Orange County Bridge Review Summary

Dokken Engineering performed a field review of the Orange County bridge listed below in April 2017 to identify maintenance activities eligible for Caltrans' Bridge Preventive Maintenance Program (BPMP), dated December 2015, funding. Additional maintenance activities, if present, not eligible for BPMP funding were also noted. Maintenance recommendations, if noted in the most recent Caltrans Bridge Inspection Report (BIR), were confirmed.

Bridge Number: 55C0629

Bridge Name: Wildlife Undercrossing Year Built: 1997

Facility Carried: Antonio Parkway

The existing Wildlife undercrossing Bridge at Antonio Parkway is a continuous three span cast-in-place reinforced concrete box girder with reinforced concrete three column bents, and reinforced concrete open seat abutments, all supported on CIDH concrete piles.

Caltrans BIR recommendations:

- None

Field Inspection Observations

- Minor deck cracking observed. No action needed.

Maintenance Needs Assessment

BPMP Assessment

- N/A – No eligible maintenance activities

General Maintenance – Non-BPMP

- No recommendations.

Proposed BPMP Construction Costs

- N/A

Construction Items Not Funded by BPMP

- N/A

APPENDIX A

Photos and BIR

Photo 1:

Photo 2:

Photo 3:

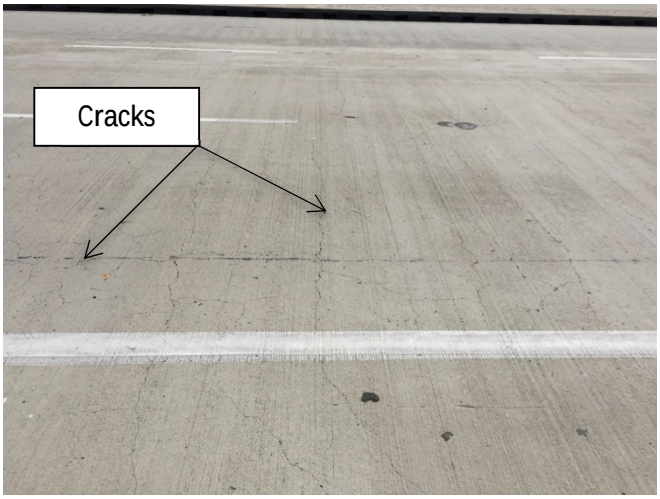

Photo 4: Bridge Deck

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0629
Facility Carried: ANTONIO PARKWAY
Location : 0.5 MI. S/O OSO PARKWAY
City :
Inspection Date : 01/29/2015

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: WILDLIFE UNDERCROSSING

CONSTRUCTION INFORMATION

Year Built : 1997
Year Widened: 2008
Length (m) : 71.6
Skew (degrees): 0
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous three span CIP/RC box girder (seven cells) with RC three column bents, and RC open seat abutments, all supported upon 406 mm diameter CIDh concrete piles.

Span Configuration : (S) 20.9 m, 29.0 m, 20.9 m (N)
widened (S) 8.5 m, 9 m, 20.9 m, 29.0 m, 20.9 m (N)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18+MOD OR HS-20+MOD
Inventory Rating: RF=1.00 =>32.4 metric tons Calculation Method: ASSIGNED (LFD)
Operating Rating: RF=1.67 =>54.1 metric tons Calculation Method: ASSIGNED (LFD)
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.5 m br, 1.3 m sw, 13.3 m, 1.2 m med, 13.3, 1.3 m sw, 0.5 m br (E)
Total Width: 31.2 m Net Width: 26.6 m No. of Lanes: 4 Speed: 55 mph
Min. Vertical Clearance: Unimpaired AC Thickness: 0.0 Inches

Rail Code: 1111

Rail Type	Location	Length (ft)	Rail Modifications
Type 26	Right/Left	528	Timber top

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural earth canyon

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
The channel was dry ot time of inspection, all elements have been visually inspected.

SAFE LOAD CAPACITY
A Load Rating Summary Sheet is included with this bridge inspection report. The current rating has been assigned in accordance with SM&I procedures.

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
16			Top Flange-RC	2	2270	sq.m	2270	0	0	0
(16) There were no significant defects noted.										
38			Slab-RC	2	200	sq.m	200	0	0	0
(38) There were no significant defects noted.										
105			Box Girder-RC	2	142	m	142	0	0	0
(105) There were no significant defects noted.										
205			Column-RC	2	13	each	13	0	0	0
(205) There were no significant defects noted.										
215			Abutment-RC	2	80	m	80	0	0	0
(215) There were no significant defects noted.										
252			Pile-CIDH	2	1	ea.	1	0	0	0
(252) 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.										
302			Joint-Compression Seal	2	42	m	42	0	0	0
(302) There were no significant defects noted.										
312			Bearing-Enclosed	2	2	each	2	0	0	0
(312) There were no significant defects noted.										
321			Approach Slab-RC	2	478	sq.m	478	0	0	0
(321) There were no significant defects noted.										
331			Railing-RC	2	142	m	142	0	0	0
(331) There were no significant defects noted.										

WORK RECOMMENDATIONS - NONE

Team Leader : Mikhael T. Zaarour

Report Author : Mikhael T. Zaarour

Inspected By : MT.Zaarour/KD.Henderson

3/30/15

Mikhael T. Zaarour (Registered Civil Engineer) (Date)

REGISTERED PROFESSIONAL ENGINEER
Mikhael T. Zaarour
No. 68212
09/30/2015
CIVIL
STATE OF CALIFORNIA

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0629**
(5) INVENTORY ROUTE(ON/UNDER)- ON 14000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- WILDLIFE UNDERCROSSING
(7) FACILITY CARRIED- ANTONIO PARKWAY
(9) LOCATION- 0.5 MI. S/O OSO PARKWAY
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000000
(16) LATITUDE 33 DEG 34 MIN 34.64 SEC
(17) LONGITUDE 117 DEG 37 MIN 57.64 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE CONT
TYPE- BOX BEAM OR GIRDER - MULTI CODE 205
(44) STRUCTURE TYPE APPR:MATERIAL- CONCRETE CONT
TYPE- SLAB CODE 201
(45) NUMBER OF SPANS IN MAIN UNIT 3
(46) NUMBER OF APPROACH SPANS 2
(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 1997
(106) YEAR RECONSTRUCTED 2008
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- OTHER 0
(28) LANES:ON STRUCTURE 04 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 23400
(30) YEAR OF ADT 2011 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 11 KM

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

(48) LENGTH OF MAXIMUM SPAN 29.0 M
(49) STRUCTURE LENGTH 71.6 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 26.6 M
(52) DECK WIDTH OUT TO OUT 31.2 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 26.6 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 13.3 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- 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 = 87.9
STATUS
HEALTH INDEX 100.0
PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- ROUTE ON NHS 1
(26) FUNCTIONAL CLASS- OTHER PRIN ART URBAN 14
(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 8
(59) SUPERSTRUCTURE 8
(60) SUBSTRUCTURE 8
(61) CHANNEL & CHANNEL PROTECTION N
(62) CULVERTS N

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

(31) DESIGN LOAD- MS-18+MOD OR HS-20+MOD 6
(63) OPERATING RATING METHOD- ASSIGNED (LFD) A
(64) OPERATING RATING- 54.1
(65) INVENTORY RATING METHOD- ASSIGNED (LFD) A
(66) INVENTORY RATING- 32.4
(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 8
(68) DECK GEOMETRY 9
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY N
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1111
(113) SCOUR CRITICAL BRIDGES N

********** 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 42329
(115) YEAR OF FUTURE ADT 2037

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

(90) INSPECTION DATE 01/15 (91) FREQUENCY 48 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)