

051B00024N

KYTC Bridge Inspection Report

Summary:

Inspection Date: 5/12/2010
 Inspector: ERICHMOND (81)
 Primary Type: Standard (24 Months)

Types of Inspections Performed:

National Bridge Inventory: Y
 Element: Y
 Fracture Critical: N
 Underwater: N
 Other Special: N

Inspector Signature: _____

District Review Date: 4/22/2008

District Reviewer: BHOUCK (7)

IDENTIFICATION

Bridge ID (8):	051B00024N	MAP BRIDGE	District Number:	2
Route Carried (7):	KY-136		County (3):	51 Henderson
Mile Point:	24.611		Feature Intersected (6):	E FK CANOE CREEK DITCH
Location (9):	.70 MI SOU. OF JCT KY 520		Road Name:	KY-136 EAST
Structure Description:	26.9 Foot - Single Span Concrete Tee Beam			

NBI CONDITION

SCHEDULE TAB

Deck (58):	5	Schedule:	Required (Y/N)	Last Date	Frequency	Next Date
Superstructure (59):	4	NBI (90):		5/12/2010	(91): 24 mos	5/12/2012
Substructure (60):	4	Fracture Critical (92A):	N	(93A): 1/1/1901	(92A): mos	1/1/1901
Culverts (62):	N	Underwater (92B):	N	(93B): 1/1/1901	(92B): mos	1/1/1901
Channel/Protection (61):	6	Other Special (92C):	N	(93C): 1/1/1901	(92C): mos	1/1/1901
		Elemental:	NA		24 mos	5/12/2012

Load Rating and Posting

WATERWAY

Truck Type	Typ I	Typ II	Typ III	Typ IV	Gross	Scour Critical (113):	
Recomm. Posting:	-1	-1	-1	-1	-1	Observed 113 Rating:	8
Field Posting:	-1	-1	-1	-1	-1	Waterway Adeq. (71):	6
Posting Status (41):	A Open, no restriction						
Signs Posted:	Cardinal:	N	Non-Cardinal:	N			

DECK/WEARING SURFACE

Deck Type (107):	1 Concrete-Cast-In-Place					
Wearing Surface/Protective System (108):	Type: 6	Membrane: 0	Protection: 0			
Traffic Safety Features (36):	Bridge Rail: 0	Transition: 0	Appr. Rail: 1	Rail Ends: 0		
Overlay:	Y					
Overlay Type:	Asphalt					
Overlay Thickness:	4.02					

Vertical Clearances

Minimum Vertical Overclearance (53):	99.99
Minimum Vertical Underclearance (54):	0.00
Maximum Vertical Clearance (10):	99.99
Minimum Vertical Clearance:	99.99

Sufficiency Ratings

SR:	23.20	SD/FO:	1 Structurally Deficient
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Element Condition State Data

Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
106/1	Unpnt Stl Opn Girder	LF	54.00	0.00	54.00	0.00	0.00	0.00
110/1	R/Conc Open Girder	LF	108.00	39.00	15.00	27.00	27.00	0.00
13/1	Unp Conc Deck/AC Ovl	SF	540.00	540.00	0.00	0.00	0.00	0.00

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Elm/Env	Description	Units	Total Qty.	Qty. CS1	Qty. CS2	Qty. CS3	Qty. CS4	Qty. CS5
215/1	R/Conc Abutment	LF	82.00	0.00	0.00	82.00	0.00	0.00
334/1	Metal Rail Coated	LF	48.00	31.20	4.80	12.00	0.00	0.00
359/1	Soffit Smart Flag	EA	1.00	0.00	1.00	0.00	0.00	0.00
363/1	Section Loss SmFlag	EA	1.00	0.00	1.00	0.00	0.00	0.00
604/1	2nd Elem Dist	EA	1.00	0.00	1.00	0.00	0.00	0.00
611/1	Embankment Erosion	EA	1.00	0.00	1.00	0.00	0.00	0.00
612/1	Chan Algn	EA	1.00	1.00	0.00	0.00	0.00	0.00

Element Condition State Data

Str	Unit	Elm/Env	Description	Description
1	106/1	Unpnt Stl Opn Girder	Steel Beams=This bridge has one 12" steel H-beam along each side. There are bolts extending from these beams through the outside concrete beams. If the intent of these bolts is to transfer the loads from the concrete beams (both outside concrete beams are in poor condition) to the steel beams this is a poor weak design. The very ends of the beams have a small amount of paint; 99.9% of the beams are 100% rusty. The bottom side of both beams completely across have some section loss with rust scale and areas of flaking. At this time even with the flaking the section loss is fairly minor.	
1	110/1	R/Conc Open Girder	Concrete Beams=This bridge has four cast-in-place concrete beams. The two inside beams are 22" & the two smaller outside beams are 15". The two inside beams have a few minor surface delaminated areas and minor small surface spalls with rebar exposed (this is a result of the rebar being installed to close to the surface) on the bottoms and sides but are in good condition. The two smaller outside beams are wet and discolored from leakage the entire length of the beams and the concrete is delaminated. All throughout the sides and bottoms of the beams are numerous long longitudinal cracks with leakage with calcium deposits with some stalactites. The outside face of the right outside beam up at the top near mid span has a 2' long area of deep section loss from disintegration. The inside face of the right outside beam half way down has a very long transverse crack with thick calcium deposits. The rear half of the left outside beam along the bottom and inside edge has much section loss from disintegration with long sections of rebar exposed. The exposed steel is 100% rusty with a lot of section loss; one bar is rusted completely in two. There are a few other smaller areas of disintegration in the two outside beams with reinforcing steel exposed which is rusty with section loss. Summary=The two outside concrete beams on this bridge are in poor condition.	
1	13/1	Unp Conc Deck/AC Ovl	Wearing Surface=The asphalt wearing surface on this bridge is in good condition with no cracking. It appears to be approximately 4" thick.	
1	215/1	R/Conc Abutment	Abutments=The substructure units of this bridge is old with loss of section to the surface of the concrete from erosion caused by the elements through the years. The top half of the rear abutment has been covered over with a thin coat of slurry mix sometime in the past. The left half of rear abutment near the top has a small area of random cracking with leakage. Rear abutment has a hairline vertical crack under both inside beams. The forward abutment has a long vertical crack with leakage from top to bottom under the two inside beams. The right outer end of the forward abutment down at the bottom has deep honeycomb areas as a result of poor vibration during construction; this extends on out through the bottom half of the right forward wing. The left rear wing has a large wide transverse crack across the face 1/4 the way down from the top and the entire face is full of transverse cracks with delamination. The bottom half of this wing out toward the end has a lot of seepage with calcium deposits. The right rear wing has a large transverse crack completely across the face 1/4 the way down (this wing is broken in to at this location) with a small area of disintegration at the edge of the abutment seat. Left forward wing has diagonal cracking with seepage in the top section and transverse honeycomb areas in the bottom. Right forward and left rear wings have some disintegration with section loss on the top surfaces.	
1	334/1	Metal Rail Coated	Railing=This bridge has 27" high single deep beam galvanized railing on galvanized steel posts with no spacers or backup. The rear half of the left railing is very rusty; it appears to be an older section. The four corner posts are longer than the other posts and extend down a few feet below the outside beams and the bottom half of the posts are rusty. Both sides the railing has some minor scrapes and the railing bows out at the ends as a result of this bride being so narrow.	
1	359/1	Soffit Smart Flag	Soffit=The bottom of deck in all four corners and at mid span in center bay and here and there throughout the left outside bay has small areas of longitudinal spalling with longitudinal rebar exposed. The exposed rebar are rusty but no significant section loss. The right forward corner has a small wet area next to diaphragm with several short diagonal cracks.	
1	363/1	Section Loss SmFlag	Section Loss=The two steel beams have some section loss along the bottom sides. At this time the section loss is not significant and there are no thin areas.	

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1		604/1	2nd Elem Dist	Diaphragms=This bridge has concrete diaphragms over the abutments only. Over rear abutment the diaphragms have minor cracking and spalling all along the bottom edge. In the center bay over rear abutment along the bottom edge next to the 2nd beam from left is a spalled area with some reinforcing steel exposed. The exposed steel is rusty but only minor section loss. The diaphragm in the right outside bay over forward abutment has a small wet area with a transverse crack.
1		611/1	Embankment Erosion	Erosion=In the past the forward embankments next to the wings have washed; the left side has been repaired with rip rock & asphalt, the right side lined with asphalt. No further repairs are needed.
1		612/1	Chan Algn	Channel Alignment=Approximately 50' upstream two streams merge and then flow fairly straight in to this structure. After exiting the bridge the stream makes a slight left turn. No stream re-alignment is needed. The stream banks up and down the stream appear to be stable; a lot of the banks are lined with trees and brush.

BRIDGE.Notes

There are no gas, water, sewer, fiber optic, telephone, or attached cables at this structure.

Work Candidates

Inspector Candidates:

Candidate ID:	Status	Priority	Assigned	Action	Elem	Date Recommended
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