



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0065  
Facility Carried: SANTIAGO CNYN ROAD  
Location : 4.4 mi se/o JAMBOREE RD..  
City :  
Inspection Date : 05/12/2011  
Inspection Type

**Bridge Inspection Report**

Routine ☒ FC ☐ Underwater ☐ Special ☐ Other ☐

**STRUCTURE NAME:** LIMESTONE CANYON

**CONSTRUCTION INFORMATION**

Year Built : 1931  
Year Widened: 1955  
Length (m) : 7.9  
Skew (degrees): 0.  
No. of Joints : 0  
No. of Hinges : 0

Structure Description: Double 3.7 m x 3.0 m x 12.8 m RC box culvert (grade top) beneath 0.3 m of earth fill.

Span Configuration : (W) 2 @ 3.7 m (E) clear, normal

**LOAD CAPACITY AND RATINGS**

Design Live Load: UNKNOWN  
Inventory Rating: 32.6 metric tonnes  
Operating Rating: 53.5 metric tonnes  
Permit Rating : PPPPP  
Posting Load : Type 3: Legal  
Calculation Method: LOAD FACTOR  
Calculation Method: LOAD FACTOR  
Type 3S2: Legal  
Type 3-3: Legal

**DESCRIPTION ON STRUCTURE**

Deck X-Section: (S) 0.2 m br, 12.4 m, 0.2 m br (N)  
Total Width: 12.8 m  
Rail Description: MBGR  
Min. Vertical Clearance: Unimpaired  
Net Width: 12.5 m  
No. of Lanes: 2  
Rail Code : 0000

**DESCRIPTION UNDER STRUCTURE**

Channel Description: Natural earth trapezoidal.

**CONDITION TEXT**

**CONDITION OF STRUCTURE**

The channel was dry; all elements were visually inspection.

There are 2 vertical cracks in the middle wall of the culvert at the construction joints the first is 6 mm wide and the second is 3 mm wide.

There is 6 mm wide diagonal crack at southwest wingwall and at the end there is 200 mm x 200mm x 75 mm spall with exposed rebar.

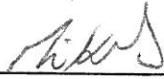
The northeast wingwall is seperated from structure, In plan horizontal movement of 150 mm at the top and 50 mm at the bottom.

**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
241	Reinforced Concrete Culvert	2	13	m.	11	2	0	0	
337	Metal Railing (W6X25 Posts)	2	18	m.	18	0	0	0	0

**WORK RECOMMENDATIONS** - NONE

Inspected By : MT.Zaarour/M.Zolfaghari



Mikhael T. Zaarour (Registered Civil Engineer)



**STRUCTURE INVENTORY AND APPRAISAL REPORT**

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

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0065  
 (5) INVENTORY ROUTE (ON/UNDER)- ON 1400L0300  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- LIMESTONE CANYON  
 (7) FACILITY CARRIED- SANTIAGO CNYN ROAD  
 (9) LOCATION- 4.4 mi se/o JAMBOREE RD.  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- PART OF NET 1  
 (13) LRS INVENTORY ROUTE & SUBROUTE 000000L03000  
 (16) LATITUDE 33 DEG 45 MIN 36.36 SEC  
 (17) LONGITUDE 117 DEG 42 MIN 12.34 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE  
 TYPE- CULVERT CODE 119  
 (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- NOT APPLICABLE CODE N  
 (108) WEARING SURFACE / PROTECTIVE SYSTEM:  
 A) TYPE OF WEARING SURFACE- NOT APPLICABLE CODE N  
 B) TYPE OF MEMBRANE- NOT APPLICABLE CODE N  
 C) TYPE OF DECK PROTECTION- NOT APPLICABLE CODE N

## \*\*\*\*\* AGE AND SERVICE \*\*\*\*\*

(27) YEAR BUILT 1931  
 (106) YEAR RECONSTRUCTED 1955  
 (42) TYPE OF SERVICE: ON- HIGHWAY 1  
 UNDER- WATERWAY 5  
 (28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00  
 (29) AVERAGE DAILY TRAFFIC 7000  
 (30) YEAR OF ADT 2002 (109) TRUCK ADT 3 %  
 (19) BYPASS, DETOUR LENGTH 23 KM

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

(48) LENGTH OF MAXIMUM SPAN 3.7 M  
 (49) STRUCTURE LENGTH 7.9 M  
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 12.5 M  
 (52) DECK WIDTH OUT TO OUT 12.8 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 12.5 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 12.5 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 \*\*\*\*\*

SUFFICIENCY RATING = 88.4  
 STATUS  
 HEALTH INDEX 94.9  
 PAINT CONDITION INDEX = N/A

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

CODE  
 (112) NBIS BRIDGE LENGTH- YES Y  
 (104) HIGHWAY SYSTEM- NOT ON NHS 0  
 (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 N  
 (59) SUPERSTRUCTURE N  
 (60) SUBSTRUCTURE N  
 (61) CHANNEL & CHANNEL PROTECTION 8  
 (62) CULVERTS 7

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

CODE  
 (31) DESIGN LOAD- UNKNOWN 0  
 (63) OPERATING RATING METHOD- LOAD FACTOR 1  
 (64) OPERATING RATING- 53.5  
 (65) INVENTORY RATING METHOD- LOAD FACTOR 1  
 (66) INVENTORY RATING- 32.6  
 (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 7  
 (68) DECK GEOMETRY 5  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 8  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 0000  
 (113) SCOUR CRITICAL BRIDGES 8

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

CODE  
 (75) TYPE OF WORK-  
 (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 14426  
 (115) YEAR OF FUTURE ADT 2029

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

(90) INSPECTION DATE 05/11 (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)