



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0175
Facility Carried: SILVERADO CANYN RD
Location : 2.2 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: LADD CANYON

CONSTRUCTION INFORMATION

Year Built : 1947 Skew (degrees): 60
Year Widened: N/A No. of Joints : 0
Length (m) : 15.7 No. of Hinges : 0

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

Span Configuration : (W) 1 @ 14.9 m (E) c/c

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15
Inventory Rating: RF=0.45 =>14.6 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=0.76 =>24.6 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) 0.4 m br, 7.4 m, 0.4 m br (N)
Total Width: 8.2 m Net Width: 7.4 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
Miscellaneous	Right/Left	110	

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 channel was dry, so all visible substructure elements were visually inspected. Pedestrian access is from northwest and southwest quadrants.

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	Element Description	Env	Total Qty	Units	Qty in each Condition State			
						St. 1	St. 2	St. 3	St. 4
12		Deck-RC	2	128	sq.m	91	36	1	0
1080		Delamination/Spall/Patched Area	2	2		0	2	0	0
1120		Efflorescence/Rust Staining	2	15		0	14	1	0
1190		Abrasion (PS Conc./RC)	2	20		0	20	0	0
521		Concrete Coat. (Meth/Paint/Seal)	2	110	sq.m	110	0	0	0

(12-1080)

The deck has a sound patched spall 18" 18" at 8 ft from the west abutment.

An unsound concrete area 15" X 4" at eastbound lane at 10 ft from the west end and 2 ft south of the bridge centerline (2 ft south of double yellow lines).

(12-1120)

There are soffit transverse cracks +/- 4 ft long at the following locations:

- * five cracks, 0.5 mm wide with white efflorescence in bay #1.
- * seven cracks, 0.5 mm wide cracks with white efflorescence and a crack with brown efflorescence in bay #2.
- * four cracks, 0.5 mm wide cracks with white efflorescence in bay #3.

(12-1190)

There is few areas of abrasion in different locations.

(12-521)

There were no significant defects noted.

The bridge deck cracks were treated with methacrylate and all spalls were patched.

107		Girder/Beam-Steel	2	62	m	62	0	0	0
515		Steel Coating-Paint	2	138	sq.m	138	0	0	0

(107)

There were no significant defects noted.

(107-515)

There were no significant defects noted.

215		Abutment-RC	2	34	m	28	6	0	0
6000		Scour	2	6		0	6	0	0

(215-6000)

There is an exposed footing at the southerly 20 ft of the west abutment.

333		Railing-Other	2	32	m	26	6	0	0
1010		Cracking	2	6		0	6	0	0

(333-1010)

At the north rail, timber post #3 is split.

At the southerly rail, timber posts #3 and #4 have vertical checks at the exterior face.

WORK RECOMMENDATIONS - NONE

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 55C0175
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
 (2) HIGHWAY AGENCY DISTRICT 12
 (3) COUNTY CODE 059 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED- LADD CANYON
 (7) FACILITY CARRIED- SILVERADO CANYN RD
 (9) LOCATION- 2.2 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 53.2 SEC
 (17) LONGITUDE 117 DEG 38 MIN 25.68 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 15.2 M
 (49) STRUCTURE LENGTH 15.7 M
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.4 M
 (52) DECK WIDTH OUT TO OUT 8.2 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.7 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 60 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.4 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 = 41.6
 STATUS
 HEALTH INDEX 94.5
 PAINT CONDITION INDEX = 100.0

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

(112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- LOCAL RURAL 09
 (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 7
 (59) SUPERSTRUCTURE 8
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 7
 (62) CULVERTS N

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

(31) DESIGN LOAD- M-13.5 OR H-15 2
 (63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
 (64) OPERATING RATING- 24.6
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0
 (66) INVENTORY RATING- 14.6
 (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 4
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 8
 (72) APPROACH ROADWAY ALIGNMENT 6
 (36) TRAFFIC SAFETY FEATURES 0000
 (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)