DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 33C0058
Facility Carried: MAIN ST
Location : SOUTH DEL VALLE PKWY
City : PLEASANTON
Inspection Date : 11/05/2013
Inspection Type
Routine FC Underwater Special Other
[X]

Bridge Inspection Report

STRUCTURE NAME: ARROYO DEL VALLE

CONSTRUCTION INFORMATION

Year Built : 1959
Year Widened: N/A
Length (m) : 52.1
Skew (degrees): 0
No. of Joints : 4
No. of Hinges : 0

Structure Description: 3 simple span welded steel girder (8) with composite RC deck on RC pier walls and RC seat abutments all on spread footings

Span Configuration : 3 @ 16.8 m

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: M-18 OR H-20
Inventory Rating: RF=1.04 =>33.7 metric tons Calculation Method: LOAD FACTOR
Operating Rating: RF=1.74 =>56.4 metric tons Calculation Method: LOAD FACTOR
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.3 m r - 1.5 m sw - 0.4 m r - 17.1 m - 0.4 m r - 1.5 m sw - 0.3 m r
Total Width: 21.4 m Net Width: 17.1 m No. of Lanes: 3 Speed: 35 mph
Min. Vertical Clearance: Unimpaired
Rail Code: 1000

Rail Type	Location	Length (ft)	Rail Modifications
Type 1	Right/Left	211	

DESCRIPTION UNDER STRUCTURE

Channel Description: Concrete lined

INSPECTION COMMENTARY

SCOPE AND ACCESS

Water was present in the creek at a depth of 0.2 meters in Spans 1 and 2. A complete visual inspection was performed.

DECK AND ROADWAY

The pourable joint seals have been covered with an asphaltic sealer. The joints seals have aged and deteriorated. See photos 2-4.

There are several small shallow spalls (9 square inches) along the right exterior edge of the reinforced concrete bridge rail. Some of the spalls have exposed steel reinforcement. This condition is due to inadequate concrete cover and does not threaten the serviceability of this structure.

Pattern cracks are present throughout the deck surface. The cracks are less than 1/16 of an inch wide and spaced 18 to 24 inches apart.

There are 6 to 7 shallow deck spalls that have exposed steel reinforcement in the

INSPECTION COMMENTARY

southbound lanes near the joint at Bent 3. The length of exposure ranges from 6 to 12 inches. This condition is a construction defect due to inadequate concrete cover. See photo 1.

There is a deck spall about 1.5 inches deep and 12 inches in diameter. The spall is in Lane 1, southbound, at Abutment 4. See photos 2 and 3.

Transverse soffit cracks are occurring near Bents 2 and 3. The crack are less than 1/16 of an inch wide, spaced 3 to 5 feet apart, and are 5 to 10 feet long. Effloresence is present in the cracks.

SUPERSTRUCTURE

Freckled surface rust has formed on the bottom flanges of the steel girders.

SUBSTRUCTURE

There are 2 vertical cracks in Piers 2 and 3. The cracks extend the full height of the pier walls and range in size from 1/16 to 1/8 of an inch wide.

No settlement was observed.

No scour was observed.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet dated April 2, 2012 is on file for this structure. While this report does not include a check of that analysis, it does verify that the structural conditions observed during this inspection are consistent with those assumed in that analysis.

The current rating is based on Caltrans, VIRTIS 6.4.0 AASHTO software calculations dated April 2, 2012.

ELEMENT INSPECTION RATINGS

Elem No.	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
12	Concrete Deck - Bare	3	891	sq.m.	891	0	0	0	0
107	Painted Steel Open Girder/Beam	3	402	m.	302	0	100	0	0
182	Other Type EQ Restrainer Cable	2	2	ea.	2	0	0	0	0
210	Reinforced Conc Pier Wall	3	34	m.	34	0	0	0	0
215	Reinforced Conc Abutment	3	34	m.	34	0	0	0	0
256	Slope Protection	3	2	ea.	2	0	0	0	0
301	Pourable Joint Seal	3	68	m.	0	0	68	0	0
311	Moveable Bearing (roller, sliding, etc.)	3	24	ea.	24	0	0	0	0
313	Fixed Bearing	2	24	ea.	24	0	0	0	0
333	Other Bridge Railing	3	101	m.	101	0	0	0	0
336	Metal Railing (pipe or picket)	2	101	m.	101	0	0	0	0
358	Deck Cracking	3	1	ea.	0	0	0	1	
359	Soffit of Concrete Deck or Slab	2	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 11/23/2005 Action : Paint-Spot Prep/Pain Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:	Clean and paint the corroded portion of of the painted steel girders.
RecDate: 10/21/2003 Action : Deck-Methacrylate Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:	Apply protective methacrylate treatment to concrete deck.
RecDate: 04/22/1999 Action : Joints-Replace Work By: LOCAL AGENCY Status : PROPOSED	EstCost: StrTarget: 2 YEARS DistTarget: EA:	Remove existing joint material (expansion paper) and install new joint seals at Abutments 1 and 4 and Piers 2 and 3. Joint gap = 1.5" at T = 65 deg. F

Team Leader : Rohit Nand

Report Author : Rohit Nand

Inspected By : R.Nand/JE.Edwards

5/12/14

Jason E. Edwards (Registered Civil Engineer) (Date)

REGISTERED PROFESSIONAL ENGINEER
JASON E.F EDWARDS
No. C 62463
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER 33C0058
(5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
(2) HIGHWAY AGENCY DISTRICT 04
(3) COUNTY CODE 001 (4) PLACE CODE 57792
(6) FEATURE INTERSECTED- ARROYO DEL VALLE
(7) FACILITY CARRIED- MAIN ST
(9) LOCATION- SOUTH DEL VALLE PKWY
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 37 DEG 39 MIN 53.65 SEC
(17) LONGITUDE 121 DEG 52 MIN 26.1 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 3
(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 1959
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 03 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 15700
(30) YEAR OF ADT 2009 (109) TRUCK ADT 2 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 16.8 M
(49) STRUCTURE LENGTH 52.1 M
(50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 17.1 M
(52) DECK WIDTH OUT TO OUT 21.4 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 17.1 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 17.1 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- 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 = 93.5
STATUS STRUCTURALLY DEFICIENT
HEALTH INDEX 93.3
PAINT CONDITION INDEX = 87.6

********** 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- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 4
(59) SUPERSTRUCTURE 6
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION 7
(62) CULVERTS N

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

(31) DESIGN LOAD- M-18 OR H-20 4
(63) OPERATING RATING METHOD- LOAD FACTOR 1
(64) OPERATING RATING- 56.4
(65) INVENTORY RATING METHOD- LOAD FACTOR 1
(66) INVENTORY RATING- 33.7
(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 9
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 8
(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 21735
(115) YEAR OF FUTURE ADT 2035

********** INSPECTIONS **********

(90) INSPECTION DATE 11/13 (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)