**DEPARTMENT OF TRANSPORTATION**
Structure Maintenance & Investigations

**Bridge Number : 55C0182**
Facility Carried: SILVERADO CNYN RD.
Location : 3.6 MI. E/O SANTIAGO ROA
City :
Inspection Date : 07/11/2019

# Bridge Inspection Report

Inspection Type

| Routine | FC | Underwater | Special | Other |
|---|---|---|---|---|
| X | | | | |

**STRUCTURE NAME: SILVERADO CANYON CREEK**

## CONSTRUCTION INFORMATION

Year Built : 1970
Year Modified: N/A
Length (m) : 13.1
Skew (degrees): 53
No. of Joints : 0
No. of Hinges : 0

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

Span Configuration : (W) 1 @ 22.00 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 : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

## DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 1.00 foot min pcc deck, 1.00 foot br, 20.00 feet, 1.00 foot br, 1.00 foot min deck (N).

Total Width: 6.7 m Net Width: 6.1 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 slab to inspect all visible elements of the bridge structure. Bridge slab was inspected by walking on shoulder. Soffit and all substructure were inspected by walking underneath the bridge with rain boots due to 4.0 inches deep of water.

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
The bridge slab is covered with 3.0 inches thick of Asphalt Overlay and it is in fair condition.

There are minor longitudinal hairline cracks at (0.05 inches wide) on slab soffit with efflorescence.

Below is the following locations of missing bolts and nuts of MBGR:
Timber post #4 (counting from west) is missing; (see the attached photo no. 1). Post #8 is missing a nut; and Post #10 is missing a bolt and a nut.

Some of the timber posts of MBGR are lightly decayed.

SUBSTRUCTURE
There are minor vertical hairline cracks at (0.04 inches wide) on both of abutment walls.

SAFE LOAD CAPACITY
A Load Rating Summary Sheet dated 04/30/2018 is on file for this structure. 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 | Defect | Element Description | Env | Total Qty | Units | Qty in each Condition State St. 1 | St. 2 | St. 3 | St. 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| **38** | | | **Slab-RC** | 2 | 302 | sq.m | 282 | 15 | 5 | 0 |
| | **1120** | | **Efflorescence/Rust Staining** | 2 | 5 | | 0 | 5 | 0 | 0 |
| | **1130** | | **Cracking (RC and Other)** | 2 | 15 | | 0 | 10 | 5 | 0 |
| | **510** | | **Deck Wearing Surface-Asphalt** | 2 | 80 | sq.m | 80 | 0 | 0 | 0 |

(38)
The bridge slab is covered with 3.0 inches thick of Asphalt Overlay and it is in fair condition.

(38-1120)
There are minor longitudinal hairline cracks at (0.05 inches wide) on slab soffit with efflorescence.

(38-1130)
The rear bridge slab without asphalt covering has random longitudinal cracks at (10.0 feet long and 0.05 inches wide) both northerly and southerly sides.

(38-510)
There were no significant defects noted.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **215** | | | **Abutment-RC** | 3 | 46 | m | 44 | 2 | 0 | 0 |
| | **1130** | | **Cracking (RC and Other)** | 3 | 2 | | 0 | 2 | 0 | 0 |

(215)

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| There were no significant defects noted. | | | | | | | | | | |
| (215-1130) | | | | | | | | | | |
| There are minor vertical hairline cracks at (0.04 inches wide) on both of abutment walls. | | | | | | | | | | |
| **333** | | | **Railing-Other** | 2 | 38 | m | 33 | 4 | 0 | 1 |
| | **1020** | | **Connection** | 2 | 3 | | 0 | 2 | 0 | 1 |
| | **1220** | | **Deterioration (Other)** | 2 | 2 | | 0 | 2 | 0 | 0 |

(333)
Minor deterioration.

(333-1020)
Below is the following locations of missing bolts and nuts of MBGR:
Timber post #4 (counting from west) is missing; (see the attached photo no. 1). Post #8 is missing a nut; and Post #10 is missing a bolt and a nut.

(333-1220)
Some of the timber posts of MBGR are lightly decayed.

## WORK RECOMMENDATIONS

RecDate: 12/14/2013
Action : Railing-Repair
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Replace the missing timber post #4 (counting from west); Post #8 is missing a nut; and post #10 is missing a bolt and a nut at the northerly rail.

Team Leader : Nelson N. Vo

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

8/22/2019

Edwin Mah (Registered Civil Engineer) (Date)

# STRUCTURE INVENTORY AND APPRAISAL REPORT

**********  IDENTIFICATION  **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0182**
(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- 3.6 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 48.23 SEC
(17) LONGITUDE 117 DEG 37 MIN 08.39 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 1970
(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 6.7 M
(49) STRUCTURE LENGTH 13.1 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 6.1 M
(52) DECK WIDTH OUT TO OUT 6.7 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.1 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 53 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 6.1 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

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SUFFICIENCY RATING = 51.5

PAINT CONDITION INDEX = N/A

**********  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 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 JUD 0
(66) INVENTORY RATING- 24.3
(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 6
(68) DECK GEOMETRY 2
(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 07/19 (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)