

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

Highway Number (ON) 5D: 470A

Mile Post (ON)11: 21.065 mi

Bridge Name: F-17-HQ      Inspection Date: 3/5/2013      Sufficiency Rating: 94.1      Not Eligible

NBI Reporting ID:	F-17-HQ
Rgn/Sectn 2E/2M:	68
Trans Region 2T	02
County Code 3:	035
DOUGLAS	
Place Code 4:	00000
non-city	
Rte.(On/Under)5A:	1
Signing Prefix 5B:	3
Level of Service 5C:	1
Directional Suffix 5E:	0
Feature Intersected 6:	
SH 177-UNIVERSITY BLVD	
Facility Carried 7:	
SH 470 ML WBND	
Alias Str No.8A:	
Pril Str No. 8P	
F-17-HP	
Location 9:	
5.2 MI W OF JCT I 25	
Max Clr 10:	328.1 ft
BaseHiway Net12:	1
IrsinvRout 13A	000000470A
IrrsubRout No13B:	00
Latitude 16:	39d 33' 48"
Longitude 17:	104d 57' 39"
Range18A:	68 W
Township18B:	68
Section18C:	1
Detour Length 19:	0.0 mi
Toll Facility 20:	3
Custodian 21:	1
Owner 22:	1
Functional Class 26:	12
Year Built 27:	1984
Lanes on 28A:	2
Lanes Under 28B:	7
ADT 29:	45,100
Year of ADT 30:	2007
Design Load 31:	6
Apr Rdwy Width 32:	38.0 ft
Median 33:	1
Skew 34:	2.00 °
Structure Flared 35:	0
Sfty Rail 36a/b/c/d:	1 1 1 1
Rail ht36h:	34 "in"

Hist Signif 37:	5
Posting status 41:	A
Service on/un 42A/B:	6 1
Main Mat/Desgn 43A/B:	6 2
Appr Mat/Desgn 44A/B:	0 0
Main Spans Unit 45:	2
Approach Spans 46:	0
Horiz Clr 47:	38.0 ft
Max Span 48:	96.5 ft
Str Length 49:	189.5 ft
Curb Wdth L/R 50A/B:	0.0 ft 0.0 ft
Width Curb to Curb 51	38.0 ft
Width Out to Out 52:	41.5 ft
Deck Area:	7,864. sq. ft
Min Clr Ovr Brgd 53:	99.99
Min Undrclr Ref 54A:	H
Min Undrclr 54B:	16.5 ft
Min Lat Clrnce Ref R 55A:	H
Min Lat Undrclr R 55B:	8.0 ft
Min Lat Undrclr L 56:	4.0 ft
Deck 58:	7
Super 59:	7
Sub 60:	7
Channel/Protection 61:	N
Culvert 62:	N
Oprtn Rtg Method 63:	1 LF Load Fact
Operating Rating 64:	58.0
Inv Rtn Method 65:	1
Inventory Rating 66:	30.0
Asph/Fill Thick 66T:	004 "in"
Str. Evaluation 67:	6
Deck Geometry 68:	6
Undrclr Vert/Hor 69:	4
Posting 70:	5
Waterway Adequacy 7	N
Approach Alignment 72:	8
Type of Work 75A:	
Work Done By 75B:	
Length of Improvment 76:	0.0 ft
Insp Team Indicator 90B:	WHITE TEAM
Inspector Name 90C:	STADIGM
Frequency 91:	24 months
FC Frequency 92A:	
UW Frequency 92B:	
SI Frequency 92C:	
FC Inspection Date 93A:	

UW Inspection Date 93B:	
SI Date 93C:	
Bridge Cost 94:	\$ 0
Roadway Cost 95:	\$ 0
Total Cost 96:	\$ 0
Year of Cost Estimate 97:	
Brdr Brgd Code/% 98A/B:	
Border Bridge Number 99:	
Defense Highway 100:	0
Parallel Structure 101:	L
Direction of Traffic 102:	1
Temporary Structure 103:	
Highway System 104:	1
Fed Lands Hiway 105:	0
Year Reconstructed 106:	0000
Deck Type 107:	1
Wearing Surface 108A:	6
Membrane 108B:	2
Deck Protection 108C:	1
Truck ADT 109:	6 %
Trk Net 110:	1
Pier Protection 111:	
NBIS Length 112:	Y
Scour Critical 113:	N
Scour Watch 113M:	
Future ADT 114:	64,944
Year of Future ADT 115:	2027
CDOT Str Type 120A:	CPGC
CDOT Constr Type 120B:	31
Inspection Indic 122A:	
Inspection Trip 122AA:	
Inspection Schedule ID:	ODD MAY E14
Maintenance Patrol 123:	30
Expansion Dev/Type124:	C
Brdg Rail Type/Mod 125A/B:	R 0
Posting Trucks 129A/B/C:	0 0 0
Str Rating Date 130:	11/24/1997
Special Equip 133:	
Vert Clr N/E 134A/B/C:	X 99.99 0
Vert Clr S/W 135A/B/C:	X 99.99 0
Vertical Clr Date:	5/5/1905
Weight Limit Color: 139:	0
Str Billing Type:	U
Userkey 1 - System:	ONSYS
Userkey 7-Update Indic:	

Inspector Name: STADIGM

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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
26/4	Conc Deck/Coatd Bars	(SF)	7,864	100 %	7,864	0 %	0	0 %	0	0 %	0	0 %	0
109/4	P/S Conc Open Girder	(LF)	940	100 %	936	0 %	3	0 %	1	0 %	0	0 %	0
210/4	R/Conc Pier Wall	(LF)	23	100 %	23	0 %	0	0 %	0	0 %	0	0 %	0
215/4	R/Conc Abutment	(LF)	83	100 %	83	0 %	0	0 %	0	0 %	0	0 %	0
234/4	R/Conc Cap	(LF)	40	100 %	40	0 %	0	0 %	0	0 %	0	0 %	0
300/1	Strip Seal Exp Joint	(LF)	83	100 %	83	0 %	0	0 %	0	0 %	0	0 %	0
308/4	Constr Non Exp Jt	(LF)	83	100 %	83	0 %	0	0 %	0	0 %	0	0 %	0
321/4	R/Conc Approach Slab	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
325/4	Slope Prot/Berms	(EA)	2	100 %	2	0 %	0	0 %	0	0 %	0	0 %	0
326/1	Bridge Wingwalls	(EA)	4	100 %	4	0 %	0	0 %	0	0 %	0	0 %	0
331/4	Conc Bridge Railing	(LF)	380	100 %	380	0 %	0	0 %	0	0 %	0	0 %	0
340/1	Superstr Cnc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
341/1	Substr Conc Coating	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
359/4	Soffit Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
362/1	Traf Impact SmFlag	(EA)	4	0 %	0	100 %	4	0 %	0	0 %	0	0 %	0

Elem/Env	Description	Element Notes
26/4	Conc Deck/Coatd Bars	3.5 Inches of asphalt. A newer overlay that looks good.
109/4	P/S Conc Open Girder	G54 Girders. The bottom edge of Girder 1A has 2 chips about 6 inches in diameter, 1 with an exposed #4 rebar. The bottom edge of Girder 2B is chipped, about 8 inches in diameter and 3/4 of an inch deep. Girder 2E has one minor chip, 6 inches in diameter x 1/2 inch deep, no exposed reinforcement yet. Others look good. See 2007 PHOTOS.
210/4	R/Conc Pier Wall	Hairline to light vertical and horizontal cracks.
215/4	R/Conc Abutment	A few light vertical cracks at utility blockouts. Significant seepage through A1 at the seat level horizontal cold joint in Bay A; (see 2011, and 2013 PHOTOS).  Small areas of scale and efflor. from water seeping through cold joints. Some light efflor. and waterstains.
234/4	R/Conc Cap	Light vertical and diagonal cracks at blockouts in the diaphragms. Delam. near Girder 1C.
300/1	Strip Seal Exp Joint	Strip seals installed at far ends of both approach slabs, in 2010. Open 1.5 inches at #1, and 2 inches at #3. Both are sand filled. Polymer end dams look OK.
308/4	Constr Non Exp Jt	Covered with asphalt.
321/4	R/Conc Approach Slab	Asphalt covered, in the same condition as the deck pavement.

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Elem/Env	Description	Element Notes
325/4	Slope Prot/Berms	Concrete slope pavement; newer slope pavement at both.  Seeping water and embankment material through the panel joint at #1 Left; (see 1991 and 2007 PHOTOS). Possibly from seepage through the abutment horizontal cold joints.
326/1	Bridge Wingwalls	Light horizontal cracks along the cold joints.  Vertical cracking of the approach wing wall sections, below the edge of the deck, with some light spalling/scale.
331/4	Conc Bridge Railing	Concrete Type R Jersey barrier railing. Typical vertical cracks throughout. Light scale at bases.
340/1	Superstr Cnc Coating	On outside faces of exterior girders, on overhangs, and bridge railing. Starting to peel off of the railing.
341/1	Substr Conc Coating	On abutments, wing walls, and the pier. Looks OK.
359/4	Soffit Smart Flag	Transverse cracks with light efflor., most are closer to the supports. A few transverse cracks with light efflor. in the overhangs.
362/1	Traf Impact SmFlag	Girder 1A has two chips from a high load impact, and Girders 2B and 2E have one chip each. There is one exposed #4 rebar at Girder 1A. IMP: ??/??/??; INSP: 03/13/07; REP: 00/00/00.

**Maintenance Activity Summary**

MMS Activity	Description	Recommended	Status	Target Year	Est Cost
354.01	Suprstr	3/13/2007	-1	2014	500

Consider patching high load impact spalls in Girders 1A, 2B, and 2E.

**Bridge Notes**

University Blvd, Hwy 177 below is being replaced in 2011, PHOTOS.

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**Inspection Notes**

**TIME:** 11:40    **TEMP:** 28    **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:** 03/05/2013

**Inspector:** STADIGM

**Inspector (Team Leader)**