



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0180
Facility Carried: SILVERADO CNYN RD
Location : 2.7 MI E/O SANTIAGO ROAD
City :
Inspection Date : 05/07/2019

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other
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STRUCTURE NAME: SILVERADO CANYON CREEK

CONSTRUCTION INFORMATION

Year Built : 1971 Skew (degrees): 64
Year Modified: N/A No. of Joints : 0
Length (m) : 16.2 No. of Hinges : 0

Structure Description: Single span CIP/RC rigid frame slab, all supported upon spread footings.

Span Configuration : (W) 24.00 feet (E)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : P P P P P
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 4.00 feet min deck, 1.00 foot br, 25.00 feet, 1.00 foot br, 5.00 feet min deck (N)

Total Width: 11.0 m Net Width: 7.6 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 inches

Rail Code: 1000

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

A complete routine inspection was performed by walking on and around the bridge to inspect all visible elements of the bridge structure. Bridge deck was inspected by walking on shoulder. Soffit and all substructure were inspected by walking underneath the bridge with rain boots due to water at 4.0 inches deep at the time of inspection.

There is no need for a special equipment to inspect this structure except rain boots if it is in raining season.

INSPECTION COMMENTARY**DECK AND ROADWAY**

Bridge slab is covered by 3.0 inches thick of asphalt.

There are two small spalls at (8.0 inches L X 1.0 inch W X 1.0 inch D) on soffit next to the construction joint at the middle of the bridge.

There are three longitudinal and two diagonal cracks on the soffit near both abutments, up to 8.0 feet long with light brown efflorescence (see the attached photo no. 1).

The soffit has a crack almost half width of the span, this crack extends down to the easterly abutment approxiamtely 15.0 feet from the northerly end.

The southerly metal beam has a dent with rust at the steel post#3 (counting from the east).

SUPERSTRUCTURE

There is no notable distress observed at the time of inspection.

SUBSTRUCTURE

The easterly and westerly abutments, each has three vertical cracks at 0.04 inches wide, 3.0 to 5.0 feet long.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet is archived on 4/30/2018 for this structure. The current rating has been assigned in accordance with SMI procedures for concrete bridges without plans. As-built plans are not available for this bridge. The load rating was assigned in accordance with Section 5.10 of the SM&I Inspection Procedure Manual and Article 6.1.4 of the AASHTO Manual for Bridge Evaluation (2018, Third Edition).

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition	State		
						St. 1	St. 2	St. 3	St. 4
38		Slab-RC	2	534	sq.m	520	13	1	0
	1080	Delamination/Spall/Patched Area	2	1		0	1	0	0
	1120	Efflorescence/Rust Staining	2	3		0	2	1	0
	1130	Cracking (RC and Other)	2	10		0	10	0	0
(38)									
Minor cracks on slab soffit with efflorescence and spalls.									
(38-1080)									
There are two small spalls at (8.0 inches L X 1.0 inch W X 1.0 inch D) on soffit next to the construction joint at the middle of the bridge.									
(38-1120)									
There are three longitudinal and two diagonal cracks on the soffit near both abutments, up to 8.0 feet long with light brown efflorescence (see the attached photo no. 1).									
(38-1130)									
The soffit has a crack almost half width of the span, this crack extends down to the easterly abutment approxiamtely 15.0 feet from the northerly end.									
215		Abutment-RC	3	66	m	61	5	0	0
	1130	Cracking (RC and Other)	3	5		0	5	0	0

(215)

There were no significant defects noted.

ELEMENT INSPECTION RATINGS AND COMMENTARY

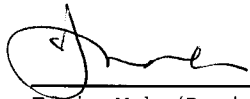
Elem No.	Defect /Prot	Defect	Element Description	Env	Total Qty	Units	Qty in each Condition State			
							St. 1	St. 2	St. 3	St. 4
(215-1130)										
The easterly and westerly abutments, each has three vertical cracks at 0.04 inches wide, 3.0 to 5.0 feet long.										
330			Railing-Metal	2	34	m	33	1	0	0
	1900		Distortion	2	1		0	1	0	0
(330-1900)										
The southerly metal beam has a dent with rust at the steel post#3 (counting from the east).										

WORK RECOMMENDATIONS - NONE

Team Leader : Edwin Mah

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah



Edwin Mah (Registered Civil Engineer) (Date)

8/22/2019



STRUCTURE INVENTORY AND APPRAISAL REPORT

***** IDENTIFICATION *****

(1) STATE NAME- CALIFORNIA 069
 (8) STRUCTURE NUMBER 55C0180
 (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 CNYN RD
 (9) LOCATION- 2.7 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 48.61 SEC
 (17) LONGITUDE 117 DEG 37 MIN 52.44 SEC
 (98) BORDER BRIDGE STATE CODE % SHARE %
 (99) BORDER BRIDGE STRUCTURE NUMBER

***** STRUCTURE TYPE AND MATERIAL *****

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
 TYPE- SLAB CODE 101
 (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- BITUMINOUS CODE 6
 B) TYPE OF MEMBRANE- NONE CODE 0
 C) TYPE OF DECK PROTECTION- NONE CODE 0

***** AGE AND SERVICE *****

(27) YEAR BUILT 1971
 (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 2019 (109) TRUCK ADT 1 %
 (19) BYPASS, DETOUR LENGTH 199 KM

***** GEOMETRIC DATA *****

(48) LENGTH OF MAXIMUM SPAN 7.3 M
 (49) STRUCTURE LENGTH 16.2 M
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.6 M
 (52) DECK WIDTH OUT TO OUT 11.0 M
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.0 M
 (33) BRIDGE MEDIAN- NO MEDIAN 0
 (34) SKEW 64 DEG (35) STRUCTURE FLARED NO
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.6 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 = 54.7
 PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
 (104) HIGHWAY SYSTEM- NOT ON NHS 0
 (26) FUNCTIONAL CLASS- MAJOR COLLECTOR RURAL 07
 (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 7
 (60) SUBSTRUCTURE 7
 (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- 40.5
 (65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUI 0
 (66) INVENTORY RATING- 24.3
 (70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
 (41) STRUCTURE OPEN, POSTED OR CLOSED-
 DESCRIPTION- OPEN, NO RESTRICTION A

***** APPRAISAL ***** CODE

(67) STRUCTURAL EVALUATION 6
 (68) DECK GEOMETRY 4
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
 (71) WATER ADEQUACY 8
 (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 2037

***** INSPECTIONS *****

(90) INSPECTION DATE 05/19 (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)