



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0177
Facility Carried: SILVERADO CANYN RD
Location : 4.4 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 CANYN 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 stringers (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: 7.2 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 Inches

Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
Timber	Left	42	
Rail			
Miscellaneous	Right	42	

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 substructure elements were visually inspected.

INSPECTION COMMENTARY**SAFE LOAD CAPACITY**

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	Element Description	Env	Total Qty	Units	Qty in each Condition State			
						St. 1	St. 2	St. 3	St. 4
12		Deck-RC	2	105	sq.m	19	86	0	0
1080		Delamination/Spall/Patched Area	2	1		0	1	0	0
1130		Cracking (RC and Other)	2	85		0	85	0	0
1190		Abrasion (PS Conc./RC)	2	2		2	0	0	0
(12-1080)									
There are two spalls 12" X 8" X 2" in the eastbound direction at 3 ft from the east end; and around these spalls, there is an unsound concrete area 4 ft X 3 ft.									
(12-1130)									
There are unsealed transverse cracks in the concrete deck, 2 mm wide and 12" spaced apart.									
The soffit exhibits:									
* two transverse cracks +/- 2 ft long with light white efflorescence in bay 2 at the east end.									
* two transverse cracks +/- 3 ft long with light white efflorescence in bay 3 at the west end.									
(12-1190)									
The concrete deck exhibits light abrasion about 70% of the deck area.									
107		Girder/Beam-Steel	2	52	m	26	26	0	0
1000		Corrosion	2	25		0	25	0	0
1900		Distortion	2	1		0	1	0	0
515		Steel Coating-Paint	2	116	sq.m	64	26	20	6
3440		Effectiveness (Steel PC)	2	52		0	26	20	6
(107-1000)									
The steel girders exhibit pitting rust the surface.									
(107-1900)									
Steel girder #1 (north girder) exhibits 3" dent at the bottom flange at 10 ft from the west abutment.									
(107-515-3440)									
The paint system is failed especially at the the bottom flange of all girders.									
215		Abutment-RC	2	24	m	24	0	0	0
(215)									
There were no significant defects noted.									
332		Railing-Timber	2	13	m	12	1	0	0
1020		Connection	2	1		0	1	0	0
(332-1020)									
There is a wooden post broken at the west side of the northerly bridge rail.									
333		Railing-Other	2	13	m	9	0	2	2
1020		Connection	2	4		0	0	2	2
(333-1020)									

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	

There are two wooden posts missing in the southerly bridge railing.

WORK RECOMMENDATIONS

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

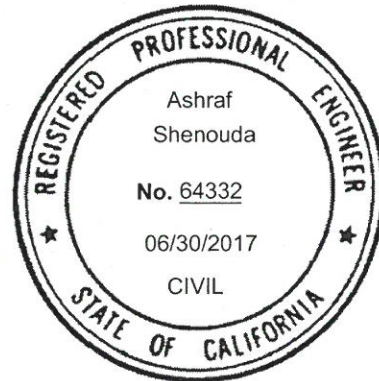
RecDate: 07/12/2011 EstCost: Remove the debris and free trunk from the
 Action : Remove Vegetation StrTarget: 1 YEAR girders
 Work By: LOCAL AGENCY DistTarget:
 Status : PROPOSED EA:

RecDate: 07/12/2011 EstCost: Clean and paint the steel girders
 Action : Paint-Full Prep StrTarget: 4 YEARS
 Work By: LOCAL AGENCY DistTarget:
 Status : PROPOSED EA:

RecDate: 02/09/2005 EstCost: Replace the two wooden posts missing in
 Action : Railing-Repair StrTarget: 2 YEARS the southerly bridge railing.
 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 55C0177
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 0000
 (6) FEATURE INTERSECTED- SILVERADO CANYON CREEK
 (7) FACILITY CARRIED- SILVERADO CANYN RD
 (9) LOCATION- 4.4 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 48.7 SEC
 (17) LONGITUDE 117 DEG 36 MIN 42.76 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 7.2 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 7.2 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 = 39.4
 STATUS
 HEALTH INDEX 81.2
 PAINT CONDITION INDEX = 75.9

***** CLASSIFICATION ***** CODE

(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 ***** CODE

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

***** LOAD RATING AND POSTING ***** CODE

(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 ***** CODE

(67) STRUCTURAL EVALUATION 4
 (68) DECK GEOMETRY 3
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 5
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES 0000
 (113) SCOUR CRITICAL BRIDGES 8

***** PROPOSED IMPROVEMENTS *****

(75) TYPE OF WORK- REPLACE FOR DEFICIENC CODE 31
 (76) LENGTH OF STRUCTURE IMPROVEMENT 12.8 M
 (94) BRIDGE IMPROVEMENT COST \$241,500
 (95) ROADWAY IMPROVEMENT COST \$48,300
 (96) TOTAL PROJECT COST \$405,720
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
 (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)