STATE OF CALIFORNIA - CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE & INVESTIGATIONS
100 South Main Street, 3rd Floor
LOS ANGELES, CA 90012
PHONE (213) 897-2004
FAX (213) 897-2033

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Making Conservation a California Way of Life.

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OC PUBLIC WORKS
DIRECTOR'S OFFICE

February 27, 2020

Mr. Shane Silsby
Director of Public Works
County of Orange
P O Box 4048
Santa Ana, CA 92702-4048

Dear Mr. Silsby:

In accordance with Title 23 of the Code of Federal Regulations (Federal Highway Act) and the National Bridge Inspection Standards (NBIS), Caltrans Structure Maintenance and Investigations performed an inspection of 3 bridges under your jurisdiction. The type of inspection is indicated on the bridge report transmittal sheet. The bridges have been rated to indicate their deficiencies, structural adequacy, safe load carrying capacity and overall general condition.

Enclosed are copies of the Bridge Inspection Reports for the structures noted on the attached transmittal sheet. These reports contain descriptions of physical changes to the structures since the last inspection, recommendations for work to be done, and additional information not recorded in the previous Bridge Reports.

Your attention is directed to the requirements of Title 23, Part 650 of the Code of Federal Regulations, where newly completed structures or any modification of existing structures shall be entered in the inventory within 90 days. Please notify this office of any newly constructed bridge or culvert within your jurisdiction, more than 20 feet measured along the center of the roadway and carrying public vehicular traffic or over a public roadway, in order that it may be entered in the inventory of bridge structures in compliance with Federal requirements.

Should you have any questions regarding the enclosed Bridge Inspection Reports, please contact Bing Wu @ (213) 897-0874.

Sincerely,

CHING CHAO
Office Chief
Structure Maintenance & Investigations -
(Investigations-South)

Enclosures

STATE OF CALIFORNIA - CALIFORNIA STATE TRANSPORTATION AGENCY

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Bridge Report Transmittal Sheet

Batch 57583

County of Orange

Bridge #	Bridge Name	Location	Inspection Date	Inspection Type	Outstanding Work	Outstanding Cost
55C0097	SANTA ANA RIVER CHANNEL (TALBERT/MACARTHUR)	0.6 MI W/O HARBOR BLVD.	01/15/2020	Routine	Y	$
55C0283	SUNSET CHANNEL	100' NE/O PACIFIC CST HWY	01/15/2020	Routine	Y	$
55C0344	SANTA ANA RIVER (ADAMS AVE)	0.5 MI E/O BROOKHURST ST	01/15/2020	Routine	N	$

3 Bridge(s) in this Transmittal

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WEB SITES:
The National Bridge Inspection Standards (NBIS) Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, Element Level Inspection, Structure Maintenance and Investigations Manuals, Local Assistance Program Guidelines and other related information are posted on Division of Maintenance, Structure Maintenance and Investigations; Division of Local Assistance, Local Highway Bridge Program (HBP) and FHWA websites.
The websites can be accessed at:
1. "Caltrans Structure Maintenance and Investigations" http://www.dot.ca.gov/hq/structur/strmaint/
2. "Caltrans Division of Local Assistance"
http/www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm
3. "FHWA" http/www.fhwa.dot.gov/BRIDGE/mtguide.pdf

Inspection Type Definitions

Routine Inspection:
Routine Inspections consist of both the initial Inventory Inspection (the first inspection of the bridge that places it in the bridge inventory or when there has been a change in the configuration of the structure) and subsequent regularly scheduled inspections. The initial inspection provides all the Structural Inventory & Appraisal (SI&A) data required by federal and state regulations, determines the baseline structural conditions, lists any existing problems, and establishes the load capacity of the structure. Subsequent inspections consist of observations, measurements needed to determine the physical and functional condition of the bridge, to identify any changes from the previously recorded conditions, and verification of its load capacity. These inspections are generally conducted from the deck, ground and/or water level, and from permanent work platforms and walkways, if present. Inspection of underwater portions of the substructure is limited to observations during low-flow periods and/or probing for signs of undermining. Special equipment should be utilized in circumstances where its use provides the only practical access to areas of the structure.

Fracture Critical, Special Feature & Underwater Inspections:
Fracture Critical, Special Feature, and Underwater Inspections are up close, hands-on inspections of one or more members above or below the water level to identify any deficiencies not readily detectable using Routine Inspection procedures. These inspections generally require special equipment such as under-bridge inspection equipment, manlifts, boats, traffic control, and railroad flagging. Personnel with special skills such as divers or structural steel inspectors trained in non-destructive testing techniques may be required.

Other Inspections:
Other Inspections are conducted on damaged structures, structures that have developed specific problems, or structures suspected of developing problems. The scope of these investigations should be sufficient to determine the need for emergency load restrictions or closure of the structure, monitor a changing condition, and to assess the level of effort necessary to effect a repair.

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0097
Facility Carried: TALBERT/MACARTHUR
Location : 0.6 MI W/O HARBOR BLVD.
City :
Inspection Date : 01/15/2020

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SANTA ANA RIVER CHANNEL (TALBERT/MACARTHUR)

CONSTRUCTION INFORMATION

Year Built : 1983
Year Modified: N/A
Length (m) : 110

Skew (degrees): 30
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous 4 span CIP/RC box girder (8 cells) with RC pier walls and RC open end seat abutments, all supported upon concrete piles.

Span Configuration : (W) 80.0 ft, 2 @ 98.0 ft, 80.0 ft (E)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
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: (S) 1.0 ft br, 5.0 ft sw, 68.2 ft, 5.0 ft sw, 1.0 ft br (N)
Total Width: 24.4 m Net Width: 20.7 m No. of Lanes: 4 Speed: 45 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 inches
Rail Code: 1000

DESCRIPTION UNDER STRUCTURE

Channel Description: RC trapezoidal.

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 of all visible bridge elements was performed in accordance with SM&I policy and procedures by walking along both sidewalks and by walking under the structure and using binoculars as needed.

DECK AND ROADWAY

There is a 12 inches L X 8 inches W X 4 inches D triangular spall with rebar exposed in the curb at the southwest corner. Also there are numerous 2 inches L X 2 inches W X 0.5 inch D spalls along inside face of both concrete rails.

INSPECTION COMMENTARY

There is a 3 inches L X 6 inches W X 1 inch D edge spall at the southerly deck overhang in span #4.

There are pattern cracks less than 0.05 inches wide along both sidewalks.

SUPERSTRUCTURE

The superstructure is in satisfactory condition.

SUBSTRUCTURE

There is a 12 inches H X 12 inches W X 1 inch D wingwall spall at the southeasterly corner.

There is a 12 inches H X 12 inches W X 1 inch D spall on bottom noise,upstream side (north) of pierwall #4.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet dated 01/10/2017 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. "Assigned by Design - LFD" method in accordance with SM&I procedures and the Sept 29, 2011 FHWA memorandum for bridges was used to load rate this bridge. The condition ratings (NBI Items 58, 59, 60) noted in the BIR dated 10/24/14 and as built plans filed in BIRIS through 1982 were utilized. California P.E. signed as-built plans dated 1982 indicate that the bridge was designed for HS20 and Permit (P13) vehicles using LFD Method.
The load rating is based on the existing bridge geometry and roadway configuration. Any modifications performed to the structure (such as bridge rail modification, new deck overlay or widening) after 1982 may require a new load rating.

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
16		**Top Flange-RC**	2	2682	sq.m	2681	1	0	0
	1080	**Delamination/Spall/Patched Area**	2	1		0	1	0	0
	521	**Concrete Coat.(Meth/Paint/Seal)**	2	2280	sq.m	2280	0	0	0
(16-1080)									
There is a 3 inches L X 6 inches W X 1 inch D edge spall at the southerly deck overhang in span #4.									
(16-521)									
Bridge deck has been treated with Methacrylate resin.									
105		**Box Girder-RC**	2	110	m	110	0	0	0
(105)									
There were no significant defects noted.									
210		**Pier Wall-RC**	2	84	m	83	1	0	0
	1080	**Delamination/Spall/Patched Area**	2	1		0	1	0	0
(210)									
There were no significant defects noted.									

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
(210-1080)										
There is a 12 inches H X 12 inches W X 1 inch D spall on bottom noise,upstream side (north) of pierwall #4.										
215		**Abutment-RC**		2	56	m	55	1	0	0
	1080	**Delamination/Spall/Patched Area**		2	1		0	1	0	0
(215)										
There were no significant defects noted.										
(215-1080)										
There is a 12 inches H X 12 inches W X 1 inch D wingwall spall at the southeasterly corner.										
227		**Pile-RC**		2	1	ea.	1	0	0	0
(227)										
There were no significant defects noted.										
256		**Slope Protection**		2	2	ea.	2	0	0	0
(256)										
There were no significant defects noted.										
302		**Joint-Compression Seal**		2	48	m	32	16	0	0
	2350	**Debris Impaction (Joints)**		2	16		0	16	0	0
(302-2350)										
The joint seal gaps were partially filled with dirt and debris.										
312		**Bearing-Enclosed**		2	2	each	2	0	0	0
(312)										
There were no significant defects noted.										
331		**Railing-RC**		2	220	m	189	30	1	0
	1080	**Delamination/Spall/Patched Area**		2	31		0	30	1	0
(331-1080)										
There is a 12 inches L X 8 inches W X 4 inches D triangular spall with rebar exposed in the curb at the southwest corner. Also there are numerous 2 inches L X 2 inches W X 0.5 inch D spalls along inside face of both concrete rails.										

WORK RECOMMENDATIONS

RecDate: 01/17/2018
Action : Deck-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Chip and remove all unsound concrete . Patch with epoxy bonded cement mortar. Cure with non-pigmented curing compound.

There is a 3 inches L X 6 inches W X 1 inch D edge spall at the southerly deck overhang in span #4.

WORK RECOMMENDATIONS

RecDate: 01/17/2018
Action : Railing-Repair
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Chip and remove all unsound concrete. Patch with epoxy bonded cement mortar. Cure with nonpigmented curing compound.

There is a 12 inches L X 8 inches W X 4 inches D triangular spall with rebar exposed in the curb at the southwest corner. Also there are numerous 2 inches L X 2 inches W X 0.5 inch D spalls along inside face of both concrete rails.

RecDate: 01/17/2018
Action : Sub-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Chip and remove all unsound concrete. Patch with epoxy bonded cement mortar. Cure with nonpigmented curing compound.

There is a 12 inches H X 12 inches W X 1 inch D wingwall spall at the southeasterly corner.

There is a 12 inches H X 12 inches W X 1 inch D spall on bottom noise,upstream side (north) of pierwall #4.

Team Leader : Matthew M. Monajemi

Report Author : Matthew M. Monajemi

Inspected By : MM.Monajemi/J.Zhu

Matthew M. Monajemi (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER 55C0097
(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 RIVER CHANNEL
(7) FACILITY CARRIED- TALBERT/MACARTHUR
(9) LOCATION- 0.6 MI W/O HARBOR BLVD.
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000000
(16) LATITUDE 33 DEG 42 MIN 06.52 SEC
(17) LONGITUDE 117 DEG 55 MIN 50.92 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- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 4
(46) NUMBER OF APPROACH SPANS 0
(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 1983
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 04 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 26000
(30) YEAR OF ADT 2018 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 2 KM

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

(48) LENGTH OF MAXIMUM SPAN 29.9 M
(49) STRUCTURE LENGTH 110.0 M
(50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 20.7 M
(52) DECK WIDTH OUT TO OUT 24.4 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 20.7 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 30 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 20.7 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- 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 = 95.6

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 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- 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 7
(68) DECK GEOMETRY 9
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1000
(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 54119
(115) YEAR OF FUTURE ADT 2039

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

(90) INSPECTION DATE 01/20 (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)

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0283
Facility Carried: BROADWAY
Location : 100' NE/O PACIFIC CST HW
City :
Inspection Date : 01/15/2020

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
[X]	[ ]	[ ]	[ ]	[ ]

STRUCTURE NAME: SUNSET CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1959
Year Modified: N/A
Length (m) : 29.3

Skew (degrees): 0
No. of Joints : 5
No. of Hinges : 0

Structure Description: Simply supported 4-span CIP/RC deck slab with RC 5-column pile bents and with column pile bent abutments.

Span Configuration : (S) 4 @ 23.0 ft (N)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF= 0.46 Calculation Method: (LRFR) LD & RES FACT RATING
Operating Rating: RF= 0.59 Calculation Method: (LRFR) LD & RES FACT RATING
Permit Rating : GGGGG
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: (W) 1.0 ft br, 3.0 ft sw, 28.0 ft, 3.0 ft sw, 1.0 ft br (E).

Total Width: 11.0 m Net Width: 8.5 m No. of Lanes: 2 Speed: 25 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 inches

Rail Code: 1000

DESCRIPTION UNDER STRUCTURE

Channel Description: Tidal basin.

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 structure is over a tidal basin. A complete routine inspection of all visible bridge elements was performed by walking on the deck surface and using a binocular to inspect the substructure elements from the north-east quadrant. The water in the channel is almost 7 feet during the time of inspection.

The most recent Underwater Investigation was conducted by Caltrans team Engineers, the underwater inspection was performed on 2/10/2015.

DECK AND ROADWAY

INSPECTION COMMENTARY

There is a 2 feet X 15 inches X 5 inches post pocket spall at the bottom of the first post from the south of the east rail.

There is a 2 ft L X 6 inches W X 6 inches D spall at the west curb in span 4.

There is a 12 ft long X 0.25 inch W longitudinal crack on the west face of the slab in spans #2 and #3.

SUBSTRUCTURE

Bent cap 2 has vegetation at north face between columns 4 & 5.

Bent 2, column 3 has an estimated vertical crack width 0.05 inches.

Bent 3, column 5 has an estimated two vertical crack width 0.05 inches with brown stain under bent cap 3 southerly face. (see photo 15)

Bent 4, column 2 has a crack with brown stain at the easterly half.

Bent cap 3 has a sound patched spall 15 inches X 20 inches at north face at column 5, at the south face 10 inches X 15 inches just below the soffit above columns 3 to 5.

Bent cap 3 (west face) shows a vertical crack 1 foot long and 0.05 inch wide.

Bent cap 4 exhibits a 12 inches H X 12 inches L X 2 inches D spall at the south face.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet on-file dated 01/21/2017 for this structure. Ratings of the bridge superstructure were established by analyzing the superstructure for moment and shear in the longitudinal direction, using the full slab width, on 111212017 using Load and Resistance Factor Rating Method (LRFR). The substructures and bent caps were not rated at this time. These load ratings supersede all previous ratings for this structure. The rating analysis was based on the following specifications in order of precedence:
- Memos to Load Raters (M2LR)
- MSHTO The Manual for Bridge Evaluation, 3rd Edition
- MSHTO LRFD Bridge Design Specifications, 8th Edition
- California Amendments to the MSHTO LRFD Bridge Design Specifications, 6th Edition

WATERWAY

There are no issues with the waterway.

UNDERWATER INVESTIGATION

The following conditions was noted during last underwater inspection on 02/10/2015.
Pier 2
The mudline depth was 5 ft at the west column (column 1) of the pier and 5 ft at the east column (column 5) of the pier. The diver cleaned a 1 ft swath from waterline to mudline at the 6 o'clock position, revealing sound concrete.

Defect 1130
There is a 16th of an inch wide crack, at 9 o'clock in Column 3, running from 1 ft below the bent cap, and extends 2 ft to the 7 o'clock position. It is starting to delaminate.

Pier 3
The mudline depth was 6.6 ft at the west column (column 1) of the pier and 5 ft at the

INSPECTION COMMENTARY

east column (column 5) of the pier. The diver cleaned a 1 ft swath from waterline to mudline at the 9 o'clock position, revealing sound concrete.

Pier 4
The mudline depth was 5 ft at the west column (column 1) of the pier and 3.3 ft at the east column (column 5) of the pier. The diver cleaned a 1 ft swath from waterline to mudline at the 9 o'clock position.

Defect 1080
There is a 1 ft spall above Column 1, in the bent cap.

Defect 1120
There is cracking with rust staining on Column 2 at 5 and 6 o'clock.

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
38			Slab-RC	3	322	sq.m	222	80	20	0
	1130		Cracking (RC and Other)	3	100		0	80	20	0

(38-1130)
There are numerous longitudinal cracks which are greater than 0.05 inch in width and spacing range greater than 12 inches throughout the deck.

There is a 12 ft long X 0.25 inc h W longidudinal crack on the west face of the slab in spans #2 and #3.

205			Column-RC	4	15	each	12	1	2	0
	1120		Efflorescence/Rust Staining	4	2		0	0	2	0
	1130		Cracking (RC and Other)	4	1		0	1	0	0

(205-1120)
Bent 3, column 5 has an estimated two vertical crack width 0.05 inches with brown stain under bent cap 3 southerly face.

Bent 4, column 2 has a crack with brown stain at the easterly half.

(205-1130)
Bent 2, column 3 has an estimated vertical crack width 0.05 inches.

215			Abutment-RC	3	22	m	22	0	0	0

(215)
There were no significant defects noted.

227			Pile-RC	2	1	ea.	1	0	0	0

(227)
There were no significant defects noted.

234			Pier Cap-RC	3	33	m	22	10	1	0
	1080		Delamination/Spall/Patched Area	3	10		0	9	1	0
	1130		Cracking (RC and Other)	3	1		0	1	0	0

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
			(234-1080)							
			Bent cap 3 has a sound patched spall 15 inches X 20 inches at north face at column 5, at the south face 10 inches X 15 inches just below the soffit above columns 3 to 5.							
			Bent cap 4 exhibits a spall 12 inches X 12 inches X 2 inches, at the south face exhibits five sound patched spalls +/- 2 feet X 1.5 feet.							
			(234-1130)							
			Bent cap 3 (west face) shows a vertical crack 1 foot long and 0.05 inches wide.							
301		**Joint-Pourable Seal**		3	33	m	13	20	0	0
	2350	**Debris Impaction (Joints)**		3	20		0	20	0	0
			(301-2350)							
			Most of the joints opening is partially full of dirt.							
330		**Railing-Metal**		2	60	m	59	0	1	0
	1900	**Distortion**		2	1		0	0	1	0
			(330-1900)							
			There is a 2 feet X 15 inches X 5 inches post pocket spall at the bottom of the first post from the south of the east rail.							

WORK RECOMMENDATIONS

RecDate: 01/15/2020
Action : Sub-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Chip and remove all unsound concrete and patch with epoxy bonded cement mortar. Cure with nonpigmented curing compounds.

Bent cap 3 has a sound patched spall 15 inches X 20 inches at north face at column 5, at the south face 10 inches X 15 inches just below the soffit above columns 3 to 5.

Bent cap 4 exhibits a 12 inches H X 12 inches L X 2 inches D spall at the south face.

RecDate: 01/12/2018
Action : Railing-Repair
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

There is a 2 feet X 15 inches X 5 inches post pocket spall at the bottom of the first post from the south of the east rail that need to be repaired.

RecDate: 01/12/2018
Action : Deck-Methacrylate
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget: EMERGENCY
DistTarget:
EA:

Patch all spalls along the entire deck(including both sidewalks and curbs) and treat the bridge deck with Methacrylate resin.

There are numerous longitudinal cracks

WORK RECOMMENDATIONS

which are greater than 0.05 inch in width and spacing range greater than 12 inches throughout the deck. Furthermore, there are numerous 2 inches L X 2 inches W X 1 inch D spalls along the deck.
There is a 2 ft L X 6 inches W X 6 D inches spall at the west curb in span 4.

Team Leader : Matthew M. Monajemi

Report Author : Matthew M. Monajemi

Inspected By : MM.Monajemi/J.Zhu

Matthew M. Monajemi (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **55C0283**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 12
(3) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SUNSET CHANNEL
(7) FACILITY CARRIED- BROADWAY
(9) LOCATION- 100' NE/O PACIFIC CST HWY
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 33 DEG 43 MIN 05.19 SEC
(17) LONGITUDE 118 DEG 04 MIN 12.45 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

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

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- SLAB CODE 101
(44) STRUCTURE TYPE APPR:MATERIAL- OTHER/NA
TYPE- OTHER/NA CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 4
(46) NUMBER OF APPROACH SPANS 0
(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 1959
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2500
(30) YEAR OF ADT 2019 (109) TRUCK ADT 1 %
(19) BYPASS, DETOUR LENGTH 199 KM

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

(48) LENGTH OF MAXIMUM SPAN 7.0 M
(49) STRUCTURE LENGTH 29.3 M
(50) CURB OR SIDEWALK: LEFT 0.9 M RIGHT 0.1 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 8.5 M
(52) DECK WIDTH OUT TO OUT 11.0 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 8.5 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 8.5 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- 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 = 38.1

PAINT CONDITION INDEX = N/A

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

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- LOCAL URBAN 19
(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 5
(59) SUPERSTRUCTURE 5
(60) SUBSTRUCTURE 5
(61) CHANNEL & CHANNEL PROTECTION 9
(62) CULVERTS N

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

(31) DESIGN LOAD- UNKNOWN 0
(63) OPERATING RATING METHOD- (LRFR) LD & RES FA 8
(64) OPERATING RATING- RF= 0.59
(65) INVENTORY RATING METHOD- (LRFR) LD & RES FA 8
(66) INVENTORY RATING- RF= 0.46
(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 4
(68) DECK GEOMETRY 4
(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 4218
(115) YEAR OF FUTURE ADT 2038

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

(90) INSPECTION DATE 01/20 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- NO MO A)
B) UNDERWATER INSP- YES 60 MO B) 02/15
C) OTHER SPECIAL INSP- NO MO C)

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0344
Facility Carried: ADAMS AVENUE
Location : 0.5 MI E/O BROOKHURST ST
City :
Inspection Date : 01/15/2020

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SANTA ANA RIVER (ADAMS AVE)

CONSTRUCTION INFORMATION

Year Built : 1977
Year Modified: N/A
Length (m) : 164.6

Skew (degrees): 14
No. of Joints : 2
No. of Hinges : 0

Structure Description: Continuous 5-span CIP/PS concrete box girder (10 cells) with RC pier walls and RC open end seat abutments with monolithic wingwalls, all supported upon concrete piles.

Span Configuration : (W) 89.75 ft, 3 @ 118.00 ft, 89.75 ft (E)

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-18 OR HS-20
Inventory Rating: RF=1.00 =>32.4 metric tons Calculation Method: LOAD FACTOR
Operating Rating: RF=2.17 =>70.3 metric tons 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: (S) 1.00 ft br, 4.00 ft sw, 40.00 ft, 4.00 ft cu. med, 40.00 ft, 4.00 ft sw, 1.00 ft br (N).

Total Width: 28.7 m Net Width: 24.4 m No. of Lanes: 6 Speed: 45 mph
Min. Vertical Clearance: Unimpaired Overlay Thickness: 0.0 inches
Rail Code: 1000

DESCRIPTION UNDER STRUCTURE

Channel Description: RC vertical walls with sandy earth bottoms.

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 of all visible bridge elements was performed in accordance with SM&I policy and procedures by walking along both sidewalks and by walking under the structure and using binoculars as needed.

DECK AND ROADWAY

INSPECTION COMMENTARY

There are few scattered sound patched areas 1 foot X 1 foot at random locations.

The soffit at the closure pour between the two box girders exhibits few transverse cracks with white efflorescence at span 4.

The concrete portion of the south rail exhibits two spalls +/- 12 inches X 10 inches X 1.5 inches with rebar exposed and rusted at 10 feet east of the west end at span 1.

The concrete portion of the north rail exhibits few spalls and unsound spalls +/- 5 inches X 5 inches in many locations especially at spans 1 & 2.

The concrete portion of the rails exhibits few vertical cracks up to 0.05 inches wide.

SUPERSTRUCTURE

There were no significant defects noted.

SUBSTRUCTURE

Pier wall 4 exhibits few vertical cracks up to 0.05 inches wide.

SAFE LOAD CAPACITY

A Load Rating Summary Sheet dated 01/10/2017 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. "Assigned by Design - LFD" method in accordance with SM&I procedures and the Sept 29, 2011 FHWA memorandum for bridges was used to load rate this bridge. The condition ratings (NBI Items 58, 59, 60) noted in the BIR dated 10/24/14 and as built plans filed in BIRIS through 1982 were utilized. California P.E. signed as-built plans dated 1982 indicate that the bridge was designed for HS20 and Permit (P13) vehicles using LFD Method.
The load rating is based on the existing bridge geometry and roadway configuration. Any modifications performed to the structure (such as bridge rail modification, new deck overlay or widening) after 1982 may require a new load rating.

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	4724	sq.m	4704	20	0	0
	1080		Delamination/Spall/Patched Area	2	5		0	5	0	0
	1120		Efflorescence/Rust Staining	2	15		0	15	0	0
	521		Concrete Coat.(Meth/Paint/Seal)	2	4016	sq.m	4016	0	0	0

(16-1080)
There are few scattered sound patched areas 1 foot X 1 foot in many locations.

(16-1120)
The soffit at the closure pour between the two box girders exhibits few transverse cracks with white efflorescence at span 4.

(16-521)
There were no significant defects noted.

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
104			Box Girder-PS Conc.	2	329	m	329	0	0	0
(104)										
There were no significant defects noted.										
210			Pier Wall-RC	2	118	m	116	2	0	0
	1130		Cracking (RC and Other)	2	2		0	2	0	0
(210-1130)										
Pier wall 4 exhibits few vertical cracks up to 0.05 inches wide.										
215			Abutment-RC	2	74	m	74	0	0	0
(215)										
Monolithic wingwalls are included in the total quantity.										
227			Pile-RC	2	1	ea.	1	0	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.										
303			Joint-Assembly w/ Seal	2	58	m	57	0	0	1
	2370		Metal Deter./Damage (Joints)	2	1		0	0	0	1
(303-2370)										
The east joint at eastbound lane 1 is missing a section 2 feet long and 3 inches wide.										
312			Bearing-Enclosed	2	2	each	2	0	0	0
(312)										
The bearing element is included to indicate the presence of bearings on this structure. The bearings were not exposed for visual inspection. No indication of bearing distress was noted in any substructure element.										
333			Railing-Other	2	330	m	320	9	1	0
	1080		Delamination/Spall/Patched Area	2	5		0	4	1	0
	1130		Cracking (RC and Other)	2	5		0	5	0	0
(333-1080)										
The concrete portion of the south rail exhibits two spalls +/- 12 inches X 10 inches X 1.5 inches with rebar exposed and rusted at 10 feet east of the west end at span 1.										
The concrete portion of the north rail exhibits few spalls and unsound spalls +/- 5 inches X 5 inches in many locations especially at spans 1 & 2.										
(333-1130)										
The concrete portion of the rails exhibits few vertical cracks up to 0.05 inches wide.										

WORK RECOMMENDATIONS - NONE

Team Leader : Matthew M. Monajemi

Report Author : Matthew M. Monajemi

Inspected By : MM.Monajemi/J.Zhu

Matthew M. Monajemi (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

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

(1)	STATE NAME- CALIFORNIA	069
(8)	STRUCTURE NUMBER	**55C0344**
(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 RIVER CHANNEL
(7)	FACILITY CARRIED-	ADAMS AVENUE
(9)	LOCATION-	0.5 MI E/O BROOKHURST ST
(11)	MILEPOINT/KILOMETERPOINT	0
(12)	BASE HIGHWAY NETWORK- PART OF NET	1
(13)	LRS INVENTORY ROUTE & SUBROUTE	000000000000
(16)	LATITUDE	33 DEG 40 MIN 20.34 SEC
(17)	LONGITUDE	117 DEG 56 MIN 45.94 SEC
(98)	BORDER BRIDGE STATE CODE % SHARE	%
(99)	BORDER BRIDGE STRUCTURE NUMBER	

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

(43)	STRUCTURE TYPE MAIN:MATERIAL- PRSTR CONC CONT TYPE- BOX BEAM OR GIRDER - MULTI CODE	605
(44)	STRUCTURE TYPE APPR:MATERIAL- OTHER/NA TYPE- OTHER/NA CODE	000
(45)	NUMBER OF SPANS IN MAIN UNIT	5
(46)	NUMBER OF APPROACH SPANS	0
(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	1977
(106)	YEAR RECONSTRUCTED	0000
(42)	TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN	5
	UNDER- WATERWAY	5
(28)	LANES:ON STRUCTURE 06 UNDER STRUCTURE	00
(29)	AVERAGE DAILY TRAFFIC	39000
(30)	YEAR OF ADT 2019 (109) TRUCK ADT	2 %
(19)	BYPASS, DETOUR LENGTH	3 KM

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

(48)	LENGTH OF MAXIMUM SPAN	36.0 M
(49)	STRUCTURE LENGTH	164.6 M
(50)	CURB OR SIDEWALK: LEFT 1.2 M	RIGHT 1.2 M
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	24.4 M
(52)	DECK WIDTH OUT TO OUT	28.7 M
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	24.4 M
(33)	BRIDGE MEDIAN- CLOSED NON-MOUNTABLE	3
(34)	SKEW 14 DEG (35) STRUCTURE FLARED	NO
(10)	INVENTORY ROUTE MIN VERT CLEAR	99.99 M
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	12.2 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 = 91.5

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 - PART OF NET	1
(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	8
(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-	70.3
(65)	INVENTORY RATING METHOD- LOAD FACTOR	1
(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	7
(68)	DECK GEOMETRY	5
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATER ADEQUACY	8
(72)	APPROACH ROADWAY ALIGNMENT	8
(36)	TRAFFIC SAFETY FEATURES	1000
(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	90704
(115)	YEAR OF FUTURE ADT	2039

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

(90)	INSPECTION DATE 01/20 (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)

SANTA ANA RIVER CHANNEL (TALBERT/MACARTHUR)

0.6 MI W/O HARBOR BLVD. 01/17/2018 [AAAI] 55C0097

100 - PHOTO> Routine-Roadway View

Photo No. 1

Deckview Looking East

101 - PHOTO> Routine-Elevation View

Photo No. 2

Sideview Looking South

SANTA ANA RIVER CHANNEL (TALBERT/MACARTHUR)

0.6 MI W/O HARBOR BLVD.

01/17/2018 [AAAI]

55C0097

135 - PHOTO> Routine-Underside View

Photo No. 3

Underside View

SUNSET CHANNEL

100' NE/O PACIFIC CST HWY

01/12/2018 [AAAQ]

55C0283

100 - PHOTO> Routine-Roadway View

Photo No. 1

Deckview Looking North

101 - PHOTO> Routine-Elevation View

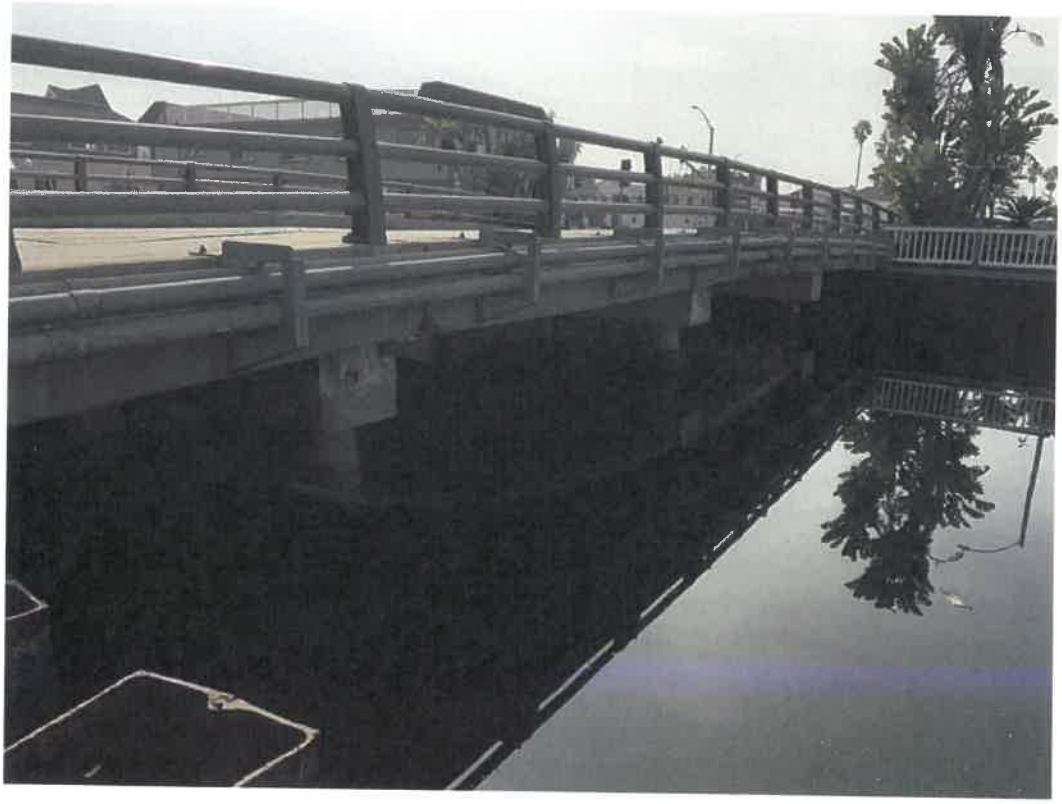

Photo No. 2

Sideview Looking West

SUNSET CHANNEL

100' NE/O PACIFIC CST HWY

01/12/2018 [AAAQ]

55C0283

101 - PHOTO> Routine-Elevation View

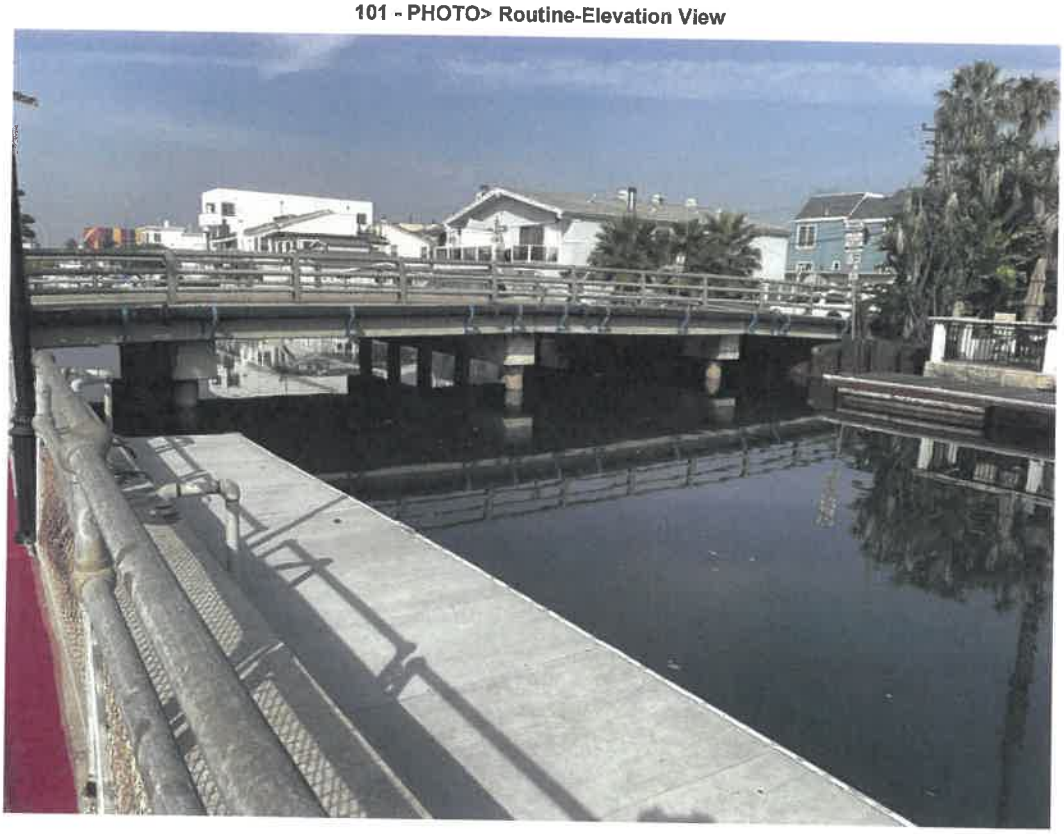

Photo No. 3

Sideview Looking East

135 - PHOTO> Routine-Underside View

Photo No. 4

Underside View

SANTA ANA RIVER (ADAMS AVE)

0.5 MI E/O BROOKHURST ST

01/17/2018 [AAAK]

55C0344

100 - PHOTO> Routine-Roadway View

Photo No. 1

Deckview Looking East

101 - PHOTO> Routine-Elevation View

Photo No. 2

Sideview Looking South

SANTA ANA RIVER (ADAMS AVE)

0.5 MI E/O BROOKHURST ST

01/17/2018 [AAAK]

55C0344

135 - PHOTO> Routine-Underside View

Photo No. 3

Underside View

U.S. POSTAGE PITNEY BOWES

ZIP 90012 $ 001.80⁰
02 1W
0001373712 MAR 13 2020

Department of Transportation
Division of Maintenance
Structure Maintenance & Investigations
100 S. Main St 3rd floor
Los Angeles, Ca 90012-3702

REC'D MAR 18 2020

Mr. Shane Silsby
Director of Public Works
County of Orange
P.O. Box 4048
Santa Ana, CA 92702-4048