



**DEPARTMENT OF TRANSPORTATION**  
Structure Maintenance & Investigations

Bridge Number : 55C0205  
Facility Carried: SANTA ANA AVENUE  
Location : 0.1 MI S/O BRISTOL STREET  
City :  
Inspection Date : 06/08/2011

**Bridge Inspection Report**

Inspection Type

Routine ☒ FC ☐ Underwater ☐ Special ☐ Other ☐

**STRUCTURE NAME:** SANTA ANA-DELHI CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1960 Skew (degrees): 10  
Year Widened: 1973 No. of Joints : 0  
Length (m) : 16.5 No. of Hinges : 0

Structure Description: Single span PC/PS concrete cored deck slab (22 units) with RC pile bent abutments with sheathing walls.

Span Configuration : (S) 1 @ 16.2 m (N) c/c

LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20  
Inventory Rating: 32.6 metric tonnes Calculation Method: LOAD FACTOR  
Operating Rating: 76.1 metric tonnes 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: (W) 0.2 m br, 0.4 m AC dike, 18.7 m, 1.4 m sw, 0.2 m br (E)  
Total Width: 20.4 m Net Width: 18.7 m No. of Lanes: 4  
Rail Description: MBGR Rail Code : 1000  
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: RC rectangular.

CONDITION TEXT

CONDITION OF STRUCTURE

There are 10 vertical cracks in the abutments wall 1 mm wide at the location of extended pile that are embedded in the abutment walls. At the east abutment wall there are 3 piles are exposed and one of them has corroded steel surface.

There is a small tree growing in the seat of Abutment 1.

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
61	PS Conc Slab - Unprotected w/ AC Overlay	2	310	sq.m.	310	0	0	0	0
215	Reinforced Conc Abutment	2	40	m.	40	0	0	0	0
251	Steel Shell Foundation Pile Filled w/conc	2	3	ea.	2	1	0	0	0
337	Metal Railing (W6X25 Posts)	2	40	m.	40	0	0	0	0

WORK RECOMMENDATIONS

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RecDate: 06/08/2011	EstCost:	Remove the small tree that are growing in
Action : Sub-Misc.	StrTarget: 2 YEARS	Abutment 1 seat.
Work By: LOCAL AGENCY	DistTarget:	
Status : PROPOSED	EA:	

Inspected By : MT.Zaarour/A.Shenouda

  
Mikhael T. Zaarour (Registered Civil Engineer)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069  
 (8) STRUCTURE NUMBER 55C0205  
 (5) INVENTORY ROUTE(ON/UNDER)- ON 140000000  
 (2) HIGHWAY AGENCY DISTRICT 12  
 (3) COUNTY CODE 059 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED- SANTA ANA DELHI CHANNEL  
 (7) FACILITY CARRIED- SANTA ANA AVENUE  
 (9) LOCATION- 0.1 MI S/O BRISTOL STREET  
 (11) MILEPOINT/KILOMETERPOINT 0  
 (12) BASE HIGHWAY NETWORK- NOT ON NET 0  
 (13) LRS INVENTORY ROUTE & SUBROUTE  
 (16) LATITUDE 33 DEG 39 MIN 55.67 SEC  
 (17) LONGITUDE 117 DEG 52 MIN 59.38 SEC  
 (98) BORDER BRIDGE STATE CODE % SHARE %  
 (99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- PRESTRESS CONC  
 TYPE- SLAB CODE 501  
 (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- PRECAST CONC. PA CODE 2  
 (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 1960  
 (106) YEAR RECONSTRUCTED 1973  
 (42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5  
 UNDER- WATERWAY 5  
 (28) LANES:ON STRUCTURE 04 UNDER STRUCTURE 00  
 (29) AVERAGE DAILY TRAFFIC 11000  
 (30) YEAR OF ADT 2008 (109) TRUCK ADT 1 %  
 (19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 16.2 M  
 (49) STRUCTURE LENGTH 16.5 M  
 (50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 1.4 M  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 18.7 M  
 (52) DECK WIDTH OUT TO OUT 20.4 M  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 17.1 M  
 (33) BRIDGE MEDIAN- NO MEDIAN 0  
 (34) SKEW 10 DEG (35) STRUCTURE FLARED NO  
 (10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 18.7 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 \*\*\*\*\*

SUFFICIENCY RATING = 97.0  
 STATUS  
 HEALTH INDEX 100.0  
 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 7  
 (59) SUPERSTRUCTURE 7  
 (60) SUBSTRUCTURE 7  
 (61) CHANNEL & CHANNEL PROTECTION 9  
 (62) CULVERTS N

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

(31) DESIGN LOAD- MS-18 OR HS-20 5  
 (63) OPERATING RATING METHOD- LOAD FACTOR 1  
 (64) OPERATING RATING- 76.1  
 (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 6  
 (69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N  
 (71) WATER ADEQUACY 9  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 1000  
 (113) SCOUR CRITICAL BRIDGES 5

## \*\*\*\*\* 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 18547  
 (115) YEAR OF FUTURE ADT 2029

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

(90) INSPECTION DATE 06/11 (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)