels until the bridge required posting and eventual closure.
- For the purposes of assessing the Rehabilitation option, the group determined that the rehabilitation should include the repairs necessary to get the bridge to last another 25 years. At the end of that time replacement would likely be necessary.
- The Project Team discussed using "structurally deficient" as the point when the rehabilitation concept would be implemented. Structurally deficient applies to NBI condition ratings of 4 or below. The structurally deficient designation would apply to the overall rating of the Deck (item 58), Superstructure (item 59), and Substructure (item 60).

#### **Action Items:**

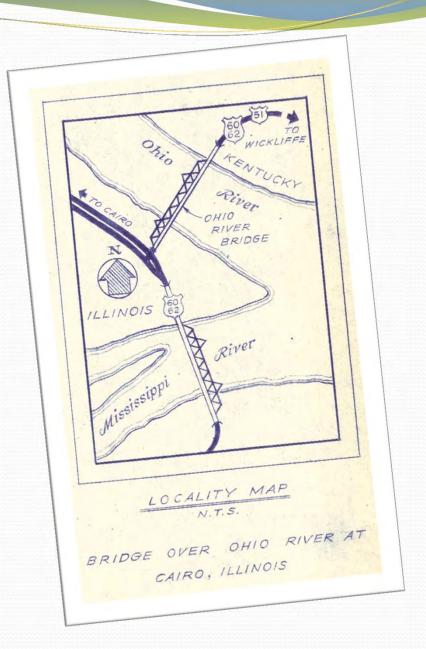
- KYTC
  - o KYTC will provide Baker with a copy of the latest load rating report.
  - KYTC District 1 will look at removing the pack rust around the bridge bearings.
- CDM Smith/Michael Baker
  - Michael Baker will try and contact Ogden to see if we can get a copy of the full Scour Report from the 1990's.
  - Michael Baker will look at a bridge rehabilitation concept and determine what needs to be done to keep the bridge operational for another 25 years without lowering the load rating.
  - CDM Smith and Michael Baker will review MAP-21 for Federal bridge replacement funding rules.
- Next Meeting: Mid April Meeting with KYTC on Bridge Rehabilitation Concept.

US 51 - Cairo Bridge over Ohio River (04B00021)

Existing Bridge Condition Assessment Meeting







## Presentation Overview

- Project Purpose and Need
- Scope of Work
- Existing Bridge Condition Assessment
  - a) Bridge Inspection Reports (current deficiencies)
  - b) Active or Planned Bridge Repairs
- Engineering Assessment
  - a) Existing Bridge Piers (barge impact, scour, seismic)
  - b) Load Rating
- Conceptual Bridge Rehabilitation

## Project Purpose and Need

- Replace/rehabilitate the 75 year old truss and approach spans
- Provide a safe, reliable roadway
- ☐ Give consideration to future transportation needs
- □ Project goal is to provide a structure that will improve safety for the travelling public and improve the substandard load capacity of the functionally obsolete bridge

## Scope of Work

- Alternatives Analysis
  - a) Do Nothing
  - b) Rehabilitate Existing Bridge
  - c) Replace Existing Superstructure
  - d) Bridge Replacement on New Alignment
- ☐ Perform engineering and environmental studies to replace/rehabilitate existing bridge
  - a) Assess existing superstructure
  - b) Assess existing substructure
  - c) Assess existing deficiencies
  - d) Develop bridge rehabilitation concept (maintain 2012 load limit for 25 years)
- Evaluate feasibility of a new bridge for the US 51 crossing over the Ohio River

## Existing Document Check List

## Reports/Plans (obtained) -

- ☑ KY Bridge Inspection Reports (w/ TC 71-118 form) 2012, 2010, 2008, 2005, 2004, 2003, 2002, 2001, 2000, 1999, 1998, 1997, 1996
- ☑ Bridge Inspection Manual
- ☑ Underwater Inspection Report 2009, 2004, 2001
- ☑ KTC Seismic Report 1998
- ☑ Original Plans showing main river piers and truss stress sheets
- ✓ Original shop drawings
- ☑ Rehab Plans 1977, 1999

### Other Reports (check w/ KYTC) -

- ☐ Load Rating
- ☐ Scour Report
- ☐ Data from Modjeski & Masters (possible soil boring logs)

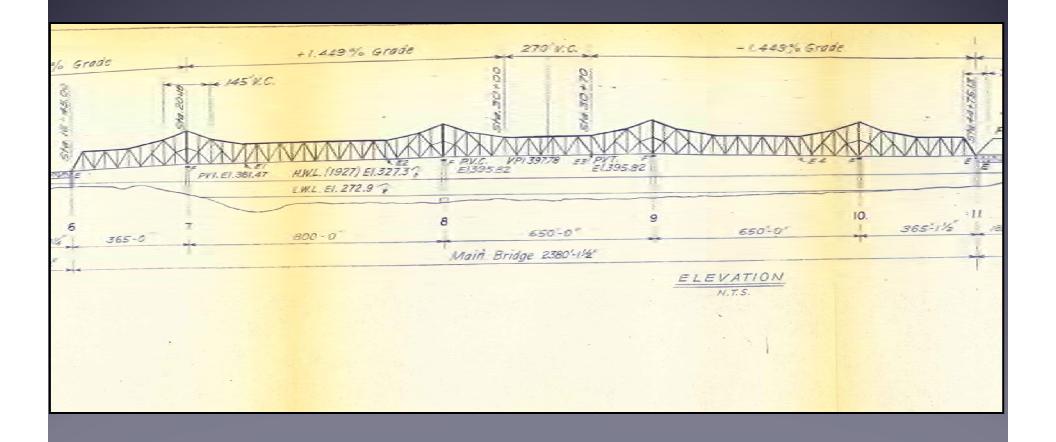
## Existing Bridge Facts

- □ Sufficiency Rating = 22.4
- □ Structure Width = 22.5-feet curb-curb
- □ Functionally Obsolete
- Poor Approach Alignment

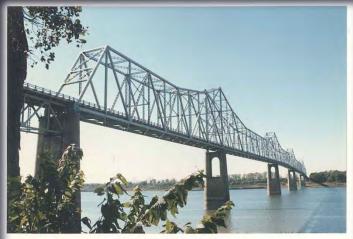
# Area Map



## **Truss Elevation**



## **Truss Elevation**

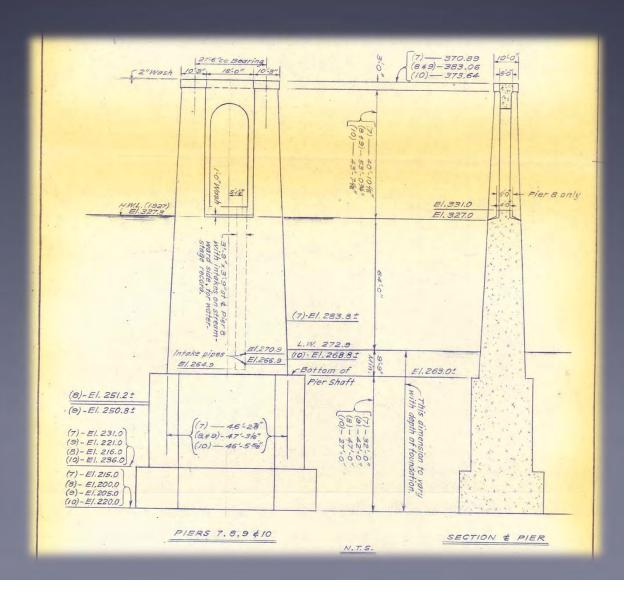


MAIN TRUSS SPANS





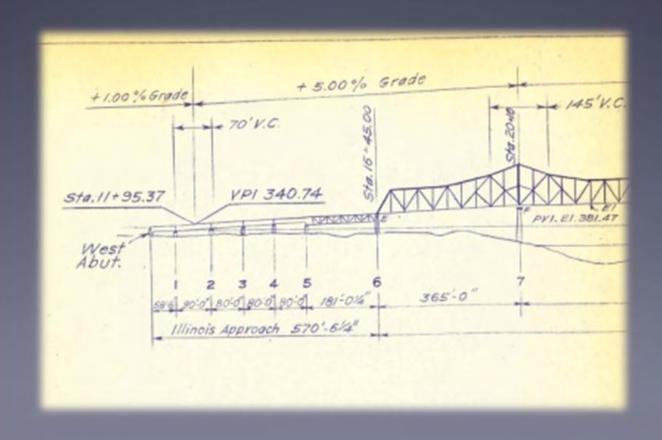
# **River Piers**



# **River Piers**



# West Approach

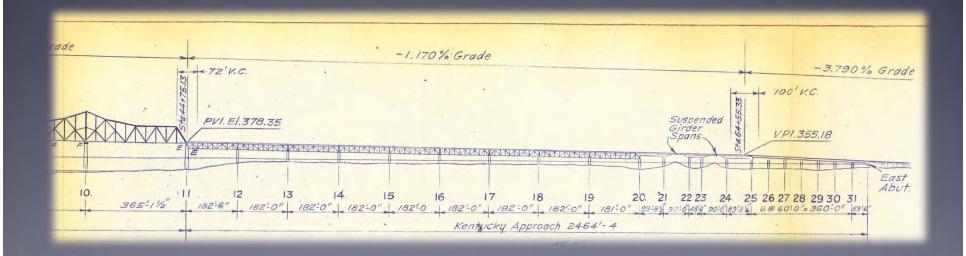


# West Approach





# East Approach



# East Approach





### Existing Bridge Condition

- □ Last FC inspection in October 2012
  - No major deficiencies noted to primary truss members.
- □ Last underwater inspection in 2009
  - No major scour problems noted.

## Existing Bridge Condition Ratings

		2008	2010	2012
58	Deck	7	7	6
1	Structural Condition	7	7	6
2	Wearing Surface	7	7	6
3	Joints	6	6	5
4	Drains	7	6	6
5	Expansion Devices	6	6	6
6	Curbs, Sidewalks	6	6	6
7	Railings	4	4	4
8	Lighting or Utilities	5	6	7

59	Superstructure	6	6	6
1	Stringers, Girders, Beams	5	6	6
2	Floor Beams	7	7	6
3	Trusses – Main Members	6	6	6
3a	Trusses – Bracing, Portals	7	7	7
4	Bearing Devices	6	6	6
5	Alignment/ Structural Members	7	7	7
6	Deflection/ Vibration under Load	7	7	7
7	Debris on Members	8	8	8

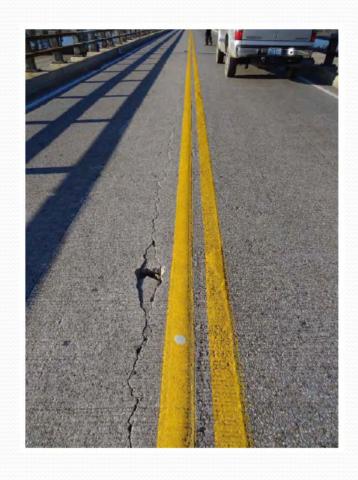
# Existing Bridge Condition Ratings

				2008	2010	2012
59A	Paint Condition			8	8	7
Color	Gray	Date Painted	Nov-07			

60	Substructure	7	7	6
1	Abutments, Wingwalls	7	7	6
2	Piers/ or Bents	6	6	6
3	Alignment/ or Settling	7	7	7
4	Scour, Erosions	7	7	7
5	Debris on Seats, Caps	7	7	7
6	Protection Systems	N	N	N
7	Abutments, Wingwalls (S.Z.D.)	-	N	N
8	Piers/ or Bents (S.Z.D.)	-	N	N
9	Alignment or Settling Due to Scour	-	N	N

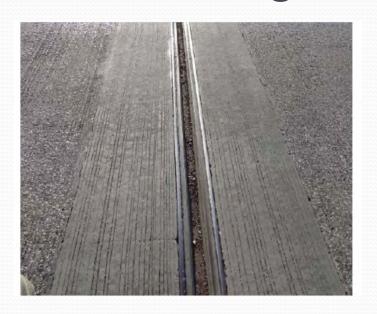
61	Channel/Channel Protection	7	7	7
1	Channel Scour	7	7	7
2	Embankment Erosion	7	7	7
3	Drift	7	7	7
4	Channel Alignment	8	8	8
5	Vegetation	7	7	7
6	Erosion Control System	Ν	N	N
7	Rip-Rap	N	N	N

# 2012 Findings... DECK - 6





## 2012 Findings... DECK - 6







# 2012 Findings... SUPERSTRUCTURE - 6







# 2012 Findings... SUPERSTRUCTURE - 6



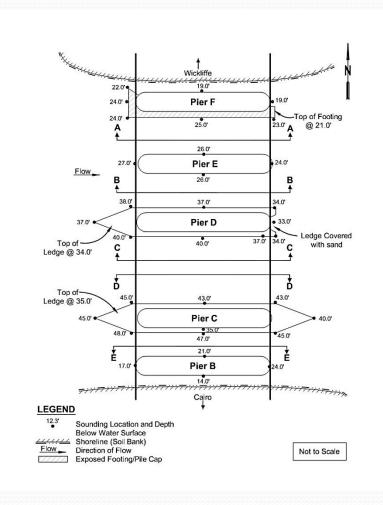


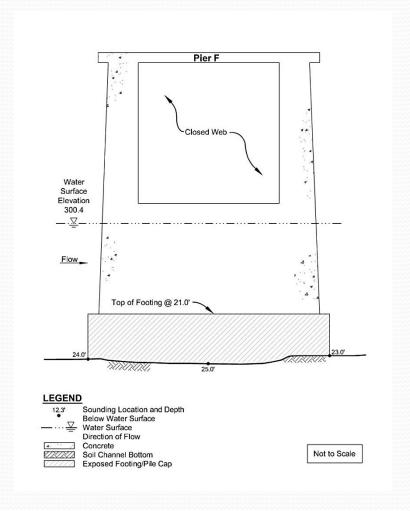
## 2012 Findings... SUBSTRUCTURE - 6



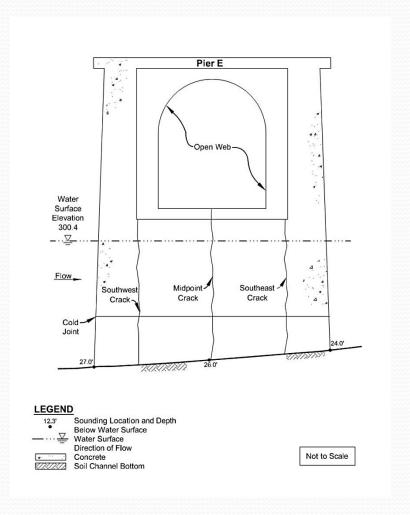


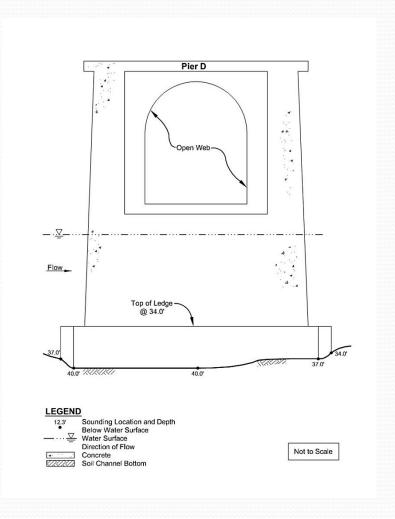
### 2009 Findings... Underwater



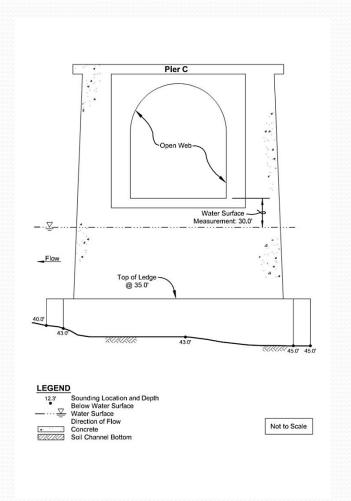


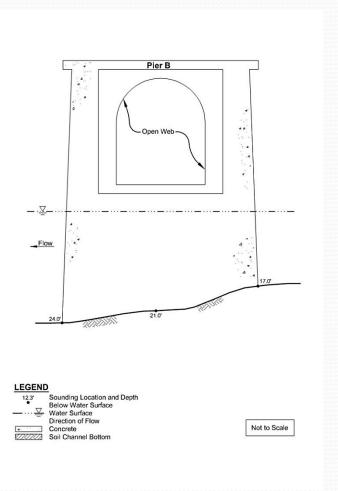
# 2009 Findings... Underwater





# 2009 Findings... Underwater





### 2012 Recommendations

#### RECOMMENDATIONS

A rehabilitation project is currently in development to address the stringer cracks, damaged joints, and some of the other conditions described above. The recommendations below are provided with the understanding that the rehabilitation will proceed as scheduled in 2013.

- Repair the cracked stringer ends under finger joints and consider performing the same retrofits to the other stringers at those locations.
- Monitor or repair the downstream through truss bearing at L0.
- Patch the spalls in the deck and repair the damaged sections of curb.
- Replace deteriorated joints.
- Repair the cracked finger at the L61 joint.
- Repair the damaged railing supports and replace deteriorated sections of railing.
- Replace the two missing rivets with bolts on the inboard gusset plate at L30, downstream truss.
- Consider replacing the tower ladders.
- Remove the vegetation from the piers.
- Clean out the utility curb boxes and replace missing or damaged covers.
- Clear the drains that have debris and remove debris from the deck.
- Monitor the elastomeric bearing on the upstream side of Span 22 for further movement off the end of the steel.
- Monitor the girder ends and deck truss end verticals at Pier K-9 for distress caused by thermal movements in the girders.

### **Engineering Assessments**

- Existing Bridge Piers
  - Barge Impact preliminary barge impact forces will be developed.
     AASHTO Method I evaluation will be performed.
  - b) Bridge Scour preliminary estimates of scour will be made. The bridge piers will be evaluated for stability.
  - Seismic The existing bridge piers and bears will be assessed for susceptibility to seismic events.
- Load Rating (from PONTIS)
  - a) Design Load = H 20
  - b) Operating = 35 tons w/ Inventory = 10 tons
  - c) Post at legal "AAA" loads (no overweight allowed) due to stringers

### Conceptual Bridge Rehabilitation

- Develop one rehab concept for keeping the bridge open at its current 2012 load limit for 25 years
- Identify seismic retrofit needs
- Identify future maintenance costs
- Preliminary cost range
- Question What is the minimum acceptable structure rating and required structure life to be used during the conceptual bridge rehab development?

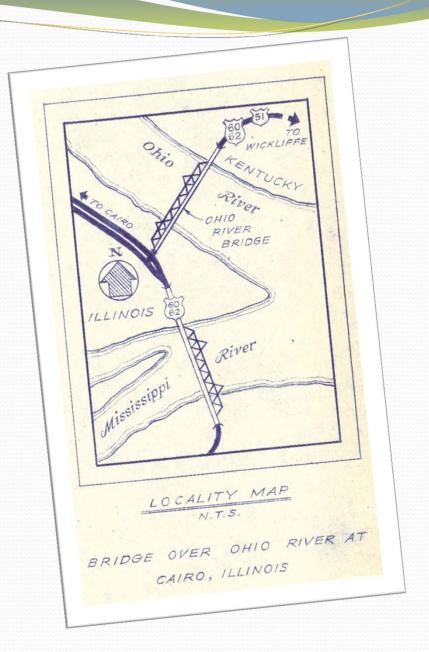


US 51 - Cairo Bridge over Ohio River (04B00021)

Conceptual Bridge Rehabilitation Meeting May 2, 2013







### Presentation Overview

- Purpose and Need Statement
- Summary of Existing Bridge Deficiencies
  - 1. Physical Condition
  - 2. Engineering Assessment
- Bridge Rehab Alternatives
  - No-Build Alternative
  - 2. Rehabilitation Alternative
  - 3. Seismic Retrofit

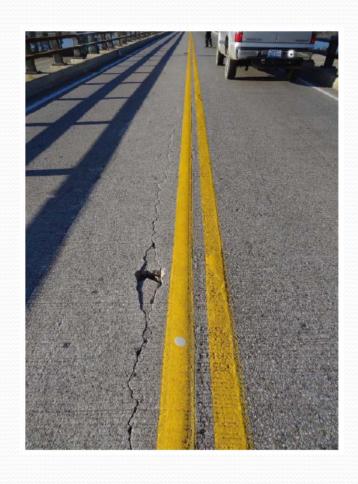
### Purpose and Need Statement

- □ Replace/rehabilitate the 75 year old truss and approach spans
- Provide a safe, reliable roadway
- Give consideration to future transportation needs
- Provide a constructible and affordable structure that will improve safety and <u>improve the substandard load capacity</u> of the functionally obsolete bridge

### Physical Condition Assessment

- a) Deck(58), Super(59) and Sub(60) received an NBI Condition Rating of 6, which refers to a "Satisfactory" condition in October 2012. This is defined by NBI as "structural elements are sound, but may have minor deterioration"
- b) Several issues were identified affecting the physical condition:
- Bridge Deck The original bridge deck was replaced with an overlay and new bridge deck in 1980. The overlay is beginning to show signs of failure through cracks and spalling. This could be representative of larger issues underneath the overlay. The existing bridge deck is over 50% of its estimated service life.
- Structural Steel The primary concern for the structural steel is continued deterioration and formation of pack rust between the members. Surface corrosion is largely due to localized failure of the overcoat paint system, particularly in the splash-zone region. The bridge was last painted in 2007.
- Piers The piers were noted with minor cracking, spalling and delaminations. These deficiencies were typically observed at or near the pier caps.

# 2012 Findings... DECK - 6





## 2012 Findings... SUPERSTRUCTURE - 6







## 2012 Findings... SUBSTRUCTURE - 6





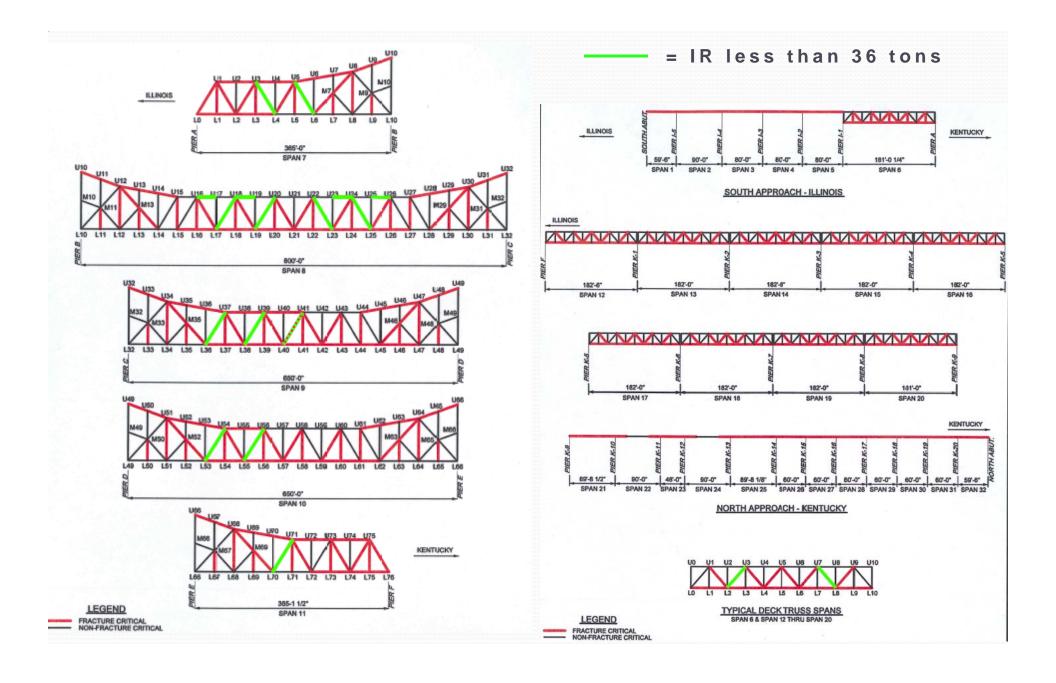
- Physical Condition Assessment continued
- a) The US 51 Bridge is classified as Functionally Obsolete (FO). The designation does not mean the bridge is unsafe. Geometric features considered sub-standard are:
- Typical Section narrow bridge and approach roadway and shoulder width
- Vertical Alignment sag curve in Span 2 does not meet headlight sight distance
- Horizontal Alignment curve in KY approach does not meet 45 mph design criteria
- Longitudinal Grade US 51 roadway at the KY approach has a 0.0% grade

Current Load Rating - controlled by member strength

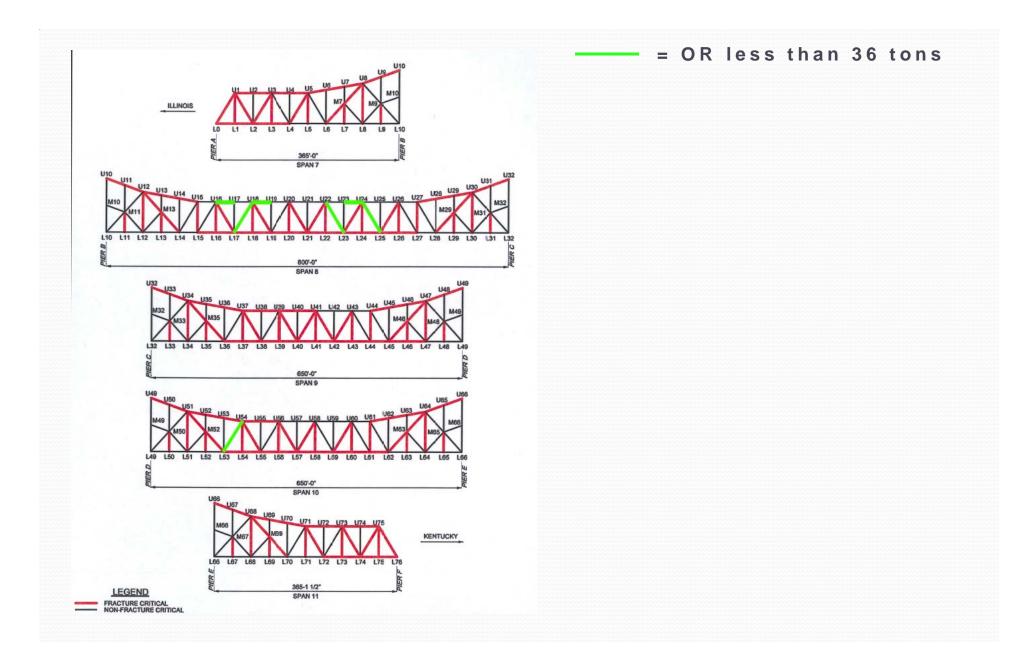
Load Rating	Controlling Location	Calculated Rating (tons)	Vehicle Wt (tons)	Rating Factor
Inventory (IR)	Main Truss at U24-L25	15.8	36 (HS20)	.44
Operating (OR)	Main Truss at U24-L25	26.3	36 (HS20)	.73
Type 1	Cantilevered Girders KY App	30.0	20	1.5
Type 2	Cantilevered Girders KY App	32.0	28.35	1.13
Type 3	Cantilevered Girders KY App	37.0	36.75	1.01
Type 4	Deck Truss at L2-U3	44.0	40.0	1.1

- Current Load Rating controlled by member strength
- Main Truss Summary (690 members total)
- 16 members per truss below 36T at IR. 32 total.
- 8 members per truss below 36T at OR. 16 total.
- Deck Truss Summary (820 members total)
- 4 members per truss below 36T at IR. 40 total.
- 0 members below 36T at OR.
- □ Floor System Summary (IR or OR below 36T)
- Short and long joists in 2-girder spans below IR.
- 75 main truss flrbms below IR.
- Various stringers in main truss and approach below IR.

### Truss Members with an IR less than 36-tons



### Truss Members with an OR less than 36-tons



The SR formula is used to indicate a bridge's sufficiency to remain in service. SR takes into account a number of factors including condition of the bridge as well as geometrics.

### Existing SR calculation

$$S1 = 55-(0+25.1) = 29.9$$
 (55)

Controlling item is Inventory Rating

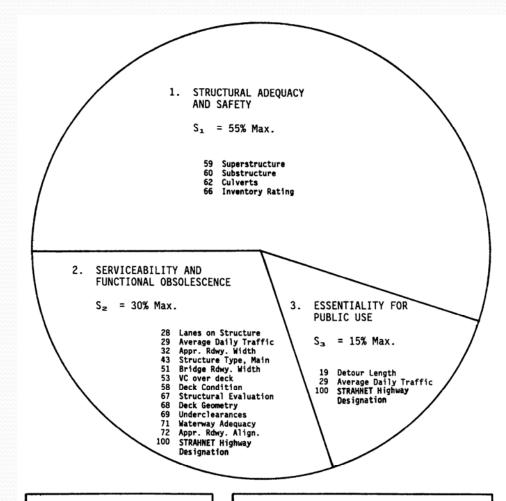
$$S2 = 30-[11+(15)+0] = 4$$
 (8)

Controlling items is Rating Reductions and Width of Roadway

$$S3 = 15-(15+0) = 0$$
 (0)

Controlling items is ADT and Detour Length

$$SR = 29.9 + 4 + 0 = 33.9$$
 (63) Inv (48) Op



- 4. SPECIAL REDUCTIONS
  - $S_4 = 13\% \text{ Max}$ .
  - 19 Detour Length 36 Traffic Safety Features
  - 43 Structure Type, Main

SUFFICIENCY RATING = S1 + S2 + S3 - S4

Sufficiency Rating shall not be less than 0% nor greater than 100%

### S1 - Structural Adequacy and Safety

### Only the lowest rating code of Item 59 or 60 applies

Condition Rating 
$$<=2$$
  $A = 55\%$   
= 3  $A = 40\%$   
= 4  $A = 25\%$   
= 5  $A = 10\%$   
= 6  $A = 0\%$ 

### Reduction for Load Capacity (B)

IR = 15.8 US tons x.9072 = 14.3 Metric tons

B = 
$$(32.4 - IR)^{1.5} \times 0.3254$$
 B = 25.1

$$S1 = 55 - (A + B)$$

$$S1 = 55 - (0 + 25.1) = 29.9$$

Bridge is considered structurally deficient if it meets one of the condition ratings or appraisal ratings listed.

### **Structurally Deficient -**

A condition rating of 4 or less for

Item 58 - Deck; or

Item 59 - Superstructures; or

Item 60 - Substructures; or

Item 62 - Culvert and Retaining Walls.

Or an appraisal rating of 2 or less for

Item 67 - Structural Condition; or

Item 71 - Waterway Adequacy. (2)

☐ Current condition rating is a 6 for Items 58, 59 and 60.

☐ Current appraisal rating is a 2 for Item 67.

- Strengthening members to 36T Operating Rating
  - Appears no longer S.D.

## Summary of Existing Bridge

Item 67 - Structural Evaluation (cont'd)

Table 1. Rating by Comparison of ADT - Item 29 and Inventory Rating - Item 66

Structural Evaluation Rating Code	Inventory Rating  Average Daily Traffic (ADT)		
	9	>32.4	>32.4
	(MS18)*	(MS18)	(MS18)
8	32.4	32.4	32.4
	(MS18)	(MS18)	(MS18)
7	27.9	27.9	27.9
	(MS15.5)	(MS15.5)	(MS15.5)
6	20.7	22.5	24.3
	(MS11.5)	(MS12.5)	(MS13.5)
5	16.2	18.0	19.8
	(MS9)	(MS10)	(MS11)
4	10.8	12.6	16.2
	(MS6)	(MS7)	(MS9)
3	Inventory rating less than value in rating code of 4 and requiring corrective action.		
2	Inventory rating less than value in rating code of 4 and requiring replacement.		
0	Bridge closed due to structural condition.		

Item 67 from SIA Form
Current Condition Rating is 2

Condition Rating is influenced by ADT and Inventory Rating

☐ Current ADT: 5040

□ Current Inventory Rating:

15.8 US Tons x .9072

Greater = 14.3 Metric Tons

Than

## Summary of Existing Bridge

- Engineering Assessment
  - performed on the existing river piers

#### Bridge Scour -

✓ Predicted local scour was in the range of 24ft-31ft.

#### Seismic Loading -

✓ Using the 1000 year event, severe damage or even collapse is probable for the existing piers.

#### **Barge Impact -**

✓ Preliminary structural assessment indicates that the piers may have the capacity needed to resist these loads.

#### **River Piers Foundation –**

✓ Any additional load applied to the foundation will induce settlements of the pier foundation. This will need to be considered during any potential remediation design.



## Bridge Rehab Alternatives Study

- No-Build Alternative
- Rehabilitation Alternative
- Seismic

### No-Build Alternative

- Maintenance Assumptions
- a) Repairs recommended from biennial inspections to maintain current loads. Avoid a reduced posting.
  - (i.e. minor concrete repairs, deck patching, minor structural steel repairs, joint repairs, etc.)
    - No Painting of the Entire Bridge
    - No Deck Replacement
    - No Seismic Retrofit
- Remaining Service Life
- a) Highly dependent on structural steel deterioration which is influenced by condition of paint system and concrete deck.
- b) Future posting (considerations for controlling rating)

### No-Build Alternative

- Existing Paint System
- a) Calcium-Sulfonate paint overcoat. Installed 2007.
- b) Estimated 10 15 year service life.
- c) Deterioration is expected to re-activate once paint system begins to fail.
- Existing Deck
- a) 1980 New 63/4" deck placed with a 2" overlay.
- b) 2012 The overlay is beginning to show signs of failure through cracks and spalling.
- c) Typical 40 50 year service life for deck.
- d) Typical 15 20 year service life for overlay.

### No-Build Alternative

- Case Study: Milton-Madison Bridge
- a) 1995 Bridge underwent major steel repairs and received paint system over entire bridge.
- b) 2009 Structural steel in "splash zone" of truss was noted as heavily deteriorated and required some emergency repairs, and bridge posting.
- Will the US 51 Bridge see a similar fate?
- The Ledbetter Bridge has similar deterioration to the MM Bridge.
- Other riveted bridges of similar age have a physical condition comparable to the US 51 Bridge.
- Research and discussion with FHWA did not yield a definite conclusion on the steel deterioration rate.

### Rehabilitation Alternative

### ORIGINAL SCOPE OF WORK -

Develop one rehabilitation concept for keeping the bridge open at its current 2012 load limit for a 25 year period.

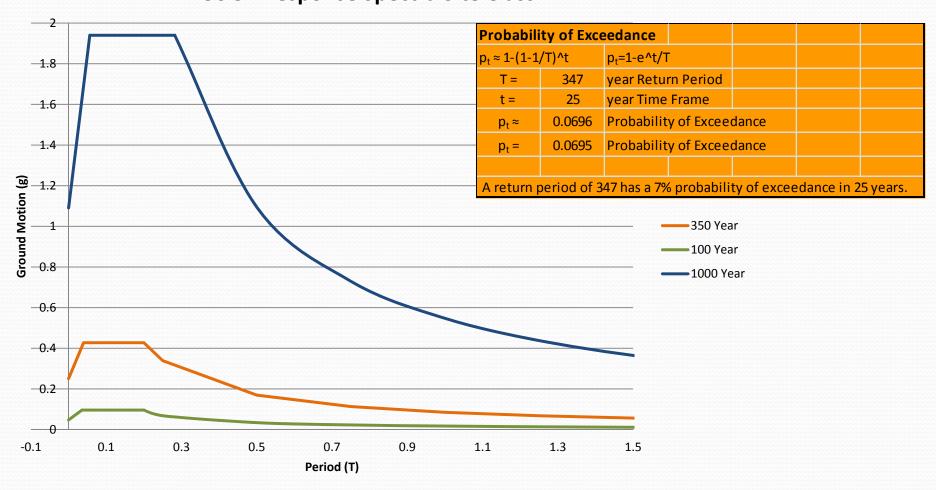
- Based on the current SR and load rating
- a) Is the original scope of work language acceptable?
- b) Should the rehabilitation concept include member strengthening to improve the SR and load rating?
- c) If so, to which level IR, OR, KY Legal Loads?

### Rehabilitation Alternative

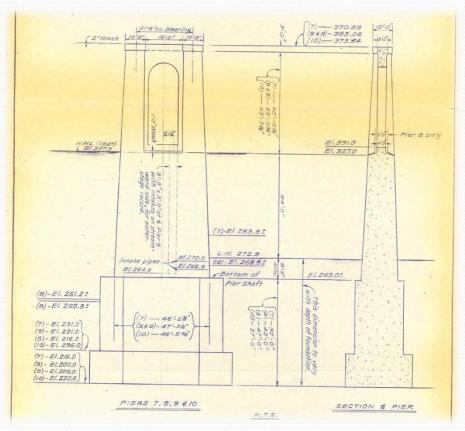
- Potential Rehabilitation Options
- a) Repairs recommended from biennial inspections.
- b) Deck replacement
- c) Apply paint system to full length of bridge
- d) Strengthening of members (IR, OR, or Legal Loads)
- e) Replacement/retrofit of cantilever spans in KY approach.
- f) Bearing replacement / retrofit
- g) Other(s)

- Existing Conditions
- a) River piers
- Not originally designed for seismic forces
- Piers supported on caissons founded on clay layer
- b) Existing Assessment "Do Nothing"
- Return Period
  - 1000yr (7% exceedance in 75 years)
- Severe Damage or Collapse is likely

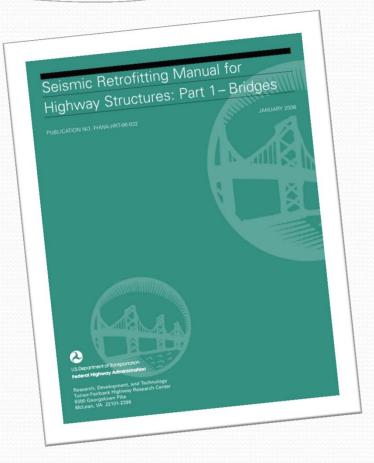
**US 51 Response Spectra Site Class B** 



- Superstructure Replacement
- a) Return Period 1000 year
- b) Foundation Modifications
- c) Pier Stem Encasement



- Rehabilitation Options
- a) Should Seismic be Considered?
  - a) Per SRM > Bridge is not exempt.
- b) Return Period
- (100yr 1000yr) FHWA
- 350yr based on 7% exceedance for 25yr service life
- b) Bearings / Restrainers
- Anchor bolts
- Replacement
- c) Piers
- Pier Shaft strengthening?
- Foundation strengthening?
- d) <u>Superstructure</u>
- Requires further study

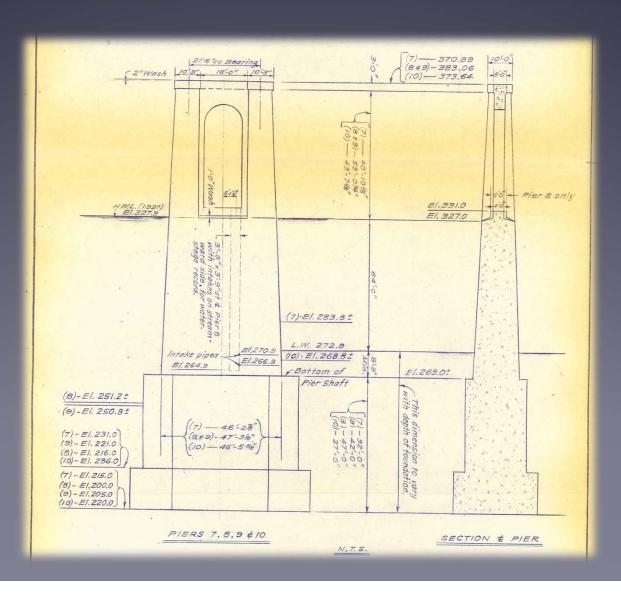


# Bearings





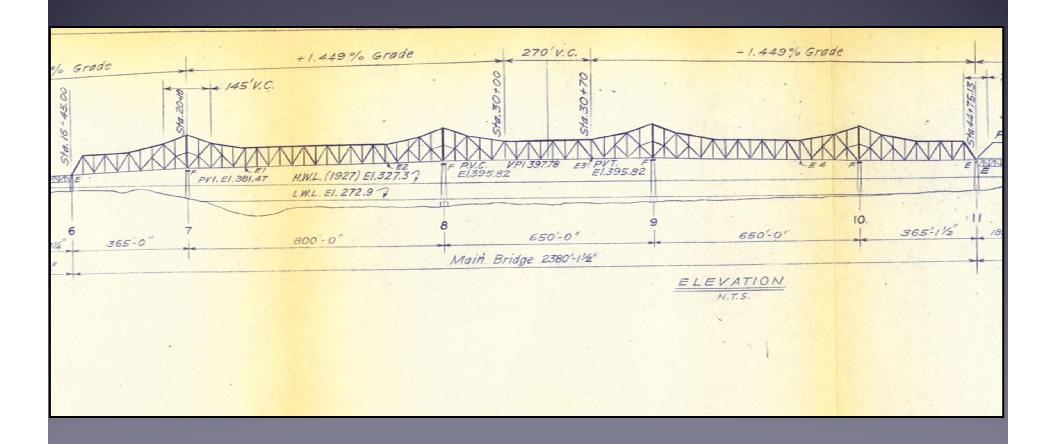
# **River Piers**



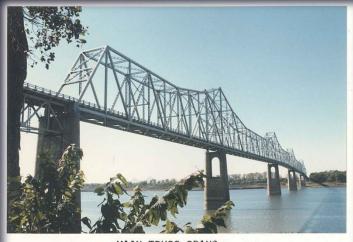
# River Piers



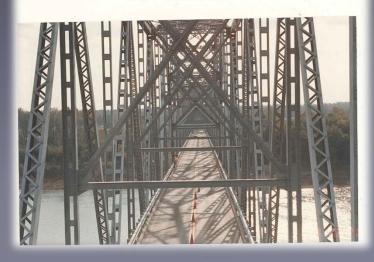
## Truss Elevation



## **Truss Elevation**

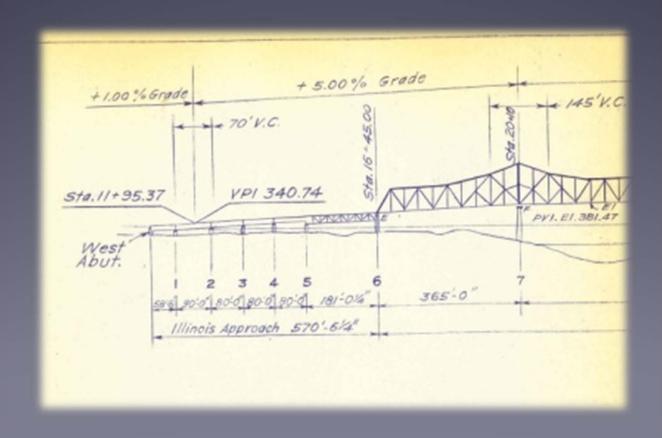


MAIN TRUSS SPANS





# West Approach

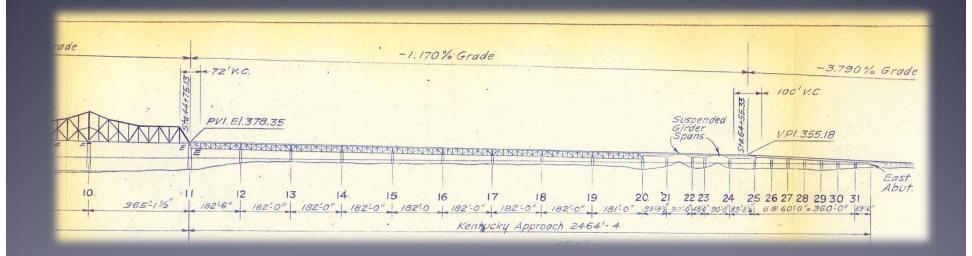


# West Approach





# East Approach



# East Approach







### Section 4:

Misc. Agency Coordination

From: Wright, Samantha J

**Sent:** Thursday, May 30, 2013 11:58 PM

To: Harper, Leonard S.
Cc: Mettille, John L.
Subject: FW: Cairo Bridge

Follow Up Flag: Follow up Flag Status: Flagged

Please note for the next phase – Mr. Holth will want to request Consulting Party status.

Please note the change in email address below.

Samantha Jones Wright, PE Transportation Engineer CDM Smith 1648 McGrathiana Parkway Suite 340 Lexington, KY 40511 859-254-5759 ext. 109 859-333-0138 (cell) wrightsj@cdmsmith.com

From: McGregor, Mike (KYTC-D01) [mailto:Mike.McGregor@ky.gov]

Sent: Thursday, May 30, 2013 11:57 AM

To: 'Nathan Holth'

Cc: 'Kitty Henderson'; McGregor, Mike (KYTC-D01); Wright, Samantha J; Beyer, Blake (KYTC-D01); Turner, Rebecca

(KYTC)

Subject: RE: Cairo Bridge

Dear Mr. Holth,

Thank you for your inquiry regarding the US 51 Ohio River Bridge. The Kentucky Transportation Cabinet (KYTC) has undertaken a long-term planning process to consider options for rehabilitating or replacing the existing bridge; there are no construction activities planned at this time. KYTC expects to recommend a preferred alternative(s) in the fall of 2013.

The US 51/Cairo Bridge (#4-005-B00021) was determined potentially eligible in KYTC's 1996 historic bridge evaluation. It is one of two extant cantilever bridges constructed during the period of the Great Depression and World War II (1935-1945) in the Purchase Region of Kentucky. The KY SHPO concurred with the eligibility findings of the 1996 survey. The US 51 Bridge is also identified as an NRHP eligible resource in Illinois SHPO records.

Coordination under the National Environmental Policy Act (NEPA), including Section 106 Consultation, will begin under the next phase of project development – Preliminary Engineering and Environmental Studies. This phase of work would likely start sometime in early 2014. At that time, KYTC will accept requests from potential Consulting Parties and we will keep your consulting party request on file and let you know of your acceptance as a consulting party as the project moves forward.

Sincerely,

Michael P. McGregor, P.E. Transportation Branch Manager

for Project Development

Office of Highway District One 5501 Kentucky Dam Road Paducah, KY 42003 0: 270-898-2431 0:270-994-1908

From: Nathan Holth [mailto:nathan@historicbridges.org]

Sent: Thursday, May 23, 2013 8:37 PM

To: McGregor, Mike (KYTC-D01)

Cc: 'Kitty Henderson' Subject: Cairo Bridge

#### Mr. McGregor:

It is my understanding that the Kentucky Transportation Cabinet has undertaken a study to rehabilitate or replace the iconic historic US-51 Ohio River Bridge near Cairo, Illinois. Due to demolition, historic cantilever truss bridges, once common on the Ohio River, are rapidly becoming rare. This is one of the most impressive surviving examples on the Ohio River. It was designed by a firm that was started by Ralph Modjeski, one of the most famous bridge engineers in America. Am I correct in assuming that the bridge is eligible for listing in the National Register of Historic Places, and that either federal permitting or federal funding will require the conduct of a Section 106 Review for this project? If so, could you please let me know when Section 106 will take place, and who I should email to request Consulting Party status for the project. I am the author of <a href="https://www.historicbridges.org">www.historicbridges.org</a> and I am increasingly concerned about the loss of long-span cantilever truss bridges nationwide, and would like the opportunity to comment and provide input on the development of alternatives to avoid, minimize, or mitigate any adverse effect to this particularly impressive historic bridge.

Thanks,

-Nathan Holth

\_\_\_\_\_

#### **Nathan Holth**

Author/ Photographer/Webmaster

----HistoricBridges.org-----

"Promoting the Preservation Of Our Transportation Heritage"

Mailing Address:

12534 Houghton Drive

Dewitt, MI, 48820

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269-290-2593

nathan@historicbridges.org

www.historicbridges.org

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**Disclaimer:** HistoricBridges.org is a volunteer group of private citizens. HistoricBridges.org is NOT a government agency, does not represent or work with any governmental agencies, nor is it in any way associated with any government agency or any non-profit organization. While we strive for accuracy in our factual content, HistoricBridges.org offers no guarantee of accuracy. Opinions and commentary are the opinions of the respective HistoricBridges.org member who made them and do not necessarily represent the views of anyone else. HistoricBridges.org does not bear any responsibility for any consequences resulting from the use of this communication or any other HistoricBridges.org information. Owners of bridges have the responsibility of correctly following all applicable laws, rules, and regulations, regardless of any HistoricBridges.org communications or information.

\_\_\_\_\_

### Section 5:

Invitations to Participate in Section 6002 Process



Steven L. Beshear Governor

Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

February 22, 2013

Anthony Goodman Environmental Specialist Kentucky Division, Federal Highway Administration John C. Watts Federal Building 330 West Broadway Frankfort, Kentucky 40601 Ryan Tenges Transportation Engineer Kentucky Division, Federal Highway Administration John C. Watts Federal Building 330 West Broadway Frankfort, Kentucky 40601

RF:

KYTC Study of the US 51 Bridge between Wickliffe, Kentucky and Cairo, Illinois

(KYTC Item No. 1-100.00 and 1-1140.00)

Dear Mr. Goodman/Mr. Tenges,

The Kentucky Transportation Cabinet is initiating a study of improvement options for the US 51 Ohio River crossing between Wickliffe, Kentucky and Cairo, Illinois. We would like to request FHWA's participation on our design team to guide the development of this study of the US 51 Bridge.

Completed in 1937, the US 51 Bridge remains an important link across the river for communities in both states, carrying about 6,800 vehicles per day. The goal of the project is to identify options for a constructible and affordable structure that will improve safety and the substandard load capacity of the functionally obsolete bridge. Please see the enclosed Project Fact Sheet for additional information.

The project is being led by KYTC District 1 staff and I will be the Cabinet's Project Manager. KYTC will be working with our consultant team over the next year to complete the study, although the project team expects to develop preliminary recommendations by mid-August 2013. Project team coordination is expected to occur every 2-3 weeks, primarily through phone conference meetings. In order to meet the schedule for this project, we have established a fairly aggressive timeline. Please see the enclosed schedule for key deliverables and coordination points.

We invite you to join our design team for the project. If you wish to discuss this request or this project, please feel free to call me:

Mike McGregor KYTC District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 Phone: (270) 898-2431

Email: Mike.McGregor@ky.gov

We look forward to working together to find the right solution for the US 51 bridge and for cross-river mobility between the two states.

Yours respectfully,

Mike McGregor

Transportation Branch Manager for Project Development

**KYTC District 1** 

Enclosure(s): Project Fact Sheet, Project Schedule





Steven L. Beshear Governor Frankfort, Kentucky 40622 www.transportation.ky.gov/ February 13, 2013 Michael W. Hancock, P.E. Secretary

Ms. Ann L. Schneider Secretary Illinois Department of Transportation 2300 South Dirksen Parkway Springfield, Illinois 62764-0001

Dear Secretary Schneider:

The Kentucky Transportation Cabinet (KYTC) is initiating a Kentucky-funded study of improvement options for the US 51 Ohio River crossing between Wickliffe, Kentucky and Cairo, Illinois. We would like to request the Illinois Department of Transportation's participation on our design team to guide the development of this study of the US 51 Bridge.

Completed in 1937, the US 51 Bridge remains an important link across the river for communities in both states, carrying about 6,800 vehicles per day. The goal of the project is to identify options for a constructible and affordable structure that will improve safety and the substandard load capacity of the existing functionally obsolete bridge. The project is being led by KYTC District 1 staff, with Mike McGregor as KYTC's Project Manager. Mr. McGregor will be working with KYTC's consultant team over the next year to complete the study, although the project team expects to develop preliminary recommendations by mid-August 2013. Project team coordination is expected to occur every 2-3 weeks, primarily through phone conference meetings.

We invite you to identify a member of your staff to join our design team for the project. Your representative may contact Mr. McGregor with any questions, his contact information is:

Mike McGregor KYTC District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 Phone: (270) 898-2431

Email: Mike.McGregor@ky.gov

We look forward to working together to find the right solution for the US 51 bridge and for cross-river mobility between our two states.

Sincerely,

Michael W. Hancock, P.E.

Secretary

MWH/MM

c: Steve Waddle, State Highway Engineer
James LeFevre, Chief District Engineer, District 1/Paducah
Mike McGregor, District 1/Paducah





Steven L. Beshear Governor Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

March 15, 2013

Colonel David Dale, Jr U.S. Army Corps of Engineers, Louisville Distirct 600 Dr. Martin Luther King Place Lousiville, KY 40202

Subject:

Invitation to Become Participating Agency and Cooperating Agency (pursuant to **Section 6002 of SAFETEA-LU**) for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois.

Dear Colonel Dale,

The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The project area is shown on the attached study area map. The purpose of this project is to replace/rehabilitate the existing 75 year old composite span bridge while providing a safe, reliable roadway and giving due consideration to future transportation needs and appropriate corridor alternatives. The purpose and need for this project will be further studied and defined as part of this project.

You are being asked to become a Participating Agency and a Cooperating Agency because your agency has been identified as one that may have an interest in or expertise about the project and/or that may have jurisdiction by law or special expertise with respect to any potential environmental impact that could significantly affect the quality of the human or natural environment. With this letter, we extend your agency an invitation to become a Participating Agency and Cooperating Agency with the project team in the development of the US 51 Ohio River Bridge Study. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the project.

Because you are a Federal agency, FHWA is requesting your participation in accordance with 40 CFR 1501.6 of the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provision of the National Environmental Policy Act.

The project team is planning an initial agency coordination meeting at 10:00 am CDT on Tuesday, April 30<sup>th</sup>, at the Kentucky Transportation Cabinet District 1 Office, 5501 Kentucky Dam Road, Paducah, Kentucky 42003. An on-line web meeting option will be provided for remote participation. Please save this date to participate in the initial coordination meeting. The



focus of the meeting will be on the project's Purpose and Need and Screening Criteria. Additional details regarding the meeting will be provided as they are developed by the project team.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. The expectations of a Participating Agency are as follows:

- 1. Respond in writing to this letter of invitation within 30 days;
- 2. Identify issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;
- 3. Identify issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- 4. Provide input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- 5. Provide input on the Agency Coordination Plan and schedule; and
- 6. Participate as needed in issues resolution processes.

The expectations of a Cooperating Agency are as follows:

- 1. Identifying issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;
- 2. Identifying issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- 3. Sharing information that may be useful to other agencies related to the project;
- 4. Participating in meetings and field reviews;
- 5. Providing input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- 6. Responding in writing within 30 days to letters of invitation;
- 7. Assuming responsibility, at the request of the Federal Lead Agency, for preparing analyses in the Cooperating Agency's area of expertise;
- 8. Having support staff available to assist the Federal Lead Agency at its request;
- 9. Using their own resources and funds; and
- 10. Reviewing and commenting on draft and final environmental documents.

Federal agencies may choose to only become Cooperating Agencies.

Please respond to KYTC in writing with an acceptance or denial of the invitation prior to April 15, 2013. Please include your preferred contact information for future coordination efforts, including contact name, mailing address and/or email, if preferred.

If your agency declines, please state your reason for declining the invitation. Pursuant to SAFETEA-LU Sec. 6002, any Federal agency that chooses to decline the invitation to be a participating agency must specifically state in its response that it:

- Has no jurisdiction or authority with respect to the project;
- Has no expertise or information relevant to the project; and
- Does not intend to submit comments on the project.

If you have any questions or would like to discuss in more detail the project or your agencies' respective roles and responsibilities during this project, please contact me at (270) 898-2431 or via email at <a href="Mike.McGregor@ky.gov">Mike.McGregor@ky.gov</a>. Thank you for your cooperation and interest in this project.

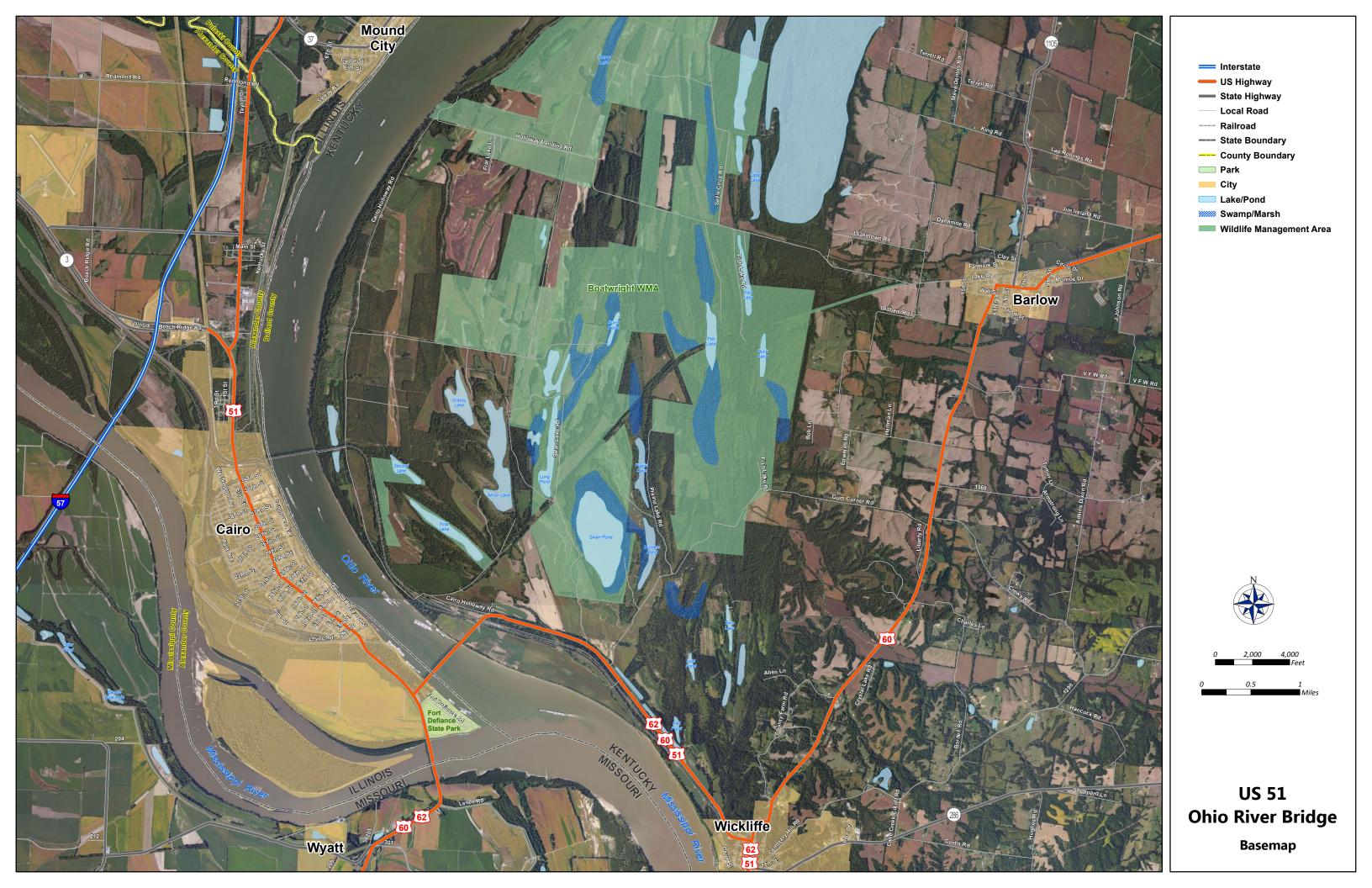
Sincerely,

Mike McGregor

Transportation Branch Manager for Project Development

Enclosures: Project Area Map

Mill P. May



#### **Cooperating Agency Initiation Letters**

Sent March 15, 2013

#### Recipients:

Colonel David Dale Jr District Engineer U. S. Army Corps of Engineers, Louisville District 600 Dr. Martin Luther King Place Louisville, KY 40202

Mr. David Orzechowski U.S. Coast Guard, Bridge Branch 1222 Spruce Street, Room 2.102D St. Louis, MO 63013

U.S. Environmental Protection Agency, Region 4 Office Sam Nunn Atlanta Federal Center 61 Forsyth Street, SW Atlanta, GA 30303

Kentucky Environmental and Public Protection Cabinet Capital Plaza Tower 500 Mero Street, 5th Floor Frankfort, KY 40601

Illinois Environmental Protection Agency 1021 North Grand Avenue East P.O. Box 19276 Springfield, IL 62794



Steven L. Beshear Governor Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

March 15, 2013

Gerry Van Der Meer Department of Parks 500 Mero Street 10<sup>th</sup> Floor, Capital Plaza Tower Frankfort, KY 40601

RE: Invitation to Become Participating Agency (pursuant to **Section 6002 of SAFETEA-LU**) for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois.

Dear Mr. Van Der Meer:

The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The project area is shown on the attached study area map. The purpose of this project is to replace/rehabilitate the existing 75 year old composite span bridge while providing a safe, reliable roadway and giving due consideration to future transportation needs and appropriate corridor alternatives. The purpose and need for this project will be further studied and defined as part of this project.

You are being asked to become a Participating Agency because your agency has been identified as one that may have an interest in or expertise about the project. With this letter, we extend your agency an invitation to become a Participating Agency with the project team in the development of the US 51 Ohio River Bridge Study. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the project.

The project team is planning an initial agency coordination meeting at 10:00 am CDT on Tuesday, April 30<sup>th</sup>, at the Kentucky Transportation Cabinet District 1 Office, 5501 Kentucky Dam Road, Paducah, Kentucky 42003. An on-line web meeting option will be provided for remote participation. Please save this date to participate in the initial coordination meeting. The focus of the meeting will be on the project's Purpose and Need and Screening Criteria. Additional details regarding the meeting will be provided as they are developed by the project team.

Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or



socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project.

The expectations of a Participating Agency are as follows:

- 1. Respond in writing to this letter of invitation within 30 days;
- 2. Identify issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;
- 3. Identify issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- 4. Provide input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- 5. Provide input on the Agency Coordination Plan and schedule; and
- 6. Participate as needed in issues resolution processes.

Please respond to the KYTC in writing with an acceptance or denial of the invitation prior to April 15, 2013. Please include your preferred contact information for future coordination efforts, including contact name, mailing address and/or email, if preferred. If your agency declines, please state your reason for declining the invitation.

If you have any questions or would like to discuss in more detail the project or your agencies' respective roles and responsibilities during this project, please contact me at (270) 898-2431 or via email at <a href="Mike.McGregor@ky.gov">Mike.McGregor@ky.gov</a>. Thank you for your cooperation and interest in this project.

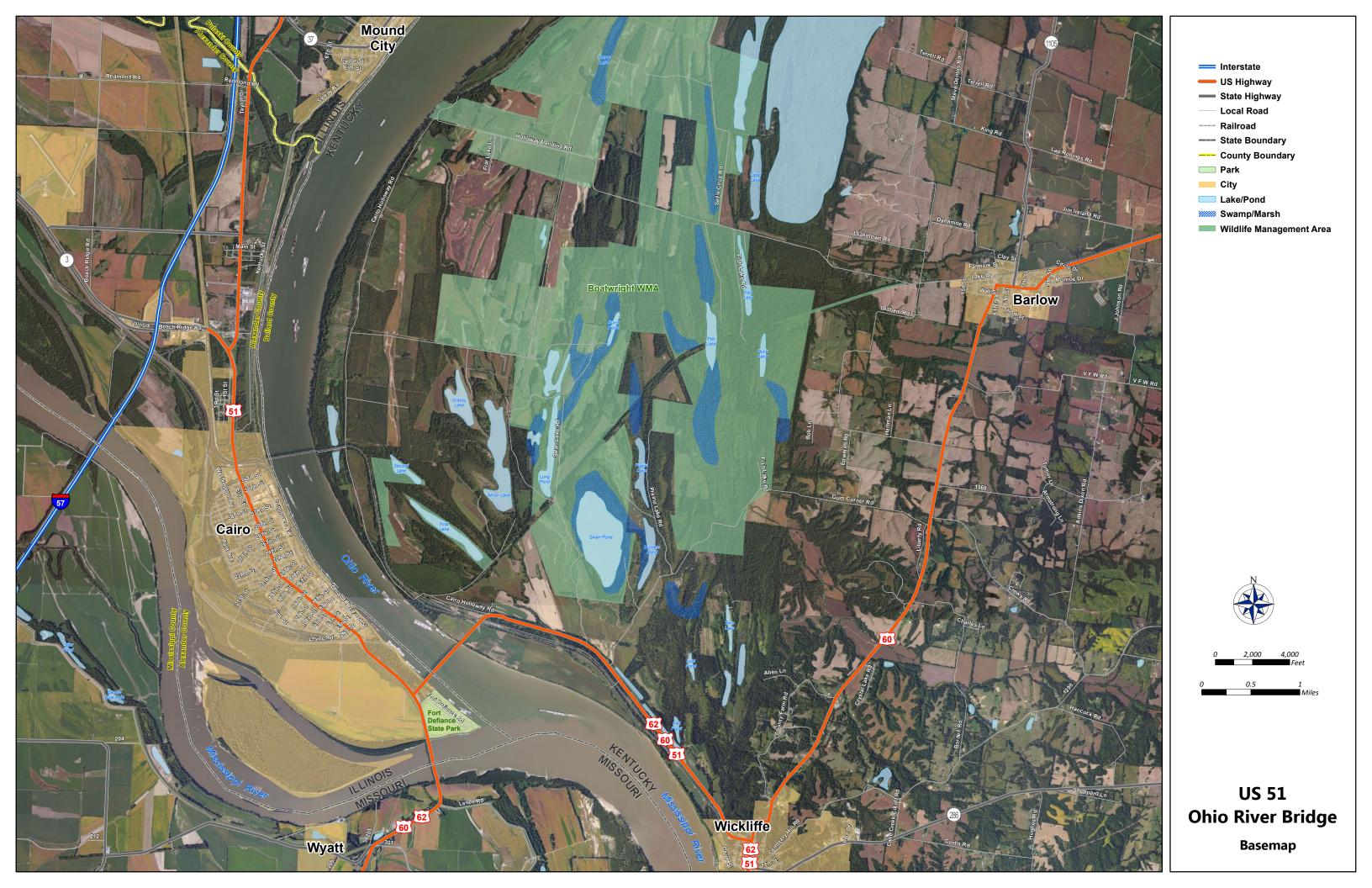
Sincerely,

Mike McGregor

Transportation Branch Manager for Project Development

Enclosures: Project Area Map

Mill P. May



#### Participating Agency Initiation Letters (Round 1)

Sent March 15, 2013

Recipients:

Gerry Van Der Meer
Department of Parks
500 Mero Street/10th Floor, Capital Plaza Tower
Frankfort, KY 40601

William Straw
Federal Emergency Management Agency, Region IV
3003 Chamblee-Tucker Road
Atlanta, GA 30341-4130

Cheryl A. Taylor
Kentucky Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Carl Campbell
Kentucky Department of Nat'l. Resources
#2 Hudson Hollow
Frankfort, KY 40601

John Adams Kentucky Department of State Police 919 Versailles Road Frankfort, KY 40601

Leah W. MacSwords Kentucky Division of Forestry 627 Comanche Trail Frankfort, KY 40601

Anthony Hatton
DEP Division of Waste Management
200 Fair Oaks, 2nd Floor
Frankfort, KY 40601

Larry Hayes Kentucky Cabinet for Economic Development Old Capitol Annex, 300 West Broadway Frankfort, KY 40601 George Crothers

Dept. of Anthropology, University of Kentucky
1020A Export Street
Lexington, KY 40506

James Comer
Kentucky Department of Agriculture
107 Corporate Drive
Frankfort, KY 40601

Dr. Jonathan Gassett
Kentucky Department of Fish and Wildlife Resources
1 Sportsman's Lane
Frankfort, KY 40601

Stephen A. Coleman
Kentucky Department of Nat'l. Resources
#2 Hudson Hollow
Frankfort, KY 40601

John Lyons Kentucky Division of Air Quality 200 Fair Oaks, 2nd Floor Frankfort, KY 40601

> Lt. Colonel Jack Miniard Kentucky State Police 919 Versailles Road Frankfort, KY 40601

> Sandy Gruzesky DEP Division of Water 200 Fair Oaks, 4th Floor Frankfort, KY 40601

Jim Cobb Kentucky Geological Survey, University of Kentucky 228 Mining and Mineral Resources Bldg. Lexington, KY 40506 Mark Dennen Kentucky Heritage Council 300 Washington Street Frankfort, KY 40601

Jamie Fipke
Kentucky Motor Transport Association
617 Shelby Street
Frankfort, KY 40601

Donald S. Dott Kentucky Nature Preserves 801 Schenkel Lane Frankfort, KY 40601

Beecher Hudson Kentucky Public Transit Association c/o Louisville Red Cross/P.O. Box 1675 Louisville, KY 40201

Marchetta Sparrow Kentucky Commerce Cabinet 500 Mero Street/Capital Plaza Tower, 24th Floor Frankfort, KY 40601

Joseph Meyer
Education and Workforce Cabinet
500 Mero Street/Capital Plaza Tower, 3rd Floor
Frankfort, KY 40601

Thomas Perrin
U.S. Dept. of Agriculture, Natural Resources Conservation
771 Corporate Drive, Suite 210
Lexington, KY 40503

Colonel David Dale, Jr.
U. S. Army Corps of Engineers, Louisville District
600 Dr. Martin Luther King Place
Louisville, KY 40202

Buddy Yount
Federal Motor Carrier Safety Administration
332 West Broadway, Room 124
Frankfort, KY 40601

Kent Whitworth Kentucky Historical Society 100 W. Broadway Frankfort, KY 40601

Leonard Peters
Kentucky Energy and Environmental Cabinet
500 Mero Street/Capital Plaza Tower, 5th Floor
Frankfort, KY 40601

Vickie Bourne
Kentucky Office of Transportation Delivery
200 Mero Street/Transportation Office Building, 3rd Floor
Frankfort, KY 40622

Ray Berggren Kentucky Tourism Council 612 Shelby Street, #2 Frankfort, KY 40601

Bart Asher KYTC, Geotech Branch 1236 Wilkinson Boulevard Frankfort, KY 40622

Jeff Lape Environmental Programs Branch 1650 Arch Street/U.S. EPA Region 3 Philadelphia, PA 19103

Lee Andrews
U.S. Dept. of the Interior, Fish and Wildlife Service
330 W. Broadway, Suite 264
Frankfort, KY 40601

Krista Mills
U.S. Department of Housing & Urban Development
601 West Broadway
Louisville, KY 40202

American Association of Truckers P.O.Box 146 Benton, KY 42025



Steven L. Beshear Governor Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

April 9, 2013

Beth Hurt
Ballard County Chamber of Commerce & Tourism Community Center
P.O. Box 322
547 West Kentucky Drive
LaCenter, KY 42506

RE: Invitation to Become Participating Agency (pursuant to **Section 6002 of SAFETEA-LU**) for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois.

Dear Ms. Hurt:

The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The project area is shown on the attached study area map. The purpose of this project is to replace/rehabilitate the existing 75 year old composite span bridge while providing a safe, reliable roadway and giving due consideration to future transportation needs and appropriate corridor alternatives. The purpose and need for this project will be further studied and defined as part of this project.

You are being asked to become a Participating Agency because your agency has been identified as one that may have an interest in or expertise about the project. With this letter, we extend your agency an invitation to become a Participating Agency with the project team in the development of the US 51 Ohio River Bridge Study. This designation does not imply that your agency either supports the proposal or has any special expertise with respect to evaluation of the project.

The project team is planning an initial agency coordination meeting at 10:00 am CDT on Tuesday, April 30<sup>th</sup>, at the Kentucky Transportation Cabinet District 1 Office, 5501 Kentucky Dam Road, Paducah, Kentucky 42003. An on-line web meeting option will be provided for remote participation. Please save this date to participate in the initial coordination meeting. The focus of the meeting will be on the project's Purpose and Need and Screening Criteria. Additional details regarding the meeting will be provided as they are developed by the project team.



Pursuant to Section 6002 of SAFETEA-LU, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project.

The expectations of a Participating Agency are as follows:

- 1. Respond in writing to this letter of invitation within 30 days;
- 2. Identify issues of concern regarding the project's environmental or socioeconomic impacts in a timely manner;
- 3. Identify issues that could substantially delay or prevent necessary permits/approvals for the project in a timely manner;
- 4. Provide input on the purpose and need, methodologies, and alternatives within 30 days of receipt of relevant materials;
- 5. Provide input on the Agency Coordination Plan and schedule; and
- 6. Participate as needed in issues resolution processes.

Please respond to the KYTC in writing with an acceptance or denial of the invitation prior to April 29, 2013. Please include your preferred contact information for future coordination efforts, including contact name, mailing address and/or email, if preferred. If your agency declines, please state your reason for declining the invitation.

If you have any questions or would like to discuss in more detail the project or your agencies' respective roles and responsibilities during this project, please contact me at (270) 898-2431 or via email at <a href="Mike.McGregor@ky.gov">Mike.McGregor@ky.gov</a>. Thank you for your cooperation and interest in this project.

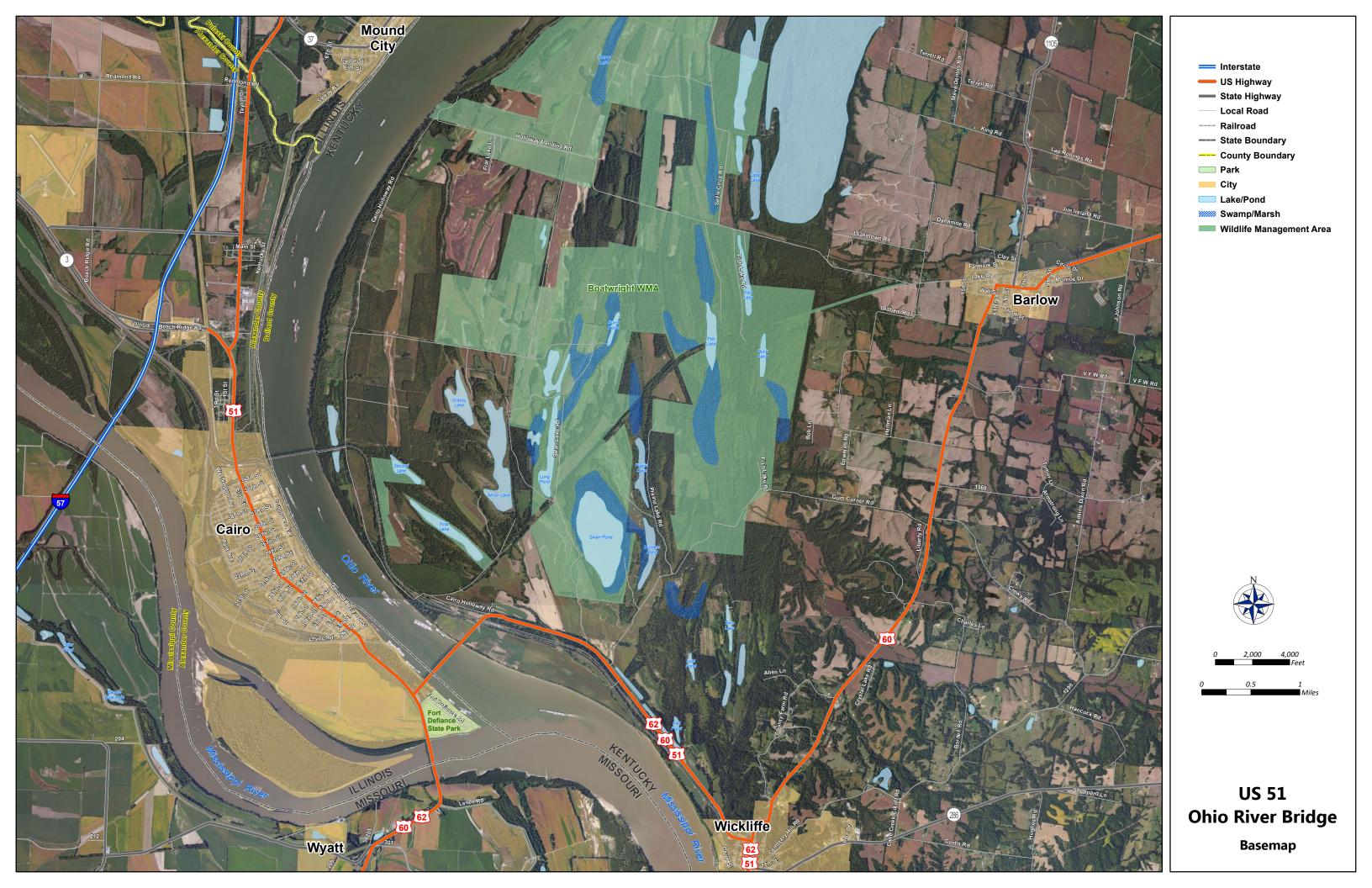
Sincerely,

Mike McGregor

Transportation Branch Manager for Project Development

Enclosures: Project Area Map

Mill P. May



#### **Participating Agency Initiation Letters**

Sent April 8-9, 2013

#### **Recipients**:

Ballard County Road Department 326 Lake Drive Barlow, KY 42024

Jennifer Beck-Walker Executive Director Purchase Area Development District 1002 Medical Drive Mayfield, KY 42066

Bethany Cain City Clerk City of Wickliffe 321 Court Street Wickliffe, KY 42087

Mayor Chan Chase City of Wickliffe 321 Court Street Wickliffe, KY 42087

Beth Hurt
Executive Director
Ballard County Chamber of Commerce
and Tourism Community Center
547 West Kentucky Dr.
LaCenter, KY 42056

Vickie Viniard
Ballard County Judge/Executive
P.O. Box 276
Wickliffe, KY 42087

Wickliffe Public Works Director 566 Westvaco Road Wickliffe, KY 42087

Mayor John Wood City of Barlow 139 North 4th Street Barlow, KY 42024 Anne Haaker Illinois Historic Preservation Agency 1 Old Capitol Plaza Springfield, IL 62701

Steve Hamer Transportation Review Program Manager Illinois Department of Natural Resources 1 Natural Resources Way Springfield, IL 62707

Terry Savko
Illinois Department of Agriculture
P.O. Box 19281
Springfield, IL

Thomas Emerson Illinois State Archaeological Survey 23 E. Stadium Drive Champaign, IL 61820

Terrance Martin Illinois State Museum 1011 East Ash Street Springfield, IL 62703

Jerry Smith Chairman Alexander-Cairo Port District jerrysmith1952@gmail.com

Mayor Tyrone Coleman City of Cairo 1501 Washington Avenue Cairo, IL 62914

President Alvin Blumenberg Village of East Cape 50 Brookwood Drive McClure, IL 62957

President Cheryle Dillon Village of McClure PO Box 117 McClure, IL 62957 President Lamar Houston Village of Tamms PO Box 69 Tamms, IL 62988

President John Kennedy Village of Thebes PO Box 159 Thebes, IL 62990

President Craig Bradley Village of Karnak PO Box 264 Karnak, IL 62956

Mayor Sam Johnson City of Mound City 204 N Main Street Mound City, IL 62963

President Waymon Butler Village of Mounds 315 N McKinley Street Mounds, IL 62964

President Kent Dover Village of Grand Chain PO Box 17 Grand Chain, IL 62941

President Curtis Marshall Village of Olmsted PO Box 188 Olmsted, IL 62970

President Dean Rogan Village of Pulaski PO Box 193 Pulaski, IL 62976

President Mike DeWitt Village of Ullin PO Box 63 Ullin, IL 62992

Commissioner Harold McNelly Alexander County Commissioners 28749 Bean Ridge Road Thebes, IL 62990 Commissioner Rollie Matlock Alexander County Commissioners Rt. 1, Box 349, McClure McClure, IL 62990

Commissioner Chalen Tatum Alexander County Commissioners 23427 Brownville Road Thebes, IL 62990

Commissioner Monte Russell Pulaski County Commissioners 8 Bogan Lane, Villa Ridge Villa Ridge, IL 62996

Commissioner Rex Wilburn Pulaski County Commissioners 1355 Eastwood Road Pulaski, IL 62976

Commissioner David Sharp Pulaski County Commissioners 935 E. Cedar St. Olmsted, IL 62970

Lisa Thurston Southern Five Regional Planning District 219 Rustic Campus Drive Ullin, IL 62992

Lyndell Hubbard Pulaski County Development Assoc. PO Box 192 Grand Chain, IL 62941

Tabatha Smith SIDEZ Director 330 Enterprise Lane Mounds, IL 62964

Monica Smith Cairo Chamber of Commerce P.O. Box 824 Cairo, IL 62914

Jeff Denny Alexander County Highway Engineer P.O. Box 216 Olive Branch, IL 62969

Stacey Earnhart Pulaski County Highway Engineer P. O. Box 97 Villa Ridge, IL 62996



## United States Department of the Interior

FISH AND WILDLIFE SERVICE Kentucky Ecological Services Field Office 330 West Broadway, Suite 265 Frankfort, Kentucky 40601 (502) 695-0468

March 20, 2013

Mr. Mike McGregor Transportation Cabinet Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003

Re:

FWS 2013-B-0279; KYTC 1-100.00 & 1-1140.00; US 51 bridge replacement over the

Ohio River; located in Ballard County

Dear Mr. McGregor:

Thank you for the invitation to become a Participating Agency with the project team in the development of the US 51 Ohio River Bridge Study. We accept the invitation as we have an interest in the proposed project due to the high number of federal trust resources in the vicinity of the project area.

The contacts for future coordination on this project are Phil DeGarmo, phil\_degarmo@fws.gov, and Lee Andrews, lee andrews@fws.gov.

Thank you again for considering us in the planning process of this project.

Sincerely,

Virgil Lu Carolin / Virgil Lee Andrews, Jr.

Field Supervisor

#### Harper, Leonard S.

To: Wright, Samantha J

Subject: RE: Response to invitation to become a participating agency: US 51 Ohio river Bridge Study

From: Price, Ronald (EEC)

Sent: Wednesday, March 20, 2013 1:00 PM

To: McGregor, Mike (KYTC-D01)

Cc: Keatley, Aaron (EEC); Price, Ronald (EEC)

Subject: Response to invitation to become a participating agency: US 51 Ohio river Bridge Study

Mr. McGregor,

I am responding to your letter dated March 15, 2013 regarding the invitation for the Kentucky Department for Environmental Protection to become a participating agency for the "US51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois."

The department agrees to participate on this project and I will be representing the agency on this project; my contact information is below.

Ronald T. Price
Executive Staff Advisor
Office of the Commissioner
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601
(502) 564-2150 x. 3125
(502) 564-4245 (fax)

Email: ronald.price@ky.gov

This email message is for the sole use of the intended recipient(s) and may contain confidential and privileged information.

If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message.



Mike McGregor Kentucky Transportation Cabinet District Office 1 5501 Kentucky Dam Road Paducah, KY 42003

March 21, 2013

Kentucky Geological Survey

Research 504 Rose Street 228 Mining & Mineral Resources Bldg. Lexington, KY 40506-0107

Phone: (859) 257-5500 Fax: (859) 257-1147 www.uky.edu/kgs

Mike,

The Kentucky Geological Survey would be pleased to become a Participating Agency for the US-51 Ohio River Bridge Study. I have designated Dave Williams in our western Kentucky office to be the primary contact for future communications.

Two other individuals will likely be involved in providing input during the study; both are in our Lexington office. William Andrews is head of our geologic mapping section and has expertise in the geologic materials and landforms underlying the study area. Zhenming Wang is head of our Geologic Hazards section and has expertise in seismology and landslide hazards.

Jerry Weisenfluh, Associate Director

Dave Williams 1401 Corporate Ct. Henderson, KY 42420 270-827-3414 Williams@uky.edu

William Andrews
228 MMRB
University of Kentucky
Lexington, KY 40506
859-323-0506
Wjandr00@email.uky.edu

Zhenming Wang 228 MMRB University of Kentucky Lexington, KY 40506 859-323-0564 zmwang@uky.edu



1222 Spruce Street, Room 2.102D St. Louis, MO 63103-2832 Staff Symbol: dwb Phone: (314)269-2382 Fax: (314)269-2737 Email:david.a.orzechowskir@uscg.mil/www.uscg.mil/d8/westernriversbridges

16591.1/980.41 OHR March 21, 2013

Mr. Michael McGregor
Transportation Branch Manager for
Project Development
Kentucky Transportation Cabinet
Department of Highways, District 1 Office
5501 Kentucky Dam Road
Paducah, KY 42003

Subj: CAIRO BRIDGE REPLACEMENT, MILE 980.4, OHIO RIVER

Dear Mr. McGregor:

This is in reply to your letter of March 15, 2013, concerning the proposed bridge project at Mile 980.4, Ohio River.

The General Bridge Act of 1946 requires that the location and plans for bridges over navigable waters of the United States be approved by the Commandant, U.S. Coast Guard prior to commencing construction. The Ohio River is considered to be a navigable waterway of the United States for bridge administration purposes at the bridge site.

Applications for bridge permits should be addressed to Commander (dwb), Eighth Coast Guard District, 1222 Spruce Street, St. Louis, Missouri 63103-2832, Attention: Bridge Branch. The application must be supported by sufficient information to permit a thorough assessment of the impact of the bridge and its immediate approaches on the environment. We recommend that the impacts of procedures for constructing cofferdams, sand islands, and falsework bents, etc., that will be employed to build the bridge and demolish the old bridge be discussed. The Environmental Impact Statement (EIS) should also contain data on the number, size and types of vessels currently using the waterway. This information should be compared with past and projected future trends on the use of the waterway.

We agree to serve as a Cooperating Agency for the project from a navigation standpoint. We should be given the opportunity to review the EIS. Our review and recommendations on the vertical and horizontal clearance requirements for river traffic will be coordinated with the Kentucky Transportation Cabinet, Bridge and Structure Division office.

We appreciate the opportunity to comment on the project in this early stage. You can contact Mr. David Orzechowski at the above telephone number if you have questions regarding our comments or requirements.

Sincerely,

ERIC A. WASHBURN

Bridge Administrator, Western Rivers By direction of the District Commander

#### Harper, Leonard S.

To: Wright, Samantha J

Subject: RE: US 51 Ohio River Bridge Study

From: Forgacs, Joe (EEC)

Sent: Thursday, March 21, 2013 10:20 AM

To: McGregor, Mike (KYTC-D01)

Subject: US 51 Ohio River Bridge Study

Hi Mike,

I received your letter to John Lyons, DAQ's Director, that is dated March 15<sup>th</sup>. As indicated in you letter, there is an online web meeting option for remote participation purposes. Do you know of any KYTC Central Office contacts who are also involved in this project? Justin Harrod from KYTC mentioned that Tom Koos might be a contact.

Any information you could provide would be greatly appreciated. Thank you.

Have a good week...

#### Joe Forgacs, Environmental Technologist III

Kentucky Division for Air Quality Program Planning & Administration Branch Evaluation Section

Phone: (502) 564-3999, extension 4422

Fax: (502) 564-4666

E-mail: <u>Joe.Forgacs@ky.gov</u>

## Harper, Leonard S.

**To:** Wright, Samantha J **Subject:** RE: Ohio River Bridge

From: Spade, Holland (CED)

Sent: Tuesday, March 26, 2013 10:52 AM

**To:** McGregor, Mike (KYTC-D01) **Subject:** Ohio River Bridge

#### Mike,

Secretary Hayes has asked that I represent the Cabinet on this committee. Happy to do so although I have no expertise re transportation planning or bridges. I will try to get some information re the local economy and any large industrial plants in the area. See you on April 30<sup>th</sup>.

#### Hollie

Holland B. Spade Chief of Staff Cabinet for Economic Development 300 W. Broadway Frankfort, Kentucky 40601 (502)-564-7670 (502)-229-5679 (Blackberry)



## KENTUCKY STATE NATURE PRESERVES COMMISSION

Steven L. Beshear Governor 801 Schenkel Lane Frankfort, Kentucky 40601-1132 Phone (502) 573-2886 Fax (502) 573-2355 http://naturepreserves.ky.gov **Dr. Leonard Peters**Secretary
Energy and
Environment Cabinet

**Donald S. Dott, Jr.** Director

## **MEMORANDUM**

TO:

Mike McGregor

Transportation Branch Manager for Project Development

FROM:

Deborah White, Natural Heritage Branch Manager

MM

DATE:

March 26, 2013

**SUBJECT:** 

**US 51 Ohio River Bridge Study** 

This memo is in reference to your letter dated March 15, 2013, inviting the Kentucky State Nature Preserves Commission (KSNPC) to become a "Participating Agency" as part of the US 51 Ohio River Bridge Study. The KSNPC accepts your invitation and our Data Manager, Sara Hines will attend the webinar on Tuesday, April 30. You may e-mail her at <a href="mailto:Sara.Hines@ky.gov">Sara.Hines@ky.gov</a> or call the phone number listed above if you wish to contact her.





STEVEN L. BESHEAR GOVERNOR

# TOURISM, ARTS AND HERITAGE CABINET DEPARTMENT OF PARKS WICKLIFFE MOUNDS STATE HISTORIC SITE

94 Green Street – PO Box 155 Wickliffe, Kentucky 42087 Phone 270-335-3681 Fax 270-335-5486 www.parks.ky.gov MARCHETA SPARROW SECRETARY

ELAINE N. WALKER
COMMISSIONER

April 2, 2013

Mike McGregor
Transportation Branch Manager for Project Development
Transportation Cabinet
Department of Highways District 1 Office
5501 Kentucky Dam Road
Paducah, KY 42003

RE: Invitation to Become Participating Agency (pursuant to Section 6002 of SAFETEA-LU) for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois.

Dear Mr. McGregor:

This letter is in response to your March 15, 2013 Invitation to become a participating agency for the US 51 Ohio River Bridge Study in Wickliffe, Kentucky. We accept your invitation to become a participant and Kentucky Department of Parks, Tourism, Arts and Heritage Cabinet, has designated the park manager of Wickliffe Mounds State Historic Site, Carla Hildebrand, as the preferred contact for this project study.

The Wickliffe Mounds State Historic Site, Kentucky Department of Parks, is located in Wickliffe, Kentucky, four miles from the proposed bridge study site. The bridge is a major highway linking the park to Illinois and Missouri.

When we look at where our visitors come from, Kentucky is the number one source. Missouri ranks second and Illinois ranks third in the number of visitors we receive each year, and so this bridge is a vital part of our economic impact.

I would be happy to attend the meeting on April 30<sup>th</sup> and to assist with this project in any manner you need. My contact information is below.

Sincerely,

Carla Hildebrand Park Manager Wickliffe Mounds State Historic Site Phone: 270-335-3681 carla.hildebrand@ky.gov





STEVEN L. BESHEAR GOVERNOR

# TOURISM, ARTS AND HERITAGE CABINET KENTUCKY HERITAGE COUNCIL

MARCHETA SPARROW SECRETARY

THE STATE HISTORIC PRESERVATION OFFICE

300 WASHINGTON STREET FRANKFORT, KENTUCKY 40601 PHONE (502) 564-7005 FAX (502) 564-5820 www.heritage.ky.gov

LINDY CASEBIER
ACTING EXECUTIVE DIRECTOR AND
STATE HISTORIC PRESERVATION OFFICER

April 2, 2013

Mr. Mike McGregor Transportation Branch Manager for Project Development Department of Highways District I Office 5501 Kentucky Dam Road Paducah, KY 42003

Dear Mr. McGregor:

Re:

Invitation to Become a Participating Agency for the US 51 Ohio River Bridge Study Between Wickliffe, Kentucky and Cairo, Illinois

Pursuant to Section 6002 of SAFETEA-LU, our office has received your invitation letter to become a Participating Agency with the project team in the development of the above mentioned project, initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, KY and Cairo, Illinois.

We accept your invitation and thank you for coordinating with this office. If you should have any questions, please contact Burcum Keeton of my staff at (502) 564-7005, ext. 147, or via email at Burcum.Keeton@ky.gov.

Sincerely,

**Lindy Casebier** 

Acting Executive Director and State Historic Preservation Officer

cc: Mike Jones - Office of Local Programs

LC:vmb





Steven L. Beshear Governor

# Energy and Environment Cabinet Department for Environmental Protection

Division for Air Quality 200 Fair Oaks Lane, 1<sup>st</sup> Floor Frankfort, Kentucky 40601-1134 air ky.gov

April 3, 2013

Mr. Mike McGregor Transportation Branch Manager for Project Development Kentucky Transportation Cabinet 5501 Kentucky Dam Road Paducah, Kentucky 42003

Dear Mr. McGregor:

In response to your letter dated March 15, 2013, the Division for Air Quality would like to be a Participating Agency for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois. Mr. Joe Forgacs of my staff will represent our Division. For the initial agency coordination meeting at the Kentucky Transportation Cabinet District 1 Office on April 30, 2013, our Division requests the online web meeting option for remote participation.

If you have further questions relating to this issue, feel free to contact me or Mr. Joe Forgacs of my staff at (502) 573-3382.

Sincerely

John E. Gowins, Supervisor

Evaluation Section

Program Planning & Administration Branch

JEG/jmf



Leonard K. Peters

Secretary

Subject:

FW: Invitation to Become a Participating Agency for the US 51 Ohio River Bridge Project

From: Frye, Sandra L [mailto:sandra.l.frye@hud.gov]

Sent: Wednesday, April 03, 2013 1:51 PM

**To:** McGregor, Mike (KYTC-D01) **Cc:** Rivera, Nelson A; Mills, Krista

Subject: RE: Invitation to Become a Participating Agency for the US 51 Ohio River Bridge Project

Hi Mike,

Per our discussion today, as there are no HUD funds proposed for use in this project and the potential impact on housing in the area will most likely be minimal (if any), HUD declines to become a Participating Agency in the US 51 Ohio River Bridge project. If the project scope changes and involves activities that HUD may have an interest in or expertise in, please feel free to contact me.

Thanks again for providing HUD with an opportunity to comment on this project.

Sandra L. Frye Field Environmental Officer Alabama, Kentucky and Mississippi 678-732-2727 (Telephone) 404-331-4020 (Fax)

#### Region IV Environmental website:

http://www.hud.gov/local/shared/working/r4/environment/index.cfm?state=ga

Listserver sign up: http://www.hud.gov/subscribe/localmailinglist.cfm#nc

Assessment Tools for Environmental Compliance Website: http://www.hud.gov/offices/cpd/environment/atec.cfm

From: Frye, Sandra L

**Sent:** Wednesday, April 03, 2013 10:10 AM

**To:** 'mike.mcgregor@ky.gov' **Cc:** Rivera, Nelson A; Mills, Krista

Subject: Invitation to Become a Participating Agency for the US 51 Ohio River Bridge Project

Hi Mike,

Our office received the subject invitation and I wanted to ask a few questions about the project before we respond.

Typically, unless HUD is funding the project and/or the project will impact other HUD funded projects, we would not become a Participating Agency as we would have no particular interest or expertise in the project. If you could let me know if the project anticipates the use of any HUD funds or if the project will have a significant impact on housing in the area, I would greatly appreciate it. Also, would an email response be acceptable? We have done that in the past with other requests for participation.

#### Thank you

Sandra L. Frye Field Environmental Officer Alabama, Kentucky and Mississippi 678-732-2727 (Telephone) 404-331-4020 (Fax)

## Region IV Environmental website:

http://www.hud.gov/local/shared/working/r4/environment/index.cfm?state=ga

Listserver sign up: <a href="http://www.hud.gov/subscribe/localmailinglist.cfm#nc">http://www.hud.gov/subscribe/localmailinglist.cfm#nc</a>

Assessment Tools for Environmental Compliance Website: <a href="http://www.hud.gov/offices/cpd/environment/atec.cfm">http://www.hud.gov/offices/cpd/environment/atec.cfm</a>

FW: US 51 Bridge Project Subject: Attachments: Comment Letter.docx

From: Stoelb, Daniel (FW)

Sent: Monday, April 08, 2013 9:19 AM To: McGregor, Mike (KYTC-D01) Subject: US 51 Bridge Project

Mr. McGregor:

I will serve as the contact for coordination with this project. I accept the invitation for the April 30<sup>th</sup> meeting, and I would like to use the on-line web option. I have written a comment letter to the consultant for this project, and have attached it to this email.

Thanks,

#### **Dan Stoelb**

Wildlife Biologist Fisheries Division - Environmental Section KY Department of Fish and Wildlife Resources #1 Sportsman's Lane Frankfort, KY 40601

Phone: (502) 564-7109 ext. 4453

Fax: (502) 564-4519 www.fw.ky.gov

Did you know...Department of Fish and Wildlife receives NO state tax dollars and manages wildlife for all citizens?

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# KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES TOURISM, ARTS, AND HERITAGE CABINET

**Steven L. Beshear** Governor

#1 Sportsman's Lane Frankfort, Kentucky 40601 Phone (502) 564-3400 1-800-858-1549 Fax (502) 564-0506 fw.ky.gov Marcheta Sparrow Secretary

Dr. Jonathan W. Gassett
Commissioner

3 April 2013

Amanda Kerley Third Rock Consultants 2526 Regency Road Lexington, KY 40503

RE: US 51 Bridge Replacement over the Ohio River, Ballard County, KY

KYTC Item No. 1-100.00 & 1-1140.00

Dear Ms. Kerley:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received the information regarding the subject project. The Kentucky Fish and Wildlife Information System indicates that the federally-endangered Indiana bat (Myotis sodalis), Interior Least Tern (Sternula antillarum athalassos), and Pallid Sturgeon (Scaphirhynchus albus) are known to occur within close proximity to the proposed project. Additionally, this project falls within known summer maternity habitat for the Indiana bat. The KDFWR recommends that the Kentucky Transportation Cabinet (KYTC) contact the US Fish and Wildlife Service Kentucky Field Office (USFWS) at 502-695-0468 for information on how to proceed with these federally-listed species. The KDFWR also recommends contacting the Kentucky State Nature Preserves Commission for information on listed flora near the site.

A documented Bald eagle nest is known to occur near alternatives 1, 2, 2A and 2B. Blasting, pile driving and other loud noises should not occur within one half mile of eagle nests during the nesting season. Prior to the start of the project, please contact Kate Heyden, KDFWR avian biologist (502-564-7109 ex. 4475) for necessary steps to reduce any potential impacts to Bald eagles. Interior Least Tern nesting also occurs near the proposed alternates, and the USFWS will have recommendations on avoidance of impacts to this species. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

Proposed alternatives 3, 3A, and 5 appear to enter the Boatwright Wildlife Management Area (WMA), which is a property owned by the KDFWR. The greatest amount of road length within the WMA would be from alternatives 3 and 5. This WMA is a popular outdoor recreation destination for bird watchers, hunters, and the general public. The KDFWR recommends alternates that avoid the Boatwright WMA so that recreation is not impaired during the lengthy construction process. Specifically, Alternatives 1, 2, 2A, and 2B are those



recommended by KDFWR that provide the least impact to the WMA, outdoor recreation, and threatened/endangered species by drastically reducing the amount of new roadways to be built.

Any planning should include measures designed to eliminate and/or reduce impacts to wetland and stream habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats and appropriate mitigation ratios developed for stream impacts as well. To minimize indirect impacts to aquatic resources, strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Again, Alternatives 1,2, 2A, and 2B appear to have the least of amount of impact to aquatic resources in the area, and are recommended by KDFWR over other routes.

The KDFWR appreciates the opportunity for comment. I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,

Dan Stoelb Wildlife Biologist

Daniel State

Cc: Environmental Section File



**Subject:** FW: U.S. 51 Bridge

Attachments: RE: US 51 Ohio River Bridge Study; FW: US 51 Ohio River Bridge Study

From: Gilbert, George (EEC)

Sent: Wednesday, April 10, 2013 10:53 AM

To: McGregor, Mike (KYTC-D01)

Cc: Hatton, Tony (EEC); Hubbard, Tim (EEC); Taylor, Larry (EEC)

Subject: U.S. 51 Bridge

The Division of Waste Management of the KY Department for Environmental Protection would like to be a participating agency.

I have attached the responses received from the Solid Waste Branch and Underground Storage Tank Branch.

#### Thanks!

## George F. Gilbert, P.E.

Environmental Engineer Consultant Director's Office Division of Waste Management 200 Fair Oaks Lane Frankfort, KY 40601 502-564-6716 Direct 502-564-8158 ext. 4601 Mobile 502-598-9860 From: Cooley, Tony (EEC) [tony.cooley@ky.gov]
Sent: Wednesday, March 20, 2013 2:51 PM

To: Gilbert, George (EEC); Gritton, Sharon (EEC); Tan, Wilson (EEC); Cecil, Shawn (EEC);

Gruzesky, Ron (EEC); Maybriar, Jon (EEC); Webb, April (EEC); Winner, Edward (EEC)

Cc: Williams, Margie (EEC); Hubbard, Tim (EEC)

**Subject:** RE: US 51 Ohio River Bridge Study

Attachments: ohio river bridge.pdf; Wickliffe City Dump location.pdf

The attached map indicates the locations of known solid waste landfills in my database. The Wickliffe City Dump, AI 43759, might potentially be impacted if US Highway 60 were to be rerouted, though this looks unlikely. This is the only one of my sites within the study area provided with the inquiry. The other three sites shown are near, but not within the study area.

A Stage 1 characterization was done of the Wickliffe City Dump by URS in 2006. This indicated the site consists of shallow pits on either side of a gravel road about 30 feet wide and 100 feet long. Disposal was uncontrolled and burning was used on the pits. The site began receiving waste in the 1960's and ceased receiving waste and was covered in the early 1970's.

## Tony Cooley P.E., P.G.

Environmental Engineer II EEC-DEP Division of Waste Management Solid Waste Branch, Closure Section 502-564-6716 502-564-8158 ext 4654 (direct)

From: Gilbert, George (EEC)

**Sent:** Tuesday, March 19, 2013 11:09 AM

To: Cooley, Tony (EEC); Gritton, Sharon (EEC); Tan, Wilson (EEC); Cecil, Shawn (EEC); Gruzesky, Ron (EEC); Maybriar,

Jon (EEC); Webb, April (EEC); Winner, Edward (EEC) Cc: Williams, Margie (EEC); Hubbard, Tim (EEC) Subject: FW: US 51 Ohio River Bridge Study

Please review, answer their questions and respond to me by COB April 8. Thx.

#### George F. Gilbert, P.E.

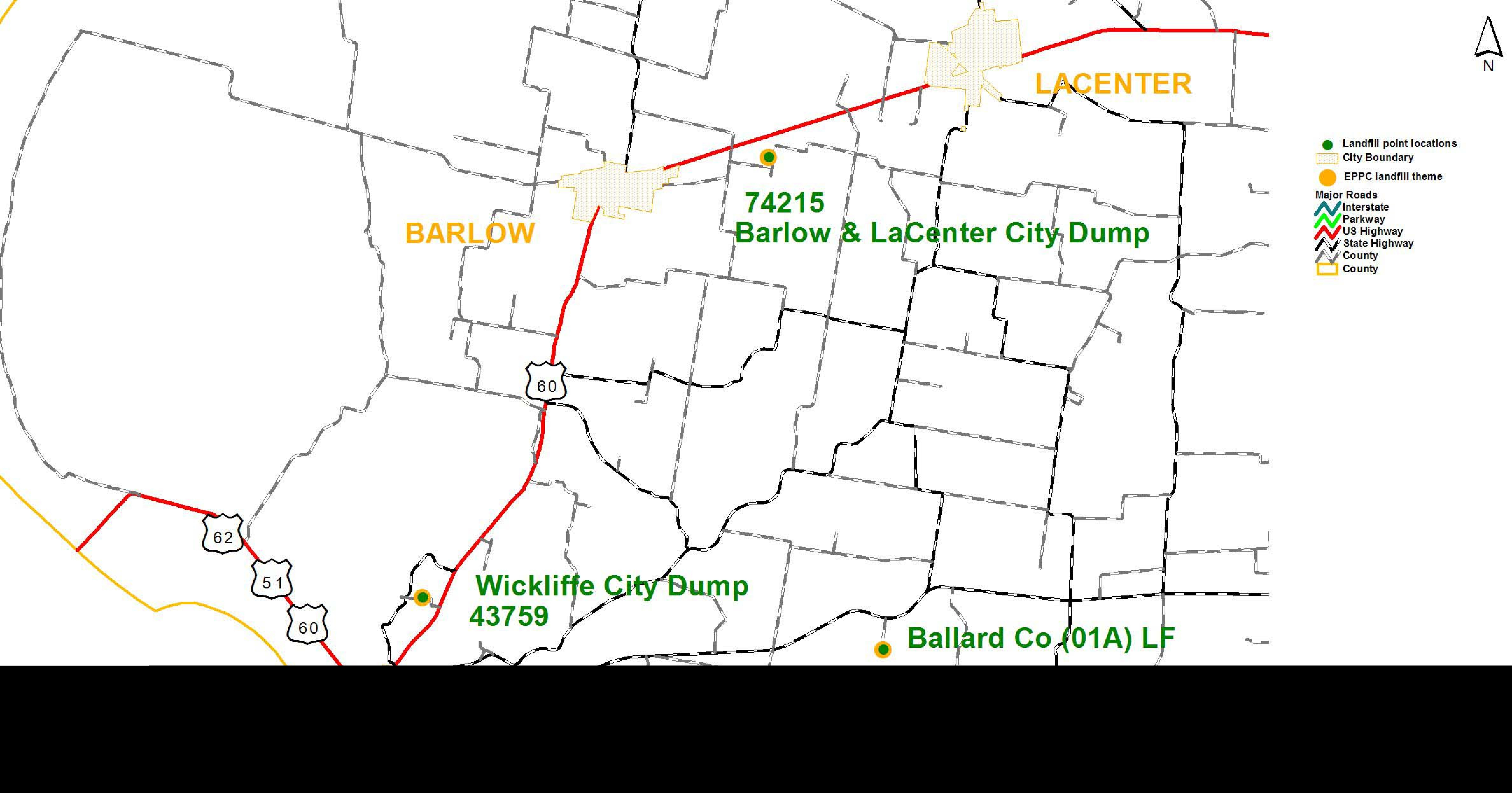
Environmental Engineer Consultant Director's Office Division of Waste Management 200 Fair Oaks Lane Frankfort, KY 40601 502-564-6716 Direct 502-564-8158 ext. 4601 Mobile 502-598-9860

From: Perry, Jennie (EEC)

Sent: Tuesday, March 19, 2013 9:53 AM

To: Gilbert, George (EEC)

**Subject:** US 51 Ohio River Bridge Study





From: Winner, Edward (EEC) [Edward.Winner@ky.gov]

Sent: Wednesday, March 20, 2013 10:32 AM

**To:** Gilbert, George (EEC)

**Subject:** FW: US 51 Ohio River Bridge Study

#### UST has these facilities along US 51, Wickliffe, KY.

From: Livingstone, Bennett (EEC)

**Sent:** Wednesday, March 20, 2013 10:03 AM **To:** Kent, Stephen (EEC); Winner, Edward (EEC) **Subject:** FW: US 51 Ohio River Bridge Study

There were six previously registered UST sites and one active site in the city of Wickliffe. Five of the six closed sites have had the tanks removed and one site had the tanks closed in place. In case any underground storage tanks are discovered during the project all the sites are listed with constituents and status. Outside of the city limits of Wickliffe to the Illinois border there were no other closed or active UST sites.

AI 57251 AI 64223	Cutmart Betty's corner café	<b>799 Broadway</b> Broadway & 4 <sup>th</sup>	2 gasoline, I diesel tanks 2 gasoline tanks	Active Tanks Closed in
Place				
AI 57249	Cutmart #2	US 51 & US 60	3 gasoline tanks	removed 09/22/99
AI 80459	Old gas station	308 Court Street	2 gasoline tanks	removed 08/14/06
AI 79544	Old gas station	450 N 4 <sup>th</sup> Street	3 gasoline, 1 used oil tanks	removed 06/22/06
AI 57245	Allred's service	808 Broadway	2 gasoline, 2 kerosene tanks	removed 11/08/05
AI 63699	Ballard county ext	1 <sup>st</sup> & Broadway	2gasoline, 1 Diesel tanks	removed 07/10/91

From: Kent, Stephen (EEC)

Sent: Wednesday, March 20, 2013 9:01 AM

**To:** Livingstone, Bennett (EEC) **Cc:** Winner, Edward (EEC)

Subject: RE: US 51 Ohio River Bridge Study

#### Thanks for the quick response Ben...

From: Livingstone, Bennett (EEC)

Sent: Wednesday, March 20, 2013 8:56 AM

**To:** Winner, Edward (EEC) **Cc:** Kent, Stephen (EEC)

Subject: US 51 Ohio River Bridge Study

There were four previously registered UST sites in the city of Wickliffe. All four of these sites have been closed and the tanks removed. In case any underground storage tanks are discovered during the project the sites are listed with constituents. Outside of the city limits of Wickliffe to the Illinois border there were no other closed or active UST sites.

AI 57249	Cutmart #2	US 51 & US 60	3 gasoline tanks	removed 09/22/99
AI 80459	Old gas station	308 Court Street	2 gasoline tanks	removed 08/14/06
AI 79544	Old gas station	450 N 4 <sup>th</sup> Street	3 gasoline, 1 used oil tanks	removed 06/22/06
AI 57245	Allred's service	808 Broadway	2 gasoline, 2 kerosene tanks	removed 11/08/05

From: Kent, Stephen (EEC)

Sent: Wednesday, March 20, 2013 7:54 AM

**To:** Livingstone, Bennett (EEC) **Cc:** Winner, Edward (EEC)

Subject: FW: US 51 Ohio River Bridge Study

#### Ben,

Please respond to Ed and copy me once you have identified all UST facilities along the route.

#### Thanks, Stephen

From: Winner, Edward (EEC)

Sent: Tuesday, March 19, 2013 12:03 PM

To: Kent, Stephen (EEC)

Subject: FW: US 51 Ohio River Bridge Study

I think in the past I sent these requests to Ben, and he would look-up the location of facilities (tanks) along the proposed route. I'm I recalling correctly? Can you send it on?

From: Gilbert, George (EEC)

Sent: Tuesday, March 19, 2013 11:09 AM

To: Cooley, Tony (EEC); Gritton, Sharon (EEC); Tan, Wilson (EEC); Cecil, Shawn (EEC); Gruzesky, Ron (EEC); Maybriar,

Jon (EEC); Webb, April (EEC); Winner, Edward (EEC) Cc: Williams, Margie (EEC); Hubbard, Tim (EEC) Subject: FW: US 51 Ohio River Bridge Study

Please review, answer their questions and respond to me by COB April 8. Thx.

## George F. Gilbert, P.E.

Environmental Engineer Consultant Director's Office Division of Waste Management 200 Fair Oaks Lane Frankfort, KY 40601 502-564-6716 Direct 502-564-8158 ext. 4601 Mobile 502-598-9860

From: Perry, Jennie (EEC)

Sent: Tuesday, March 19, 2013 9:53 AM

To: Gilbert, George (EEC)

Subject: US 51 Ohio River Bridge Study

#### Subject:

FW: Invitation to Become Participating Agency for the US 51 Ohio River Bridge Study

From: Savko, Terry [mailto:Terry.Savko@Illinois.gov]

Sent: Thursday, April 11, 2013 5:15 PM

To: Mike.McGregor@ky.gov

Cc: Harper, Leonard S.; Fuller, Matt; Chard, Steve; Nelsen, Carrie L

Subject: Invitation to Become Participating Agency for the US 51 Ohio River Bridge Study

Mr. McGregor:

Thank you for asking the Illinois Department of Agriculture (IDOA) to become a Participating Agency for the US 51 Ohio River Bridge Study between Wickliffe, Kentucky and Cairo, Illinois.

The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The purpose of the project is to replace/rehabilitate the existing 75 year old composite span bridge while providing a safe, reliable roadway and giving due consideration to future transportation need and appropriate corridor alternatives.

The IDOA accepts your invitation to become a participating agency in the development of the US 51 Ohio River Bridge replacement project.

Please maintain email contact with me as the IDOA's primary contact for this project. Should you have any questions or require more information regarding farmland protection in Illinois, don't hesitate to contact me.

Terry Savko

Terry Savko, IL Dept of Agriculture Bureau of Land and Water Resources

State Fairgrounds, P.O. Box 19281, Springfield, IL 62794-9281 **217-785-4458** Fax 217-557-0993 <u>terry.savko@illinois.gov</u>

From: Harper, Leonard S. [mailto:harperls@cdmsmith.com]

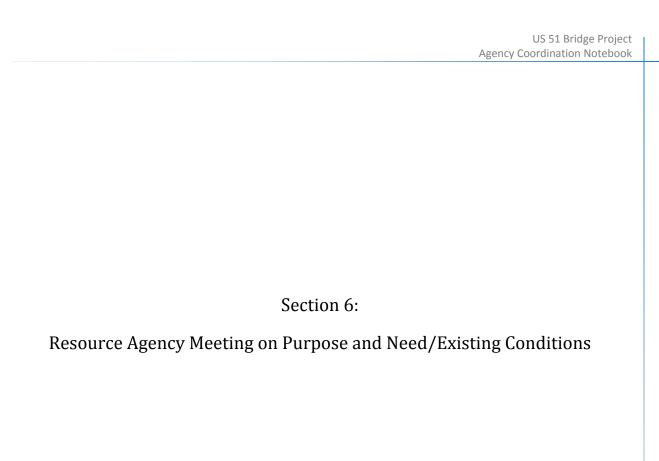
Sent: Tuesday, April 09, 2013 12:52 PM

To: Savko, Terry

**Cc:** Wright, Samantha J; McGregor, Mike (KYTC-D01); Nelsen, Carrie L; Thompson, Rebecca D. **Subject:** Invitation to Become Participating Agency for the US 51 Ohio River Bridge Study

The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is initiating a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. You are being asked to become a Participating Agency because your agency has been identified as one that may have an interest in or expertise about the project. With this letter, we extend your agency an invitation to become a Participating Agency with the project team in the development of the US 51 Ohio River Bridge Study. Please see the attached files for additional information.

**Leonard Harper, P.E.** | CDM Smith | 1648 McGrathiana Parkway, Suite 340 | Lexington, KY 40511 | 859.254.5759 (office) | 859.244.8890 (direct) | HarperLS@cdmsmith.com | www.cdmsmith.com



# **AGENDA**

# Resource Agency Kick-Off Meeting/Coordination Call US 51 Bridge over the Ohio River Six Year Plan Item # 1-100.00 and 1-1140.00

# KYTC District 1 Office 5501 Kentucky Dam Road in Paducah, KY April 30, 2013 at 10:00 AM CDT

- 1) Welcome & Introductions
- 2) Project Overview
- 3) Project Coordination with Agencies
  - a. Planning & Environmental Linkages
  - b. Agency Coordination Plan
  - c. Schedule
- 4) Purpose of Project
  - a. Bridge Conditions
  - b. Traffic Needs & Deficiencies
  - c. Draft Purpose & Need Statement
  - d. Draft Screening Criteria
- 5) Next Steps



# US 51 BRIDGE PROJECT

Resource Agency Meeting April 30, 2013

# Agenda



- 1. Welcome & Introductions
- 2. Project Overview
- 3. Project Coordination with Agencies
  - a. Planning & Environmental Linkages
  - Agency Coordination Plan
  - c. Schedule
- 4. Purpose of Project
  - a. Bridge Conditions
  - b. Traffic Needs & Deficiencies
  - c. Draft Purpose & Need Statement
  - d. Draft Screening Criteria
- Next Steps

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# **Project Overview**





- □ Truss bridge opened in 1938
- □ Carries US 51/US 60/US 62 over the Ohio River
- □ Connects Wickliffe, KY to Cairo, IL
- □ Two 10-foot lanes with 1'-3" shoulders and curbs



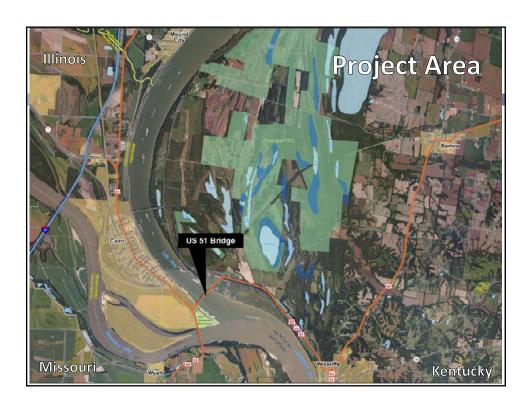












# **Project Overview**



- Current phase of work is a Scoping Study for the rehabilitation or replacement of the US 51 Bridge
  - Develop preliminary Purpose & Need
  - Conduct overview analysis to identify "red flag" environmental issues
  - Develop conceptual alternatives:
    - (1) rehabilitation of the existing bridge, (2) replacement of the bridge in its current location, (3) feasibility of a new bridge in a new location, and (4) a no-build or do-nothing alternative.
  - Recommend alternative(s) for NEPA analysis in future phase of work

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# **Project Overview**



## **General Project Schedule**

## Jan. -March

- Collect traffic & environmental data
- Define project purpose
- Kick-off agency coordination effort

# April -May

- Develop conceptual alternatives
- · Collect input from public & agencies

## June -August

- Screen alternatives against Purpose
- Develop final alternatives & cost estimates
- Identify alternative(s) for NEPA phase

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# **Agency Coordination**



- Although we are not beginning a full NEPA analysis yet, that is the next step in the process
- Work completed under the current phase of work will form the foundation of subsequent NEPA work
- □ FHWA's "Planning and Environmental Linkages" guidance describes this connection:

www.environment.fhwa.dot.gov/integ/

See handout: Agency Coordination Plan

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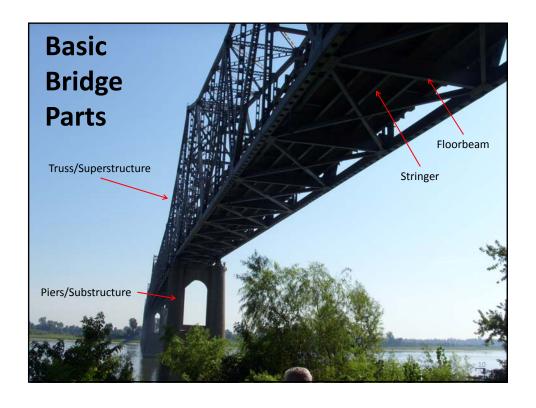
# **Agency Coordination**

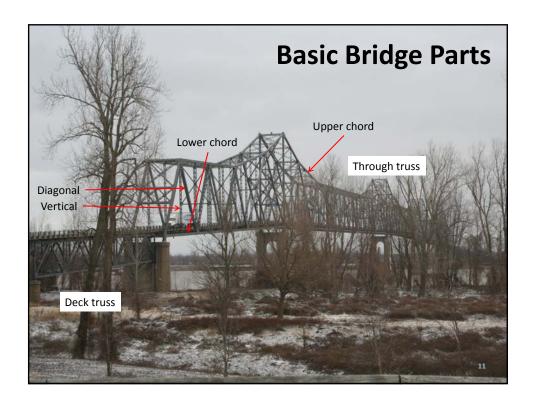


- MAP-21 adds a new Section 168 for integrating planning and environmental reviews. It allows federal agencies to use planning products in the environmental review (NEPA) process of a project.
- Planning decisions and analyses that can be linked are presented in the regulations
- □ Use of planning products is subject to:
  - A determination by the Federal lead agency
  - With concurrence of other participating agencies with relevant expertise and project sponsors
  - Opportunity for public notice and comment

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# Bridge Facts Longest cantilever truss bridge in Kentucky Similar design to Clark Bridge in Louisville Previously found eligible for National Register listing 570 feet 2,830 feet 2,684 feet 6 spans 5 spans 21 spans (IL Approach) Cantilever Warren truss (KY Approach)





# **Bridge Conditions**



- □ Sufficiency Rating = 39.8 out of 100 possible.
  - An existing bridge is considered eligible for federal funding for replacement when the Sufficiency Rating falls below 50.
- □ Functionally Obsolete
  - Historic design is not consistent with current standards
- □ Traffic
  - Can carry all legal loads
  - Does not allow permit loads (oversized or overweight trucks) because of the narrow bridge width and stringers

# **Bridge Conditions**



- Last inspection: October 2012
  - The existing bridge deck, superstructure, and substructure have a 6 rating which is good for a bridge this age. Ratings of 3 and 4 would indicate poor condition.
- □ Last underwater inspections: 2009
  - No major scour problems noted
- □ Rehabilitation project is scheduled for the summer.
  - Repair or replace the deck joints and stringer end cracks.
  - No changes for load rating or permit loads (not allowed)



# Traffic & Safety



- □ To forecast future traffic volumes:
  - Comparison of historic traffic volumes
  - Comparison of population projections
  - Comparison of employment/economic growth projections
- □ Almost all comparison rates were very low (i.e., less than 0.5% annual growth)
- □ Analysts assume <u>0.5% annual growth rate</u> as a reasonably conservative estimate



# Traffic & Safety



 Analysis shows that 2 lanes provide adequate cross-river capacity for existing & future traffic

Scenario	Daily Traffic
2010 Traffic Count (KYTC)	5,350 vpd
2013 Current Year	5,400 vpd
2020 Base Year (Start of Construction)	5,600 vpd
2040 Design Year	6,200 vpd

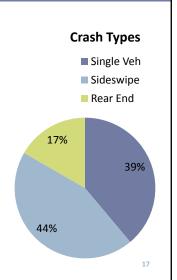
Note: Future years forecast using 0.5% annual growth rate

□ Based on current data, 35% of traffic using bridge is truck traffic

# Traffic & Safety



- From 2008-2012 crash records,
   18 crashes occurred on the
   bridge (between KY curve and US 60-62 intersection)
- Bridge Critical Rate Factor (CRF) is 0.58. Therefore, crashes occurring due to random circumstances based on KYTC methodology.



# Traffic & Safety





- Three high crash 0.1-mile spots show CRF > 1.0 based on KYTC methods
  - KY approach curve (1.13)
  - US 60-62 int. (1.52)
  - US 51-IL 37 int. (1.84)
- □ Other spots/segments have CRF < 1.0

# **Project Purpose**



The primary purpose of the project is to rehabilitate or replace the existing US 51 Ohio River Bridge in order to:

- Improve or replace the functionally obsolete bridge;
- Maintain cross-river connectivity between Wickliffe, KY and Cairo, IL; and,
- □ Improve safety on the bridge and its approaches.

See handout: Purpose & Need

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# **Screening Criteria**



- Used to refine the number of alternatives considered for detailed study
- Directly related to the project purpose and other project goals

See handout: Purpose & Need, tables 1-2

# **Screening Criteria**



- Improve river crossing
- □ Improve/maintain a cross-river link between Cairo & Wickliffe
- Address existing safety issues on bridge & approaches
- Provide constructible solution
- Minimize maintenance and construction costs
- Minimize disruption to Wickliffe and Cairo
- Minimize disruption to historic resources
- Minimize negative impacts to tourism
- □ Minimize human & natural environmental impacts
- Support consistent travel time
- Decrease delay due to incidents on bridge
- Connect to existing/planned bicycle paths
- Address horizontal and vertical span clearances from Coast Guard

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# Send us your comments...



- Are there other agencies who we should invite to participate?
- Does your agency maintain data or GIS files that would be relevant in the red flag analysis?
- □ Is the size of the study area appropriate?
- Are the growth rates and traffic conditions reflective of existing/future conditions?
- □ Does the Purpose & Need address the key issues?
- Do the Screening Criteria reflect appropriate measures to screen alternatives? Should others be considered?

# Send us your comments...



□ Please send any follow-up comments by May 23 to

### Michael P. McGregor, P.E.

Mike.McGregor@ky.gov

Transportation Branch Manager for Project Development
KYTC Office of Highway District One
5501 Kentucky Dam Road
Paducah, KY 42003
270-898-2431



# Resource Agency Kick-Off Meeting/Coordination Call US 51 Bridge over the Ohio River Six Year Plan Item # 1-100.00 and 1-1140.00 KYTC District 1 Office, Paducah, KY

# April 30, 2013 10:00 AM CDT

PLEASE SIGN IN – PI	LEASE INDICATE PRIMARY	PLEASE SIGN IN – PLEASE INDICATE PRIMARY CONTACT PERSON AND CONTACT INFORMATION	VTACT INFORMATION
NAME	FIRM	ADDRESS	EMAIL
STACEL	PURCHASE ADD	1002 medien DR Mysield Ky 42066	Stacey.coulthey@purchrendd.on
Tuhi Thraid	Belled Grats	P.o. Boy 276 Walte, My. 43087 border@brte.net	be judge @ brta.net
Oula Hildsbrand	> 30x	94 Gren Street Widel. FRE KY 42087	carla.hildebrande
Lynn Hopkins	City Mayor Wickliffe, 14	Wicklitte, Ky	wickmayor @brtc.
Lewister Walker	Purchase ADD	Po Box 588 Noutheld	jenniter. Speckwalkere Purchasead d. org

NAME	FIRM	ADDRESS	EMAIL
Топа Д. Мечег	CITY OFCAIRD	1513 WAShINSTON AVE CAITO, XL. 62914	CANO FD & LAZETU PHUITELESS, NET
Typone Coleman	CITY of Caille	1501 WAShington Me.	Carrol @ LazdraneT
Shawa Myllyr	D.L.6	1101 mein St Benton, 27 42025	Shawt. n:14-0044,500
BIAKE BEYET	KYTC 0-1 Exuitornestal	5501 KY DAN Rd PADUCAL, ICY 42003	blake, beyer @ Ky. 30v
Jessica Herring	KYTC DI PLANNING	5501 KY DAM RD Paducah, KY 42003	jessica. herring@ky.gov
Susan Datman	KYTC DI Design	11	s usan. oatman @ Ly:30 J

				c. edec		
EMAIL	James, lefevre@ Kygov	Texiumilburn @ yahoo, com	cdaven Osouthern Five.org	Candye & Shawmee co. edec	bob. reithert@first state bank-olusted, com	tsmith. Osider office. org
ADDRESS	5501 Kentucky Dam Rel Paducar KY 42003	1355 Eastwood Ru Plaski ILG2976	219 RUSTIC CAMPUS DR ULLIN, 11 (22992	8364 Shawnee GHese Ka Ullin, In 62992	Po Box 98 Olmsted, It 629110	330 Enterprise lune Suit 110 Mounds eel leaged
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NAME	Jim	Rex Wilbom	CRYSTAL DAKNPOGT	Andy EAStwood	Bob Reichert	Jalo atha Snith

NAME	FIRM	ADDRESS	EMAIL
Chit Hreen	Pularti County Deutopment Resociation	P.O. Son 192 Ovend Cheshn, 16	god a contribit, not
Nathan Kent	Kentucky State Police Mayfield Post	8366 U.S. HWY 45 Hickory by 42051	nathan. Kent e Ky. 90 v
JOE ZDANKIEWICZ	H. D. O. T.	Po 130x 100 CARWUDALE, IL 62901	Joe, Zdan Kiewicz Dillinois, 900
CHARLES STEIN	IDOT	,,	CHARLES. STEIN @ 12LINOIS.COV
CARRIE NELSON	TOOT		CARRIE. NELSEN C
Clyde Ehod	Balland Ind. Develop Board	Po Box 185 Levil Ky 42053	CMC & BrJC. Net

EMAIL	STE 4 + LSQSEI-US.NET					
ADDRESS	BALLARD C. Econ. 101 Liberity Pr, STEA & Ind. Devictionary KEUIL, Ky 42053 BOARD					
FIRM	BALLARD CO. ECON. & Ind. DEVELOPMENT BOARD	19 24%	KYTC 60	62 21KX	Todi	KY Engergy and Environmental Cabinet
NAME	TERRY SIMMONS	Mike M cGregor	Tim Foreman *	Stare Ross	Karren Shoyo	Brooke Parker*

NAME	FIRM	ADDRESS	EMAIL
Dan Stoelb	ky Dept of Fish 8 wildlife		
beorge Gilbert	KY Division of Waste		
Holland spade	KY Cabinet for Economic Development		
Jessic Miller *	Us Dep of Fish and wildlife Service		
Kerry Fulcher *	Ballard county Schools		
Sam Hines *	KY state Nature Arserus Commission		

NAME	FIRM	ADDRESS	EMAIL
Sreenu Gutti *	KYTC 60		
Stephonie Blain	Palmer Engr		
Teny barko *	12 Dyot, of Agricultune	J	
Peter boodman	KATC CO		
Joe Fagacs	ky Division Air Quality		
Stephen Wiggins	MTC CO		

Dorio Watson*  KYTC CO  (arol McKenzic*  KYTC CO	NAME	FIRM	ADDRESS	EMAIL
	rio Watson *	bytc co		
	nol McKenzic	KYTC CO		

\* Joined by Webinar

From: McGregor, Mike (KYTC-D01) <Mike.McGregor@ky.gov>

**Sent:** Monday, May 06, 2013 11:47 AM

To: 'Lynn Hopkins'

Cc: McGregor, Mike (KYTC-D01); Wright, Samantha J; Harper, Leonard S.

Subject: RE: Ohio River Bridge Study Meeting Response

Follow Up Flag: Follow up Flag Status: Flagged

### Mayor Hopkins,

Thank you for following up our meeting with your thoughts, ideas and concerns. I am copying Samantha Wright and Len Harper on my response so we can make sure and include your thoughts in the project record. In regards to a connection between Kentucky and Missouri, we do not currently have a bi-state agreement with Missouri as our bridge crossing is with Illinois. The funds for the construction of a new river crossing will likely be federal bridge replacement funds. As to whether the funds will come 50% or 100% from Kentucky's share of those funds as yet to be determined. The project team will of course take into consideration your comments as well as the comments of the public in the upcoming public meetings.

Thank you,

Michael P. McGregor, P.E. Transportation Branch Manager

for Project Development

Office of Highway District One

5501 Kentucky Dam Road

Paducah, X4 42003

0: 270-898-2431

C:270-994-1908

**From:** Lynn Hopkins [mailto:wickmayor@brtc.net]

Sent: Thursday, May 02, 2013 10:09 AM

To: McGregor, Mike (KYTC-D01)

Subject: FW: Ohio River Bridge Study Meeting Response

I enjoyed the meeting for the study for the Ohio River Bridge project. I have a more thorough understanding and some questions.

The main revelation to me was the statement from the Illinois Dept. of Highways representative about "not seeing any future for a new bridge for US Hwy 60 over the Mississippi River into Missouri from Illinois. In fact, it seemed that the bridge is doomed. Without that Mississippi River Bridge for US Hwy 60, then Kentucky traffic will be forced through Cairo, Illinois proper to the I-57 Bridge over the Mississippi at North Cairo off Illinois SR 3. This adds time and maybe 8-10 miles on the trip for Kentuckians into Missouri and for others that want to go West to Charleston and Wyatt, to access I-57 and I-55 West into Missouri. Some farm owners and implements in the Missouri and Kentucky southeastern sections near Cairo and Wickliffe will be adversely affected and a much larger longer flow of farm implements and semi-truck traffic that will then flow through the Cairo city limits, rather than through US Hwy 60 over that bridge.

When using the Mississippi River Bridge near the two rivers confluence area, rather than moving north to the I-57 Bridge north of Cairo, and adhering to the 30 mile an hour speed limits in Cairo, considerable time is lost going into Missouri. Wickliffe citizens would be better off with a Kentucky-Missouri bridge close to the South end of the existing Hwy 60 Mississippi River Bridge which would be a move for the future when that Mississippi Bridge doesn't exist. At that time, traffic could flow to I-57 at Charleston, Missouri which would be 15 miles, saving time and fuel rather than going around Cairo which is the only other alternative. The question is, since the Mississippi River Bridge for US Hwy 60, is doomed and as inadequate as the US 51 Ohio River Bridge, then do we hit I-57 north of Cairo or at Charleston, Missouri, as the only access to Missouri. I bet most of the traffic now is between Missouri into or out of Kentucky.

Would Kentucky have to front all the money for a new Bridge into Missouri to replace the Hwy 51 Ohio River Bridge or is the shared expense for Kentucky with a Missouri Bridge or an Illinois Bridge the same? Is it one-half Missouri and one-half Kentucky if we go directly into Missouri or for the Kentucky/Illinois Ohio River Bridge, on US Hwy 51, a 100% Kentucky and Federal expense into Illinois?

A scenario where traffic flows through Wickliffe and US 51 traffic has to flow north to a Barlow or mid-Wickliffe/Barlow Ohio River location be more feasible than the current US 51 Ohio River Bridge location before crossing over the Ohio River to intercept the I-57 at north Cairo Bridge intersection. Can we close the levy road US 51 from Wickliffe and make it a Ballard County road along the Mississippi River.

The impact would be more negative for the State Park and a couple of food places and Cairo traffic at one or two food places and a couple of liquor stores. The down side is that Cairo probably has more to lose and this could finally kill its few businesses while causing growth at north Cairo. The Barlow downside is

the environmental impact when leaving the existing road right-of-ways and construction through pristine river low lands.

Obviously, looking ahead, any closing of the Mississippi River Hwy 60 Bridge, will create more traffic time by forcing traffic to use the Mississippi River Bridge north of Cairo to access Wickliffe and US 51 South of Wickliffe.

At the same time, it will move traffic off the difficult levy marginal State Roads into Missouri going to Wyatt and

Charleston, and the levy road portion of US Hwy 51 north of Wickliffe. I don't think Wickliffe depends on much

of the commercial traffic and Cairo and Illinois might benefit with some increased traffic but I don't see it! Grain

traffic would not significantly be affected in my opinion as most Illinois grain loading facilities are in North Cairo,

Suburbandale, and Mounds City, Illinois.

Lynn Hopkins, Mayor City of Wickliffe (270) 335-3557



### **Meeting Summary**

# Agency Coordination Meeting US 51 Bridge over the Ohio River Six Year Plan Item # 1-100.00 and 1-1140.00

KYTC District 1 Office
April 30, 2013 at 10:00 AM CDT
5501 Kentucky Dam Road in Paducah, KY
Conference Room, plus web/phone conference

An Agency Coordination Meeting was held on April 30, 2013 at 10:00 AM for the US 51 Ohio River Bridge Project. The meeting was held at the Kentucky Transportation Cabinet (KYTC) District 1 Conference Room in Paducah, Kentucky. Participants were also given the option to join via webinar. The meeting agenda is attached.

Kentucky Transportation Cabinet (KYTC) Attendees Included:

Mike McGregor
 Jim LeFevre
 Jessica Herring
 Steve Ross\*
 Doria Watson\*
 Susan Oatman
 Sreenu Gutti\*
 Peter Goodmann\*
 Stephen Wiggins\*
 Doria Watson\*
 Carol McKenzie\*

Illinois Department of Transportation (IDOT) Attendees Included:

Joe ZdankiewkzCarrie NelsenCharles SteinKaren Shoup\*

### Agency Attendees Included:

- Stacey Courtney, Purchase Area Development District (ADD)
- Jennifer Beck-Walker, Purchase ADD
- Vickie Viniard, Ballard County Judge/Executive
- Carla Hildebrand, Wickliffe Mounds
- Lynn Hopkins, Mayor City of Wickliffe
- John Meyer, City of Cairo
- Tyrone Coleman, Mayor City of Cairo
- Shawn Miller, DLG
- Rex Wilburn, SIDEZ

- Tabatha Smith, SIDEZ
- Crystal Davenport, Southern Five Regional Planning District
- Candy Eastwood, Shawnee Community College
- Bob Reichert, 1<sup>st</sup> State Bank of Olmsted
- Clint Green, Pulaski County Development Association
- Nathan Kent, Kentucky State Police, Mayfield Post
- Clyde Elrod, Ballard County Industrial Development Board
- Terry Simmons, Ballard County Economic and Industrial Development Board
- Brooke Parker, KY Energy and Environmental Cabinet\*
- Dan Stoelb, KY Department of Fish and Wildlife\*
- George Gilbert, KY DEP Division of Waste Management\*
- Holland Spade, KY Cabinet for Economic Development\*
- Jesse Miller, US Department of the Interior, Fish and Wildlife Service\*
- Kerry Fulcher, Ballard County Schools\*
- Sara Hines, KY State Nature Preserves Commission\*
- Terry Savko, IL Department of Agriculture\*
- Joe Forgacs, KY Division of Air Quality\*

### Consultant Attendees Included:

- Samantha Wright, CDM Smith
- Leonard Harper, CDM Smith
- Stephanie Blain, Palmer Engineering\*

### Each participant received the following:

- 1. A copy of the Meeting PowerPoint Slides;
- 2. The Meeting Agenda;
- 3. The Draft Purpose and Need Statement;

These items were provided to webinar participants via email before the meeting. A summary of the meeting follows.

<sup>\*</sup>Joined by webinar

US 51 Agency Meeting Summary April 30, 2013 Page 3

### 1. Welcome/Introduction

Samantha Wright, project manager for CDM Smith, opened the meeting by welcoming attendees and giving a brief overview of the purpose of the project.

All project team members and resource agencies introduced themselves.

### 2. Project Overview

Samantha provided an overview of the project, including the study area, the history of the bridge and key work tasks. She noted that is a scoping study for bridge rehabilitation/replacement project. There will be no design or construction work completed as part of this study. Currently a Draft Purpose and Need, Environmental Overview, and Conceptual Alternatives are being developed. The goal of the study is to recommend one alternative in August 2013 for analysis under the National Environmental Policy Act (NEPA) in the next phase of work (if funds are authorized).

Samantha explained that the study area was developed to include all reasonable river crossing options for the bridge rehabilitation/replacement.

### 3. Project Coordination with Agencies

Samantha provided a brief overview of the NEPA process and the role of Agencies in the project. It is expected that this planning study will be the foundation of the next phase of work. If NEPA is initiated, this project could be included through the Planning and Environmental Linkage (PEL) rules designated in MAP-21. FHWA and Agency concurrence is required for this study to become a PEL document.

Samantha also reviewed the general project schedule and the Agency coordination points as part of this phase of work, including 1) the initiation letters sent out in March and April, 2) the April 30<sup>th</sup> meeting, and 3) a third coordination point later in the summer before the preferred alternative is identified.

### 4. Purpose of Project

Samantha provided an overview of the bridge structure itself, including the span arrangement, bridge type, and the basic terminology associated with the bridge. The recent evaluation by the KYTC indicates that the bridge is eligible for Federal rehabilitation funds because it is considered Functionally Obsolete (the geometry does not meet current design standards) and it has a Sufficiency Rating below 50.0 (a composite measure of the deck, superstructure, and substructure condition, along with other factors).

There is a rehabilitation project scheduled for this summer on the bridge, primarily to repair some of the bridge deck stringers and some of the joints in the truss structure. This will cause disruption to local traffic, with truck detours starting around June 10<sup>th</sup> and extending for about 70 days. Passenger cars will still be able to use the bridge during the repairs.

Samantha also reviewed the traffic and safety information for the bridge and approaches; future traffic growth is expected to be about 0.5% per year through the year 2040. This would result in a future traffic volume of about 6,200 vehicles per day, which would indicate that a two-lane bridge would be adequate for future traffic.

The Purpose for this project is to replace or rehabilitate the US 51 Bridge, and is based on the Needs identified through the study: 1) improve or replace the functionally obsolete bridge, 2) maintain a cross-river connection from Wickliffe, KY to Cairo, IL, and 3) improve safety on the bridge and its approaches. Samantha also reviewed the screening criteria to be used for identifying the preferred alternative; the agencies were invited to provide comments on the Purpose and Need for the project and on the draft Screening Criteria for the project alternatives.

### 5. Next Steps

There will be two public meetings held for the project in May:

- May 20<sup>th</sup> from 4-7 p.m. at the Cairo High School, in Cairo, IL and
- May 21<sup>st</sup> from 4-7 p.m. at the Ballard Center Community Room in LaCenter, KY.

The project team will also follow up with the Agencies later in the summer prior to finalizing the preferred alternative.

### 6. Questions and Answers

Questions and comments received during the meeting included the following:

- What kind of restrictions will be in place with the rehab work this summer?
   This will require truck detours for about 70 days starting around June 10<sup>th</sup>. There will be a 7-foot wide lane restriction on the bridge itself.
- Will the recommendations from this project be affected by the I-66 project?
  - At this time, KYTC is looking at this as a bridge replacement project, exclusive of I-66; however, any number of issues could affect the future direction the project. IDOT is starting an independent study of I-66.
- Will the new bridge be two lanes?
  - Yes, the traffic analysis from this study shows that two lanes provide adequate cross-river capacity for existing and future traffic.

- What portion of the KY approach will be looked at as part of this project? The entire KY approach between Wickliffe and the bridge is a safety concern.
  - This study includes about a mile of the KY approach south of the bridge, to just south of the major curve.
- The weigh station on the KY side of the bridge closed in 2008 and more truck traffic now uses this route. Ballard County would like to have this weigh station back.
  - KYTC does not have jurisdiction over the weigh station locations; however, this is a point of entry into KY, and it is worth mentioning as a local concern.
- What are the plans for the Mississippi River Bridge?
  - The floor beams were recently replaced in 2011, but IDOT is concerned about the structure. With the I-57 Bridge in place, it is difficult to justify replacing the US 60/62 bridge at this time.
- Can the US 51 bridge be repaired or will it have to be replaced? Has the decision been made to get rid of the existing structure?
  - The project team is currently looking at options for repair and replacement. There has been no decision yet on whether or not the existing structure will be removed.
- Maintenance of traffic, during this summer's repairs, but also for the long-term, is a major concern for the local communities. The bridge is used for farming operations, access to jobs, church, etc...
  - We understand the local importance of the bridge and will do our best to accommodate local traffic.
- Are you following the NEPA guidelines for this project?
  - This study is pre-NEPA; however, if the project moves forward, this study will likely be included through a PEL for the NEPA phase of the project. We have started our Agency coordination to provide continuity if the project does move forward into Preliminary Design and Environmental Studies (NEPA).
- What about freight and commercial trucks?
  - The project team may want to consider adding this to the supporting information in the project Purpose and Need.

US 51 Agency Meeting Summary April 30, 2013 Page 6

> This bridge is a lifeline for farming operations in Kentucky. Farmers need this bridge to get to Cairo and Mound City. Repairs on the bridge will be a major issue this summer and in the future. This is also true for the NewPage paper mill, which gets supplies from Illinois.

We appreciate these concerns.



# Section 7:

Resource Agency Email on Project Team Recommendations

From: Harper, Leonard S.

To:

**Sent:** Tuesday, August 20, 2013 12:54 PM

Harper, Leonard S.; 'McGregor, Mike (KYTC-D01)'; 'Tonya Higdon (KYTC-CO Planning)'; 'Susan Oatman (KYTC-D1)'; 'Blake Beyer (KYTC-D1)'; 'Jessica Herring (KYTC-D1)'; 'David Greifzu (IDOT)'; 'Karen Shoup (IDOT)'; 'Carrie Nelsen (IDOT)'; 'Ryan Tenges (FHWA-KY)'; 'Dan Brydl (FHWA-IL)'; 'Aaron Stover (Michael Baker Jr, Inc)'; 'Gary Sharpe (Palmer Engr)'; 'SBlain@palmernet.com'; Wright, Samantha J; 'David Orzechowski (USCG)'; 'David Dale Jr (USACE)'; 'Carla Hildebrand (KY Dept Parks)'; 'Ronald Price (Kentucky Dept Environmental Protection)': 'Dan Stoelb (KDFWR)': 'George Gilbert (KY DWM)': 'Joe Forgacs (KY Division of Air Quality)': 'Holland Spade (KY Cabinet for Economic Development)': 'Dave Williams (KY Geological Survey)'; 'Burcum Keeton (Kentucky Heritage Council)'; 'Sara Hines (KY State Nature Preserves Commission)'; 'Casey Allen (Ballard Co. Superintendent)'; 'Phil Degarmo (U.S. Dept. of the Interior, Fish and Wildlife Service); 'Jennifer Beckwalker (Purchase ADD)' 'Lee Andrews (U.S. Dept. of the Interior, Fish and Wildlife Service)'; 'Anne Haaker (IL SHPO)'; 'Terry Savko (IL Department of Agriculture)'; 'Lisa Thurston (IL Southern Five Regional Planning District)'; 'Goodmann, Peter (KYTC CO)'; 'Foreman, Tim (KYTC)'; 'McKenzie, Shane (KYTC)'; Karen Sparks (IDOT); Fulcher, Kerry (Ballard County Schools); Brawner, Dorian (KYTC); Stacey Courtney (Purchase ADD); John Meyer (City of Cairo); Tyrone Coleman (Mayor City of Cairo); Shawn Miller (DLG); Tabatha Smith (SIDEZ); Crystal Davenport (IL Southern Five Regional Planning District); Candy Eastwood (Shawnee Community College); Bob Reichert (1st State Bank of Olmsted); Nathan Kent (KSP); Clint Green (Pulaski County Development Association); Clyde Elrod (Ballard County Economic & industrial Development Board); Terry Simmons (Ballard County Economic & industrial Development Board); Brooke Parker (KY Energy and Environmental Cabinet); Jesse Miller (U.S. Dept. of the Interior, Fish and Wildlife Service)'; Harold Gibson (KYTC D1); Jim LeFevre (KYTC D1); Ross, Steve (KYTC); Charles Stein (IDOT); Lynn Hopkins (Mayor City of Wickliffe); Vickie Viniard (Ballard

Timothy P; krista.mills@hud.gov; Gutti, Srinivasa (KYTC); 'Caldwell, Thomas L.'

County Judge/Executive); Rex Wilburn (Pulaski County Commissioner); David Wyman (MODOT); Joe Zdankiewicz (IDOT); Chris Fraley (FHWA IL); Mettille, John L.; Sorenson,

US 51 Ohio River Bridge Study

Attachments: Agency Coordination Cover Letter.pdf; Level 1 Alternatives Map.pdf; Level 2 Alternatives

Map.pdf; Environmental Overview Summary.pdf; Alternative Screening Report.pdf

### Dear Agency Representatives,

Subject:

As you are aware, the Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is conducting a planning-level location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The attached "Agency Coordination Letter" PDF outlines recent efforts undertaken to advance the planning study, particularly related to the development and evaluation of alternatives. Combined Alternative 2 shown in the attached *Level 2 Alternatives Map* is recommended to advance for additional development in future phases of the project development process.

We are requesting that your agency review the attached materials and provide any comments on the proposed alternative screening process or recommended alternative by September 19, 2013. If you have any questions or would like to discuss the project in more detail, please contact Mike McGregor, KYTC Project Manager at (270) 898-2431 or via email at Mike.McGregor@ky.gov.

Thanks, Leonard Harper CDM Smith | 859.254.5759



Steven L. Beshear Governor Department of Highways District 1 Office 5501 Kentucky Dam Road Paducah, KY 42003 (270) 898-2431 Michael W. Hancock, P.E. Secretary

August 15, 2013

### **Dear Agency Representative:**

As you are aware, the Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is conducting a location study for the US 51 Ohio River Bridge replacement project between Wickliffe, Kentucky and Cairo, Illinois. The purpose of the project is to improve or replace the functionally obsolete/structurally deficient bridge, to improve or maintain cross river connectivity between Wickliffe, KY and Cairo, IL, and to improve safety on the bridge and its approaches.

The Cairo Bridge carries US 51, US 60, and US 62 traffic across the Ohio River. The bridge carries approximately 5,400 vehicles across the Ohio River each day between Wickliffe and Ballard County, KY and Cairo, IL. Approximately 35% of the bridge traffic is truck traffic. The Cairo Bridge also provides a connection to the US 60/US 62 Mississippi River Bridge to Missouri, approximately ½ mile to the south.

Since the last agency meeting in April, the project team has been conducting a number of tasks.

- An Environmental Overview Report was completed to provide a planning level overview of the
  existing conditions within the natural and human environment. Information was collected from
  readily available sources to identify "red flag" issues and fatal flaws for the alternative
  development process. A summary of key red flag issues is attached.
- A number of conceptual alternative corridors were developed, shown on the attached map.
- Public meetings were held in May 2013 in Cairo, IL and LaCenter, KY. Between the two
  meetings, over 130 members of the public attended and over 120 survey questionnaires were
  returned. The majority of survey respondents indicated that a new bridge should be built at or
  near its existing location.
- Conceptual bridge type configurations were explored to determine which bridge types would be
  feasible for each location alternative. For the superstructure replacement alternative, a truss or
  arch bridge would be feasible. For Alternative 2, 2A, 2B, 4, or 5, a cable stay, truss, or arch
  bridge would be suitable. Alternative 3 or 3A would be best suited for a cable stay type bridge.
  Additional analysis will be performed in future project phases.
- Conceptual alternatives were evaluated against the project Purpose, secondary goals for the
  project, and potential environmental and community impacts. The results of this screening
  process are documented in the *Initial Alternatives Screening Report*, attached to this letter. Key
  conclusions are included in the following paragraphs.



Combined Alternative 2 shown in the *Initial Alternatives Screening Report* is recommended to advance for additional development in future phases of the project development process. Combined Alternative 2 represents a range of potential crossing locations located upstream (north) of the current US 51 Bridge structure - within 2,000 feet of its present location. It is approximately 1.8 miles in length and would require a horizontal clearance of 900 feet for the navigational channel. Construction is estimated to cost around \$180-210 million dollars. The alternative is recommended as the Preferred Alternative for numerous reasons:

- The alternative satisfies the project purpose.
- It minimizes construction complexity, maintenance costs, and user costs during construction while providing an estimated 75+ year service life.
- It minimizes impacts to the human and natural environment of the alternatives considered.
   However, it will result in impacts to historic resources (i.e., the existing US 51 truss bridge),
   floodplains, wetlands, and prime/statewide importance farmlands.
- It maintains or reduces travel times, provides a usable river-crossing during incidents (e.g. crashes), and meets FHWA seismic design guidelines.
- It provides a feasible link for incorporating a bicycle path.
- At a conceptual level, it satisfies the US Coast Guard's concerns for river navigation.
- It satisfies agency concerns regarding construction closures by minimizing user costs and bridge closure periods.
- It was most preferred by the public based on surveys returned at the May 2013 public meetings.

With this letter, we are requesting that your agency provide any comments on the proposed alternative screening process or recommended alternative within 30 days. If there are significant issues or concerns in the project area that may need to be addressed so that future project phases can be adequately scoped, please identify those as well.

If you have any questions or would like to discuss the project in more detail, please contact me at (270) 898-2431 or via email at <a href="Mike.McGregor@ky.gov">Mike.McGregor@ky.gov</a>. Thank you for your cooperation and interest in this project.

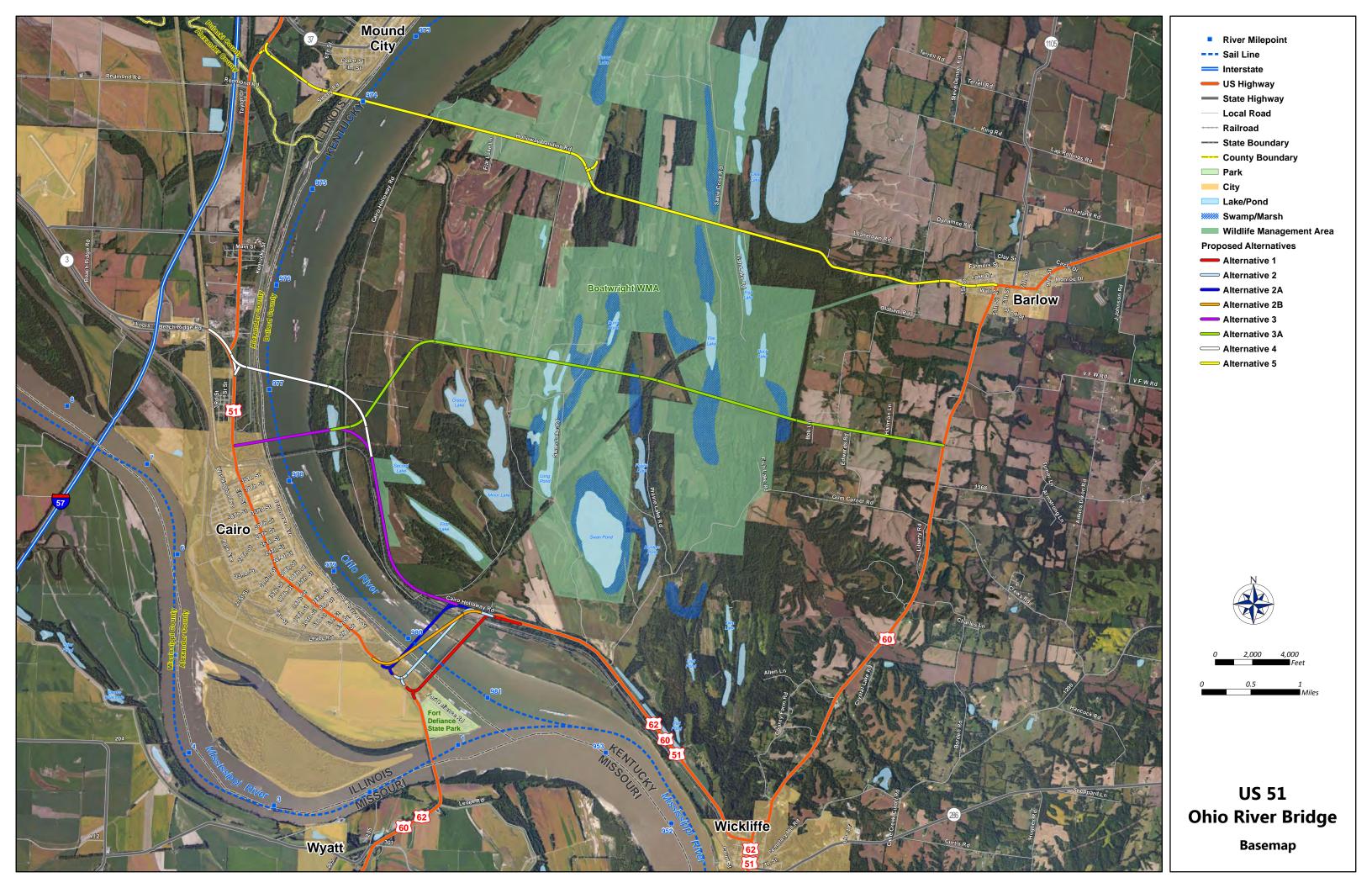
Sincerely,

Mike McGregor

Transportation Branch Manager for Project Development

Enclosures: Alternatives Map Environmental Overview Summary Initial Alternatives Screening Report

MillP. Meg





## Summary of Red Flag Issues

Potential red flag issues are those identified human & environmental resources within the Study Area for the US 51 Cairo Bridge Project that should be carefully considered as the project moves forward. Those issues, summarized in **Table 1**, include:

- Section 4(f) resources Several large wildlife refuges/preserves lie within the Study Area, plus a number of smaller parks and known historic resources. To the extent possible, these resources should be avoided as alternatives are developed.
- Environmental Justice communities The community of Cairo exhibits elevated concentrations of minority and low income populations. As the bridge provides an important link between communities and access to jobs, alternatives should be developed to avoid disproportionately affecting these groups.
- Threatened/Endangered species habitat A number of known federally listed species occur in the Study Area. This includes known nest sites for Interior Least Tern and Bald Eagles. There is also a known maternity colony and potential summer habitat for Indiana bat. Surveys and additional coordination with USFWS will be required.
- Streams, floodplains, and wetlands
- Prime and statewide importance farmlands
- Hazardous materials sites and UST locations



Table 1: Summary of Red Flag Environmental Issues

Category	Identified Issues in Study Area	
Geology & Soils	- New Madrid seismic zone	
Geology & Solls	- Potentially severe and seasonal flooding	
	- Groundwater Wells (Figure 2)	
Water Resources	- Rivers & Streams (Figure 2)	
water Resources	- Floodplains (Figure 2)	
	- Wetlands (Figure 3)	
	- Boatwright Wildlife Management Area (Figure 4)	
Eaglaciael Descuraes	- Axe Lake Swamp State Nature Preserve (Figure 4)	
Ecological Resources	- Cypress Creek National Wildlife Refuge (Figure 4)	
	- Other natural habitats for threatened & endangered species	
	- Prime & Statewide Importance Farmlands (Figure 5)	
	- Potential Environmental Justice Populations in Illinois	
Community Resources	- Cairo Parks: Fort Defiance, Halliday Park, & Saint Mary's Park	
	- Scenic Byways along US 51	
	- 70+ mile detour per direction	
Air Quality	- No key issues identified	
Noise	- Sensitive receptors concentrated in Cairo, Wickliffe, Barlow, &	
140130	Mound City	
	- Two NRHP Archaeological Sites: Levee in Barlow Bottoms &	
	Mound City Marine Ways	
	- Two NRHP Historic Districts: Cairo & Mound City National	
Cultural & Historic Resources	Cemetery (Figure 7)	
Cultural & Historic Resources	- Three NRHP Listed Properties: Barlow House, Magnolia	
	Manor, & Old Customs House (Figure 7)	
	Two NRHP Eligible Structures: US 51 Bridge, US 60/US 62	
	Bridge (Figure 7)	
	- Lead contamination under Bridge	
	- Two waste disposal sites: Barlow transfer station, Mound City	
Hazardous Materials	landfill (Figure 6)	
11411414141	- Environmental concern sites (Figure 8)	
	- Industrial sites along Illinois riverfront	
	- Known UST locations (Figure 8)	

From: Mettille, John L.

Sent: Friday, September 06, 2013 8:19 AM

**To:** McGregor, Mike (KYTC-D01)

Cc: Harper, Leonard S.; Wright, Samantha J; Sorenson, Timothy P

Subject: RE: Alternative 2 for primary study site possibility between Wickliffe and Cairo

### Thanks Mike!

----Original Message-----

From: McGregor, Mike (KYTC-D01) [mailto:Mike.McGregor@ky.gov]

Sent: Friday, September 06, 2013 8:09 AM

To: Mettille, John L.

Cc: McGregor, Mike (KYTC-D01)

Subject: FW: Alternative 2 for primary study site possibility between Wickliffe and Cairo

### John.

Please see the e-mail comments below from some local officials.

Thanks,

Michael P. McGregor, P.E.

Transportation Branch Manager

for Project Development

Office of Highway District One

5501 Kentucky Dam Road

Paducah, KY 42003

O: 270-898-2431 C:270-994-1908

### ----Original Message----

From: Terry Simmons [mailto:tls@sei-us.net]
Sent: Thursday, September 05, 2013 2:53 PM
To: 'Lynn Hopkins'; McGregor, Mike (KYTC-D01)

Cc: JackiePhillips@galaxycable.net; Mark.Davis@purchaseadd.org; wcw@brtc.net

Subject: RE: Alternative 2 for primary study site possibility between Wickliffe and Cairo

### Good afternoon all.

Mike, I would like to echo the Mayor's comments in favor of Alternate 2.

Disruption of traffic for the duration of the construction phase of the project should be a major concern of everyone. Eighty miles of Detour and 1 1/2 to 2 hours of addition time in travel would not be an acceptable alternative. Alternate 2 eliminates the need for disruption of traffic. Alternate 2 also provides a corridor that is very similar to the existing pattern of traffic that businesses have built their marketing around.

I might add that Alternate 2B appears to provide for a smaller Degree of Curve on the Kentucky approach end thereby allowing for a little more approach speed than the existing curve on the current KY approach end.

### Thanks

Terry Simmons, President/CEO
Ballard County Economic & Industrial Development Board
101 Liberty Drive, Suite 4

Kevil, KY 42053 270 744-3232 270 744-3308 Fax

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----Original Message-----

From: Lynn Hopkins [mailto:wickmayor@brtc.net]
Sent: Thursday, September 05, 2013 11:54 AM

To: Mike.McGregor@ky.gov

Cc: JackiePhillips@galaxycable.net; Mark.Davis@purchaseadd.org; tls@sei-us.net; wcw@brtc.net

Subject: Alternative 2 for primary study site possibility between Wickliffe and Cairo

RE: August 15, 2013 Letter on discussion of Alternative 2 for potential construction of the U. S. Highway 51/60/62 Ohio River Bridge location above the existing bridge.

Wickliffe, South Ballard County, Carlisle and Graves Counties, and Cairo would be the

beneficiaries of this route using Alternative 2 as shown in
the "Initial Alternatives Screening Report". As the "preferred alternative" it provides the
local citizens of Wickliffe and Cairo and Carlisle county and HWY 51 south of Wickliffe a
normal flow without interruption for their businesses, suppliers, and employers. The real
key is that it provides economic sustainability for our community and unimpeded travel through
the construction process to the best degree available. The recent improvements at the intersection
of Hwy 51,60 and 62 along with the flow from KY 286 and KY 121 from Graves County and eastern
Carlisle County greatly enhances the flow of traffic at this intersection. The prior work on the
"Veterans Bridge" north of Wickliffe, the intended improvements of the intersection of 286/121,
and a stop light at the US 51/60 intersection are very positive efforts on your departments part and
the State's efforts with Wickliffe as a gateway into Kentucky. We are very happy with all of these
improvements and hope Alternative 2 becomes a reality for Wickliffe and the region and state. As the

City of Wickliffe is proceeding with the Visitor's Center south of the city and investing over \$200K of its savings there, we are all proud of the investment the State has made here in Wickliffe.

We are sure that New Page, Mead-Westvaco Carbon, James Marine, Inc., Economy Boat Store, The Two Rivers Fisheries, and all of our local retail businesses appreciate this effort. Hopefully, this Alternative 2 will be the final course for the Ohio River Bridge and the future sustainability of the Cairo-Wickliffe-Carlisle area.

Lynn Hopkins,

Mayor

City of Wickliffe

(270) 335-3557



# KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES TOURISM, ARTS, AND HERITAGE CABINET

Steven L. Beshear Governor

#1 Sportsman's Lane Frankfort, Kentucky 40601 Phone (502) 564-3400 1-800-858-1549 Fax (502) 564-0506 fw.ky.gov Marcheta Sparrow Secretary

Dr. Jonathan W. Gassett
Commissioner

3 April 2013

Amanda Kerley Third Rock Consultants 2526 Regency Road Lexington, KY 40503

RE: US 51 Bridge Replacement over the Ohio River, Ballard County, KY

KYTC Item No. 1-100.00 & 1-1140.00

Dear Ms. Kerley:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received the information regarding the subject project. The Kentucky Fish and Wildlife Information System indicates that the federally-endangered Indiana bat (Myotis sodalis), Interior Least Tern (Sternula antillarum athalassos), and Pallid Sturgeon (Scaphirhynchus albus) are known to occur within close proximity to the proposed project. Additionally, this project falls within known summer maternity habitat for the Indiana bat. The KDFWR recommends that the Kentucky Transportation Cabinet (KYTC) contact the US Fish and Wildlife Service Kentucky Field Office (USFWS) at 502-695-0468 for information on how to proceed with these federally-listed species. The KDFWR also recommends contacting the Kentucky State Nature Preserves Commission for information on listed flora near the site.

A documented Bald eagle nest is known to occur near alternatives 1, 2, 2A and 2B. Blasting, pile driving and other loud noises should not occur within one half mile of eagle nests during the nesting season. Prior to the start of the project, please contact Kate Heyden, KDFWR avian biologist (502-564-7109 ex. 4475) for necessary steps to reduce any potential impacts to Bald eagles. Interior Least Tern nesting also occurs near the proposed alternates, and the USFWS will have recommendations on avoidance of impacts to this species. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

Proposed alternatives 3, 3A, and 5 appear to enter the Boatwright Wildlife Management Area (WMA), which is a property owned by the KDFWR. The greatest amount of road length within the WMA would be from alternatives 3 and 5. This WMA is a popular outdoor recreation destination for bird watchers, hunters, and the general public. The KDFWR recommends alternates that avoid the Boatwright WMA so that recreation is not impaired during the lengthy construction process. Specifically, Alternatives 1, 2, 2A, and 2B are those



recommended by KDFWR that provide the least impact to the WMA, outdoor recreation, and threatened/endangered species by drastically reducing the amount of new roadways to be built.

Any planning should include measures designed to eliminate and/or reduce impacts to wetland and stream habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats and appropriate mitigation ratios developed for stream impacts as well. To minimize indirect impacts to aquatic resources, strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Again, Alternatives 1,2, 2A, and 2B appear to have the least of amount of impact to aquatic resources in the area, and are recommended by KDFWR over other routes.

The KDFWR appreciates the opportunity for comment. I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,

Dan Stoelb Wildlife Biologist

Daniel Stall

Cc: Environmental Section File





### **ENERGY AND ENVIRONMENT CABINET**

Steven L. Beshear Governor

**DEPARTMENT FOR ENVIRONMENTAL PROTECTION** 

300 FAIR OAKS LANE FRANKFORT, KENTUCKY 40601 PHONE (502) 564-2150 FAX (502) 564-4245 www.dep.ky.gov

September 20, 2013

Leonard K. Peters
Secretary

R. Bruce Scott
Commissioner

Mike McGregor, Manager Project Development Branch Kentucky Transportation Cabinet Department of Highways District 1 5501 Kentucky Dam Road Paducah, KY 42003

Re: Environmental Assessment for US 51 - Ohio River Bridge Study (SERO 2013-20)

Mr. McGregor,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your letter dated August 15, 2013 requesting our review of the environmental assessment for the US 51 - Ohio River Bridge Study Project. The following comments are submitted in reference to your project.

### Comments from the Division of Waste Management:

All solid waste generated by this project must be disposed at a permitted facility. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

### Comments from the Division of Water:

A request for review of the US 51 Ohio River Bridge Replacement Project in Ballard County, Kentucky was received on September 3, 2013. The Division of Water (DOW) completed this review and has provided the following comments.



### Compliance & Technical Assistance Branch:

No comments from the Paducah Regional Office. Daniel Fraley, Compliance, and Technical Assistance Branch, (606) 783-8655, <u>Daniel.Fraley@ky.gov</u>.

### Water Quality Branch:

The Water Quality Branch prefers Alternative 1 because of least impacts to water and habitat quality. This would require a mussel survey for new bridge alternatives. Alternatives that transverse nature preserves and wildlife management areas should be eliminated. John Brumley, Water Quality Branch, (502) 564-3410, John.Brumley@ky.gov.

### Watershed Management:

Kentucky Revised Statute **KRS 151.250** provides for exemption for the Department of Highways; therefore, a stream construction permit will not be required. There are no comments for Water Quantity Section or Water Management Planning. Julia Harrod, Watershed Management Branch, (502) 564-3410, Julia.Harrod@ky.gov.

Contractors working on the bridge may need a Groundwater Protection Plan depending on the onsite activities. If any water or monitoring wells need to be abandoned due to the construction, the work will need to be completed by a Kentucky Certified Water Well and/or Monitoring well driller. Phil O'dell, Watershed Management Branch, (502) 564-3410, <a href="mailto:Phillip.O'Dell@ky.gov">Phillip.O'Dell@ky.gov</a>.

### Enforcement Branch:

The Division of Enforcement does not object to the project proposed by the applicant. Tim Harrod, Division of Enforcement, (502) 564-2150, Timothy.Harrod@ky.gov.

### Comments from the Division of Air Quality:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in

such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney.

However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at <a href="http://air.ky.gov/Pages/OpenBurning.aspx">http://air.ky.gov/Pages/OpenBurning.aspx</a>

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

- Utilize alternatively fueled equipment.
- Utilize other emission controls that are applicable to your equipment.
- Reduce idling time on equipment.

The Division also suggests an investigation into compliance with applicable local government regulations.

This review is based upon the information that was provided by the applicant. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications, or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

If you should have any questions, please contact me at (502) 564-2150, ext. 3125.

Sincerely,

Ronald T. Price

Ronald T Price

State Environmental Review Officer

Kentucky Department for Environmental Protection