

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

Highway Number (ON) 5D: 025A
 Mile Post (ON)11: 141.109 mi

Bridge Name: I-17-DG Inspection Date: 9/18/2012 Sufficiency Rating: 55.2 FO

NBI Reporting ID:	I-17-DG	Hist Signif 37:	5	UW Inspection Date 93B:	
Rgn/Sectn 2E/2M:	24	Posting status 41:	A	SI Date 93C:	
Trans Region 2T	01	Service on/un 42A/B:	6 6	Bridge Cost 94:	\$ 1,227,213
County Code 3:	041	Main Mat/Desgn 43A/B:	5 2	Roadway Cost 95:	\$ 122,721
EL PASO		Aprr Mat/Desgn 44A/B:	0 0	Total Cost 96:	\$ 1,840,819
Place Code 4:	16000	Main Spans Unit 45:	6	Year of Cost Estimate 97:	2006
COLORADO SPRINGS		Approach Spans 46:	0	Brdr Brdg Code/% 98A/B:	
Rte.(On/Under)5A:	1	Horiz Clr 47:	56.0 ft	Border Bridge Number 99:	
Signing Prefix 5B:	1	Max Span 48:	53.3 ft	Defense Highway 100:	1
Level of Service 5C:	1	Str Length 49:	302.3 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:		Width Curb to Curb 51:	100.0 ft	Temporary Structure 103:	
US 24 ML, FOUNTAIN CRK		Width Out to Out 52:	106.0 ft	Highway System 104:	1
Facility Carried 7:		Deck Area:	32,044. sq. ft	Fed Lands Hiway 105:	0
I 25 ML		Min Clr Ovr Brdg 53:	99.99	Year Reconstructed 106:	1978
Alias Str No.8A:		Min Undrclr Ref 54A:	H	Deck Type 107:	1
#I-17-DF		Min Undrclr 54B:	16.3 ft	Wearing Surface 108A:	6
Pril Str No. 8P		Min Lat Clrnce Ref R 55A:	H	Membrane 108B:	2
I-17-DF		Min Lat Undrclr R 55B:	2.0 ft	Deck Protection 108C:	0
Location 9:		Min Lat Undrclr L 56:	2.0 ft	Truck ADT 109:	9 %
IN COLORADO SPRINGS		Deck 58:	5	Trk Net 110:	1
Max Clr 10:	328.1 ft	Super 59:	5	Pier Protection 111:	#
BaseHiway Net12:	1	Sub 60:	5	NBIS Length 112:	Y
IrsinvRout 13A	000000025A	Channel/Protection 61:	8	Scour Critical 113:	8
IrrsubRout No13B:	00	Culvert 62:	N	Scour Watch 113M:	
Latitude 16:	38d 49' 40"	Oprtg Rtg Method 63:	1 LF Load Factr	Future ADT 114:	119,738
Longitude 17:	104d 50' 06"	Operating Rating 64:	42.0	Year of Future ADT 115:	2028
Range18A:	67 W	Inv Rtg Method 65:	1	CDOT Str Type 120A:	CPG
Township18B:	67	Inventory Rating 66:	25.0	CDOT Constr Type 120B:	0.
Section18C:	13	Asph/Fill Thick 66T:	005 "in"	Inspection Indic 122A:	
Detour Length 19:	2.0 mi	Str. Evaluation 67:	5	Inspection Trip 122AA:	
Toll Facility 20:	3	Deck Geometry 68:	5	Inspection Schedule ID:	ODD SEP C_9
Custodian 21:	1	Undrclr Vert/Hor 69:	3	Maintenance Patrol 123:	69
Owner 22:	1	Posting 70:	5	Expansion Dev/Type124:	B
Functional Class 26:	11	Waterway Adequacy 7:	8	Brdg Rail Type/Mod 125A/B:	H 4
Year Built 27:	1959	Approach Alignment 72:	8	Posting Trucks 129A/B/C:	0 0 0
Lanes on 28A:	7	Type of Work 75A:	33	Str Rating Date 130:	8/8/1997
Lanes Under 28B:	6	Work Done By 75B:	1	Special Equip 133:	
ADT 29:	87,400	Length of Improvment 76:	302.2 ft	Vert Clr N/E 134A/B/C:	X 99.99 0
Year of ADT 30:	2008	Insp Team Indicator 90B:	WHITE TEAM	Vert Clr S/W 135A/B/C:	X 99.99 0
Design Load 31:	5	Inspector Name 90C:	CHURCHESK	Vertical Clr Date:	5/5/1905
Apr Rdwy Width 32:	102.0 ft	Frequency 91:	24 months	Weight Limit Color: 139:	0
Median 33:	3	FC Frequency 92A:		Str Billing Type:	U
Skew 34:	15.00 °	UW Frequency 92B:		Userkey 1 - System:	ONSYS
Structure Flared 35:	0	SI Frequency 92C:		Userkey 7-Update Indic:	
Sfty Rail 36a/b/c/d:	0 0 0 0	FC Inspection Date 93A:			
Rail ht36h:	30 "in"				

Inspector Name: CHURCHESK

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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
14/4	P Conc Deck/AC Ovly	(SF)	32,044	0 %	0	100 %	32,044	0 %	0	0 %	0	0 %	0
104/4	P/S Conc Box Girder	(LF)	906	100 %	906	0 %	0	0 %	0	0 %	0	0 %	0
109/4	P/S Conc Open Girder	(LF)	4,228	98 %	4,132	1 %	56	1 %	40	0 %	0	0 %	0
205/4	R/Conc Column	(EA)	45	71 %	32	24 %	11	4 %	2	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	220	64 %	141	11 %	25	23 %	50	2 %	4	0 %	0
234/4	R/Conc Cap	(LF)	480	50 %	240	33 %	160	17 %	80	0 %	0	0 %	0
304/4	Open Expansion Joint	(LF)	110	0 %	0	0 %	0	100 %	110	0 %	0	0 %	0
308/4	Constr Non Exp Jt	(LF)	440	0 %	0	100 %	440	0 %	0	0 %	0	0 %	0
310/4	Elastomeric Bearing	(EA)	72	100 %	72	0 %	0	0 %	0	0 %	0	0 %	0
311/4	Moveable Bearing	(EA)	84	0 %	0	100 %	84	0 %	0	0 %	0	0 %	0
313/4	Fixed Bearing	(EA)	84	0 %	0	100 %	84	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	75 %	3	25 %	1	0 %	0	0 %	0	0 %	0
331/4	Conc Bridge Railing	(LF)	302	67 %	201	33 %	100	0 %	1	0 %	0	0 %	0
334/4	Metal Rail Coated	(LF)	604	83 %	504	17 %	100	0 %	0	0 %	0	0 %	0
338/4	Conc Curbs/SW	(LF)	604	92 %	554	8 %	50	0 %	0	0 %	0	0 %	0
343/4	Pole Attachment	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	0 %	0	100 %	1	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
505/4	Debris Smart Flag	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
14/4	P Conc Deck/AC Ovly	4 - 5 Inches of asphalt. Dishing and potholing in #2 NBnd lane at Pier 5. Some longit. and trans. cracks (most have been sealed), but some remain unsealed Sealed cracks across piers and abutments.
104/4	P/S Conc Box Girder	Includes Girder lines I, J, and K. Few hairline vertical cracks are visible. Blackened from transient campfires near Abutment 7.

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109/4	P/S Conc Open Girder	Light horiz. crack with rust stains in web of Girder 2Q at Pier 3 end. Hairline to light horizontal cracks (approximately 48 inches long) in ends of all at Abutment 7. Exterior girders have heavy waterstaining at piers, along with some spalls, delam., and rust stains. Several diaphragms at piers have deterioration at the bottoms. Corners at abutments are diagonally cracked, (past the bearings) at a few. Ends of some girders have minor delams. and spalls, with exposed rebar.
205/4	R/Conc Column	Columns 3G and 4A are spalled with exposed rebar. Some delam. on Columns 2A, 2G, 2I, 3I, 4C, 4I, and 5I. Moderate scale at the bottom of Column 3G. Light scale at the base of Column 4H. Debris walls between columns at Pier 5, look good. Minor delam. and spalling on Columns 5A & 5G, adjacent to the nose angles. Moderate scale at top of Column 6I. Some delam. detected by sounding on Column 6G. Delam. cracking at some columns.
215/4	R/Conc Abutment	Light vertical cracks throughout. Up to 6 inches of sand and debris built up on Abutment 7 bearing seat. Both abutments are apparently pushing, causing bearings to break out spalls on front faces of abutment seats. Many were repaired by patching with concrete and placing steel plates over patches. Most of these repairs have failed. All spalls go to anchor bolts, and some have bearing loss. Abutment 1 under GIRDERS: 1B - spalled with 10% bearing loss; 1C - spalled 10% loss; 1D - delaminated; 1F - spalled 15% loss; 1H - delam & spalled minor bearing loss; 1L - spalled 10% loss; 1M - spalled 10% loss; 1N - repair failing but not fallen off; 1O - repair failed, broken anchor bolt, 15% loss; 1P - repair failed; 1Q - 50% bearing loss, and repair failed. Abutment 7 under GIRDERS: 6A - repair failing; 6B - repair failed and 25% bearing loss; 6C - repair failing; 6D - repair failing; 6E - repair failing; 6F - repair failing; 6G - repair failing; 6H - delamination; 6L - delaminated; 6N - delam. & spalled; 6O - delam. & spalled minor bearing loss; 6P - delam. & spalled minor bearing loss; 6Q - repair looks good. (See Photos)
234/4	R/Conc Cap	Lower faces of most caps have horizontal delam. cracks, with water and rust stains. Ends of all caps have light to moderate scale with spalls/delam/rust stains. Pier 2 cap has a heavy horizontal crack at the top left end of the cap, and horizontal cracking at the right end (top and bottom) of the cap, along with spalling at the end. Pier 4 left end is spalled to rebar. Spall under Girder 3A at Pier 4, but no bearing loss. Pier 6 cap is diagonally cracked under Girder 6L. Pier 3 cap spalled under Girder 3N, but no bearing loss. Some light to moderate scale on the bottom of the Pier 6 cap, below box girders.

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304/4	Open Expansion Joint	The sliding plate is visible in the the curbs at Pier 5. Assumed that the plate in the driving lane is covered with asphalt. Plates in the curbs have worn paint, and R1 corrosion. Heavy sealed D-cracking above the joint in SBnd exterior lane. (See 2006 Photo of previous condition) Heavy leaking below. Plates are obviously loose as they ring under live loads. Assume 100% failure.
308/4	Constr Non Exp Jt	Located at Piers 2, 3, 4, and 6. Asphalt covered in the roadway. Interior lanes in both directions are overlaid, asphalt on the exterior lanes has moderate cracking. Joint material is falling through to the pier caps.
310/4	Elastomeric Bearing	Beneath box girders. Four at each pier, and eight at abutments. Some R1 corrosion on plates. Pads look OK.
311/4	Moveable Bearing	R1 to R2 corrosion on all.
313/4	Fixed Bearing	R1 to R2 corrosion on all.
325/4	Slope Prot/Berms	Concrete slope pavement at Abutment 1. Few light horizontal cracks in some panels. Dirt slope at Abutment 7. Berm is settled to the bottom of the cap, with minor erosion troughs. Transients have dug "foxholes" to aid in shelter from the wind.
326/4	Bridge Wingwalls	Some shallow delams./spalls with exposed rebar in #1 Lt. and #7 Rt. wingwalls, due to lack of concrete cover. Spalled with exposed rebar at #7 Left wing, due to traffic impact.
331/4	Conc Bridge Railing	Concrete Type R railing in the median. Light vertical cracks. Spots of light scale. Top of the rail is spalled at Pier 2.
334/4	Metal Rail Coated	Type H railing mounted to tops of exterior curbs. Few spots where flex beam is dented and bent.
338/4	Conc Curbs/SW	Light transverse cracks in top of both. Scattered light spalls on gutter faces.
343/4	Pole Attachment	Attached to concrete pedestals extending from curbs, in Span 4 on both sides. Minor delam. in the concrete pedestal at the left.
359/4	Soffit Smart Flag	Hairline map cracking scattered throughout. Some transverse cracks with light efflorescence. An old utility box in the deck bottom in Bay 3P, has a hole through the deck, and causing deterioration of the deck bottom. (See 2006 Photo) Some delam. and spalling with exposed rebar in Bays 5L and 5M at Pier 5.
501/4	Channel Cond	Fountain Creek. Flows in Span 5. Rock, gravel, sandy bed.
502/4	ChannProtMatCond	Rock filled gabion at the toe of the #7 slope. Looks OK.
504/4	BankCond	Steep. Some rocks, trees, bushes, dirt, and trash.
505/4	Debris Smart Flag	About 2 CY of logs, branches, and other debris built up on Column 5A, and a minor amount on Column 5G.

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Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
358.04	Substr	8/25/2008	-1	2015	250

Remove logs, branches, and other debris that is built up on columns at Pier 5.

**358.05	Substr	7/24/2002	-1	2015	30000
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Pulpits required at abutments and fix old bearing repairs that are failing.

352.00	Cln & Wash	8/23/2006	-1	2015	1200
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Trim trees over Span 4 on the Left side.

**398	Misc Br Wk	9/18/2012	_	2015	1000
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Remove loose concrete from pier caps and pier columns at Piers 2 and 3, and from girders in Spans 2 and 3, that is above or near the travel lanes.

358.05	Substr	7/24/2002	-1	2015	12000
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Remove and replace delaminated and spalled concrete on pier caps and pier columns.

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Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
353.08	Br Dk Rpr	9/18/2012	_	2015	250

Seal cracks in asphalt surface that have not yet been sealed.

Bridge Notes

Trees growing over bridge rail on right side of deck above Span 4.

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Inspection Notes

Temperature: 55°
Time: 9:05
Weather: Clear

Scope:

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

Team Leader Inspection Check-off:

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

Inspection Team:

Inspection Date: 09/18/2012

Inspector: CHURCHESK

Inspector (Team Leader)