DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0404
Facility Carried: DALE STREET
Location : 0.1 MI N/O CHAPMAN AVENU
City :
Inspection Date : 07/10/2019

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: ANAHEIM-BARBER CITY CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1959
Year Modified: N/A
Length (m) : 10.1

Skew (degrees): 38
No. of Joints : 0
No. of Hinges : 0

Structure Description: Double (12.00 feet W x 10.00 feet H x 90.00 feet L) RC box culvert (grade top) beneath 1.00 foot of earth fill.

Span Configuration : (S) 2 @ 12.00 feet (N).

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.75 =>24.3 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Operating Rating: RF=1.25 =>40.5 metric tons Calculation Method: FIELD EVAL/ENG JUDGMENT
Permit Rating : PPPPP
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 0.8 feet cu, 8.30 feet sw, 49.00 feet, 0.70 feet, cu, 6.50 feet ea, 4.00 feet sw, 0.80 feet cu (E).

Total Width: 24.4 m Net Width: 14.9 m No. of Lanes: 3 Speed: 35 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 3.0 inches
Rail Code: NNNN

DESCRIPTION UNDER STRUCTURE

Channel Description: RC trapezoidal upstream and downstream.

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
A complete routine inspection was performed by walking on and around the culvert to inspect all visible elements of the culvert structure. Culvert deck was inspected by walking on sidewalk. Soffit and all substructure were inspected by walking underneath the culvert.

There is no need for a special equipment to inspect this structure except rope for going up and down the channel.

There is a 2.0 inches deep of water inside both barrels at the time of inspection.

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INSPECTION COMMENTARY

DECK AND ROADWAY
The culvert deck is filled with 1.0 foot of soil and 3.0 inches thick of AC on top; and AC is in good condition.

CULVERT
There are two spalls at (12.0 inches L X 8.0 inches W) on the top face of the easterly headwall under metal posts #3 and #5 (see the attached photos no. 4 and 5).

There is a spall at (4.0 inches L X 4.0 inches W X 1.0 inch D) with exposed rebar at the bottom of the easterly headwall of barrel #1 (south).

There is a white efflorescence on culvert deck soffit along the construction joint.

The following locations of cracks on pier and abutment walls are below:
Culvert wall #1 has three vertical cracks, up to 0.05 inches wide.

Culvert center pier has five vertical cracks, up to 0.05 inches wide.

Culvert wall #3 has three vertical cracks, up to 0.05 inches wide.

SAFE LOAD CAPACITY
The load rating for this structure is calculated on 01/23/2019 by SMI Ratings Branch using BrR 6.8.0 AASHTO analysis, and the load rating summary sheet is archived on 02/07/2019.

ELEMENT INSPECTION RATINGS AND COMMENTARY

Elem No.	Defect /Prot	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4
241		**Culvert-RC**	2	54	m	47	6	1	0
	1080	**Delamination/Spall/Patched Area**	2	2		0	1	1	0
	1120	**Efflorescence/Rust Staining**	2	1		0	1	0	0
	1130	**Cracking (RC and Other)**	2	4		0	4	0	0

(241)
Spalls, cracks with efflorescence.

(241-1080)
There are two spalls at (12.0 inches L X 8.0 inches W) on the top face of the easterly headwall under metal posts #3 and #5 (see the attached photos no. 4 and 5).

There is a spall at (4.0 inches L X 4.0 inches W X 1.0 inch D) with exposed rebar at the bottom of the easterly headwall of barrel #1 (south).

The culvert soffit has few unsound concrete areas 4 inches X 4 inches at the west end of barrel 1.

(241-1120)
There is white efflorescence on culvert deck soffit along the construction joint.

(241-1130)
The following locations of cracks on pier and abutment walls are below:
Culvert wall #1 has three vertical cracks, up to 0.05 inches wide.

Culvert center pier has five vertical cracks, up to 0.05 inches wide.

Culvert wall #3 has three vertical cracks, up to 0.05 inches wide.

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WORK RECOMMENDATIONS

RecDate: 06/08/2011
Action : Super-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

REmove unsound area then patch the two incipient spalls (12.0 inches L X 8.0 inches W) at the top face of the easterly headwall under metal posts #3 and #5 (Revised AS 04/23/2018).

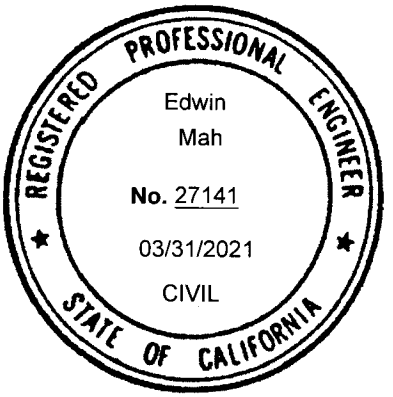
Team Leader : Nelson N. Vo

Report Author : Nelson N. Vo

Inspected By : NN.Vo/E.Mah

8/22/2019

Edwin Mah (Registered Civil Engineer) (Date)



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STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0404**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- ANAHEIM-BARBER CITY CHA
(7) FACILITY CARRIED- DALE STREET
(9) LOCATION- 0.1 MI N/O CHAPMAN AVENUE
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 47 MIN 24.05 SEC
(17) LONGITUDE 117 DEG 59 MIN 02.63 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 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 16000
(30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 3.7 M
(49) STRUCTURE LENGTH 10.1 M
(50) CURB OR SIDEWALK: LEFT 2.5 M RIGHT 1.2 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 14.9 M
(52) DECK WIDTH OUT TO OUT 24.4 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 15.2 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 38 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 14.9 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 = 90.9

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 N
(59) SUPERSTRUCTURE N
(60) SUBSTRUCTURE N
(61) CHANNEL & CHANNEL PROTECTION 9
(62) CULVERTS 7

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

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- FIELD EVAL/ENG JUD 0
(64) OPERATING RATING- 40.5
(65) INVENTORY RATING METHOD- FIELD EVAL/ENG JUL 0
(66) INVENTORY RATING- 24.3
(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 6
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES NNNN
(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 20791
(115) YEAR OF FUTURE ADT 2037

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

(90) INSPECTION DATE 07/19 (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)

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