DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0173
Facility Carried: MODJESKA CANYON RD
Location : .4 MI. E/O MODJESKA G RD
City :
Inspection Date : 05/07/2019

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SANTIAGO CREEK

CONSTRUCTION INFORMATION

Year Built : 1947
Year Modified: N/A
Length (m) : 17.1

Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

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

Span Configuration : (W) 55.00 feet (E)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15
Inventory Rating: RF=0.61 =>19.8 metric tons Calculation Method: LOAD FACTOR
Operating Rating: RF=1.02 =>33.0 metric tons Calculation Method: LOAD FACTOR
Permit Rating : OOOOO
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.30 feet br, 3.00 feet cu, 24.00 feet, 1.70 feet cu, 0.30 feet br (N)
Total Width: 8.8 m Net Width: 7.3 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 inches
Rail Code: 0000

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal.

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 the water at 4.0 inches deep at the time of inspection.

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

DECK AND ROADWAY
The concrete deck has numerous spalls about (8.0 inches L X 5.0 inches W X 1.0 inch D)

INSPECTION COMMENTARY

next to the northerly sidewalk, most noticed at the westerly side; and four unsound concrete areas about 10.0 inches diameter approximately 1.0 foot from the southerly sidewalk, mostly at the east side (see the attached photo no. 2).

The concrete deck has transverse cracks throughout deck at (0.05 inches wide, 5.0 to 10.0 feet long and 3.0 to 5.0 feet in spacing).

There is about 75.0 percent of abrasion on the deck surface with exposed of aggregate throughout the entire deck. The work-recommendation has been made in 05/12/2011 to seal deck cracks and patch all deck spalls.

SUPERSTRUCTURE
There is no notable distress observed at the time of inspection except the paint system of the superstructure that has been rusted and chalked at the top and bottom flanges; and also their edges.

SUBSTRUCTURE
There are minor vertical hairline cracks on both of the abutment walls.

SAFE LOAD CAPACITY
The load rating for this structure is calculated on 10/25/2012 by SMI Ratings Branch using BrR 6.3.0 AASHTO , and the load rating summary sheet is archived on 10/30/2012.

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
12			**Deck-RC**	2	150	sq.m	68	81	1	0
	1080		**Delamination/Spall/Patched Area**	2	2		0	1	1	0
	1130		**Cracking (RC and Other)**	2	30		0	30	0	0
	1190		**Abrasion (PS Conc./RC)**	2	50		0	50	0	0

(12)
Deck cracks, abrasion and spalls.

(12-1080)
The concrete deck has numerous spalls about (8.0 inches L X 5.0 inches W X 1.0 inch D) next to the northerly sidewalk, most noticed at the westerly side; and four unsound concrete areas about 10.0 inches diameter approximately 1.0 foot from the southerly sidewalk, mostly at the east side (see the attached photo no. 2).

(12-1130)
The concrete deck has transverse cracks throughout deck at (0.05 inches wide, 5.0 to 10.0 feet long and 3.0 to 5.0 feet in spacing.

(12-1190)
There is about 75.0 percent of abrasion on the deck surface with exposed of aggregate throughout the entire deck.

107			**Girder/Beam-Steel**	2	68	m	58	10	0	0
	1000		**Corrosion**	2	10		0	10	0	0
	515		**Steel Coating-Paint**	2	175	sq.m	125	26	24	0
		3410	**Chalking (Steel PC)**	2	50		0	26	24	0

(107)
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
			(107-1000) The bottom and top flanges of the steel girders have several locations of rust. (107-515) Chalking and rusting. (107-515-3410) The entire paint system of superstructure has been chalking and losing pigments at the edges.							
215			**Abutment-RC**	2	18	m	18	0	0	0
			(215) There were no significant defects noted.							
228			**Pile-Timber**	2	1	ea.	1	0	0	0
			(228) The pile element is included to indicate the presence of piles on this structure. The piles were not exposed for visual inspection. No indication of pile distress was noted in any substructure element.							
310			**Bearing-Elastomeric**	2	4	each	4	0	0	0
			(310) There were no significant defects noted.							
332			**Railing-Timber**	2	36	m	36	0	0	0
			(332) There were no significant defects noted.							

WORK RECOMMENDATIONS

RecDate: 05/12/2011
Action : Deck-Methacrylate
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Repair the spalls and provide deck sealing with methacrylate or equivalent material.

Team Leader : Edwin Mah

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 **55C0173**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SANTIAGO CREEK
(7) FACILITY CARRIED- MODJESKA CANYON RD
(9) LOCATION- .4 MI. E/O MODJESKA G RD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 42 MIN 28.85 SEC
(17) LONGITUDE 117 DEG 37 MIN 43.93 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-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 1000
(30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 199 KM

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

(48) LENGTH OF MAXIMUM SPAN 16.8 M
(49) STRUCTURE LENGTH 17.1 M
(50) CURB OR SIDEWALK: LEFT 0.9 M RIGHT 0.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.3 M
(52) DECK WIDTH OUT TO OUT 8.8 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 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- NO CONTROL CODE 0
(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 = 43.4

PAINT CONDITION INDEX = 85.9

********** 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 5
(59) SUPERSTRUCTURE 7
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

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

(31) DESIGN LOAD- M-13.5 OR H-15 2
(63) OPERATING RATING METHOD- LOAD FACTOR 1
(64) OPERATING RATING- 33.0
(65) INVENTORY RATING METHOD- LOAD FACTOR 1
(66) INVENTORY RATING- 19.8
(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 5
(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 1052
(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)