



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0122  
Facility Carried: BREA CANYON BLVD.  
Location : 0.6 MI N/O CENTRAL AVENUE  
City :  
Inspection Date : 10/02/2015

**Bridge Inspection Report**

Inspection Type  
Routine FC Underwater Special Other

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**STRUCTURE NAME:** BREA CANYON CHANNEL

**CONSTRUCTION INFORMATION**

Year Built : 1930 Skew (degrees): 45  
Year Widened: N/A No. of Joints : 0  
Length (m) : 18.9 No. of Hinges : 0

Structure Description: Simply supported 2-span CIP/RC T-beam (5 each) with an RC pier wall and with RC open end diaphragm abutments, all supported upon concrete piles.

Span Configuration : (W) 2 @ 9.1 m (E) c/c

**SAFE LOAD CAPACITY AND RATINGS**

Design Live Load: M-13.5 OR H-15  
Inventory Rating: RF= 0.64 Calculation Method: (LRFR) LD & RES FACT RATING  
Operating Rating: RF= 0.83 Calculation Method: (LRFR) LD & RES FACT RATING  
Permit Rating : PPPPP  
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

**DESCRIPTION ON STRUCTURE**

Deck X-Section: (S) 0.3 m br, 0.2 m cu, 9.2 m, 0.2 m cu, 0.3 m br (N)  
Total Width: 10.1 m Net Width: 9.1 m No. of Lanes: 2 Speed: 55 mph  
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 Inches  
Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
Concrete	Right/Left	190	
Baluster			

**DESCRIPTION UNDER STRUCTURE**

Channel Description: Natural earth trapezoidal, RC rectangular through the site.

**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 inspection was performed by walking on and under the bridge. There was about 1' of water in both spans; all elements were visually inspected. There is no shoulder and access to under the bridge was from northwest quadrant.

INSPECTION COMMENTARY

## SUBSTRUCTURE

There was a tree growing at the top of the southside pier wall. And there was three vertical cracks in the wall.

## SAFE LOAD CAPACITY

Load Rating Summary Sheet dated 8/28/2015 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 LRFR calculation.

ELEMENT INSPECTION RATINGS AND NOTES

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each St.	Condition	State
						1	2	3
16		Top Flange-RC	2	190	sq.m	190	0	0
	510	Deck Wearing Surface-Asphalt	2	174	sq.m	124	0	50
	3220	Cracking-AC (WS)	2	50		0	0	50
(16)								
There were no significant defects noted.								
(16-510-3220)								
There are 5 transverse cracks 0.5" wide and across the roadway.								
110		Girder/Beam-RC	2	95	m	95	0	0
(110)								
There were no significant defects noted.								
210		Pier Wall-RC	2	14	m	14	0	0
(210)								
There were no significant defects noted.								
215		Abutment-RC	2	36	m	36	0	0
(215)								
There were no significant defects noted.								
227		Pile-RC	2	1	ea.	1	0	0
(227)								
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.								
256		Slope Protection	2	2	ea.	2	0	0
(256)								
There were no significant defects noted.								
331		Railing-RC	2	29	m	9	15	4
	1080	Delamination/Spall/Patched Area	2	20		0	15	4
(331-1080)								
Most rail balusters have been cracked or spalled in both rail side. the end concrete rail post at the northwest quadrant is broken.								

WORK RECOMMENDATIONS

WORK RECOMMENDATIONS

RecDate: 05/06/2010	EstCost:	Repair the spalls (100 mm x 75 mm x 20
Action : Railing-Repair	StrTarget: 2 YEARS	mm) in both side of concrete baluster
Work By: LOCAL AGENCY	DistTarget:	railings.
Status : PROPOSED	EA:	

  

RecDate: 05/30/2007	EstCost:	Repair the damaged rail.
Action : Railing-Repair	StrTarget: 2 YEARS	The west end post of north is damaged;
Work By: LOCAL AGENCY	DistTarget:	there was 1" wide vertical cracks from
Status : PROPOSED	EA:	top to the bottom of footing. It may
		cause by vehicular hit.
		There are about 56 cracks or spalls in
		the concrete baluster railings.

Team Leader : Mikhael T. Zaarour

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Report Author : Mikhael T. Zaarour

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Inspected By : MT.Zaarour / DH.Kim

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*Mikhael T. Zaarour* *2/24/16*

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



STRUCTURE INVENTORY AND APPRAISAL REPORT

## \*\*\*\*\* IDENTIFICATION \*\*\*\*\*

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0122  
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- BREA CANYON CHANNEL  
 (7) FACILITY CARRIED- BREA CANYON BLVD.  
 (9) LOCATION- 0.6 MI N/O CENTRAL AVENUE  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0  
 (13) LRS INVENTORY ROUTE & SUBROUTE  
 (16) LATITUDE 33 DEG 56 MIN 23.13 SEC  
 (17) LONGITUDE 117 DEG 53 MIN 26.05 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

## \*\*\*\*\* STRUCTURE TYPE AND MATERIAL \*\*\*\*\*

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE  
 TYPE- TEE BEAM CODE 104  
 (44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA  
 TYPE- OTHER/NA CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 2  
 (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 1930  
 (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 19000  
 (30) YEAR OF ADT 2009 (109) TRUCK ADT 2 %  
 (19) BYPASS, DETOUR LENGTH 2 KM

## \*\*\*\*\* GEOMETRIC DATA \*\*\*\*\*

(48) LENGTH OF MAXIMUM SPAN 9.1 M  
 (49) STRUCTURE LENGTH 18.9 M  
 (50) CURB OR SIDEWALK: LEFT 0.2 M RIGHT 0.2 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 9.1 M  
 (52) DECK WIDTH OUT TO OUT 10.1 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 9.1 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW 45 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 9.1 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

## \*\*\*\*\*

SUFFICIENCY RATING = 61.1  
 STATUS  
 HEALTH INDEX 99.0  
 PAINT CONDITION INDEX = N/A

## \*\*\*\*\* CLASSIFICATION \*\*\*\*\* CODE

(112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- NOT ON NHS 0  
 (26) FUNCTIONAL CLASS- MINOR ARTERIAL URBAN 16  
 (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 8  
 (62) CULVERTS N

## \*\*\*\*\* LOAD RATING AND POSTING \*\*\*\*\* CODE

(31) DESIGN LOAD- M-13.5 OR H-15 2  
 (63) OPERATING RATING METHOD- (LRFR) LD & RES FA 8  
 (64) OPERATING RATING- RF= 0.83  
 (65) INVENTORY RATING METHOD- (LRFR) LD & RES FA 8  
 (66) INVENTORY RATING- RF= 0.64  
 (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 3  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 9  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 0000  
 (113) SCOUR CRITICAL BRIDGES 8

## \*\*\*\*\* PROPOSED IMPROVEMENTS \*\*\*\*\*

(75) TYPE OF WORK- MISC STRUCTURAL WORK CODE 38  
 (76) LENGTH OF STRUCTURE IMPROVEMENT 18.9 M  
 (94) BRIDGE IMPROVEMENT COST \$184,000  
 (95) ROADWAY IMPROVEMENT COST \$36,800  
 (96) TOTAL PROJECT COST \$309,120  
 (97) YEAR OF IMPROVEMENT COST ESTIMATE 2010  
 (114) FUTURE ADT 41217  
 (115) YEAR OF FUTURE ADT 2035

## \*\*\*\*\* INSPECTIONS \*\*\*\*\*

(90) INSPECTION DATE 10/15 (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)