



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 : 07/07/2013

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other
☒

STRUCTURE NAME: SANTIAGO CREEK

CONSTRUCTION INFORMATION

Year Built : 1947 Skew (degrees): 0
Year Widened: N/A No. of Joints : 0
Length (m) : 17.1 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) 1 @ 16.8 m (E) c/c

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 : 00000
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (S) 0.1 m br, 0.9 m cu, 7.3 m, 0.5 m cu, 0.1 m br (N)
Total Width: 8.8 m Net Width: 7.3 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired
Rail Code: 0000 Rail Description: Timber

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth trapezoidal.

INSPECTION COMMENTARY

SCOPE AND ACCESS

There was 8" deep and 3 ft wide running water in the channel; all elements were visually inspection.

REVISIONS

Element 107 (Painted Steel Beams): A quantity of 8 m was moved to state 2.

MISCELLANEOUS

Ten-year bridge roadway, elevation and underside photos were taken during this inspection.

DECK AND ROADWAY

The timber rail exhibits splits; and the paint is peeled off.

The approach road way is unlevelled 2" at the west end.

The concrete deck exhibits few transverse cracks throughout deck, 0.04 inch wide and 3 ft spacing apart, and there are 2 small 6" X 4" X 1/2" spalls in the deck at west end.

INSPECTION COMMENTARY

The concrete deck surface exhibits 80% light scaling due to weather and age.

SUPERSTRUCTURE

There are few spots at top flange and the paint is faded as well in these locations.

The soffit exhibits at the north overhang, few transverse cracks < 0.04 inch wide with light white and brown efflorescence, these cracks mostly are under the timber piles.

SUBSTRUCTURE

SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SMI Ratings Branch. An updated Load Rating Summary will be archived when this review is complete.

WATERWAY

The clearance underneath the bridge is shallow, where dirt is piling up underneath the bridge which it could prevent the creek water from having smooth flow.

<u>ELEMENT INSPECTION RATINGS</u>									
Elem	Total			Qty in each Condition State					
No.	Element Description	Env	Qty	Units	St. 1	St. 2	St. 3	St. 4	St. 5
12	Concrete Deck - Bare	2	120	sq.m.	0	120	0	0	0
107	Painted Steel Open Girder/Beam	2	68	m.	60	8	0	0	0
215	Reinforced Conc Abutment	2	18	m.	18	0	0	0	0
228	Timber Submerged Pile	2	1	ea.	1	0	0	0	0
332	Timber Bridge Railing	2	36	m.	0	36	0		
358	Deck Cracking	2	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 07/07/2013

Action : Sub-Scour Mitigate

Work By: LOCAL AGENCY

Status : PROPOSED

EstCost:

StrTarget: 2 YEARS

DistTarget:

EA:

Remove the dirt that is piling up underneath the bridge which it could prevent the creek water from having smooth flow.

RecDate: 05/12/2011

Action : Deck-Methacrylate

Work By: LOCAL AGENCY

Status : PROPOSED

EstCost:


StrTarget: 2 YEARS

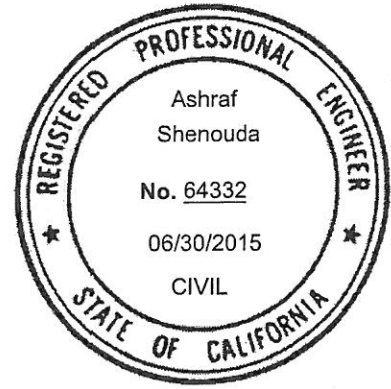
DistTarget:

EA:

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

Team Leader : Ashraf Shenouda
Report Author : Ashraf Shenouda
Inspected By : A.Shenouda/NN.Vo

 10/7/2013
Ashraf Shenouda (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 29.06 SEC
 (17) LONGITUDE 117 DEG 37 MIN 43.43 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 2009 (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
 STATUS
 HEALTH INDEX 93.3
 PAINT CONDITION INDEX = 97.1

***** 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 6
 (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 9
 (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 1031
 (115) YEAR OF FUTURE ADT 2029

***** INSPECTIONS *****

(90) INSPECTION DATE 07/13 (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)