



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0178  
Facility Carried: SILVERADO CANYN RD  
Location : 4.9 MI. E/O SANTIAGO ROA  
City :  
Inspection Date : 12/20/2015

**Bridge Inspection Report**

Inspection Type  
Routine FC Underwater Special Other

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**STRUCTURE NAME:** SILVERADO CANYON CREEK

**CONSTRUCTION INFORMATION**

Year Built : 1947 Skew (degrees): 45  
Year Widened: N/A No. of Joints : 0  
Length (m) : 12.8 No. of Hinges : 0

Structure Description: Simply supported single span steel girders (4 each) with RC open end seat abutments, all supported upon spread footings.

Span Configuration : (W) 1 @ 12.5 m (E) c/c

**SAFE LOAD CAPACITY AND RATINGS**

Design Live Load: UNKNOWN  
Inventory Rating: RF=0.46 =>15.0 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT  
Operating Rating: RF=0.77 =>25.0 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT  
Permit Rating : XXXXX  
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

**DESCRIPTION ON STRUCTURE**

Deck X-Section: (S) 0.5 m br, 7.2 m, 0.5 m br (N)  
Total Width: 8.2 m Net Width: 7.3 m No. of Lanes: 2 Speed: 25 mph  
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 Inches  
Rail Code: 1000

Rail Type	Location	Length (ft)	Rail Modifications
MBBR	Right/Left	82	

**DESCRIPTION UNDER STRUCTURE**

Channel Description: Natural earth trapezoidal with a cobbled bottom.

**NOTICE**

The bridge inspection condition assessment used for this inspection is based on the American Association of State Highway and Transportation Officials (AASHTO) Bridge Element Inspection Manual 2013 as defined in Moving Ahead for Progress in the 21st Century (MAP-21) federal law. The new element inspection methodology may result in changes to related condition and appraisal ratings on the bridge without significant physical changes at the bridge.

The element condition information contained in this report represents the current condition of the bridge based on the most recent routine and special inspections. Some of the notes presented below may be from an inspection that occurred prior to the date noted in this report. Refer to the Scope and Access section of this inspection report for a description of which portions of the bridge were inspected on this date.

**INSPECTION COMMENTARY**

**SCOPE AND ACCESS**

The water in the channel is 8" deep, so all visible substructure elements were visually inspected.

**SAFE LOAD CAPACITY**

**INSPECTION COMMENTARY**

This load rating was assigned temporarily on 03/11/2016 until calculations for this structure can be completed. The load rating for this bridge was assigned temporary in accordance with SMI procedures for bridge with as-built plans.

**ELEMENT INSPECTION RATINGS AND NOTES**

Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State			
							St. 1	St. 2	St. 3	St. 4
12			Deck-RC	2	90	sq.m	23	47	20	0
	1120		Efflorescence/Rust Staining	2	2		0	2	0	0
	1130		Cracking (RC and Other)	2	50		0	30	20	0
	1190		Abrasion (PS Conc./RC)	2	15		0	15	0	0

(12)

There were no significant defects noted.

(12-1120)

The soffit exhibits two transverse cracks 4 ft long in the soffit with white light efflorescence in every bay.

(12-1130)

The soffit exhibits two transverse cracks 4 ft long in the soffit with white light efflorescence in every bay.

(12-1190)

The concrete deck surface exhibits 60% light abrasion due to weather and aging, and unsealed transverse cracks 0.5 mm wide, 12" spaced apart and 4 ft long.

107			Girder/Beam-Steel	2	52	m	48	4	0	0
	1000		Corrosion	2	3		0	3	0	0
	1900		Distortion	2	1		0	1	0	0
	515		Steel Coating-Paint	2	118	sq.m	116	0	1	1
	3440		Effectiveness (Steel PC)	2	2		0	0	1	1

(107-1000)

The steel girders exhibit pitting rust the surface of the bottom flange.

(107-1900)

There is a 3 inches long dent at the middle of the north girder.

(107-515-3440)

The paint system failed in a very few locations at the bottom flange.

215			Abutment-RC	2	24	m	23	1	0	0
	1130		Cracking (RC and Other)	2	1		0	1	0	0

(215-1130)

The west abutment exhibits a vertical crack 1.0 mm wide under girder #3.

330			Railing-Metal	2	26	m	26	0	0	0
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(330)

There were no significant defects noted.

**WORK RECOMMENDATIONS**

WORK RECOMMENDATIONS

RecDate: 07/12/2011	EstCost:	Seal the deck cracks with methacrylate.
Action : Deck-Methacrylate	StrTarget: 2 YEARS	
Work By: LOCAL AGENCY	DistTarget:	
Status : PROPOSED	EA:	

Team Leader :	Ashraf Shenouda
Report Author :	Ashraf Shenouda
Inspected By :	A.Shenouda/KD.Henderson



Ashraf Shenouda 3/11/2016  
Ashraf Shenouda (Registered Civil Engineer) (Date)

# **STRUCTURE INVENTORY AND APPRAISAL REPORT**

## \*\*\*\*\* IDENTIFICATION \*\*\*\*\*

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0178  
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- SILVERADO CANYON CREEK  
 (7) FACILITY CARRIED- SILVERADO CANYN RD  
 (9) LOCATION- 4.9 MI. E/O SANTIAGO ROAD  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0  
 (13) LRS INVENTORY ROUTE & SUBROUTE  
 (16) LATITUDE 33 DEG 44 MIN 45.83 SEC  
 (17) LONGITUDE 117 DEG 36 MIN 20.9 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

## \*\*\*\*\* STRUCTURE TYPE AND MATERIAL \*\*\*\*\*

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL  
 TYPE- STRINGER/MULTI-BEAM OR GDR CODE 302  
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA  
 TYPE- OTHER/NA CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 1  
 (46) NUMBER OF APPROACH SPANS 0  
 (107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1  
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:  
 A) TYPE OF WEARING SURFACE- NONE CODE 0  
 B) TYPE OF MEMBRANE- NONE CODE 0  
 C) TYPE OF DECK PROTECTION- NONE CODE 0

## \*\*\*\*\* AGE AND SERVICE \*\*\*\*\*

(27) YEAR BUILT 1947  
 (106) YEAR RECONSTRUCTED 0000  
 (42) TYPE OF SERVICE: ON- HIGHWAY 1  
 UNDER- WATERWAY 5  
 (28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00  
 (29) AVERAGE DAILY TRAFFIC 2000  
 (30) YEAR OF ADT 2009 (109) TRUCK ADT 1 %  
 (19) BYPASS, DETOUR LENGTH 199 KM

## \*\*\*\*\* GEOMETRIC DATA \*\*\*\*\*

(48) LENGTH OF MAXIMUM SPAN 12.5 M  
 (49) STRUCTURE LENGTH 12.8 M  
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.3 M  
 (52) DECK WIDTH OUT TO OUT 8.2 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.4 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW 45 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.3 M  
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M  
 (54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M  
 (55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M  
 (56) MIN LAT UNDERCLEAR LT 0.0 M

## \*\*\*\*\* NAVIGATION DATA \*\*\*\*\*

(38) NAVIGATION CONTROL- NOT APPLICABLE CODE N  
 (111) PIER PROTECTION- CODE  
 (39) NAVIGATION VERTICAL CLEARANCE 0.0 M  
 (116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M  
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

## \*\*\*\*\* SUFFICIENCY RATING \*\*\*\*\*

SUFFICIENCY RATING = 42.4  
 STATUS  
 HEALTH INDEX 85.8  
 PAINT CONDITION INDEX = 98.6

## \*\*\*\*\* CLASSIFICATION \*\*\*\*\*

(112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- NOT ON NHS 0  
 (26) FUNCTIONAL CLASS- COLLECTOR URBAN 17  
 (100) DEFENSE HIGHWAY- NOT STRAHNET 0  
 (101) PARALLEL STRUCTURE- NONE EXISTS N  
 (102) DIRECTION OF TRAFFIC- 2 WAY 2  
 (103) TEMPORARY STRUCTURE-  
 (105) FED.LANDS HWY- NOT APPLICABLE 0  
 (110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0  
 (20) TOLL- ON FREE ROAD 3  
 (21) MAINTAIN- COUNTY HIGHWAY AGENCY 02  
 (22) OWNER- COUNTY HIGHWAY AGENCY 02  
 (37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

## \*\*\*\*\* CONDITION \*\*\*\*\*

(58) DECK 6  
 (59) SUPERSTRUCTURE 7  
 (60) SUBSTRUCTURE 7  
 (61) CHANNEL & CHANNEL PROTECTION 8  
 (62) CULVERTS N

## \*\*\*\*\* LOAD RATING AND POSTING \*\*\*\*\*

(31) DESIGN LOAD- UNKNOWN 0  
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0  
 (64) OPERATING RATING- 25.0  
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0  
 (66) INVENTORY RATING- 15.0  
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5  
 (41) STRUCTURE OPEN, POSTED OR CLOSED- A  
 DESCRIPTION- OPEN, NO RESTRICTION

## \*\*\*\*\* APPRAISAL \*\*\*\*\*

(67) STRUCTURAL EVALUATION 4  
 (68) DECK GEOMETRY 4  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 9  
 (72) APPROACH ROADWAY ALIGNMENT 6  
 (36) TRAFFIC SAFETY FEATURES 1000  
 (113) SCOUR CRITICAL BRIDGES 8

## \*\*\*\*\* PROPOSED IMPROVEMENTS \*\*\*\*\*

(75) TYPE OF WORK- CODE  
 (76) LENGTH OF STRUCTURE IMPROVEMENT M  
 (94) BRIDGE IMPROVEMENT COST  
 (95) ROADWAY IMPROVEMENT COST  
 (96) TOTAL PROJECT COST  
 (97) YEAR OF IMPROVEMENT COST ESTIMATE  
 (114) FUTURE ADT 4204  
 (115) YEAR OF FUTURE ADT 2035

## \*\*\*\*\* INSPECTIONS \*\*\*\*\*

(90) INSPECTION DATE 12/15 (91) FREQUENCY 24 MO  
 (92) CRITICAL FEATURE INSPECTION: (93) CFI DATE  
 A) FRACTURE CRIT DETAIL- NO MO A)  
 B) UNDERWATER INSP- NO MO B)  
 C) OTHER SPECIAL INSP- NO MO C)