

APPENDIX F

I-25 Bridge Over the Arkansas River

DEPARTMENT OF TRANSPORTATION

Region 2
Planning and Environmental Division
1480 Quail Lake Loop
Colorado Springs, CO 80906
(719) 227-3248 voice
(719) 227-3298 fax



Date: February 3, 2014 (revised March 3, 2014)
To: Chris Horn, Senior ROW Program Manager and Operations Engineer, FHWA
Stephanie Gibson, Environmental Program Manager, FHWA
From: Lisa Streisfeld, Region 2 Planning and Environmental Division
CC: Tom Wrona, Region 2 Transportation Director
Karen Rowe, Region 2 Program Engineer
Joe Deheart, Region 2 Resident Engineer
Vanessa Henderson, Environmental Programs Branch
Rob Frei, Region 2 Environmental/NEPA Project Manager
Subject: I-25 Bridge over the Arkansas River: K-18-AJ and Its Relevance to the Final
Environmental Impact Statement for I-25 New Pueblo Freeway
Attachments: Figure 1 Aerial Photo of I-25 and K-18-AJ
Structure Inspection Reports: December 2012, 2009, 2001, 1996

Summary: This memorandum notifies the Federal Highway Administration about an omission in the *I-25 New Pueblo Freeway Draft* and *Final Environmental Impact Statement (EIS)* documents. The Section 106 analysis and Consultation with the State Historic Preservation Officer (SHPO) was not completed for the I-25 bridge (K-18-AJ, mile-post 97.564) over the Arkansas River. And, subsequently the Section 4(f) Evaluation is unresolved for the I-25 bridge (K-18-AJ, mile post 97.564) over the Arkansas River. This bridge falls within the project study limits of the *I-25 EIS* corridor. During the EIS development the bridge was assumed to be exempt from historic listing or historic eligibility, because the bridge is located on the Interstate. However, following the publication of the *Final Environmental Impact Statement (FEIS)*, CDOT realized the bridge was an exception to the exemption. The Section 106 analysis, the Section 106 Consultation with the SHPO, and the Section 4(f) Evaluation will be completed prior to any improvements to the bridge.

Future improvements to this bridge, (K-18-AJ) do not affect the decision being made with the *Phase 1 Record of Decision (ROD)* for the following reasons:

- The *Phase 1 ROD* consists of I-25 highway improvements from Ilex bridge north to mile post 101. This is the north section of the corridor where the alignment generally follows on the existing I-25 alignment from the Ilex bridges northbound through downtown Pueblo to mile post 101. The *Phase 1 ROD* does not include the central section where the preferred alternative's alignment shifts off the main alignment. The I-25 bridge over

Arkansas River (K-18-AJ) falls within this central section that will be cleared in a future ROD.

- After Phase 1 construction is complete, both fully analyzed *FEIS* alternatives are still available for the section of I-25 that includes the I-25 bridge over the Arkansas River. In either case, the decision being made for the *Phase 1 ROD* does not change or prejudice the opportunities to minimize or avoid the use of the bridge.
- The improvements being cleared by the *Phase 1 ROD* stand on their own as an independent project with independent utility. These improvements do not require and are not dependent upon on any improvements which will be cleared in subsequent ROD's.

CDOT commits to completion of a full environmental evaluation of this bridge as part of the environmental clearance documentation (under NEPA) for any future ROD for the I-25 New Pueblo Freeway EIS corridor that includes this bridge. This memorandum discusses the types of impacts to the No Action, the Modified Alternative (Preferred) and the Existing Alternative if improvements are made on this bridge, and this memorandum concludes that improvements to this bridge do not predetermine an alternative for future Phases of construction along the interstate corridor.

Background: Bridge K-18-AJ is eligible for the National Register of Historic Places. The superstructure is comprised of a steel-plated deck girder and the bridge is cantilevered. The shoulders do not meet current specifications for an interstate. This 1958 bridge has a structural rating of 62.3 (last inspection December 11, 2012) and measures 323 feet long, CDOT Staff bridge comments mention: “Notes of Cracks in bottom diaphragms, and Load Factor Rating (LFR) summary in 1996 of Str. K-18-AJ on I-25 over Arkansas River. The current SIA structural rating of the bridge in LFR is 22 tons Inventory and 36 tons Operating (with the Slab as the controlling member).”

The I-25 bridge K-18-AJ currently carries three lanes of traffic southbound and two lanes of traffic northbound. The third southbound lane functions as an auxiliary lane. The auxiliary lane is an acceleration lane from Santa Fe Avenue to access I-25 southbound and measures about 1,350 feet to the north end of the bridge. South of the bridge, this same auxiliary lane measures approximately 1,350 feet and acts as a deceleration lane for egress of I-25 onto East Abriendo Avenue, heading westbound.

Full environmental evaluation was not completed on bridge K-18-AJ for I-25 over the Arkansas River in Pueblo, Colorado. This omission was not deliberate. The project team analyzed over 800 resources for their historic listing, historic eligibility, or historic contributing features to a potential historic district within the Area of Potential Effect. The project team mistakenly assumed that this bridge was exempt from historic listing or historic eligibility on the National Register of Historic Places, because the bridge is located on the interstate. Generally, the federal interstate is exempt from having historic structures which require formal Consultation with the State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act (NHPA).

CDOT has since realized that this particular I-25 bridge over the Arkansas River, K-18-AJ, was an exception to the 2010 Programmatic Agreement¹ regarding Section 106 Consultation between FHWA, CDOT, the Advisory Council on Historic Preservation (ACHP) and the SHPO. On page 6, Section IV.E., the document specifically says:

IV.E. Interstate Highway Exemption. The Advisory Council on Historic Preservation’s “Exemption Regarding Historic Preservation Review Process for Effects to the Interstate Highway System” went into effect on March 10, 2005. This exemption releases all Federal Agencies from the Section 106 requirement for taking into account the effects of their undertakings on the Interstate System, with the exception of a limited number of individual elements associated with the system. The exceptions within the State of Colorado are listed in *Attachment 4* of this Agreement. For all other elements of the Interstate System, Section 106 Consultation is not necessary. Per the Exemption, CDOT will only conduct Section 106 Consultation on the properties identified as exceptions to the exemption.

The list in *Attachment 4* includes: Glenwood Canyon, the Eisenhower-Johnson Memorial Tunnels, Vail Pass, Genesee Park Interchange, Twin Tunnels, Arkansas River Bridge on I-25, Speer Boulevard Underpasses of I-25, and 23rd Avenue Underpass of I-25. The Arkansas River Bridge on I-25 is the only exception located within Region 2 and on the interstate.

The project team missed the inclusion of the I-25 Arkansas River Bridge in the analysis for the EIS and the Section 106 Consultation process for several reasons. (i.) The root of the first was the assumption that the interstate was exempt. (ii.) The second issue was the timing of the list of exceptions to the interstate exemption generated in 2005 and the new Programmatic Agreement in 2010. Both of these exercises occurred after the analysis for historic resources for the Section 106 Consultation process. Specifically historic resources were evaluated between 2003 and 2005 by the project team. Formal consultation with the SHPO commenced in 2007. An Amendment to the Determination of Effects to Historic Properties I-25 New Pueblo Freeway Improvement project was finalized in March of 2010. Then, Section 106 Consultation with SHPO was then completed in 2011. (iii.) The third source of the omission had to do with staff changes. The project has been under the guidance of at least four Regional Transportation Directors, three Resident Engineers and two Environmental Managers over the past 12 years. The project also had staff changes with the consultant team conducting the historic analysis. The initial historic review efforts were conducted by SAIC as a sub-consultant to CH2MHILL. Later work and amendments to the effects analysis were then conducted by an out of state CH2MHILL staff person who was not familiar with the exceptions generated in 2005 and 2010. During each staff person transition, an effort was made to maintain project history and knowledge. However, this bridge’s eligibility for listing was missed during the internal EIS document review process.

¹ 2010, April 26. “Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the Colorado State Historic Preservation Officer, and the Colorado Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it pertains to the Administration of the Federal-Aid Highway Program in Colorado

Impacts to the Preferred Alternative and Record of Decision for I-25 New Pueblo Freeway

EIS: Bridge K-18-AJ is eligible for listing on the National Register of Historic Places. CDOT Staff Historian has explained that any replacement or widening to an eligible bridge would constitute an adverse impact to an eligible historic resource. A planned impact of this nature would require Section 106 Consultation with the SHPO, a likely determination of an adverse effect, and a Section 4(f) Evaluation [Section 4(f) of the US DOT Act (49 USC 303 and 23 USC 138)] because of this bridge's location on the interstate and the likely use of federal-aid funding. Therefore, evaluation of this bridge constitutes an unresolved issue because of its lack of inclusion of the historic research and analysis in the *EIS*. This unresolved issue, as detailed in this memorandum, will be clearly explained in the upcoming *Phase I ROD*. This memorandum will also be included in the Appendix of the *Phase I ROD* and referenced in any future ROD which includes work on bridge K-18-AJ.

With this documentation plan, CDOT emphasizes that any changes to this bridge will not impact the decision being made with the selected alternative to be detailed in the upcoming *Phase I ROD*. The anticipated selected alternative is the preferred Modified Alternative. No improvements on I-25, south of Ilex bridge, are included in the *Phase I ROD*. The bridge, K-18-AJ, lies south and outside of the project limits for the *Phase I ROD*. Additionally, the limits of Phase 1 encompass an area where the improvements to I-25 for both the Modified and for the Existing Alternatives are equivalent.

Following please find a comparison of impacts to the bridge under the No Action and Action Alternatives. CDOT commits to additional environmental analysis for the alternatives under any Re-evaluation of the EIS or under a future phase of a ROD. Please note, additional phases of a ROD are anticipated to occur 10-25 years into the future, pending funding availability.

- **Impacts to the Bridge K-18-AJ Under the No Action Alternative:** This bridge would receive regular safety, operational and maintenance improvements under a No Action Alternative. For example improvements could possibly include overlays or guardrail replacement. Or, the bridge could have widened shoulders to meet current American Association of State Highway and Transportation Officials (AASHTO) standards and improve safety. The existing shoulders are 1 foot, well below current standards. If under the No Action Alternative, any safety, maintenance or operational improvements are planned, CDOT would conduct a Section 106 Consultation with the SHPO and would also complete a Section 4(f) Evaluation, as needed.
- **Impacts to the Bridge under the Modified Alternative (Preferred Alternative):** This bridge would have no planned impacts under the Modified Alternative, because this bridge would be turned over to local jurisdiction and become Santa Fe Avenue. The bridge selection report completed during the NEPA process did not detail any recommendations for this bridge. In a future ROD for the *EIS*, if this bridge becomes Santa Fe Avenue, any regular safety and operational improvements on the existing interstate would complement the bridge's devolution to the City of Pueblo. For example, improved shoulders could even be used for an addition of a sidewalk, if this bridge converts to the local arterial network of Santa Fe Avenue under the Modified Alternative. (See Appendix E page 28 of the alternatives map in *the Final EIS*.) Because of the

devolution of the bridge and removal of the bridge from the interstate system, any safety, maintenance or operational improvements under the modified alternative would require CDOT to conduct a Section 106 Consultation with the SHPO and would, if necessary, require CDOT to also complete the Section 4(f) Evaluation.

- **Impacts to the Bridge under the Existing Alternative:** Under the existing alternative, bridge K-18-AJ would be reconstructed or replaced to meet current AASHTO interstate specifications. The cross section template would be widened with a standard median, shoulders and auxiliary lane. Based upon preliminary design, the maximum cross section template of this bridge could be as much as 185 feet wide. See page 10 of Appendix E Alternatives Maps of the *Final EIS* and see the structure selection report. (Some limitations may require a taper towards the south end due to the railroad bridge crossing over the interstate's off ramp.) This new bridge design is projected to constitute an adverse impact to the eligible resource. Therefore, as part of the NEPA clearance, CDOT would conduct a Section 106 Consultation with the SHPO and would also complete a Section 4(f) Evaluation. Within the Section 4(f) Evaluation, an alternatives analysis would also be undertaken, which would reexamine avoidance, minimization and mitigation for bridge impacts.

CDOT intends to complete full environmental evaluation of this bridge as part of the documentation material for a future Phase of a ROD or for a Re-Evaluation of the *EIS*. Due to the projected time to complete additional Phases of the ROD, this bridge will likely receive some maintenance and/or safety improvements. If these improvements do occur, CDOT would reexamine them as a cumulative impact to the bridge during full environmental evaluation. For any planned impact to the bridge, CDOT commits to completing Section 106 analysis and Consultation and then a Section 4(f) Evaluation, respectively.

In the immediacy, CDOT has removed any planned work to bridge K-18-AJ as part of the Ilex to First Street Project. Improvements to the bridge over the Arkansas River will not be requested as an Additional Requested Element (ARE) in the design-build project following the completion of the *Phase 1 ROD* for the New Pueblo Freeway. No work will be planned for this bridge until the *Phase 1 ROD* has been signed and until a full environmental evaluation has been prepared.

FHWA's support on this project is greatly appreciated. CDOT and the local community are eager to complete the NEPA process and begin construction of the first Phase of the *ROD* for the I-25 New Pueblo Freeway. If you have any immediate questions, about this memorandum, please contact Lisa Streisfeld (719-227-3248). Thank you again for your continued commitment to this 7 mile long interstate corridor.

Attachment:

Figure 1: Location of the I-25 Bridge K-18-AJ over the Arkansas River



Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A

Mile Post (ON)11: 97.564 mi

Bridge Name: K-18-AJ Inspection Date: 12/11/2012 Sufficiency Rating: 62.3 Not Eligible

NBI Reporting ID:	K-18-AJ	Hist Signif 37:	2	UW Inspection Date 93B:	
Rgn/Sectn 2E/2M:	24	Posting status 41:	A	SI Date 93C:	
Trans Region 2T:	04	Service on/un 42A/B:	1 5	Bridge Cost 94:	\$ 0
County Code 3:	101	Main Mat/Desgn 43A/B:	4 3	Roadway Cost 95:	\$ 0
PUEBLO		Aprr Mat/Desgn 44A/B:	0 0	Total Cost 96:	\$ 0
Place Code 4:	62000	Main Spans Unit 45:	2	Year of Cost Estimate 97:	
PUEBLO		Approach Spans 46:	0	Brdr Brdg Code/% 98A/B:	
Rte.(On/Under)5A:	1	Horiz Clr 47:	40.0 ft	Border Bridge Number 99:	
Signing Prefix 5B:	1	Max Span 48:	165.0 ft	Defense Highway 100:	1
Level of Service 5C:	1	Str Length 49:	334.7 ft	Parallel Structure 101:	N
Directional Suffix 5E:	0	Curb Wdth L/R 50A/B:	0.0 ft 0.0 ft	Direction of Traffic 102:	2
Feature Intersected 6:	ARKANSAS RIVER	Width Curb to Curb 51:	80.0 ft	Temporary Structure 103:	
Facility Carried 7:	25 ML	Width Out to Out 52:	88.0 ft	Highway System 104:	1
Alias Str No.8A:		Deck Area:	29,455. sq. ft	Fed Lands Hiway 105:	0
Pril Str No. 8P:		Min Clr Ovr Brdg 53:	99.99	Year Reconstructed 106:	0000
Location 9:	IN PUEBLO	Min Undrclr Ref 54A:	N	Deck Type 107:	1
Max Clr 10:	328.1 ft	Min Undrclr 54B:	0.0 ft	Wearing Surface 108A:	6
BaseHiway Net12:	1	Min Lat Clrnce Ref R 55A:	N	Membrane 108B:	0
IrsinvRout 13A:	000000025A	Min Lat Undrclr R 55B:	0.0 ft	Deck Protection 108C:	0
IrrsubRout No13B:	00	Min Lat Undrclr L 56:	0.0 ft	Truck ADT 109:	5 %
Latitude 16:	38d 15' 17"	Deck 58:	5	Trk Net 110:	1
Longitude 17:	104d 36' 29"	Super 59:	5	Pier Protection 111:	#
Range18A:	65 W	Sub 60:	6	NBIS Length 112:	Y
Township18B:	65	Channel/Protection 61:	8	Scour Critical 113:	5
Section18C:	1	Culvert 62:	N	Scour Watch 113M:	0
Detour Length 19:	0.6 mi	Oprtg Rtg Method 63:	1 LF Load Factr	Future ADT 114:	81,405
Toll Facility 20:	3	Operating Rating 64:	36.0	Year of Future ADT 115:	2028
Custodian 21:	1	Inv Rtg Method 65:	1	CDOT Str Type 120A:	RGC
Owner 22:	1	Inventory Rating 66:	22.0	CDOT Constr Type 120B:	85
Functional Class 26:	11	Asph/Fill Thick 66T:	004 "in"	Inspection Indic 122A:	
Year Built 27:	1958	Str. Evaluation 67:	5	Inspection Trip 122AA:	
Lanes on 28A:	5	Deck Geometry 68:	6	Inspection Schedule ID:	ODD DEC D20
Lanes Under 28B:	0	Undrclr Vert/Hor 69:	N	Maintenance Patrol 123:	68
ADT 29:	60,300	Posting 70:	5	Expansion Dev/Type124:	2
Year of ADT 30:	2008	Waterway Adequacy 7:	9	Brdg Rail Type/Mod 125A/B:	Y 3
Design Load 31:	5	Approach Alignment 72:	8	Posting Trucks 129A/B/C:	0 0 0
Apr Rdwy Width 32:	84.0 ft	Type of Work 75A:		Str Rating Date 130:	7/1/1996
Median 33:	2	Work Done By 75B:		Special Equip 133:	
Skew 34:	7.00 °	Length of Improvment 76:	0.0 ft	Vert Clr N/E 134A/B/C:	X 99.99 0
Structure Flared 35:	0	Insp Team Indicator 90B:	WHITE TEAM	Vert Clr S/W 135A/B/C:	X 99.99 0
Sfty Rail 36a/b/c/d:	0 1 1 1	Inspector Name 90C:	CHURCHESK	Vertical Clr Date:	5/5/1905
Rail ht36h:	32 "in"	Frequency 91:	24 months	Weight Limit Color: 139:	0
		FC Frequency 92A:		Str Billing Type:	U
		UW Frequency 92B:		Userkey 1 - System:	ONSYS
		SI Frequency 92C:		Userkey 7-Update Indic:	
		FC Inspection Date 93A:			

Inspector Name: CHURCHESK

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A

Mile Post (ON)11: **97.564 mi**

Element Inspection Report

Elm/En	Description	Units	Total Qty	% in 1	CS 1	% in 2	CS 2	% in 3	CS 3	% in 4	CS 4	% in 5	CS 5
13/4	Unp Conc Deck/AC Ovl	(SF)	29,455	100 %	29,455	0 %	0	0 %	0	0 %	0	0 %	0
107/4	Paint Stl Opn Girder	(LF)	2,640	58 %	1,542	27 %	704	12 %	304	3 %	88	0 %	2
210/4	R/Conc Pier Wall	(LF)	90	100 %	90	0 %	0	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	177	100 %	177	0 %	0	0 %	0	0 %	0	0 %	0
234/4	R/Conc Cap	(LF)	90	94 %	85	2 %	2	3 %	3	0 %	0	0 %	0
306/4	Asphaltic Plg Exp Jt	(LF)	160	25 %	40	73 %	117	2 %	3	0 %	0	0 %	0
308/4	Constr Non Exp Jt	(LF)	335	0 %	0	0 %	0	100 %	335	0 %	0	0 %	0
311/4	Moveable Bearing	(EA)	16	0 %	0	100 %	16	0 %	0	0 %	0	0 %	0
313/4	Fixed Bearing	(EA)	8	75 %	6	25 %	2	0 %	0	0 %	0	0 %	0
325/4	Slope Prot/Berms	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
326/4	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
334/4	Metal Rail Coated	(LF)	1,340	100 %	1,340	0 %	0	0 %	0	0 %	0	0 %	0
338/4	Conc Curbs/SW	(LF)	1,340	75 %	1,000	22 %	300	3 %	40	0 %	0	0 %	0
343/4	Pole Attachment	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
355/4	Steel Diaphr. SmFlag	(EA)	2	0 %	0	0 %	0	100 %	2	0 %	0	0 %	0
356/4	Steel Fatigue SmFlag	(EA)	39	0 %	0	100 %	39	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
371/4	Traff Imp Dck SmFlag	(LF)	18	0 %	0	100 %	18	0 %	0	0 %	0	0 %	0
501/4	Channel Cond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
502/4	ChannProtMatCond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
504/4	BankCond	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
13/4	Unp Conc Deck/AC Ovl	2 - 5 Inches asphalt. Looks good. New asphalt overlay prior to 2010 inspection.
107/4	Paint Stl Opn Girder	Built-up riveted girders. R2 to R3 corrosion on top & bottom flange of girder ends, and base of webs, near abutments (measured 3/16 inch loss at Girder 2H at Abutment 3). Some R2 corr. on top flange of Girder A at Pier 2. Some light R1 to R1 corrosion scattered throughout. (See Tally Sheet) Fatigue cracking at diaphragms per Smart Flag Element 356. (The lower strut of the diaphragms in Bays B, C, E, and F at Abutment 3 is nearly gone due to corrosion.)
210/4	R/Conc Pier Wall	Few light vertical cracks. Water stained.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A _

Mile Post (ON)11: **97.564 mi**

Elem/Env	Description	Element Notes
215/4	R/Conc Abutment	Badly stained (very dirty) due to the previous finger joints above that allowed dirt to pileup several inches on abutment seats and around bearings. Dark & dank due to high wide berm to the edge of the levee. Some light vertical cracks with efflor. in both.
234/4	R/Conc Cap	Spalled with exposed rebar at top left side near Bearing A. Couple delam./spalls at right end. Minor pop-outs on faces due to inadequate concrete cover.
306/4	Asphaltic Plg Exp Jt	At both abutments. Leaking in shoulder area at Abutment 1 in the SBnd lanes and causing ice to build up on Bearing 1A below. (See 2012 Photo) Losing adhesion in NBnd lanes at Abutment 1, worst in shoulder area. Cracked at fwd. side of Abutment 1 joint in both directions, and at rear side of Abutment 3 joint (up to 1/2 inch wide) in SBnd lanes. Some D-cracking along edge of joint in #2 SBnd lane at Abutment 3. New asphaltic plug joints were installed prior to 2010 inspection, which were placed over existing finger plate joints.
308/4	Constr Non Exp Jt	Longitudinal joint open along centerline. Light to moderate delam. full length along joint. Leaks.
311/4	Moveable Bearing	Rockers at both abutments. Tipped back 3 to 10 degrees at Abutment 1. R2 corrosion on many. (See 1999 & 2006 Photos) Heavy dirt and asphalt built up around bearings at Abutment 3.
313/4	Fixed Bearing	Very large bearings at Pier 2 allow rotation. (See 2009 Photo) Some R3 corr. on transverse stiffener portion of Bearing 2A. Some R2 corrosion on Bearings 2D and 2E. Most have heavy R1 corrosion.
325/4	Slope Prot/Berms	Concrete levee, good condition. Covered with Graffiti Art (worlds longest mural).
326/4	Bridge Wingwalls	Extensions of abutment backwalls. Look good.
334/4	Metal Rail Coated	Galvanized square tubes (Type Y bridge rail) on exterior curbs, and galvanized flex-beam rail (Type H) on median curbs. Bottom rail on right side above Span 2 is bent about 5 inches out of alignment due to traffic impact. Several scrapes from traffic.
338/4	Conc Curbs/SW	Few spalls, and some horizontal cracking, in faces. Light to moderate scale on median curb for NBnd traffic. Left curb has previously been replaced (about 70 ft.) above Span 2. Light to moderate efflorescence seeping through the cold joint on exterior side of left curb above Span 2. Some spalling and delam. on exterior face especially where old rail had been attached.
343/4	Pole Attachment	Light standards on both sides of bridge, above both spans. Concrete base was poured monolithically with exterior curb edges. Grout around light pole bases has cracked, broken off, or is completely gone.
355/4	Steel Diaphr. SmFlag	Lower bracing of diaphragms at Abutment 3 have nearly rusted out completely. (See 2008 Photos) One rivet is sheared off at Diaph. #2 in Bay 1B top connection to Girder 1C, and one rivet is sheared off at Diaph. #5 in Bay 2A top connection to Girder 2A. There are cracks in the riveted diaphragm vert. stiffener angles because they were crimped to go over the flange angle legs. (See 2008 Photos) This happened at 39 locations (and potentially more), but unable to verify fully due to limited access (could not reach interior girders with the A-40 platform). Locations are included in Smart Flag 356 and tally sheet.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A _

Mile Post (ON)11: **97.564 mi**

Elem/Env	Description	Element Notes
356/4	Steel Fatigue SmFlag	Widespread cracking at base of vertical stiffener angles at diaphragms. (See Photos & Tally Sheet) There are 39 locations & more potential cracks. Worst crack is 13 inches long, starting at the base of the stiffener, and open to 1/8 inch wide, this is at Diaphragm #7 in Bay 2A connection to Girder 2B; most others only extend up 4 to 6 inches. Few cracks have propagated within the angles, but do not threaten girders as cracks can not go into webs or flanges (due to riveted connections). Most cracks have been marked with pencil or marker to detect propagation. (Angles were crimped to go around the lower flange angle leg riveted to the web.)
359/4	Soffit Smart Flag	Spotted map cracking. Some trans. cracks (open to 1/32 inch wide) with efflorescence scattered throughout. Spalls with exposed rebar, and some delamination, along many trans. cracks in Bay G. (See 1999 & 2006 Photos) Some efflor., rust stains, and spalls with exposed rebar in overhangs, especially at left side (See 2008 Photo), due to seepage through cracks and the cold joint along base of curb, active leaking indicated by icicles.
371/4	Traff Imp Dck SmFlag	IMP-??/??/??; INSP-12/12/02; REP-00/00/00 Median rail and one post bent from impact in Span 2 on NB side (unrepaired 12/04), and bottom right rail of Type Y in Span 2 hit (repaired 12/04). It was hit again some time before inspection in 12/13/2006, and is up to 5 inches out of alignment causing a buckle affecting 10 ft. length about 85 feet from Abutment 3.
501/4	Channel Cond	Arkansas River. Concrete levee on both banks extend a few hundred feet in both directions. Dam a few miles upstream provides flow control. Check dam several hundred yards downstream.
502/4	ChannProtMatCond	Concrete levee on both banks extend few hundred feet both directions.
504/4	BankCond	Steep concrete lined levee; high dirt berm between levee and abutments extends to about 30 feet, but only 1 to 2 feet below girders.

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
355.02	Cln & Pnt	12/14/2000	-1	2015	4500

Clean and spot paint girders (especially near the abutments & pier) and the bearings.

354.02	Suprstr	12/14/2000	-1	2015	10000
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Consider repairing the fatigue-cracked vertical stiffener angles at the diaphragms. The worst has cracked up as high as 13 inches from the lower flange. There are 39 locations, and some potential cracks that were inaccessible.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A _

Mile Post (ON)11: 97.564 mi

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
364.01	Exp Jts	12/11/2012	_	2015	500

Seal cracks along edges of asphaltic plug joints, especially in shoulder area of Southbound lanes at Abutment 1.

**354.02	Suprstr	12/13/2006	-1	2015	5000
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Replace Diaphragms at Abutment 3 in Bays B, C, E, & F.

353.01	Br Dk Rpr	12/11/2012	_	2015	500
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Seal longitudinal joint in median to prevent leakage below deck.

Bridge Notes

Utilities: Six 4 inch Ø galvanized conduits attached to Girder H; one 2½ inch Ø galvanized conduit clamped on both exterior curbs.

Used A-40 in 2012 on both sides due to cracks at diaphragms. (See Tally Sheet)
 Unable to reach the 2 girders (D & E) near centerline.

For A-40 inspection on SBnd side, only the exterior lane / off-ramp to Abriendo Ave. needs to be closed.

Colorado Department of Transportation
Structure Inspection and Inventory Report (English Units)

Highway Number (ON) 5D: 025A _

Mile Post (ON)11: **97.564 mi**

Inspection Notes

Temperature: 21°
Time: 10:00
Weather: Clear

Scope:

NBI: Element: Underwater: Fracture Critical: Other: **Type:**

Team Leader Inspection Check-off:

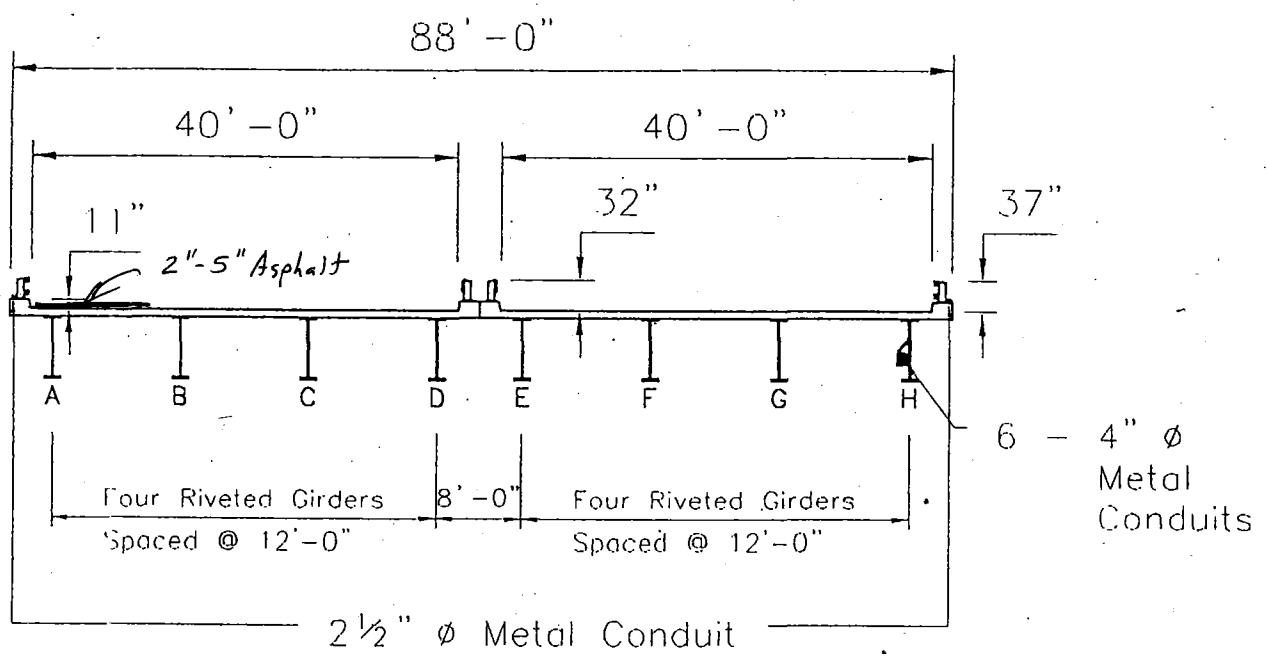
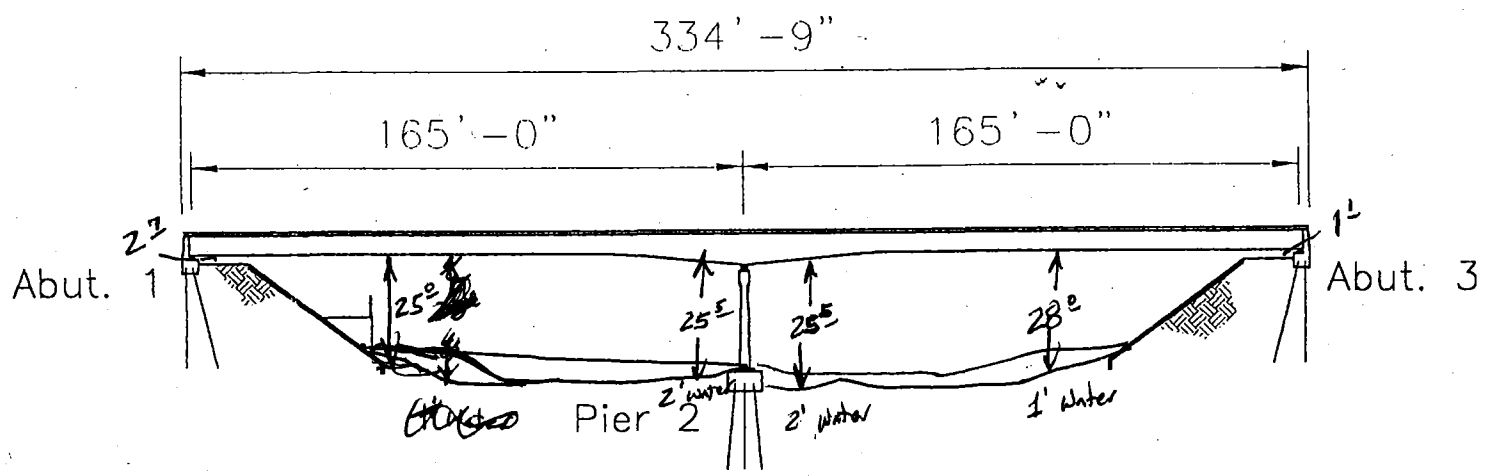
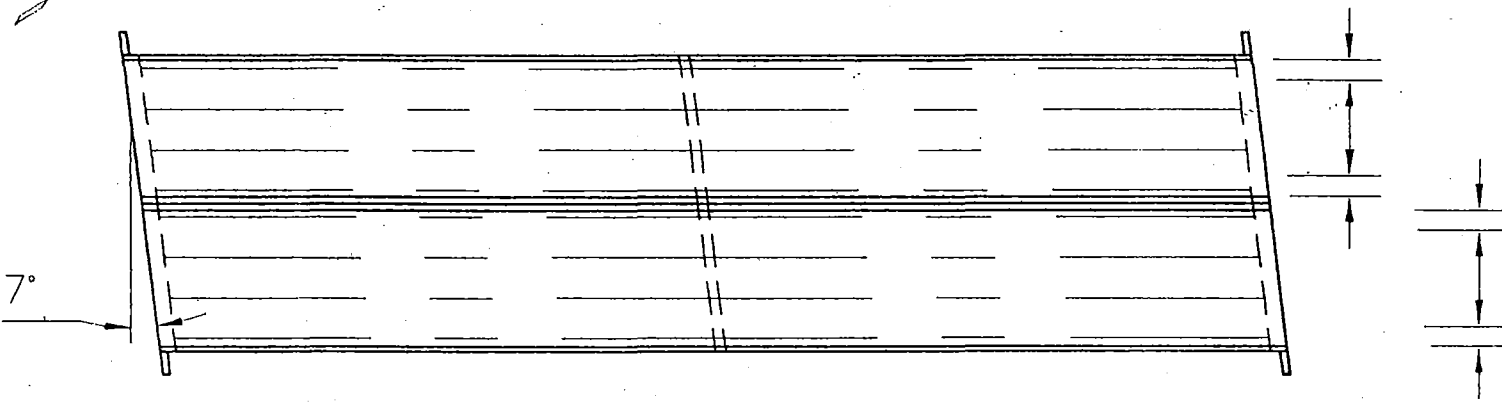
- FCM's Vertical Clearance
- Posting Signs Stream Bed Profile
- Essential Repair Verification

Inspection Team:

Inspection Date: 12/11/2012

Inspector: CHURCHESK

Inspector (Team Leader)



Date: 01/04/01	Structure No.: K-18-AJ	
Date: 01/04/01	Drawn by: K. Churches	Location: Briar_common\White Team

Structure K-18.AJ

- Change Item 91 to 12 months
- Include Jeff Anderson + John Deland in next inspection.
- I discussed this structure with Mark Leonard on 6/11/09. We are concerned with the exterior girders in the negative moment region, specifically regarding the lateral support of compression flange. DOT may want to replace the cross framing of the exterior girders that are cracked in the negative moment region. Due to the girder connection at the pier a critical inspection finding memo is not warranted at this time. Particular attention will be paid to the cracked diaphragm connections near the pier as well as the bearing conditions at all substructure supports.

Jeff Anderson
6/11/09

Structure was inspected 8/12/09. I do not have any concerns at this time

Jeff Anderson 8/13/09

By: Date	Project no.	Project code (SA#):
Chk'd: Date	Structure no.	Sheet _____ of _____

CDOT PONTIS BRIDGE INSPECTION TALLY SHEET

Structure No.: K-18-AJ

Highway No.: 25

Element No.	Element Name	Span	Cond. State	Member Designation								Span Totals					
				A	B	C	D	E	F	G	H	CS 2	CS 3	CS 4	CS 5		
107	PAINTED STL GIR	1															
Member Quantity (FT.) = 165			2	44	44	44	44	44	44	44	44	352					
Comments:			3	19	19	19	19	19	19	19	19		152				
			4	3	3	3	10	10	3	3	3			38			
			5	1													

Element No.	Element Name	Span	Cond. State	Member Designation								Span Totals					
				A	B	C	D	E	F	G	H	CS 2	CS 3	CS 4	CS 5		
107	PAINTED STL GIR	2															
Member Quantity (FT.) = 165			2	44	44	44	44	44	44	44	44	352					
Comments:			3	19	19	19	19	19	19	19	19		152				
			4	5	5	5	10	10	5	5	5			50			
			5									1					

Date:	12/11/2012
Inspector:	KC

Grand Totals	CS 2	CS 3	CS 4	CS 5
	704	304	88	2

K-18-AJ (I-25 / Arkansas River)

Cracks in Bottom of Diaphragms

Southbound Side

Northbound Side

Diaph. #	Bay A		Bay B		Bay C		Bay D	Bay E		Bay F		Bay G		Diaph. #	
	Lt.	Rt.	Lt.	Rt.	Lt.	Rt. *		Lt. *	Rt.	Lt.	Rt.	Lt.	Rt.		
Abut. 3			Rusted out lower angles				No Diaphragms in this Bay	Rusted out lower angles						Abut. 3	
9		4"													9
8		5 3/4" & 2"			4"										8
7		13"	3"									4"			7
6		11 3/4"		5 1/4"					1/2"		4 3/4"				6
5		5"							1 3/4"			3 7/8"			5
4		5 1/4" & 2 3/4"		4 1/4"							4 7/8"				4
3		1/2"													3
2		2 1/4"		2"											2
1						6 3/4"									1
Pier 2															Pier 2
9															9
8						Maybe 7"									8
7		2 1/2"		4 1/2"										7	
6			4 3/4"		4 1/4"	Potential				5 1/4"		4 3/4"		6	
5		4"			2 1/4"	Potential				4 1/2"		5 5/8"		5	
4			4 1/2"		2 3/8"					3"		6"		4	
3		3 3/4"	3"									6 1/4" & 3 3/4"		3	
2					4"							5 3/4"		2	
1														1	
Abut. 1														Abut. 1	

* = Can't reach with Aspen Aerials A-40 Platform

12/11/12
xc

SPAN 2

SPAN 1

SPAN 2

SPAN 1

**COLORADO DEPARTMENT OF TRANSPORTATION
LOAD FACTOR RATING SUMMARY**

Structure #	K-18-AV
State highway #	25
Batch I.D.	V76009
Structure type	RGC
Parallel structure #	

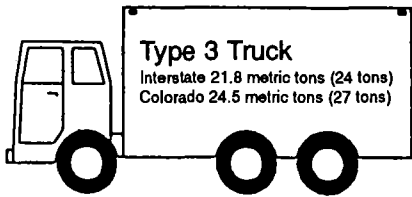
Rated using
 Asphalt thickness: 114 mm (4 1/2 in.)
 Colorado legal loads
 Interstate legal loads

Structural member	Slab	G1 Interior	G2 Exterior	
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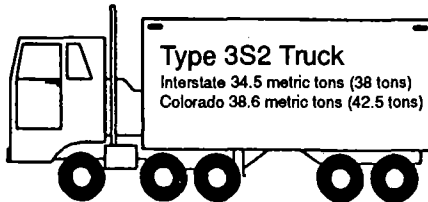
Metric tons (Tons)

Inventory	20 (22.0)	46.5 (51.3)	43.3 (47.8)	()
Operating	33.3 (36.7)	77.6 (85.5)	72.2 (79.6)	()

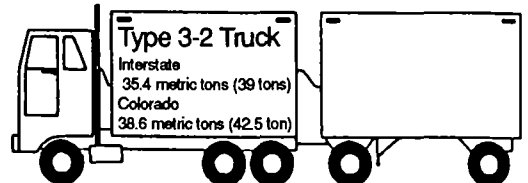
Type 3 truck	()	()	()	()
Type 3S2 truck	()	()	()	()
Type 3-2 truck	()	()	()	()
Permit truck	()	()	()	()



Metric tons () Tons



Metric tons () Tons



Metric tons () Tons

Comments

Rated by <i>Russell W. Truckman</i>	Date 07/01/96	Checked by	Date
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