

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

Highway Number (ON) 5D: 024A
 Mile Post (ON)11: 297.706 mi

Bridge Key: I-17-GN Inspection Date: 4/30/2012 Sufficiency Rating: 91.2 Not Eligible

Rgn/Sectn 2E/2M:	24
Trans Region 2T:	01
County Code 3:	041
EL PASO	
Place Code 4:	48445
MANITOU SPRINGS	
Rte.(On/Under)5A:	1
Signing Prefix 5B:	2
Level of Service 5C:	1
Directional Suffix 5E:	0
Feature Intersected 6:	
WILLIAMS CANYON, RDWY	
Facility Carried 7:	
US 24 ML	
Alias Str No.8A:	
Prl Str No. 8P	
Location 9:	328.05117409
IN MANITOU SPRINGS	
Max Clr 10:	99.99
BaseHiway Net12:	1
IrsinvRout 13A:	000000024A
IrssubRout No13B:	00
Latitude 16:	38d 51' 49"
Longitude 17:	104d 55' 04"
Range18A:	67 W
Township18B:	67
Section18C:	5
Detour Length 19:	0.6 mi
Toll Facility 20:	3
Custodian 21:	1
Owner 22:	1
Functional Class 26:	12
Year Built 27:	1969
Lanes on 28A:	4
Lanes Under 28B:	2
ADT 29:	27,400
Year of ADT 30:	2008
Design Load 31:	6
Apr Rdwy Width 32:	72.0 ft
Median 33:	2
Skew 34:	0.00 °
Structure Flared 35:	0
Sfty Rail 36a/b/c/d:	1 1 1 1
Rail ht36h:	33 "in"

Hist Signif 37:	5
Posting status 41:	A
Service on/un 42A/B:	1 6
Main Mat/Desgn 43A/B:	4 2
Aprr Mat/Desgn 44A/B:	0 0
Main Spans Unit 45:	3
Approach Spans 46:	0
Horiz Clr 47:	35.0 ft
Max Span 48:	170.0 ft
Str Length 49:	344.1 ft
Curb Wdth L/R 50A/B:	0.0 ft 0.0 ft
Width Curb to Curb 51:	70.0 ft
Width Out to Out 52:	74.4 ft
Deck Area:	25,639.6 sq. ft
Min Clr Ovr Brdg 53:	99.99
Min Undrclr Ref 54A:	H
Min Undrclr 54B:	27.0 ft
Min Lat Clrnce Ref R 55A:	H
Min Lat Undrclr R 55B:	55.4 ft
Min Lat Undrclr L 56:	0
Deck 58:	7
Super 59:	6
Sub 60:	7
Channel/Protection 61:	N
Culvert 62:	N
Oprting Rtg Method 63:	1 LF Load Factr
Operating Rating 64:	42.5
Inv Rtnng Method 65:	1
Inventory Rating 66:	26.9
Asph/Fill Thick 66T:	000 "in"
Str. Evaluation 67:	6
Deck Geometry 68:	7
Undrclr Vert/Hor 69:	9
Posting 70:	5
Waterway Adequacy 71:	N
Approach Alignment 72:	8
Type of Work 75A:	
Work Done By 75B:	
Length of Improvment 76:	0.0 ft
Insp Team Indicator 90B:	BLUE TEAM
Inspector Name 90C:	ROSSARTB
Frequency 91:	24 months
FC Frequency 92A:	-1
UW Frequency 92B:	-1
SI Frequency 92C:	24
FC Inspection Date 93A:	

UW Inspection Date 93B:	
SI Date 93C:	10/13/2010
Bridge Cost 94:	\$ 0
Roadway Cost 95:	\$ 0
Total Cost 96:	\$ 0
Year of Cost Estimate 97:	
Brdr Brdg Code/% 98A/B:	
Border Bridge Number 99:	
Defense Highway 100:	0
Parallel Structure 101:	N
Direction of Traffic 102:	2
Temporary Structure 103:	
Highway System 104:	1
Fed Lands Hiway 105:	0
Year Reconstructed 106:	1997
Deck Type 107:	1
Wearing Surface 108A:	1
Membrane 108B:	0
Deck Protection 108C:	1
Truck ADT 109:	3 %
Trk Net 110:	1
Pier Protection 111:	#
NBIS Length 112:	Y
Scour Critical 113:	6
Scour Watch 113M:	
Future ADT 114:	48,772
Year of Future ADT 115:	2028
CDOT Str Type 120A:	WGCK
CDOT Constr Type 120B:	83
Inspection Indic 122A:	
Inspection Trip 122AA:	
Scheduling Status 122B:	
Maintenance Patrol 123:	37
Expansion Dev/Type124:	P
Brdg Rail Type/Mod 125A/B:	Y 3
Posting Trucks 129A/B/C:	0 0 0
Str Rating Date 130:	5/26/2005
Special Equip 133:	1
Vert Clr N/E 134A/B/C:	X 99.99 0.00
Vert Clr S/W 135A/B/C:	X 99.99 0.00
Vertical Clr Date:	5/3/2002
Weight Limit Color: 139:	3
Str Billing Type:	U
Userkey 1 - System:	ONSYS
Userkey 7-Update Indic:	

Inspector Name: ROSSARTB

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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
23/1	Bare Conc Dk w/Brs	(SF)	25,635	100 %	25,635	0 %	0	0 %	0	0 %	0	0 %	0
107/1	Paint Stl Opn Girder	(LF)	3,060	93 %	2,835	2 %	75	2 %	75	2 %	75	0 %	0
161/1	Paint Stl Pin/Hanger	(EA)	18	100 %	18	0 %	0	0 %	0	0 %	0	0 %	0
210/1	R/Conc Pier Wall	(LF)	50	100 %	50	0 %	0	0 %	0	0 %	0	0 %	0
215/1	R/Conc Abutment	(LF)	149	93 %	138	7 %	10	1 %	1	0 %	0	0 %	0
234/1	R/Conc Cap	(LF)	146	100 %	146	0 %	0	0 %	0	0 %	0	0 %	0
306/1	Asphaltic Plg Exp Jt	(LF)	288	1 %	3	38 %	110	61 %	175	0 %	0	0 %	0
311/1	Moveable Bearing	(EA)	18	100 %	18	0 %	0	0 %	0	0 %	0	0 %	0
313/1	Fixed Bearing	(EA)	18	100 %	18	0 %	0	0 %	0	0 %	0	0 %	0
321/1	R/Conc Approach Slab	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
325/1	Slope Prot/Berms	(EA)	2	50 %	2	50 %	0	0 %	0	0 %	0	0 %	0
326/1	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
331/1	Conc Bridge Railing	(LF)	344	100 %	344	0 %	0	0 %	0	0 %	0	0 %	0
334/1	Metal Rail Coated	(LF)	688	100 %	688	0 %	0	0 %	0	0 %	0	0 %	0
338/1	Conc Curbs/SW	(LF)	688	98 %	674	0 %	0	2 %	14	0 %	0	0 %	0
341/1	Substr Conc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
358/1	Deck Cracking SmFlag	(EA)	1	0 %	0	0 %	0	100 %	1	0 %	0	0 %	0
359/1	Soffit Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
23/1	Bare Conc Dk w/Brs	Transversely-tined concrete has worn to bottom of tines / smooth in wheel lines. Light trans. cracks (open to 1/16 inch) spaced at about 3 ft. - 4 ft. in WBnd & EBnd lanes above Span 1, and in WBnd lanes above Span 3. Few other light trans. cracks scattered throughout. Also some areas of hairline to light map cracking.
107/1	Paint Stl Opn Girder	Significant dead-load deflection in Span 2 on left side. (About 5 inches at midspan Girder 2A, to 2 inches at midspan Girder 2D) All diaphragms appear and sound tight, but tops of some were bent during deck replacement. Lateral diag. bracing connections looked good. Spots of R1 - R3 corrosion mostly on exterior girders (where the previous corrosion was not removed adequately), and at pin and hanger locations in Span 2. (See 2002 & 2012 PHOTOS) There is evidence that nests and bird droppings were not removed prior to being repainted in 1997. (See 2002 Photo)

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161/1	Paint Stl Pin/Hanger	<p>Ultra-sonic tests were done on all 36 pins on 9-28-05 and 9-29-05 by Tony Macias, Mark Stadig, Alvin Maes and Keith Vernon. No problems detected. Nuts on cover plates were removed with an air impact wrench and air compressor borrowed from maintenance patrol</p> <p>Each pin and hanger location has been retrofitted with steel rod and plate backup structural supports for pin failure.</p> <p>The plates were installed in the wrong direction for the grade.</p> <p>Ultrasonic testing was performed on 35 of the 36 pins by LONCO on 10/12-10/13/2010. No problems detected (See Pin Inspection Report).</p> <p>Pins tested on 10/12-10/13, according to CP (Colorado Procedure) L5957 see bridge notes.</p>
210/1	R/Conc Pier Wall	<p>Both in good condition The erosion around Pier 3 was halted, and the corrugated metal pipe was extended down the slope to the roadway below. (See 2002 Photo) Hairline vertical cracks. Graffiti was blotted out at both.</p>
215/1	R/Conc Abutment	<p>Up to 1/16 inch vertical cracks in backwalls: Abut. 1; Bays D & E (with Differential) & F.</p> <p>Minor spalls on Abutment 1 back wall in Bay F. Other light vertical cracks in walls with efflor.</p> <p>Up to 8 inches of sand built up on seas at both abutments due to leaking joint above. Backer rod foam has failed and is now resting on the abutments. See 2012 PHOTO.</p> <p>Horiz. and random cracks, some with rust stains, in Abutment 4 cap below Bays G & H.</p>
234/1	R/Conc Cap	<p>Few light vertical cracks at top of caps, generally good condition. P3 right end below girder 3A shallow delam.</p>
306/1	Asphaltic Plg Exp Jt	<p>Shoving and dishing in wheel lines at most. Moderate cracking along edges, backing foam has fallen behind abutment on to the seats below. See 2012 PHOTOS.</p>
311/1	Moveable Bearing	<p>Rockers at both abutments have been painted. Some R3 corrosion on those exterior ends at both Abutments and R1 elsewhere.</p>
313/1	Fixed Bearing	<p>Located at piers. Good condition.</p> <p>Some anchor bolts at Pier 3 have been bent in towards sole plates, and some touch plates, but does not appear to be a problem. All were tight.</p>
321/1	R/Conc Approach Slab	<p>Longitudinal cracks. No settling.</p>
325/1	Slope Prot/Berms	<p>Some concrete rubble placed at top of Abutment 1 slope but was not extended as erosion trough right at A1 is still eroding. See PHOTO.</p> <p>Up to 3 ft. diam. rock riprap and some concrete rubble on steep slope at Abutment 4. Fairly stable. The C.M.P was extended to the bottom of the slope.</p>
326/1	Bridge Wingwalls	<p>U-Type abutment wings. Minor washing around ends. Shallow delam. on #1 Left wingwall. Random and horiz cracks with efflor at A1 right and left.</p>

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331/1	Conc Bridge Railing	Concrete jersey barrier in median. Typical hairline vertical cracks. Some light scale at base on WBnd side. Some areas of gouges at both sides.
334/1	Metal Rail Coated	Galvanized Type Y rail. Good condition.
338/1	Conc Curbs/SW	Moderate delam/spall at 2nd and 7th bridge rail posts on the left side above Span 1. Some exposed epoxy coated rebar at 7th post spall. (See 2008 & 2012 PHOTOS) Few hairline trans. cracks with efflor.
341/1	Substr Conc Coating	Wingwalls have started to peel. Piers walls lower portion have been painted, to cover graffiti.
358/1	Deck Cracking SmFlag	See Element 23 comments.
359/1	Soffit Smart Flag	Steel stay-in-place forms between girders. Several areas moderate rust in SIP forms. (See PHOTO of SIP form Bay 3E at #3 diaphragms, rust at this area is due to deck construction joint on deck leaks.) Small area of rust and efflor in SIP form Bay 3A fwd. side of Pier 3 (See 2012 PHOTO). Overhangs have a few trans. cracks with efflorescence.

Maintenance Activity Summary

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
353.08	Br Dk Rpr	5/20/2008	-1	2014	2500

Seal cracks in concrete deck surface.

356.02	Curb & RI	5/20/2008	-1	2014	3500
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Remove and replace damaged curb on left side at 2nd and 7th rail posts above Span 1.

354.99	Suprstr	5/3/2002	-1	2014	1000
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Consider removing and replacing the hanger additional support plates that were installed in the wrong direction in 1997.

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MMS Activity	Description	Recommended	Status	Target Year	Est Cost
364.01	Exp Jts	5/3/2002	-1	2014	4000

Seal/patch or replace portions of asphaltic plug joints that are cracking.

355.02	Cln & Pnt	5/20/2008	-1	2014	10000
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Clean and spot paint girders at pin & hanger locations, and in areas where there is R2 to R3 rust.

Bridge Notes

10/12/2010: Pin Inspection was performed. Mark Stadig.

9-29-05 inspection was to UT 36 pins Only.

Pins U.T. On 10/12 & 10/13/10 by LONCO.
 Cover plates removed, rust grounded out and tested on both sides.
 Unable to test top pin on Girder E near Pier #3 due to the reach of the snooper platform. No other problems detected (See Pin Inspection Report).

1/30/06-Per rating summary dated 05/26/05 color code should be orange. Color code has been kept as yellow in database per rating unit.

Graffiti was painted out along bottom portion of pier walls.

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Inspection Notes

Time: 08:00 Temp: 50 Degrees F. Weather: Clear

Scope:

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

Inspector: ROSSARTB

Inspection Team:

Inspection Date: 04/30/2012

Inspector

Inspector