



**TRANSPORTATION CABINET**

Frankfort, Kentucky 40622  
www.transportation.ky.gov/

**Steven L. Beshear**  
Governor

**Michael W. Hancock, P.E.**  
Secretary

April 3, 2013

Mr. Jose Sepulveda, Administrator  
Federal Highway Administration  
330 West Broadway  
Frankfort, KY 40601

Re: Reevaluation of Louisville and Southern Indiana Ohio River Bridges Project  
Floodplain Considerations

Dear Mr. Sepulveda:

KYTC, INDOT and FHWA – Indiana and Kentucky Divisions, have worked closely to develop the attached reevaluation of the environmental document for the Louisville and Southern Indiana Ohio River Bridges Project. After signing of the SFEIS last year, it was discovered that there was an inconsistency in the language regarding minimization of floodplain impacts. The USEPA had requested that the project minimize floodplain encroachments by bridging floodplains to the extent feasible. In certain locations within the SFEIS, the final text revisions erroneously committed to bridging the entirety of certain floodplains.

This issue has been re-coordinated with USEPA to assure that the intended project commitments are in keeping with their comments and recommendations. USEPA has confirmed that the floodplain impacts proposed by the project satisfy their request that floodplains be spanned “when feasible”.

It is KYTC’s and INDOT’s conclusion that these changes to the proposed action do not result in significant environmental impacts that were not evaluated in the Supplemental EIS prepared for the project in 2012 and that a Supplemental EIS is not required to address these corrections. KYTC and INDOT recommended that FHWA approve the attached document.

If you have any questions concerning the reevaluation or this recommendation, please contact me at your convenience.

Sincerely,

David M. Waldner, P.E. Director  
Division of Environmental Analysis

cc: Andy Barber, KYTC Project Manager  
Ron Heustis, INDOT Project Manager  
John Sacksteder, CTS



## Louisville-Southern Indiana Ohio River Bridges Floodplains Reevaluation

Supplemental Final Environmental Impact Statement (FHWA-KY-SEIS-12-01-F) approved  
April 20, 2012

Revised Record of Decision approved June 20, 2012

This reevaluation was prepared to document and correct inconsistent statements about floodplains that appear in the Supplemental Final Environmental Impact Statement (SFEIS) and Revised Record of Decision (RROD) for the Louisville-Southern Indiana Ohio River Bridges Project. The reevaluation clarifies the Project commitment to bridge floodplains, where feasible, consistent with the recommendations of the US Environmental Protection Agency (EPA).

Recoordination materials that explained the inconsistencies were provided on January 17, 2013 to EPA regional offices in Atlanta (Region 4) and Chicago (Region 5), to the US Army Corps of Engineers - Louisville District, to the Indiana Department of Natural Resources, and to the Kentucky Department of Environmental Protection. On January 30, 2013, EPA – Region 4 responded for both regional offices that the intent of the Project to bridge the 100-year floodplains, where feasible, was consistent with EPA’s comments on the SFEIS. A copy of the e-mail correspondence from the EPA – Region 4 is attached. The US Army Corps of Engineers - Louisville District indicated that there was no need for the agency to respond. The Indiana Department of Natural Resources replied that the agency had no comments. The Kentucky Department of Environmental Protection stated that the agency does not require the spanning of all floodplains, but limiting the impacts on the Ohio River is a practical floodplain management consideration and is important given its size and flood damage potential.

Based on the review of EPA’s comments, the project’s mitigation commitments, and the design elements of the Modified Selected Alternative, this reevaluation supports the conclusion that the Modified Selected Alternative is consistent with EPA’s recommendations and the SFEIS/RROD commitment to bridge 100-year floodplains, when feasible, in order to avoid and minimize impacts. There has been no significant change to the 100-year floodplain commitments or impacts that would require the preparation of an SEIS; therefore, the RROD remains valid.

Approval

  
INDOT

3/19/2013  
Date

  
KYTC

3/31/13  
Date

FHWA

4/4/13  
Date

## **1.0 Introduction**

In 2003, the Federal Highway Administration (FHWA) approved a Record of Decision (ROD) for the Louisville-Southern Indiana Ohio River Bridges Project that identified a Selected Alternative. Following the 2003 ROD, design work proceeded based on the Selected Alternative. However, during the design process, in an effort to reduce the project costs, significant design modifications were proposed that triggered the need for a Supplemental Environmental Impact Statement (SEIS). This process led to the development of a Modified Selected Alternative, which was evaluated in a Supplemental Draft Environmental Impact Statement (SDEIS) published on November 25, 2011 and a Supplemental Final Environmental Impact Statement (SFEIS) published on April 20, 2012. A Revised ROD (RROD) for the project was approved by FHWA on June 20, 2012, which identified the Modified Selected Alternative as the new Selected Alternative. During the SEIS process, EPA submitted comments regarding the bridging of waterways and their 100-year floodplains. In response to these comments, design and mitigation commitments were made in the SDEIS, SFEIS, and RROD regarding bridging of 100-year floodplains; however, an unintentional oversight in the drafting of the SFEIS created an apparent inconsistency with respect to the intent of FHWA, KYTC, and INDOT regarding the nature of the floodplain mitigation commitments and their consistency with the EPA comments. FHWA, KYTC, and INDOT believe that, taken as a whole, the design and mitigation commitments reflect a consistent intent to bridge floodplains when feasible, that they do not conflict with the intent of EPA's comments, and that there are no significant changes to the project's expected impacts to 100-year floodplains or the associated mitigation commitments that would require preparation of an SEIS. As a result, the resolution of this apparent inconsistency is documented in this reevaluation of the RROD. The purpose of this reevaluation is to review and provide clarification regarding:

- 1) the Modified Selected Alternative's 100-year floodplain impacts and the measures that have been taken to avoid, minimize impacts to, and bridge the floodplains;
- 2) EPA's comments and recommendations regarding the bridging of 100-year floodplains; and
- 3) the mitigation commitments regarding 100-years floodplains that were documented in the SDEIS, SFEIS, and RROD.

The purpose of this reevaluation is also to document that the apparent inconsistency between EPA's comments and the project's mitigation commitments for 100-year floodplains was inadvertent; to clarify that both the Project Sponsors and EPA intended for floodplains to be bridged when feasible; and to demonstrate that the development and design of the Modified Selected Alternative is consistent with EPA's recommendation to avoid, minimize, and bridge 100-year floodplains when feasible.

## **2.0 Modified Selected Alternative's Floodplain Impacts**

As previously mentioned, the Modified Selected Alternative was derived from the 2003 ROD Selected Alternative. Three types of modifications comprised the Modified Selected Alternative:

1) cost-saving design changes; 2) the addition of tolls; and 3) minor design and impact minimization changes. EPA was initially informed about the concept of modifying the 2003 ROD Selected Alternative in the Supplemental EIS Notice of Intent published in the February 15, 2011 Federal Register and as part of the project's early agency coordination efforts, which included the distribution of a Scoping Information Packet and a Resources Agency Coordination Meeting on May 26, 2011. More detailed information about the Modified Selected Alternative was then presented to EPA through the distribution of the SDEIS and SFEIS. The following excerpts from the SFEIS present the 100-year floodplain impacts associated with the Modified Selected Alternative and the efforts to avoid, minimize, and bridge the floodplains.

As stated on page 5-223 of the SFEIS,

*The Modified Selected Alternative would cross the Ohio River floodplain twice; and the floodplains of Harrods Creek, Beargrass Creek, and Muddy Fork of Beargrass Creek once each, for a total of 80.03 acres of floodplain that would experience encroachment impacts (20.74 acres in the East End Corridor and 59.29 acres in the Downtown Corridor). Of this total, 23.81 acres would be a transverse encroachment, including the entire impact area in the East End Corridor, while 56.22 acres would be a longitudinal encroachment; all in the Downtown Corridor (see Table 5.9-1). There would be a total of five floodplains crossed by this alternative, two of which are in the East End Corridor (Harrods Creek and Ohio River) and three in the Downtown Corridor (Beargrass Creek, Muddy Fork of Beargrass Creek, and Ohio River). The smaller number of floodplains impacted and acres of floodplains impacted by the Modified Selected Alternative, as compared to the FEIS Selected Alternative, is attributed to the smaller footprint of the alternative in the Louisville portion of the Downtown Corridor.*

The Modified Selected Alternative has fewer impacts to floodplains than the FEIS Selected Alternative. The SFEIS, Table 5.10-1 of Section 5.10.3, Water Body Modifications, shows that bridges will be used to cross the Ohio River at both the East End and Downtown Corridors, Harrods Creek, and Beargrass Creek. Most of the floodplains associated with these crossings will also be bridged. The majority of the floodplain impacts are associated with the Kennedy Interchange and the longitudinal encroachment of the Ohio River 100-year floodplain. However, when compared to the FEIS Selected Alternative's floodplain impacts, the Modified Selected Alternative significantly reduces floodplain impacts by reconstructing the Kennedy Interchange within the existing right-of-way.

See Attachments for Tables 5.9-1 and 5.10-1.

### **3.0 EPA Comments/Recommendations**

During the SEIS process, EPA provided comments regarding the project's potential impacts on 100-year floodplains and measures to bridge those floodplains. The comments were provided in

response to the distribution of the following project documents: 1) Scoping Information Packet; 2) SDEIS; and 3) SFEIS.

EPA's early coordination comments acknowledged that feasibility would be a consideration in whether floodplains were entirely bridged. As part of the early agency coordination process and in response to the project's Scoping Information Packet and the Resource Agency Coordination Meeting, EPA submitted a letter dated June 30, 2011 with the following statement regarding floodplain impacts:

*"We recommend bridging across streams and their 100-year floodplain, when feasible, to help maintain the stream bed in its natural state and provide access for wildlife under the bridge/roadway."* (SFEIS, Appendix C.6) (emphasis added).

Later, following the distribution of the SDEIS, EPA responded with the following recommendation in a letter dated January 9, 2012:

*"We recommend that the seven stream/creek names and associated unique identification numbers be specifically identified in Table 5.10.1 as the water bodies that must be bridged along with their associated 100-year floodplains. In addition, the commitment to bridge these specific seven waterways and their associated 100-year floodplains should be made a firm commitment in SFEIS Chapter 8 - Commitments and Mitigation and in the ROD. We note that the Modified Preferred Alternative calls for crossing five floodplains, and would result in 80.03 acres of encroachment (page 3-32), a reduction in impacts from the FEIS Alternative."* (SFEIS, Appendix C.11)

This comment appeared to recommend that the associated 100-year floodplains be bridges in their entirety.

Finally, following the distribution of the SFEIS, the following comment from EPA again references feasibility as a consideration in determining whether the 100-year floodplains should be entirely bridged:

*"The SFEIS provides a commitment to bridge across the following rivers/creeks: Lentzier Creek, unnamed tributary to Lentzier Creek, Harrods Creek, Bear Grass Creek and the Ohio River, and to span their 100-year floodplains when feasible."* (RROD, Appendix B.1) (emphasis added). EPA also made the following overall comment about the Modified Selected Alternative: *"The SFEIS Modified Preferred Alternative appears to have the least amount of direct impacts to resources of concern among alternatives analyzed in this SEIS."* (RROD, page 72 and Appendix B.1).

Taken as a whole, these comments indicate that EPA intended that impacts to the 100-year floodplain be avoided *when feasible* – not necessarily avoided under any and all circumstances

whatsoever, regardless of feasibility. EPA's original recommendation in response to the Scoping Information Packet was that the project should bridge the 100-year floodplains "when feasible". Although the term "when feasible" was not included in EPA's comments on the SDEIS, those comments did recognize that the Modified Selected Alternative represented a reduction in floodplain impacts from the FEIS Selected Alternative. In their comments on the SFEIS (the most recent comments received), EPA once again used the term "when feasible" in acknowledging the project's commitment to "span" 100-year floodplains. In addition, EPA raised no objections regarding the impacts to floodplains associated with the Modified Selected Alternative or the extent to which bridges were used to cross these floodplains. Moreover, EPA noted that the "...Modified Preferred Alternative appears to have the least amount of direct impacts to resources of concern...".

#### **4.0 Mitigation Commitments for 100-year Floodplains**

Chapter 7 of the SFEIS contains responses to substantive comments on the SDEIS received from individuals, organizations, and resource agencies, including EPA. In addition, Chapter 8 of the SDEIS and SFEIS documents the design, environmental, and mitigation commitments related to the construction and implementation of the Project. In some cases, the commitments were revised or updated in the SFEIS based on the comments received on the SDEIS; this was the case with regard to EPA's comments and the commitment to bridge the 100-year floodplains. The following is a discussion regarding these EPA's comments/recommendations and the corresponding mitigation commitments that were presented in the SFEIS.

Based on EPA's recommendation, in its comments on the SDEIS, that "...*the commitment to bridge these specific seven waterways and their associated 100-year floodplains should be made a firm commitment in SFEIS Chapter 8 - Commitments and Mitigation and in the ROD.*", the following mitigation commitment, which mirrors that language, was inadvertently included on page 8-8 in the SFEIS: "*The streams listed on Table 5.10.1 in Section 5.10. 3, Water Body Modifications, of the SFEIS will be bridged along with their associated 100-year floodplains.*" This statement creates the impression that a commitment was being made to completely bridge all of the 100-year floodplains, which is not the case. The intent of this commitment was to bridge 100-year floodplains, **when feasible**, which is consistent with EPA's recommendations during early coordination and its comments following publication of the SFEIS. As noted above, EPA's comments on the SFEIS recognized the Project Sponsors' commitment to bridge the subject streams and to "...*span their 100-year floodplains when feasible.*" In addition, in its comments on the SFEIS, EPA did not state any objections regarding the Modified Selected Alternative's impacts to 100-year floodplains or the project's approach to avoid, minimize, and mitigate these impacts – which clearly includes some impacts to 100-year floodplains when bridging those floodplains is not feasible. Finally, in its comments on the SDEIS, EPA noted that the Modified Selected Alternative represents a reduction in floodplain impacts from the FEIS Selected Alternative.

For those floodplain impacts that are unavoidable, page 8-8 of the SFEIS and page 50 of the RROD state the following regarding mitigation commitments:

*Where applicable, compensatory storage will be provided. The following mitigation measures will be incorporated into the Project as appropriate.*

- *Piers will be placed within the floodplain as required by structural design requirements and with consideration for minimizing impacts to drainage within the floodplain and the Louisville Water Company (LWC) hard rock tunnel along Transylvania Beach Road.*
- *Where filling in a floodplain is required, a Floodplain/ Floodway Permit will be obtained. Mitigation of impacts to floodplain will be coordinated with the IDNR, KDOW, Louisville/Jefferson County MSD, and USACE throughout the design phase of the project.*
- *The LWC will be consulted about the possible enhancement of a wooded area within their floodplain property adjacent to Transylvania Beach Road. The maintenance of the property also will be discussed with LWC to encourage their protection of the property.*

### **3.0 Conclusions**

Based on the review of EPA's comments regarding impacts to 100-year floodplains, it is apparent that the original intent of EPA was that the Project bridge floodplains "when feasible". This was subsequently confirmed by EPA's comments on the SFEIS. As a result of the omission of the phrase "when feasible" from EPA's comments on the SDEIS, EPA's recommendation to bridge 100-year floodplains was inadvertently incorporated into the Project's mitigation commitments in the SFEIS without the phrase "when feasible." This could lead to the false impression that the Project will bridge all the 100-year floodplains, regardless of feasibility, which is not and was never intended to be the case. The mitigation commitments in the SFEIS should have stated that the 100-year floodplains would be bridged when feasible. A review of the development and design of the Modified Selected Alternative confirms that the alternative avoids, minimizes, and bridges 100-year floodplains when feasible. Therefore, this reevaluation concludes that the Modified Selected Alternative is consistent with EPA's recommendations and the SFEIS/RRD commitment to bridge 100-year floodplains, when feasible, in order to avoid and minimize impacts.

# ATTACHMENT B

## **Bridging the 100-year floodplain of Harrods Creek**

### **The Louisville – Southern Indiana Ohio River Bridges Project**

**July 20, 2012**

Harrods Creek is a tributary of the Ohio River which is located northeast of Louisville, near Prospect. As it exists now, KY-841 does not cross Harrods Creek, because the roadway ends at its intersection with US 42. This new stream crossing will be necessary when KY-841 is expanded northward toward the new East End Bridge over the Ohio River.

At the proposed crossing of Harrods Creek has a drainage area of 105.45 square miles. It is a navigable waterway. The 100-year flood elevation of Harrods Creek is 451.75 at river mile 0.90, the location of the proposed crossing.

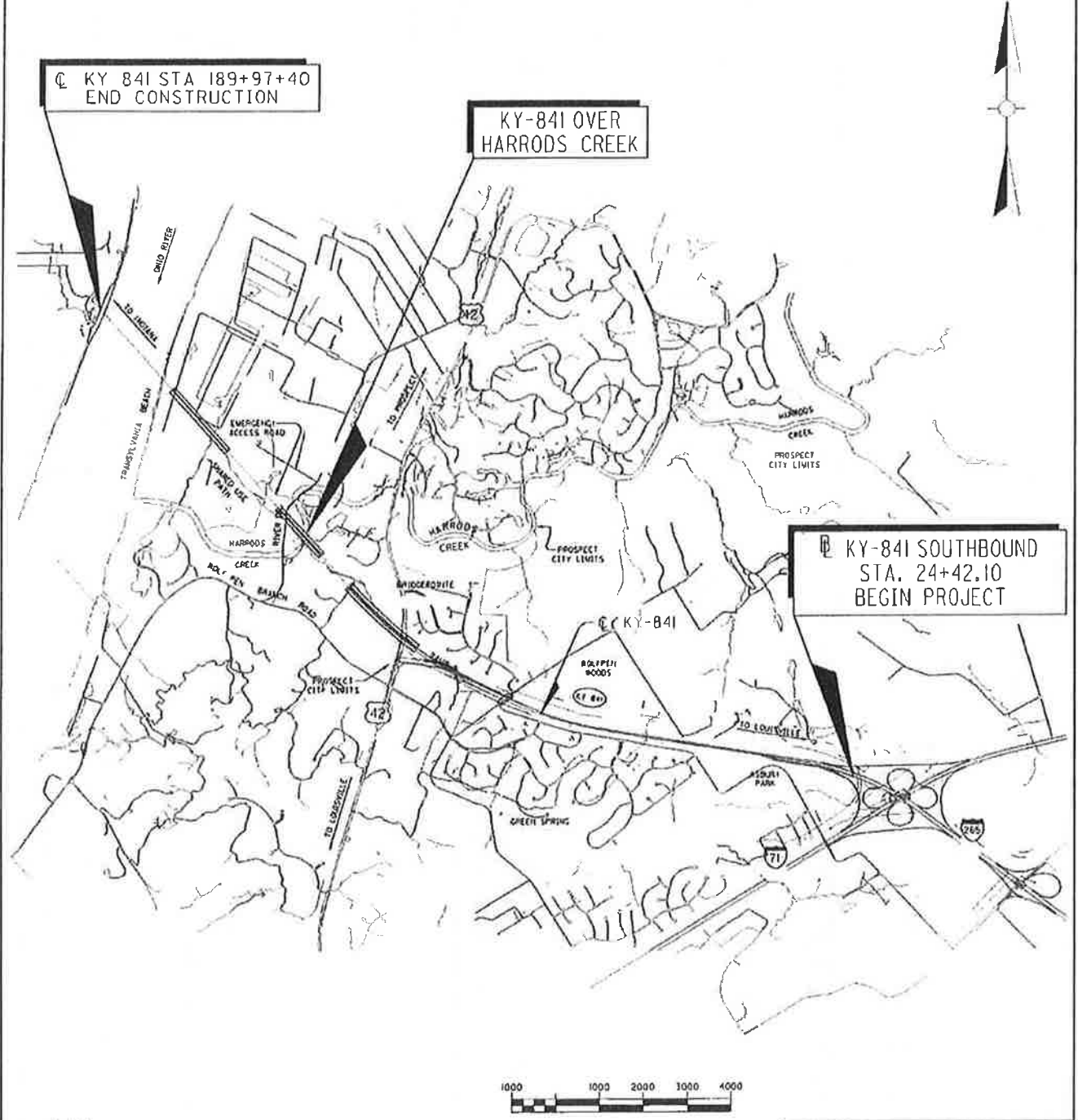
The proposed crossing structure will be twin 5-span box girder bridges each 51' wide for carrying 2-12' lanes. The northbound bridge has span lengths of 200', 225', 350', 225', and 225' for a total length of 1225'. The southbound bridge has spans of 225', 300', 220', 220' and 220' for a total length of 1185'. Due to aesthetics the bridge will be constructed of Welded Steel Plate Box Girders. The estimated total construction cost is \$31,700,000.

The proposed bridge will encroach into the 100-year floodplain only at the south end with a spill-through earth abutment with 2:1 slopes. The spill-through abutment will have a footprint area of 1.8 acres and project into the floodplain 250 feet. It will have a cross sectional area of approximately 1800 square feet which is 9.8% of the total cross sectional area of the 100-year floodplain. At the 100-year flood, the proposed bridges will produce a backwater effect of 0.02'

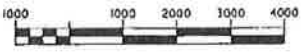
A bridge constructed to completely span the 100-year floodplain would need to be 250' longer. Built to the same specifications of the current proposed design, the additional construction cost would be \$6,546,870.



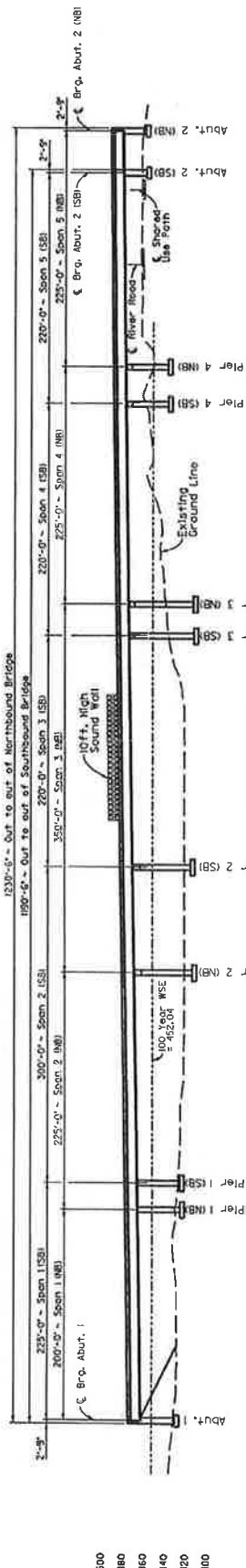
# LOUISVILLE-SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT (LSIORBP) - SECTION 4 KY 841 - JEFFERSON COUNTY



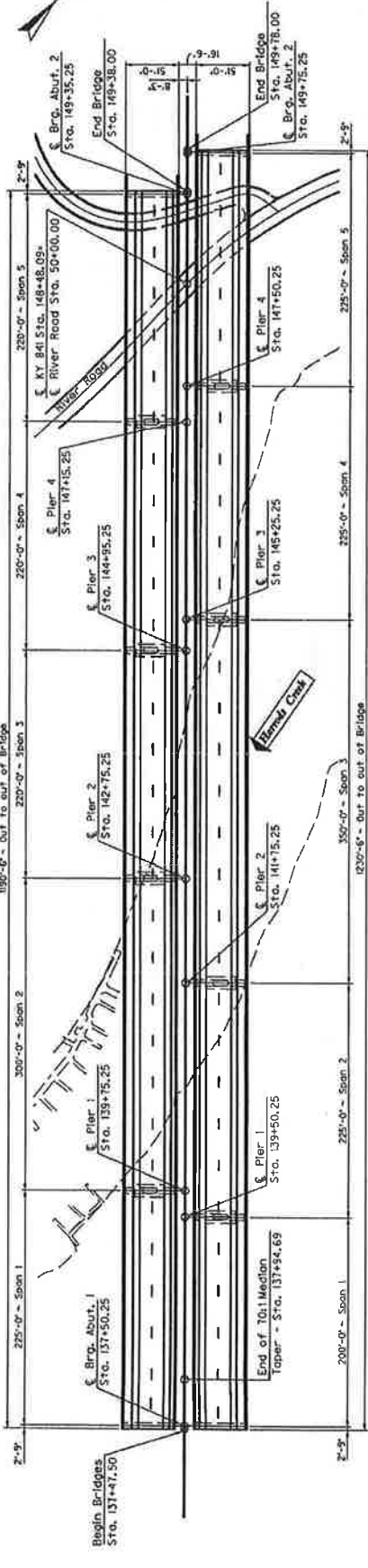
3.326 MILES  
 \_\_\_\_\_ LIN. FT.    LENGTH 1150.00 LIN. FT.    0.217 MILES  
 \_\_\_\_\_ LIN. FT.    ADDED \_\_\_\_\_ FOR EQUALITIES \_\_\_\_\_ LIN. FT.  
 \_\_\_\_\_ LIN. FT.    DEDUCTED \_\_\_\_\_ NOT INCLUDED



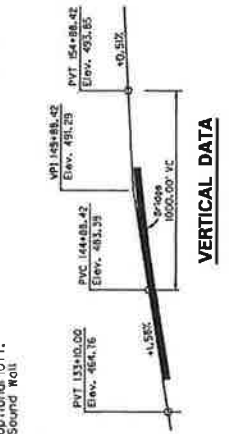
**LOCHNER**  
 ENGINEERS AND PLANNERS



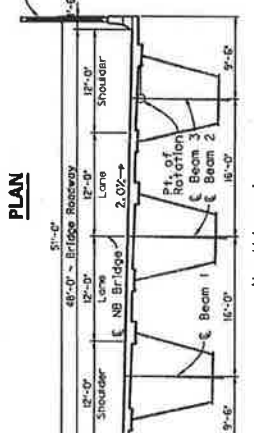
**ELEVATION**  
 Northbound 200'-225'-350'-225'-225' Continuous Steel Girder Spans  
 Southbound 225'-300'-220'-220'-220' Continuous Steel Girder Spans  
 HL 93 Live Load ~ 56' Shoulder Width @ Bridge  
 0' Skew ~ 48'-0" Bridge Roadway Width ~ 21' Fill Slopes



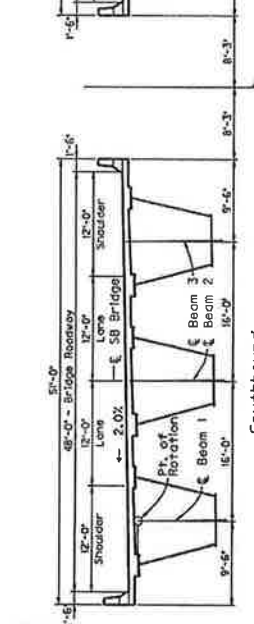
**PLAN**



**VERTICAL DATA**



**TYPICAL SECTION**



DESIGNED BY	W. D. Burton
CHECKED BY	
DATE	November 2001
REVISION	
<b>Commonwealth of Kentucky</b>	
<b>DEPARTMENT OF HIGHWAYS</b>	
PROJECT	Herrod Creek
NO. KY 841	
<b>JEFFERSON</b>	
<b>PRELIMINARY LAYOUT</b>	
DRAWN BY	
<b>LOCHNER</b>	
SHEET NO.	
DRAWING NO.	

ITEM NUMBER	
<b>CURRENT DESIGN</b>	

KENTUCKY TRANSPORTATION CABINET  
 DEPARTMENT OF HIGHWAYS  
 DIVISION OF STRUCTURAL DESIGN  
 SUMMARY OF BRIDGE DESIGN DATA

TC 66-101  
 Rev. 11/05

COUNTY	Jefferson
ROAD	KY 841
STATE REPORT ITEM	
STATE PROJECT NO.	
FEDERAL PROJECT NO.	
CROSSING	Harrods Creek
DESIGNER	Lochner Design Section
DRAWING NO.	
STATION	143+62.5
SKREW	0.0 deg Lt
DESIGN LOAD	HL-93
ROAD CLASS OVER	Freeway
BRIDGE ROADWAY	48,000 ft.
BRIDGE WIDTH	51,000 ft.
TOTAL LENGTH	2421,000 ft.
DECK AREA	123471.00 ft <sup>2</sup>
BRIDGE TYPE	WSP Box Girders

ABUT. TYPE	1		2		COMPARISON of Estimate vs. Final Bid												
	ABUT	ABUT	ABUT	ABUT	Final Plan Total	Final Bid Total	\$-	\$	10	11	12	13	14	15	Contractor UNDER By:	100.0 %	
ABUT. HEIGHT	6	16			\$31,700,000.00	\$31,700,000.00											

ABUT. TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
200	225	350	225	225	225										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
225	300	220	220	220	220										

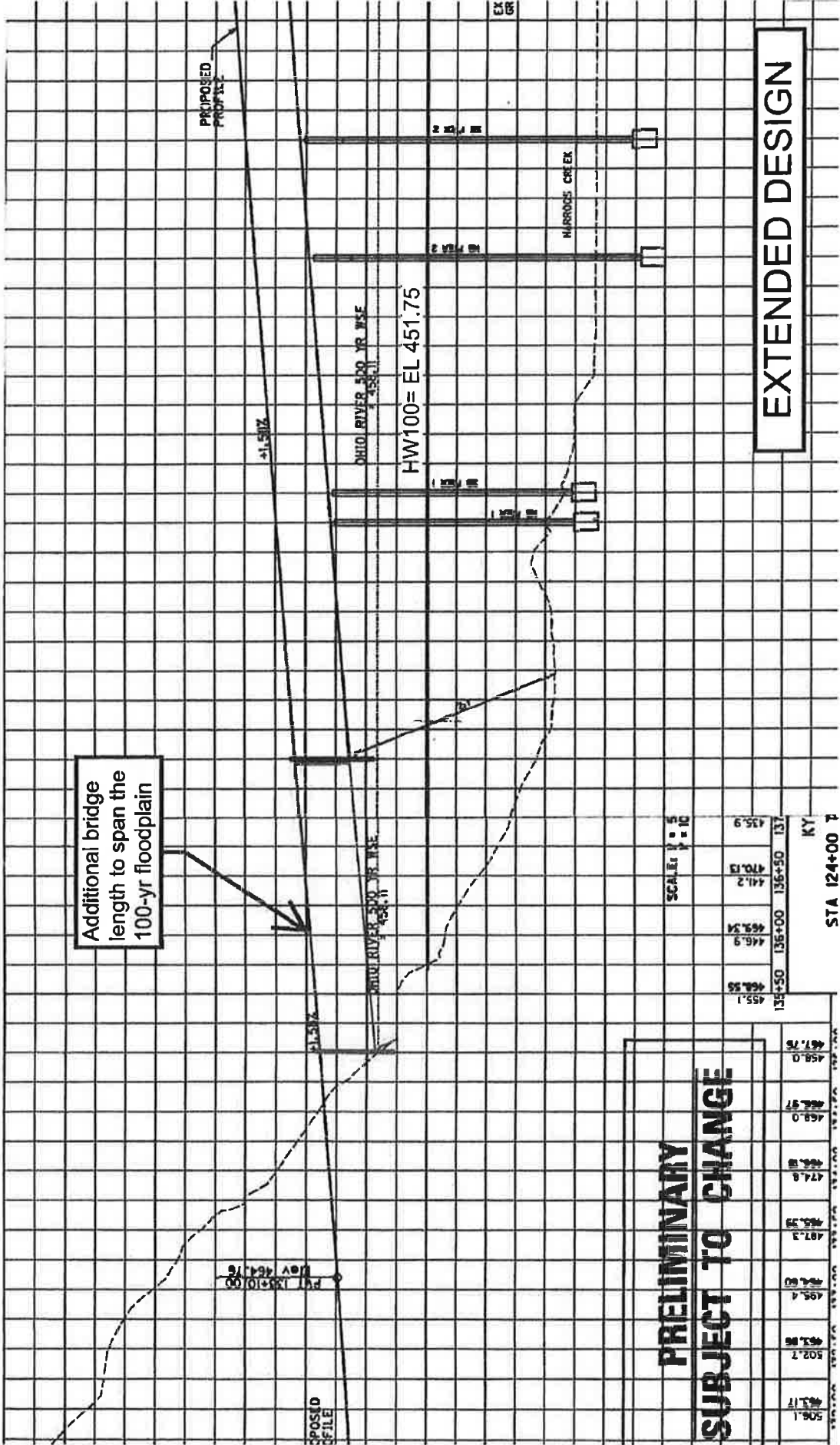
PIERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PIER	PIER	PIER	PIER	PIER	PIER										
31	61	74	52												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
51	60	35	23												

FRAMING Continuous  
 MATERIAL WSP Box Girders  
 SPECIAL FEATURES NJ Barriers

Item	Units	FINAL PLANS ESTIMATE					FINAL BID								
		Unit Price	Superstructure	Substructure	Bridge	Unit Price	Superstructure	Substructure	Bridge						
Concrete Class A	CY	450.00		4580.1	2,061,032.74	2,061,032.74									
Concrete Class AA	CY	540.00	3322.4	1,794,075.90	416.1	224,696.61	2,018,772.71								
Steel Reinforcement	LB	0.91		845009	768,958.57	768,958.57									
Steel Reinforcement Epoxy Coated	LB	0.98	913659	904,522.09	88070	87,188.97	991,711.05								
Piles - Steel HP 14 X 89	LF	58.00		35310	2,047,969.73	2,047,969.73									
Bearings	EA	14000.00		72	1,008,000.00	1,008,000.00									
Modular Joint	LF	1000.00	204	204,000.00		204,000.00									
Backfill & Slope Protection	LS	100000.00	2	200,000.00		200,000.00									
Soundwall	SF	40.00	18375.0	735,000.00		735,000.00									
Structural Steel (Grade 50)	LB	2.18	7804311	17,013,397.28		17,013,397.28									
Armored Edge for Concrete	LF	68.00	192	13,056.00		13,056.00									
Masonry Coating	SY	8.25	4863.5	40,124.07	2831.6	23,360.61	63,484.67								
Total for Additional Items			376,732.50	376,732.50		376,732.50									
<b>TOTAL COST w/15% CONT.</b>				24,473,044.02		7,154,386.53	31,700,000.00								
Cost per Deck Area				198.21		57.94	256.74								
<b>ADDITIONAL ITEMS</b>															
Item	Units	Unit Price	Superstructure	Substructure	Bridge	Unit Price	Superstructure	Substructure	Bridge	Unit Price	Superstructure	Substructure	Bridge	Unit Price	Superstructure
Rail System Type III	LF	75.00	5023.1	376732.50											

CURRENT DESIGN





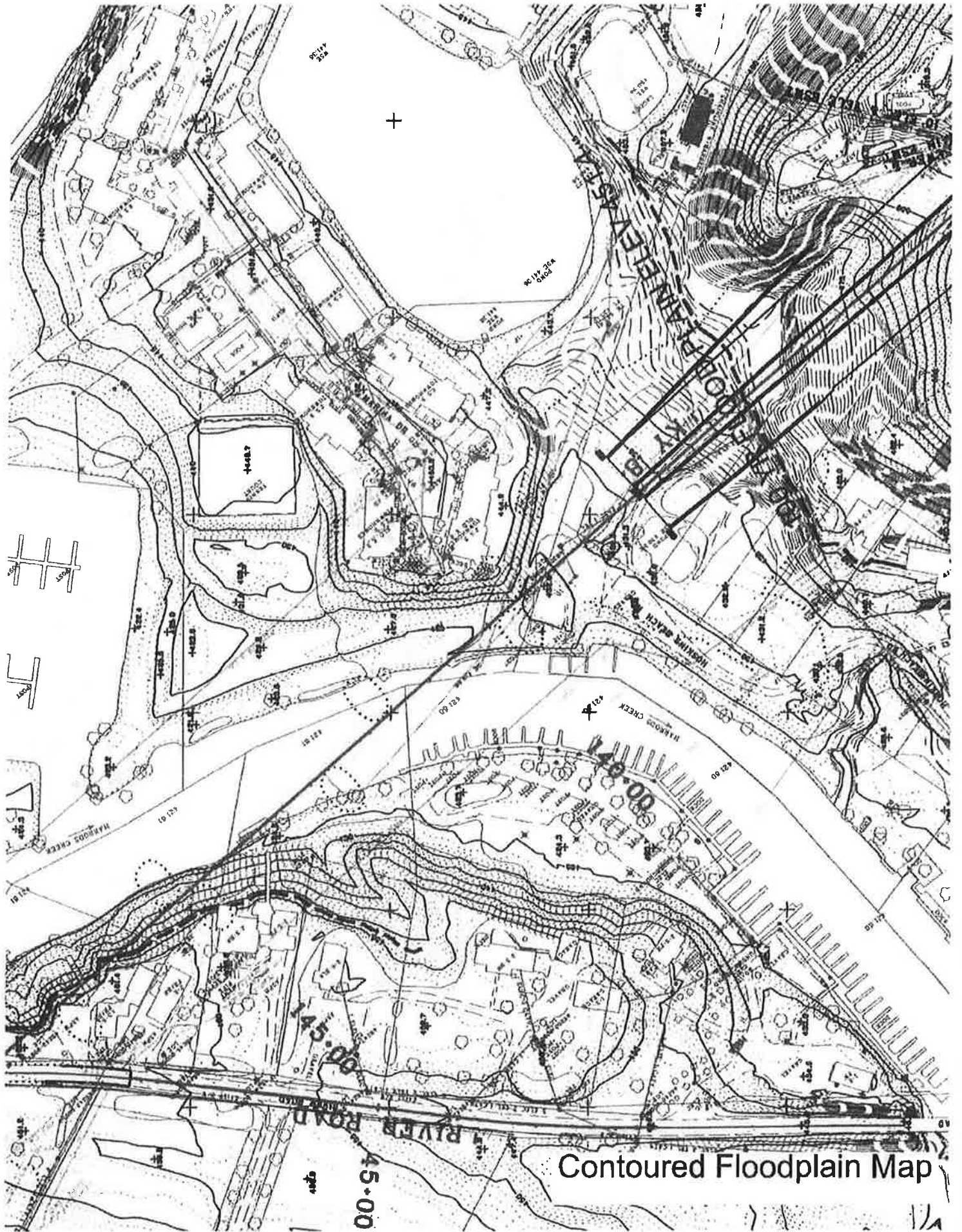
Additional bridge length to span the 100-yr floodplain

**PRELIMINARY  
SUBJECT TO CHANGE**

**EXTENDED DESIGN**

455.1	456.55	456.9	459.34	470.13	455.9	137	KY
135+50	136+00	136+50	137				

508.1	508.7	509.4	510.1	510.8	511.5	512.2	512.9	513.6	514.3	515.0	515.7	516.4	517.1	517.8	518.5	519.2	519.9	520.6	521.3	522.0	522.7	523.4	524.1	524.8	525.5	526.2	526.9	527.6	528.3	529.0	529.7	530.4	531.1	531.8	532.5	533.2	533.9	534.6	535.3	536.0	536.7	537.4	538.1	538.8	539.5	540.2	540.9	541.6	542.3	543.0	543.7	544.4	545.1	545.8	546.5	547.2	547.9	548.6	549.3	550.0	550.7	551.4	552.1	552.8	553.5	554.2	554.9	555.6	556.3	557.0	557.7	558.4	559.1	559.8	560.5	561.2	561.9	562.6	563.3	564.0	564.7	565.4	566.1	566.8	567.5	568.2	568.9	569.6	570.3	571.0	571.7	572.4	573.1	573.8	574.5	575.2	575.9	576.6	577.3	578.0	578.7	579.4	580.1	580.8	581.5	582.2	582.9	583.6	584.3	585.0	585.7	586.4	587.1	587.8	588.5	589.2	589.9	590.6	591.3	592.0	592.7	593.4	594.1	594.8	595.5	596.2	596.9	597.6	598.3	599.0	599.7	600.4	601.1	601.8	602.5	603.2	603.9	604.6	605.3	606.0	606.7	607.4	608.1	608.8	609.5	610.2	610.9	611.6	612.3	613.0	613.7	614.4	615.1	615.8	616.5	617.2	617.9	618.6	619.3	620.0	620.7	621.4	622.1	622.8	623.5	624.2	624.9	625.6	626.3	627.0	627.7	628.4	629.1	629.8	630.5	631.2	631.9	632.6	633.3	634.0	634.7	635.4	636.1	636.8	637.5	638.2	638.9	639.6	640.3	641.0	641.7	642.4	643.1	643.8	644.5	645.2	645.9	646.6	647.3	648.0	648.7	649.4	650.1	650.8	651.5	652.2	652.9	653.6	654.3	655.0	655.7	656.4	657.1	657.8	658.5	659.2	659.9	660.6	661.3	662.0	662.7	663.4	664.1	664.8	665.5	666.2	666.9	667.6	668.3	669.0	669.7	670.4	671.1	671.8	672.5	673.2	673.9	674.6	675.3	676.0	676.7	677.4	678.1	678.8	679.5	680.2	680.9	681.6	682.3	683.0	683.7	684.4	685.1	685.8	686.5	687.2	687.9	688.6	689.3	690.0	690.7	691.4	692.1	692.8	693.5	694.2	694.9	695.6	696.3	697.0	697.7	698.4	699.1	699.8	700.5	701.2	701.9	702.6	703.3	704.0	704.7	705.4	706.1	706.8	707.5	708.2	708.9	709.6	710.3	711.0	711.7	712.4	713.1	713.8	714.5	715.2	715.9	716.6	717.3	718.0	718.7	719.4	720.1	720.8	721.5	722.2	722.9	723.6	724.3	725.0	725.7	726.4	727.1	727.8	728.5	729.2	729.9	730.6	731.3	732.0	732.7	733.4	734.1	734.8	735.5	736.2	736.9	737.6	738.3	739.0	739.7	740.4	741.1	741.8	742.5	743.2	743.9	744.6	745.3	746.0	746.7	747.4	748.1	748.8	749.5	750.2	750.9	751.6	752.3	753.0	753.7	754.4	755.1	755.8	756.5	757.2	757.9	758.6	759.3	760.0	760.7	761.4	762.1	762.8	763.5	764.2	764.9	765.6	766.3	767.0	767.7	768.4	769.1	769.8	770.5	771.2	771.9	772.6	773.3	774.0	774.7	775.4	776.1	776.8	777.5	778.2	778.9	779.6	780.3	781.0	781.7	782.4	783.1	783.8	784.5	785.2	785.9	786.6	787.3	788.0	788.7	789.4	790.1	790.8	791.5	792.2	792.9	793.6	794.3	795.0	795.7	796.4	797.1	797.8	798.5	799.2	799.9	800.6	801.3	802.0	802.7	803.4	804.1	804.8	805.5	806.2	806.9	807.6	808.3	809.0	809.7	810.4	811.1	811.8	812.5	813.2	813.9	814.6	815.3	816.0	816.7	817.4	818.1	818.8	819.5	820.2	820.9	821.6	822.3	823.0	823.7	824.4	825.1	825.8	826.5	827.2	827.9	828.6	829.3	830.0	830.7	831.4	832.1	832.8	833.5	834.2	834.9	835.6	836.3	837.0	837.7	838.4	839.1	839.8	840.5	841.2	841.9	842.6	843.3	844.0	844.7	845.4	846.1	846.8	847.5	848.2	848.9	849.6	850.3	851.0	851.7	852.4	853.1	853.8	854.5	855.2	855.9	856.6	857.3	858.0	858.7	859.4	860.1	860.8	861.5	862.2	862.9	863.6	864.3	865.0	865.7	866.4	867.1	867.8	868.5	869.2	869.9	870.6	871.3	872.0	872.7	873.4	874.1	874.8	875.5	876.2	876.9	877.6	878.3	879.0	879.7	880.4	881.1	881.8	882.5	883.2	883.9	884.6	885.3	886.0	886.7	887.4	888.1	888.8	889.5	890.2	890.9	891.6	892.3	893.0	893.7	894.4	895.1	895.8	896.5	897.2	897.9	898.6	899.3	900.0	900.7	901.4	902.1	902.8	903.5	904.2	904.9	905.6	906.3	907.0	907.7	908.4	909.1	909.8	910.5	911.2	911.9	912.6	913.3	914.0	914.7	915.4	916.1	916.8	917.5	918.2	918.9	919.6	920.3	921.0	921.7	922.4	923.1	923.8	924.5	925.2	925.9	926.6	927.3	928.0	928.7	929.4	930.1	930.8	931.5	932.2	932.9	933.6	934.3	935.0	935.7	936.4	937.1	937.8	938.5	939.2	939.9	940.6	941.3	942.0	942.7	943.4	944.1	944.8	945.5	946.2	946.9	947.6	948.3	949.0	949.7	950.4	951.1	951.8	952.5	953.2	953.9	954.6	955.3	956.0	956.7	957.4	958.1	958.8	959.5	960.2	960.9	961.6	962.3	963.0	963.7	964.4	965.1	965.8	966.5	967.2	967.9	968.6	969.3	970.0	970.7	971.4	972.1	972.8	973.5	974.2	974.9	975.6	976.3	977.0	977.7	978.4	979.1	979.8	980.5	981.2	981.9	982.6	983.3	984.0	984.7	985.4	986.1	986.8	987.5	988.2	988.9	989.6	990.3	991.0	991.7	992.4	993.1	993.8	994.5	995.2	995.9	996.6	997.3	998.0	998.7	999.4	1000.1
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Contoured Floodplain Map

# ATTACHMENT C

## **Bridging the 100-year floodplain of Lentzier Creek The Louisville – Southern Indiana Ohio River Bridges Project July 20, 2012**

The current contract documents submitted for bidding include two road crossings over Lentzier Creek. One is for I-265 which is for twin structures, the other is for Brookhollow Way. The purpose of this document is to assess the changes to the project if both structures were required to span the entire floodplain.

The Brookhollow Way structure spans the entire floodplain; therefore there is no need to revise the design and there will be no project changes.

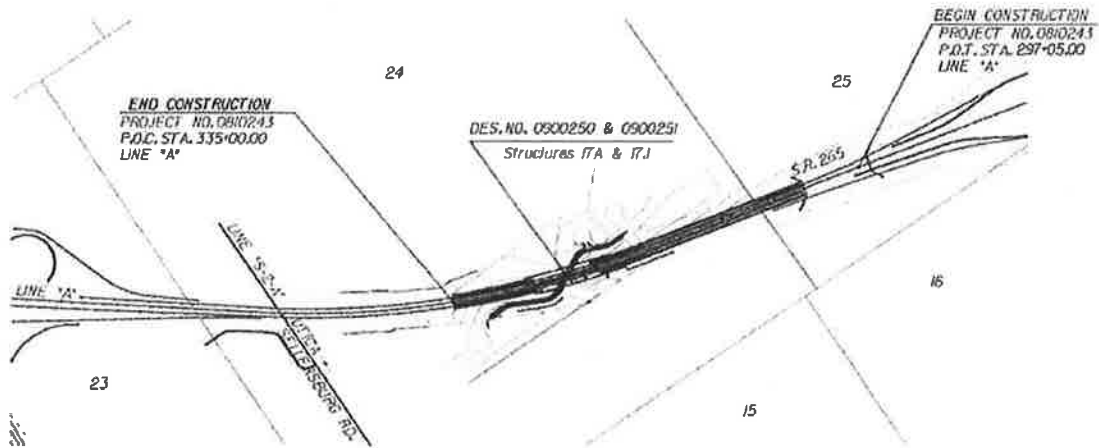
To span the entire floodplain, the I-265 structures will have to be lengthened 174' to the east. This will require two more spans @87'. Additionally, two more piers will have to be built in the floodplain.

Following is a summary of the disturbance area:

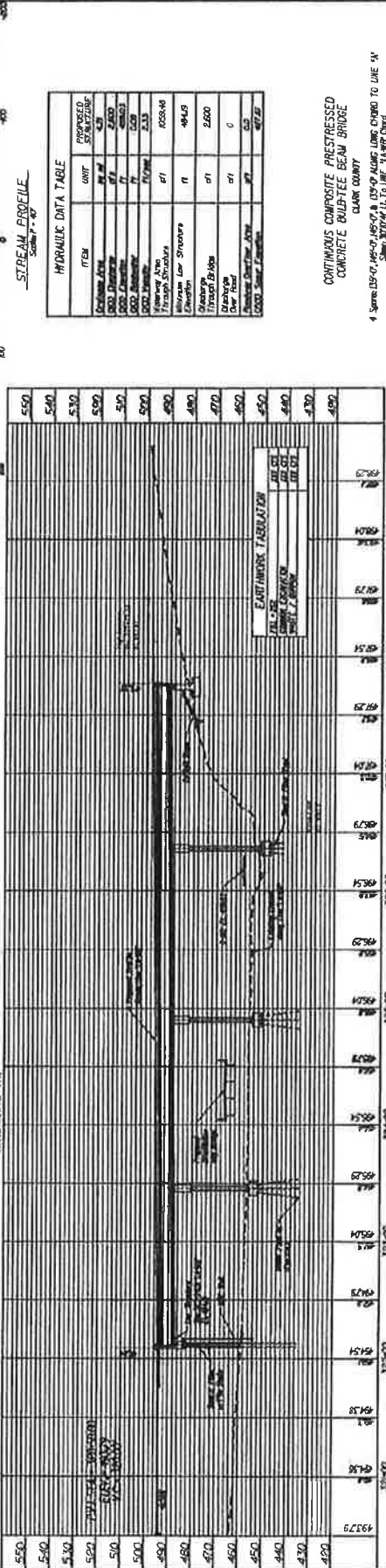
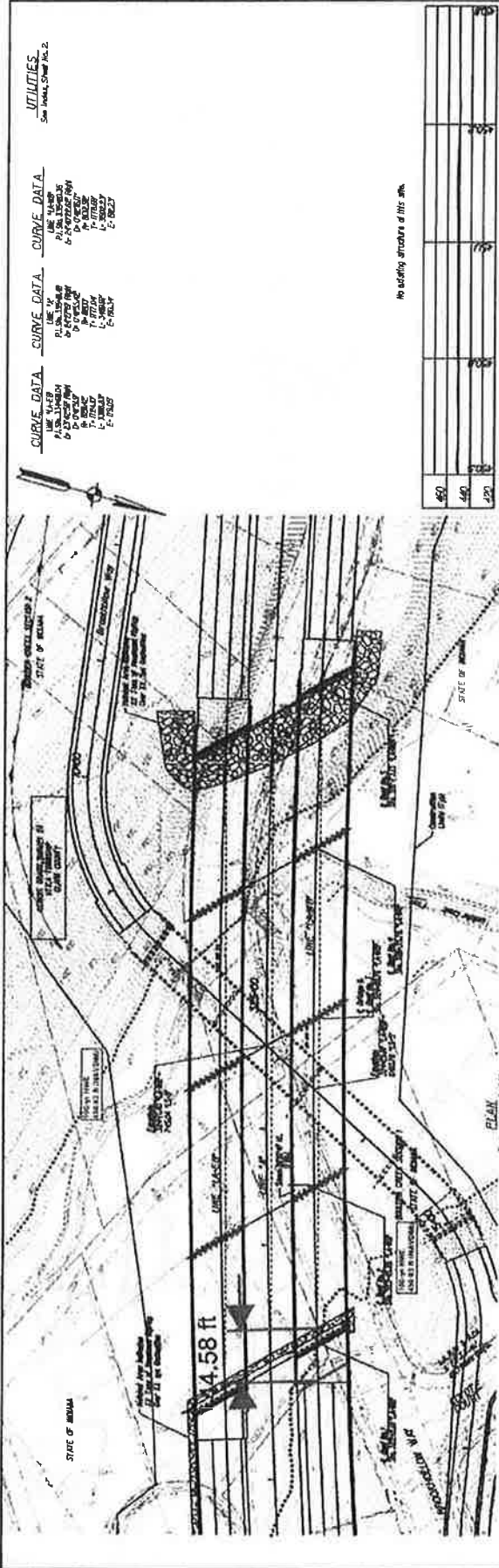
	Current Structures	Lengthened Structures
MSE Wall impact area	0.46 Ac	0
Pier Construction	0.74 Ac	1.24 Ac
Total	1.20 Ac	1.24 Ac
Flow Area	1018 sq .ft.	1038 sq .ft.
Backwater	0.05'	0.01'
Cost	\$5.0M	\$6.6M
Additional Cost	0	\$1.6M

As can be seen, the disturbance to the area of floodplain remains the same for either bridge length. The additional flow area at the upper elevations of floodplain provide a negligible benefit.

**Ohio River Bridges Project – SDC 6**  
**S.R. 265 EB & WB over**  
**Lentzier Creek and Brookhollow Way**







**UTILITIES.**  
See Plans, Sheet No. 2.

**CURVE DATA**  
LINE 14-18  
P.C. 490.00  
P.T. 495.00  
C.C. 492.50  
R. 100.00  
L. 180.00  
E. 180.00

**CURVE DATA**  
LINE 14-19  
P.C. 495.00  
P.T. 500.00  
C.C. 497.50  
R. 100.00  
L. 180.00  
E. 180.00

**CURVE DATA**  
LINE 14-20  
P.C. 500.00  
P.T. 505.00  
C.C. 502.50  
R. 100.00  
L. 180.00  
E. 180.00

**STREAM PROFILE**  
Scale 1" = 40'

ITEM	AMT	PROPOSED
Concrete Deck	10.00	10.00
Concrete Abutments	10.00	10.00
Concrete Piers	10.00	10.00
Concrete Foundations	10.00	10.00
Steel Deck	10.00	10.00
Steel Abutments	10.00	10.00
Steel Piers	10.00	10.00
Steel Foundations	10.00	10.00
Other	10.00	10.00
Total	100.00	100.00

CONTINUOUS COMPOSITE PRESTRESSED  
CONCRETE BUILT-UP BEAM BRIDGE  
CLARK COUNTY  
4. Same as 15-01, 15-02, 15-03 & 15-04 AS PER LINES 14-18 TO LINE 14-20  
Scale 1" = 40' Vert. 1" = 40' Horiz.

INDIANA  
DEPARTMENT OF TRANSPORTATION  
SCARLES W.B. OVER THEFT/PIER CRACK

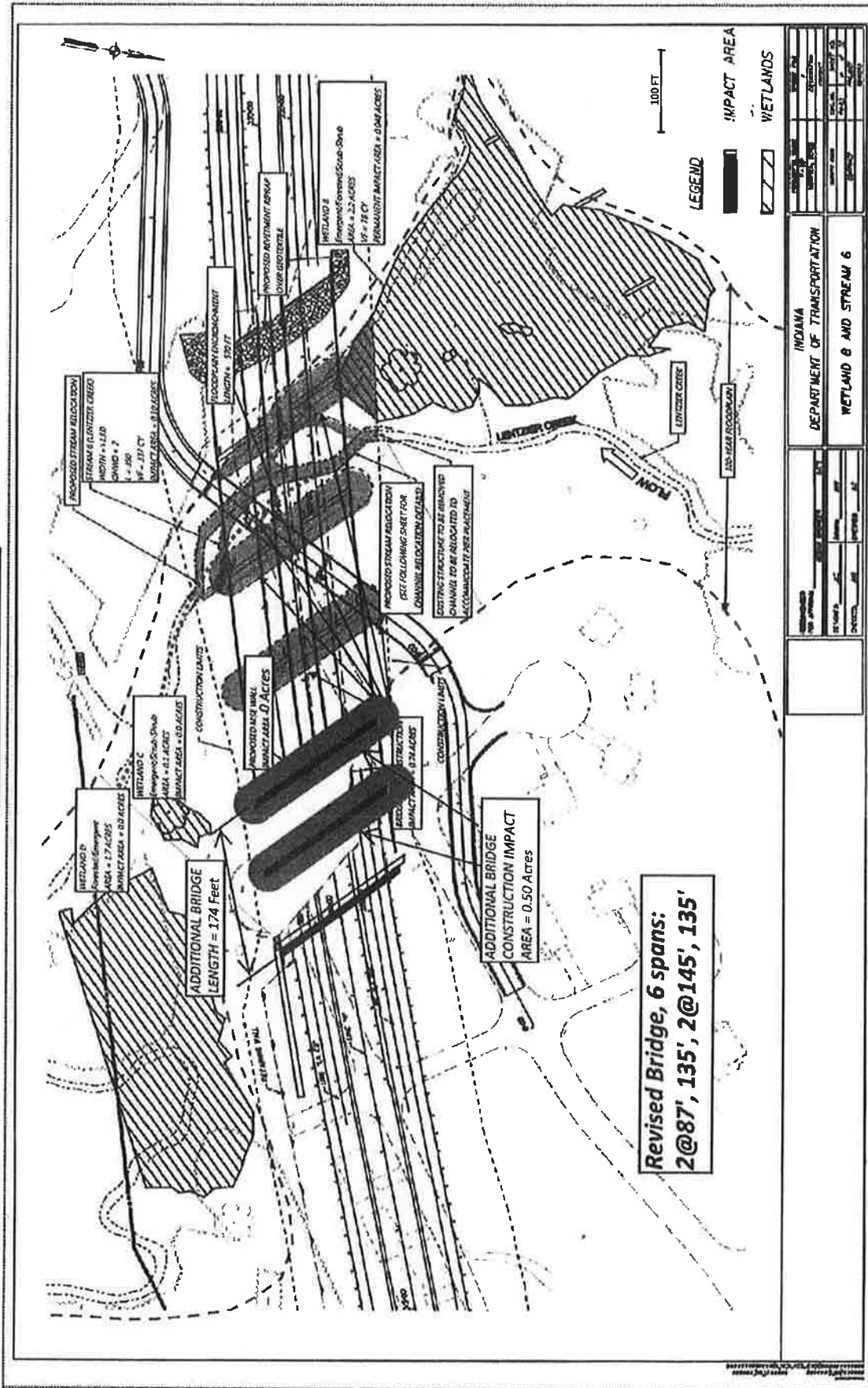
NOTE: ROAD PLANE USES NO COROU  
FOR ALIGNMENTS TIES AND BENCHMARKS.

FROM OVER THEFT/PIER CRACK - Section 8  
Structures 14, 15, and Bounded by  
Apparent Indiana Department of Transportation  
Appl. County Transportation Section

APPROVED FOR APPROVAL: [Signature] DATE: [Date]

DATE: 11/15/11

**PERMANENT IMPACTS**



**Revised Bridge, 6 spans:  
2@87', 135', 2@145', 135'**

**LEGEND**

- IMPACT AREA
- WETLANDS

<p>INDIANA DEPARTMENT OF TRANSPORTATION WETLAND 6 AND STREAM 6</p>	<p>PROJECT NO. 100-100000000</p> <p>DATE 10/15/10</p> <p>SCALE 1" = 100'</p> <p>DRAWN BY J. SMITH</p> <p>CHECKED BY M. JONES</p> <p>APPROVED BY K. BROWN</p>
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**Subject:** FW: LSIORB Project - FHWA floodplain letter

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**From:** [Mcconney.Ramona@epamail.epa.gov](mailto:Mcconney.Ramona@epamail.epa.gov) [mailto:[Mcconney.Ramona@epamail.epa.gov](mailto:Mcconney.Ramona@epamail.epa.gov)]  
**Sent:** Wednesday, January 30, 2013 2:41 PM  
**To:** Allen, Michelle (FHWA)  
**Cc:** [Westlake.Kenneth@epamail.epa.gov](mailto:Westlake.Kenneth@epamail.epa.gov); [Laszewski.Virginia@epamail.epa.gov](mailto:Laszewski.Virginia@epamail.epa.gov); [Mueller.Heinz@EPA.GOV](mailto:Mueller.Heinz@EPA.GOV)  
**Subject:** LSIORB Project - FHWA floodplain letter

Dear Ms. Allen,

Thank you for coordinating with EPA Regions 4 and 5. Both Regions reviewed your January 17, 2013 letter and attachments regarding your clarification of the treatment of floodplains for the Louisville-Southern Indiana Ohio River Bridges Project (LSIORB). Your letter clarifies the intent of your commitment to bridge 100-year floodplains when feasible. This language is consistent with EPA's comments in the SFEIS. EPA's comments on the SFEIS included our recommendation to span 100-year floodplains when feasible.

Ramona K. McConney  
NEPA Program Office  
EPA Region 4  
(404)562-9615