*California Department of Transportation Division of Maintenance* 

Structure Maintenance and Investigations



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# BRIDGE INSPECTION REPORT Other Inspection

BRIDGE NO .: STRUCTURE NAME: **ALBION RIVER** 10 0136

Caltrans

## INSPECTION DATE: April 19, 2021

**5 STABLE W/IN FOOTING** 

# **BRIDGE LOCATION INFORMATION**

(9) LOCATION	01-MEN-001-43.74	(7) FACILITY CAR	RIED			STATE F	ROUTE 1
(11) POSTMILE	43.74	(6) FEATURE INTE	ERSECTED			ALBIO	N RIVER
(16) LATITUDE	39°13'30.32"	(5) INVENTORY R	TE(ON/UNDER)	ON		13	1000010
(17) LONGITUDE	123°46'09.83"	(104) ON NATIONAL	HIGHWAY SYSTEM			NOT	ON NHS
STRUCTURAL HEALTH CON	DITION SUMMARY I	NFORMATION					
(58) DECK		(5 FAIR)	DECK AREA (SF)				2,540
(59) SUPERSTRUCTURE		(4 POOR)	SUFFICIENCY RATII	NG			31.3
(60) SUBSTRUCTURE		4 POOR	PAINT CONDITION	SUPER	100.0	SUBSTR	100.0
(62) CULVERT		N N/A (NBI)	STRUCTURALLY DE	FICIENT (	(SD) STA	TUS	SD

(62) CULVERT

4 MINIMUM TOLERABLE (113) SCOUR

# PHOTOGRAPH IDENTIFICATION

(67) STRUCTURE EVALUATION



Routine-Roadway View (10/06/2011)



Routine-Elevation View (03/11/2014)



Routine-Underside View (03/11/2014)

TEAM LEADER	Warren L. Peterson	
REPORT AUTHOR	Warren L. Peterson	
INSPECTED BY	WL.Peterson/E.Thometz	
		5/7/2021
Wallen L. Feleis		Date



SIRUCIURE OVER					
AGENCY INFORMATION		INSPECTION INFORMATIC	N		
<ul> <li>(1) STATE NAME</li> <li>(2) HIGHWAY DISTRICT</li> <li>(3) COUNTY CODE</li> <li>(4) PLACE CODE</li> <li>(21) MAINTAIN</li> </ul>	CALIFORNIA 069 01 (10)MENDOCINO (00000) 01 STATE HIGHWAY AGENCY	(90) INSPECTION DATE (92) CRITICAL FEATURE INSPEC A) FRACTURE CRITICAL INSP B) UNDERWATER INSP C) OTHER SPECIAL INSP	08/20 (9 <sup>.</sup> CTION P Y-YES N-NO N-NO	1) FREQUENCY 24 (93) CFI E 24 MO A) 0 MO B) MO C)	MO DATE 2/20 N/A N/A
(22) OWNER (98) BORDER BRIDGE STATE C (99) BORDER BRIDGE STRUCTU	01 STATE HIGHWAY AGENCY ODE N/A % SHARE N/A JRE NUMBER N/A	0,0	iiiio		

# CONSTRUCTION INFORMATION

(27) YEAR BUILT	1944	(45) MAIN SPANS	1	(43a) STRUCTURE TYPE MAIN	3: STEEL
(106) YEAR MODIFIED	N/A	(46) APPR SPANS	33	(43b) DESIGN TYPE MAIN	09: TRUSS - DECK
(34) SKEW	0	(48) MAX SPAN (M)	39.6	(44a) STRUCTURE TYPE APPR	7: WOOD OR TIMBER
(49) LENGTH (M)	295.4	(35) STR FLARE	0-NO	(44b) DESIGN TYPE APPR	09: TRUSS - DECK
(112) NBIS BR LENGTH	Y	JOINTS	2	NO. OF HINGES	0

# STRUCTURE DESCRIPTION

Simply supported 34-span bridge. Timber 2-ply plank deck, with AC riding surface, timber 17-girder spans on timber A-frame deck trusses on timber tower bents. Eleven timber approach spans at the south end of the bridge, with Span 8 & 10 being a timber A-frame deck truss. A single-span riveted steel deck truss on RC tower bents over the main channel. Twenty-two timber approach spans at the north end of the bridge, with Span 14, 16, 18, 20, 22, 24, 26, 28, & 30 being a timber A-frame deck truss. Both abutments are RC buttress-type with monolithic RC wingwalls and 3-column bents on spread footings. Foundations for Bents 2-10 & 26-34 are concrete pedestal-type spread footings, Tower 11-12 is on driven (split-rail reinforced) PC/RC piles and Tower 13-14 is on driven timber piles, Bents 15-25 are concrete pedestal-type footings on driven timber piles. (The main span is a riveted steel deck truss, expansion at Bent 12 and fixed at Bent 13, which was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 miles downstream of Bidwell Bar) All timber is treated Douglas Fir (from Washington State).

# SPAN CONFIGURATION

7 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 16.5 ft, 1 @ 130.0 ft, 1 @ 16.5 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

# CONDITION INFORMATION

# INSPECTION COMMENTARY

SCOPE AND ACCESS

This investigation was conducted over one week of inspection and is the third and final phase of inspecting up close at hands reach all of the timber substructure elements. The scope of this investigation was limited to the substructure timber trestle elements and its associated connection points as an extension of the last routine inspection dated 08/18/2020. A complete inspection of these elements was performed and the defects discovered during this investigation are detailed below. All conditions listed for elements not inspected during this investigation have been carried forward from the previous inspections.

The first phase of this investigation was conducted with the use of UAS technology during the week of 09/01/2020, consisting of up close inspection of each timber trestle tower for their full length with the use of the UAS device. High resolution video imaging was recorded of each member and was later analyzed to identify specific areas of interest or concern and mark these locations for further hands-on inspection methods during the second phase of the investigation. The main defects that were identified through this phase of investigation were corroded timber connection hardware including claw plates and anchor bolts, multiple split or fractured timber scabs and deterioration of timber preservative treatment and associated widespread checking of almost all of the timber elements.

The second phase of this investigation was performed during the week of 10/05/2020 focusing on the areas identified in the first phase, as well as a general visual inspection of all timber members. A climb team comprised of personnel from the Toll Bridges Investigations Office inspected all of the timber substructure members at and below the catwalk of Bents 16 through 26. Please refer to the SUBSTRUCTURE condition text from the BIR dated 10/05/2020 for more detailed information.

The third phase of this investigation was performed during the week of 04/19/2021 focusing on the areas identified in the first phase, as well as a general visual inspection of all timber members. A climb team comprised of personnel from the Toll Bridges Investigations Office inspected all of the timber substructure members at and below the catwalk of Bents 7 through 9, Bent 15 and Bents 27 through 32. This completes inspection on all of the timber trestle bents and the remaining timber column bents (Bents 2 through 6 and Bents 33 and 34) were inspected from the ground with the use of ladders. As with the second phase, this inspection included close visual and auditory reconnaissance of the full length and all sides of every primary and secondary timber substructure element. Any suspect members were drilled to verify their integrity; and, if found to be deficient, the location, amount, and severity of any decay found was documented for future remediation. Please refer to the SUBSTRUCTURE condition text below for more detailed information.

Close up climb inspections of the timber trestle members will continue on an annual basis going forward in the future in order to closely monitor the condition of the timber and its associated connections.

## HISTORY

This structure has a history of advanced corrosion occurring to the exposed portions of the bolted timber connections throughout the

# CONDITION INFORMATION

## INSPECTION COMMENTARY

trestle substructure, as well as the timber truss superstructure. The nuts and bolts of the timber connections in the towers have historically been replaced by the District 01 Bridge Crew.

During the Climb inspection performed on 5/15/2012, it was discovered that, on average, approximately 50 to 70% of the nuts had failed due to corrosion from the marine environment. Due to the amount of labor and connections needing replacement, a maintenance contract was put out to bid to replace the majority of the corroded bolts and nuts. There were approximately 5,000 bolts with nuts that needed replacement, 2,500 to 3,500 of which had failed.

In 2016, Maintenance Contract 01-E2004 was completed which replaced approximately 80% of all of the bolts and nuts throughout the substructure. None of the bolted connections of the superstructure were addressed. In addition, rotted and decaying horizontal scabs located between the trestle columns were filled with an epoxy system which filled any rotted voids present in the members. Another project is planned for November 2021 to replace the remaining corroded substructure bolts in these spans.

In addition to the advanced corrosion of the steel connection hardware, soil sampling taken during a District Preliminary Environmental Assessment dated July 2017, indicated chromium contamination around the timber towers. This is indicative of the preservative treatment leaching from the timbers. Without reliable chemical preservative treatment, an increased rate of decay of the treated timber elements is anticipated. Insect infestation noted during the previous routine inspection performed on 08/18/2020 indicates that the loss of preservative treatment is evident. SM&I is in the process of testing the treated timber members to determine the extent of preservative present in the timber with the hope that this can lead to a better understanding of the remaining lifespan of the preservative.

Based on the deficiencies detailed above along with the expectation that the decay and corrosion will continue at an increased rate over time, SM&I has initiated these advanced supplemental inspection methods on a regular inspection interval from this time going forward.

## SUBSTRUCTURE

All of the timber members with observed checking were sounded with a hammer. Hollow sounding members were then subsequently drilled. In all, 6 locations were drilled, with the majority of those being horizontal trestle members located at the level where columns transitioned from 4 to 6 columns, and again at the level where the columns transitioned from 6 to 5 columns. The members were all drilled to a minimum depth of 6 inches and the timber borings examined for signs of decay and rot. In all cases, the members were found to be free of decay at their core. However, with the presence of the large checks and loss of preservative treatment as indicated by the District Preliminary Environmental Assessment dated July 2017, it is anticipated that moisture will continue to penetrate into the members, which will eventually lead to decay. SM&I is currently in the process of testing the remaining preservative treatment present in the timber members to use as a baseline for future comparisons on the remaining lifespan of said preservative treatment.

Approximately 80% of all of the bolted connections throughout the substructure were replaced under Contract 01-E2004. For a complete list of the bolts replaced, please refer to the hardware table in the as-built drawings for Contract 01-E2004. The remaining 20% of the connections exhibit surface rust throughout but without measurable section loss (see Photos 46 - 49 from the BIR dated 10/11/2017).

All of the timber columns in the timber bents and the timber columns that make up the trestles have 0.125 to 0.25 inch wide vertical checks for most of the members length (see Photos 50 - 64 from the BIR dated 10/11/2017). For a detailed list of each trestle member and its associated defect, please refer to the attached table in Appendix B from the BIR dated 10/11/2017.

The substructure condition (NBI 60) is rated a 4-Poor due to the widespread checking of the timber columns, decay potential due to diminished effectiveness of the preservative treatment, distressed timber scab connections and the assumed corroded condition of the split ring, toothed ring and claw plate connectors, the majority of which are not visible for inspection.

## SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SMI Ratings Branch. An updated Load Rating Summary Sheet will be archived when this review is complete. The current ratings are based on Midas computer program output dated 11/01/2011.

The steel deck truss main span was found to have lower Inventory, Operating and Permit Ratings than the timber truss spans, and therefore, to be the controlling portion of the structure. The load rating values shown are for the steel deck truss main span.

A work request (#9990) has also been submitted to SMI Ratings Branch to evaluate the affect of the apparent insect infestation on the load bearing capacity of timber Column 4 at Bent 23. The extent of the infestation is documented under the respective parent element. Preliminary calculations indicate that the damage due to the insect infestation is not an immediate threat to the safe load capacity of the structure, however, the Load Ratings Branch will perform an in-depth review of the safe load capacity including the timber substructure elements.

# SPECIAL INSPECTION INFORMATION STEEL INVESTIGATION DETAILS

This structure q	ualifies	for an in-dep	oth Steel investiga E Welds	ation because it	possesse	es the fol	lowing fracture o	ritical or fati	gue prone	details :
CI Required	Yes	Last FCI	02/19/2020	FCI Freq.	24	months	Next FC Inspec	tion	02/19/202	22
NDERWATER		STIGATIO	N DETAILS - N	OT APPLICABL	E FOR T	HIS BRI	DGE.			
DECK ANI	D RO	ADWA)	(							
ECK CROSS	SECTI	ON								
).3 ft br, 1.0 ft w	g, 26.0	ft, 1.0 ft wg,	0.3 ft br							
ECK GEOME	TRY				DEC	K ROA	DWAY/OPER	ATIONAL	INFORM/	ATION
(49) LENGTH				295.4 M	(42a)	TYPE OF	F SERVICE		1-H	IGHWAY
(51) NET WIDTH	4			7.9 M	(12)	BASE HI	GHWAY NETWO	RK	1-PART	OF NET
(52) TOTAL WIE	отн			8.5 M	(13)	LRS INV	ENTORY RTE &	SUBRTE	0000	00000101
(50) CURB OR 3	SIDEWA	LK	LEFT 0.3 M	I RIGHT 0.3 M	(104)	NATION	AL HIGHWAY SY	STEM	0-NOT	ON NHS
(32) APPROACI	H RDWY	WIDTH		7.3 M	(26)	FUNCTIO	ONAL CLASS	06-MINOR	ARTERIA	L RURAL
(33) BRIDGE M	EDIAN			0 NO MEDIAN	(100)	DEFENS	E HIGHWAY		0-NOT ST	RAHNET
ECK STRUC	<b>FURE I</b>	NFORMAT	ION		(101)	PARALL	EL STRUCTURE		N-NONE	EXISTS
(107) DECK STR	UCTURE	TYPE		8-TIMBER	(102)	DIRECTI	ION OF TRAFFIC			2-2 WAY
(108) WEARING	SURFAC	E / PROTEC	TIVE SYSTEM		(10)	INVENT	ORY ROUTE MIN	VERT CLEA	R	99.99 N
A) TYPE OF V	/EARING	3 SURFACE	6	-BITUMINOUS	(47)	INVENT	ORY ROUTE TOT	AL HORIZ CI	EAR	7.9 M
B) TYPE OF N	1EMBRA	NE		0-NONE	(68)	DECK G	EOMETRY	3 INTOLEF	RABLE - C	ORRECT
C) TYPE OF D	ECK PR	OTECTION		0-NONE	(72)	APPR R	OADWAY ALIGN	8 EQUA	L DESIRA	BLE CRIT
OVERLAY	THICKNI	ESS (inches)		2	(105)	FEDERA	AL LANDS HWY	0.	NOT APP	LICABLE
(29) AVERAGE	DAILY T	RAFFIC		2100	(110)	DESIGN	ATED NATIONAL	NETWORK	0-NOT	ON NET
(30) YEAR OF A	DT 2	2009	(109) TRUCK AD	т% 6%	(20)	TOLL			3-ON FRE	EE ROAD
(19) BYPASS, D	ETOUR	LENGTH		62 KM	(28a)	LANES				2
(114) FUTURE A	DT			5182		SPEED		-		50
(115) YEAR OF F	UTURE	ADT		2041	(103)	TEMPOF	RARY STRUCTUR	RE		N/A

# DECK ELEMENT INSPECTION RATINGS AND NOTES

# (58) DECK RATING = (5)

# Element Group: 101 - Approach - Southern Spans 1-11 - Timber Deck Trusses

Elem	Defect/	Element Description	Env	Total	Units	Qty	y in each C	ondition S	tate
No.	Prot	Defect		Qly		CS 1	CS 2	CS 3	CS 4
31		Deck-Timber	3	651	sq.m	631	5	15	0
	1140	Decay/Section Loss (Timber)	3	20		0	5	15	0
	510	Deck Wearing Surface-Asphalt	3	594	sq.m	594	0	0	0
(31) D	eck-Tim	ber							
The	spacer	block in Bay 13 of Span 2 is loose and hanging c	lown below th	e girders	5.				
(31-11	40) Dec	ay/Section Loss (Timber)							

# DECK ELEMENT INSPECTION RATINGS AND NOTES

# Element Group: 101 - Approach - Southern Spans 1-11 - Timber Deck Trusses

Elem	Defect/	Element Description	Env	Total	Units	Qty	/ in each C	ondition St	ate
No.	Prot	Defect		Qty		CS 1	CS 2	CS 3	CS 4
						·		<u></u>	

## (31-1140) Decay/Section Loss (Timber)

The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are several areas of white fungus present on the soffit of the timber deck (see Photo 1 from the BIR dated 08/18/2020 and Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 21 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

## (31-510) Deck Wearing Surface-Asphalt

There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.

# Element Group: 102 - Main - Main Span - Steel Deck Truss

Qty CS 1	y in each C CS 2	Condition S CS 3	tate CS 4
331	2	8	0
0	2	8	0
341	0	0	0
	Qt CS 1 331 0 341	Qty in each Q           CS 1         CS 2           331         2           0         2           341         0	Oty in each Condition S           CS 1         CS 2         CS 3           331         2         8           0         2         8           341         0         0

## (31-1140) Decay/Section Loss (Timber)

The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are areas of white fungus present on the soffit of the timber deck (see Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 21 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

## (31-510) Deck Wearing Surface-Asphalt

There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.

# Element Group: 103 - Approach - Northern Spans 13-34 - Timber Deck Trusses

Elem No.	Defect/ Prot	Element Description Defect	Env	Total Qty	Units	Qty CS 1	/ in each C CS 2	condition S CS 3	tate CS 4
31		Deck-Timber	2	1557	sq.m	1511	10	36	0
	1140	Decay/Section Loss (Timber)	2	46		0	10	36	0
	510	Deck Wearing Surface-Asphalt	2	1420	sq.m	1420	0	0	0
(31-1	140) De	cay/Section Loss (Timber)							

# DECK ELEMENT INSPECTION RATINGS AND NOTES

# Element Group: 103 - Approach - Northern Spans 13-34 - Timber Deck Trusses

Elem	Defect/	Element Description	Env	Total	Units	Qty	/ in each C	ondition St	ate
No.	Prot	Defect		Qty		CS 1	CS 2	CS 3	CS 4

## (31-1140) Decay/Section Loss (Timber)

The scuppers at the base of the wheel guards on both sides of the deck at the north end of the bridge are plugged with dirt and weeds.

The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are areas of white fungus present on the soffit of the timber deck (see Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 22 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

## (31-510) Deck Wearing Surface-Asphalt

There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.

# JOINT - APPROACH - RAIL

# RAIL INFORMATION

(36a) Rail Code 0 (36b) Transition 0 (36c) Appr Guardrail 1 (36d) Appr Guardrail End 0 Roadway Speed 50 MPH

# JOINT/APPROACH/RAIL ELEMENT INSPECTION RATINGS AND NOTES

Eleme	ent Group	b: 101 - Approach - S	outhern Spans 1-11 - Ti	mber l	Deck T	russes				
Elem	Defect/	Element Description		Env	Total	Units	Qty	in each C	ondition St	ate
No.	Prot De	fect			Qty		CS 1	CS 2	CS 3	CS 4
332		Railing-Timber		3	512	m	410	0	102	0
	1020	Connection		3	102		0	0	102	0
(332)	Railing-Ti	mber								
The (332-	e timber br 1020) Con	idge rail was cleaned and nection	painted in 2013 as part of E	A 01-0/	A5904.					
The side 209	e timber ra es of the s % of the to	il connection to the deck i tructure. The exact amou tal length of the deck.	s affected by the deck rot than nt of decay (linear footage) v	at is pre vas not	esent alc measu	ong the e red but c	dge of the onservativ	e deck pla vely estim	anks on bo nated at 1	oth 5 to
Eleme	ent Group	o: 102 - Main - Main S	pan - Steel Deck Truss	_						
Elem	Defect/	Element Description		Env	Total Qtv	Units	Qty	in each C	ondition St	ate
	FIUL DE						031	032	033	
301		Joint-Pourable Sea		2	17	m	9	8	0	0
	2330	Seal Damage (Joint	s)	2	8		0	8	0	0
(301)	Joint-Pour	able Seal								
Nev (301-	w Type "A' 2330) Sea	' pourable joint seals were I Damage (Joints)	e installed at Bents 13 and 14	1 in 201	16 unde	<sup>-</sup> EA 01-E	E2004.			
The cor	e pourable idition.	joint seal at Bent 13 alrea	dy exhibits small tears throu	ghout i	ts lengt	n but the	seal at Be	ent 14 rer	mains in g	ood
304		Joint-Open Expans	ion	3	17	m	17	0	0	0
(304)	Joint-Ope	n Expansion								
The	ere were n	o significant defects noted	l.							
332		Railing-Timber		3	79	m	63	0	16	0
	1020	Connection		3	16		0	0	16	0
(332)	Railing-Ti	mber								

# J

ement Group	p: 102 - Main - Main Span - Steel Dee	ck Truss						
em Defect/ lo. Prot De	Element Description	Env	Total Qty	Units	Qty CS 1	/ in each C CS 2	CS 3	tate CS 4
332) Railing-Ti	mber							
The timber br 332-1020) Cor	ridge rail was cleaned and painted in 2013 a nection	is part of EA 01-0	A5904.					
The timber ra both sides of	il connection to the deck may be affected by the structure.	y the deck rot that	t is pres	ent along	the edge	e of the de	eck planks	s on
ement Group	p: 103 - Approach - Northern Spans	13-34 - Timber	Deck	Trusses	<b>;</b>			
em Defect/ No. Prot De	Element Description efect	Env	l otal Qty	Units	CS 1	CS 2	CS 3	CS 4
332	Railing-Timber	3	358	m	286	0	72	0
1020	Connection	3	72		0	0	72	0
332) Railing-Ti	mber							
The timber br 332-1020) Cor	ridge rail was cleaned and painted in 2013 a nnection	is part of EA 01-0	A5904.					
The timber ra sides of the s 20% of the to	il connection to the deck is affected by the c tructure. The exact amount of decay (linear tal length of the deck.	deck rot that is pre r footage) was no	esent alo t measu	ong the e red but c	dge of the onservati	e deck pla vely estin	anks on b nated at 1	oth 5 to
PERSTR	UCTURE							
ERSTRUCT	URE ELEMENT INSPECTION RATING	SS AND NOTES	3	(5	9) SUPER	STRUCTU	JRE RATIN	NG = (4)
ement Group	o: 101 - Approach - Southern Spans	1-11 - Timber	Deck T	russes				
e <b>ment Grouj</b> <sup>em</sup> Defect/ lo. Prot De	<b>b: 101 - Approach - Southern Spans</b> Element Description	1-11 - Timber Env	Deck T Total Qty	<b>russes</b> Units	Qty CS 1	in each C CS 2	ondition St CS 3	ate CS 4
ement Group em Defect/ lo. Prot De	D: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber	1-11 - Timber Env 2	Deck T Total Qty 590	russes Units m	Qty CS 1 568	r in each C CS 2 22	ondition St CS 3 0	ate CS 4 0
ement Group em Defect/ lo. Prot De 111 1150	D: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber Check/Shake (Timber)	1-11 - Timber Env 2 2	Deck T Total Qty 590 22	russes Units m	Qty CS 1 568 0	r in each C CS 2 22 22	ondition St CS 3 0 0	cate CS 4 0 0
ement Group em Defect/ lo. Prot De 111 1150 11) Girder/Bea	e: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber Check/Shake (Timber) am-Timber	1-11 - Timber Env 2 2	Deck T Total Qty 590 22	m	Qty CS 1 568 0	r in each C CS 2 22 22	ondition St CS 3 0 0	cs 4 CS 4 0 0
ement Group em Defect/ lo. Prot De 111 1150 11) Girder/Bea See Appendi 11-1150) Che	p: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber Check/Shake (Timber) am-Timber ix A from the BIR dated 08/18/2020 for detail ck/Shake (Timber)	1-11 - Timber Env 2 2 iled information of	Deck T Total Qty 590 22 n the ele	m m m	Qty CS 1 568 0 d associa	rin each C CS 2 22 22 ted defec	ondition St CS 3 0 0 ts.	cs 4 CS 4 0 0
ement Group em Defect/ lo. Prot De 111 1150 11) Girder/Bea See Appendi 11-1150) Che Several timbo thickness (se	b: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber Check/Shake (Timber) am-Timber ix A from the BIR dated 08/18/2020 for detail ck/Shake (Timber) er girders display horizontal checks along the ee Photo 2 from the BIR dated 08/18/2020).	1-11 - Timber Env 2 2 iled information of eir neutral axis th	Deck T Total Qty 590 22 n the ele at pene	russes Units m ement an trate less	Qty CS 1 568 0 d associa	r in each C CS 2 22 22 ted defect % of the n	ondition St CS 3 0 0 cts.	CS 4 CS 4 0 0
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ement Group em Defect/ lo. Prot Defect/ lo. P	p: 101 - Approach - Southern Spans Element Description offect Girder/Beam-Timber Check/Shake (Timber) am-Timber ix A from the BIR dated 08/18/2020 for detai ck/Shake (Timber) er girders display horizontal checks along th be Photo 2 from the BIR dated 08/18/2020). s are throughout the timber elements. These at will allow moisture to initiate decay on the Stringer-Timber Check/Shake (Timber)	1-11 - Timber Env 2 2 iled information of eir neutral axis th e checks represent interior of the ele 3 3 3	Deck T Total Qty 590 22 n the ele at pene nt a brea ments. 690 23	m ement an trate less ach in the	Qty CS 1 568 0 d associa than 50% e perimete 667 0	r in each C CS 2 22 22 ated defect % of the n er chemic 23 23	ondition St CS 3 0 0 cts. nember al preserv 0 0	ate CS 4 0 0 vative
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Elem Defect/ No. Prot Def	Element Description fect	Env	Total Qty	Units	Qty CS 1	/ in each C CS 2	ondition SI CS 3	tate CS ·
(135-1020) Conr	nection							
Approximately significant see Photos 21 - 2 (135-1150) Chec	y 30% of the threaded fasteners are exhibiting ction loss of a large number of the nuts on the t 3 from the BIR dated 10/11/2017 for typical con ck/Shake (Timber)	signs of corro threaded rods ndition).	sion. The that ho	ne marine ld the timb	environ ber mem	ment has bers in pla	caused ace (see	
Many of the v	vertical and diagonal members of the truss have	e checks appr	oximate	lv 0.125 to	o 0.25 in	ches wide	e that	
penetrate app 08/18/2020 a	proximately 3 to 4 inches into the members' cro nd Photos 24 - 31 from the BIR dated 10/11/20	ss section (se 17).	e Photo	s 6 - 10 fr	om from	the BIR (	dated	
These checks treatment that	s are throughout the timber elements. These ch t will allow moisture to initiate decay on the inte	ecks represe orior of the ele	nt a brea ments.	ach in the	perimete	er chemic	al preser	vative
156	Floor Beam-Timber	3	17	m	7	10	0	(
1140	Decay/Section Loss (Timber)	3	2		0	2	0	(
1150	Check/Shake (Timber)	3	8		0	8	0	(
156) Floor Bear	n-Timber							
See Appendix 156-1140) Deca	x A from the BIR dated 08/18/2020 for detailed ay/Section Loss (Timber)	information o	n the ele	ement and	l associa	ated defec	xts.	
warrant a wor 156-1150) Cher	rk recommendation but will be monitored during ck/Shake (Timber)	g future inspe	ctions.					
warrant a woi 156-1150) Cheo Many of the fl thickness. These checks treatment tha	ck/Shake (Timber) loor beams exhibit horizontal checks along thei s are throughout the timber elements. These ch t will allow moisture to initiate decay on the inte	r neutral axis necks represe	that per nt a breaments.	etrate les	s than 50	0% of the er chemic	members	s vative
warrant a wor (156-1150) Chec Many of the fl thickness. These checks treatment that Iement Group	<ul> <li>In the noor beams were recommendation but will be monitored during ck/Shake (Timber)</li> <li>Ioor beams exhibit horizontal checks along their sare throughout the timber elements. These checks along the initiate decay on the interest will allow moisture to initiate decay on the interest.</li> <li>IO2 - Main - Main Span - Steel Deck The Element Description</li> </ul>	r neutral axis necks represe erior of the ele <b>Fruss</b> Env	that per nt a brea ments.	ach in the Units	s than 50 perimete	0% of the er chemic	members al presen	s vative tate
warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment that Iement Group Elem Defect/ No. Prot Def	<ul> <li>ck/Shake (Timber)</li> <li>loor beams exhibit horizontal checks along their</li> <li>s are throughout the timber elements. These chet will allow moisture to initiate decay on the interest.</li> <li>check - Main - Main Span - Steel Deck - Element Description</li> </ul>	r neutral axis necks represe erior of the ele <b>Fruss</b> Env	that per nt a brea <u>ments.</u> Total Qty	ach in the Units	s than 50 perimete Qty CS 1	0% of the er chemic / in each C CS 2	members al preserv ondition St CS 3	s vative tate CS
warrant a woi 156-1150) Cheo Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120	Truss-Steel The non-beams were and the non-beams were recommendation but will be monitored during ck/Shake (Timber) Ioor beams exhibit horizontal checks along their sare throughout the timber elements. These checks along the initiate decay on the interpreterment of the same throughout the timber elements. These checks along the initiate decay on the interpreterment of the same transmission of the same transmission. The same transmission of the same transmission. The same transmission of the same transmission of the same transmission. The same transmission of the same transmission of the same transmission. The same transmission of the same transmission of the same transmission of the same transmission. The same transmission of the same transmission of the same transmission of the same transmission of transmission of transmission of transmission of transmission of tr	r neutral axis necks represe prior of the ele russ Env	that per nt a brea ments. Total Qty 79	ach in the Units	s than 50 perimete Qty CS 1 71	0% of the er chemic v in each C CS 2 0	members al preserv ondition SI CS 3	s vative tate CS
warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 1000	<pre>ck/Shake (Timber) loor beams exhibit horizontal checks along thei s are throughout the timber elements. These ch t will allow moisture to initiate decay on the inte c: 102 - Main - Main Span - Steel Deck T Element Description fect Truss-Steel Corrosion</pre>	r neutral axis necks represe rior of the ele <b>Fruss</b> Env 4	that per that per nt a brea ments. Total Qty 79 8	ach in the Units	s than 50 perimete Qty CS 1 71 0	0% of the er chemic r in each C CS 2 0 0	members al preserv ondition St <u>CS 3</u> 8 8	s vative tate CS (
warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 1000 515	are throughout the timber elements. These ch t will allow moisture to initiate decay on the inter ct vill allow moisture to initiate decay on the inter ct will allow moisture to initiate decay on the inter ct uses are throughout the timber elements. These ch t will allow moisture to initiate decay on the inter ct to the timber elements. These ch t will allow moisture to initiate decay on the inter ct to the timber elements. These ch t will allow moisture to initiate decay on the inter ct to the timber elements. These ch t will allow moisture to initiate decay on the inter corrosion Steel Coating-Paint	r neutral axis necks represe erior of the ele <b>Fruss</b> Env 4 4	that per nt a brea ments. Total Qty 79 8 876	uetrate les ach in the Units m sq.m	s than 50 perimete CS 1 71 0 876	0% of the er chemic r in each C CS 2 0 0 0 0	members al present ondition St <u>CS 3</u> 8 8 0	s vative tate CS ( (
warrant a woi 156-1150) Cher Many of the fi thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 1000 515	are throughout the timber elements. These ch t will allow moisture to initiate decay on the inter ct vill allow moisture to initiate decay on the inter ct will allow moisture to initiate decay on the inter ct user throughout the timber elements. These ch t will allow moisture to initiate decay on the inter ct the the timber elements. These ch t will allow moisture to initiate decay on the inter corrosion feet Truss-Steel Corrosion Steel Coating-Paint	r neutral axis necks represe prior of the electron russ Env 4 4 4	that per that per nt a brea ments. Total Qty 79 8 876	etrate les ach in the Units m sq.m	s than 50 perimete CS 1 71 0 876	0% of the er chemic v in each C CS 2 0 0 0 0	members al preserv ondition SI CS 3 8 8 8 0	s vative tate CS ( ( (
warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 1000 515 120) Truss-Stee FCMI(02/19/2	are throughout the timber elements. These child allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to initiate decay on the interest. These child allow moisture to allow moisture to allow moist allow m	r neutral axis r neutral axis necks represe erior of the elec Fruss Env 4 4 4 4 4	that per nt a brea ments. Total Qty 79 8 876 e inspec	etrate les ach in the Units m sq.m	s than 50 perimete CS 1 71 0 876	0% of the er chemic r in each C CS 2 0 0 0 0	members al present ondition St <u>CS 3</u> 8 8 0	s tate CS ( (
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warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment tha lement Group ilem Defect/ No. Prot Def 120 120 1000 515 120) Truss-Stee FCMI(02/19/2 120-1000) Corror FCMI(02/19/2 120-515) Steel The steel dec system on the 156	are throughout the timber elements. These ch t will allow moisture to initiate decay on the interest s are throughout the timber elements. These ch t will allow moisture to initiate decay on the interest or 102 - Main - Main Span - Steel Deck T Element Description fect          Truss-Steel         Corrosion         Steel Coating-Paint         el         2020): See the report narrative for a list of mem osion         2020): See the report narrative for description o Coating-Paint         ck truss of the main span was cleaned and pain e main span steel deck truss appears to be in g	r neutral axis necks represe rior of the electron of the defects of the	that per that per nt a breat ments. Total Qty 79 8 876 e inspect (7.8 m ir of 2013 573	etrate les ach in the Units m sq.m eted. n CS3). as part of m	s than 50 perimete CS 1 71 0 876	0% of the er chemic v in each C CS 2 0 0 0 0 0 0 0	members al preserv ondition St <u>CS 3</u> 8 8 0 0 The paint	s tate CS ( ( (
warrant a wor 156-1150) Chec Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 120 1000 515 120) Truss-Stee FCMI(02/19/2 120-1000) Corror FCMI(02/19/2 120-515) Steel of The steel dec system on the 156 1140	are throughout the timber elements. These child will be monitored during ck/Shake (Timber) loor beams exhibit horizontal checks along their twill allow moisture to initiate decay on the interport of the timber elements. These child allow moisture to initiate decay on the interport of the timber element of the timber elements. These child allow moisture to initiate decay on the interport of the timber elements. These child allow moisture to initiate decay on the interport of the timber element el	r neutral axis necks represe erior of the ele <b>Fruss</b> Env 4 4 4 bers that wer f the defects ted in the fall pood condition 4	that per nt a breaments. Total Qty 79 8 876 e inspect (7.8 m ir of 2013). 573 58	etrate les ach in the Units m sq.m eted. as part of m	s than 50 perimete <u>Qty</u> <u>CS 1</u> 71 0 876	0% of the er chemic r in each C CS 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	members al present ondition St <u>CS 3</u> 8 8 0 0 The paint 0 0	s tate CS ( ( (
warrant a wor 156-1150) Chea Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 120 120 120) Truss-Stee FCMI(02/19/2 120-1000) Corra FCMI(02/19/2 120-515) Steel of The steel dec system on the 156 1140 1150	are throughout the timber elements. These ch t will allow moisture to initiate decay on the inter ct/Shake (Timber) loor beams exhibit horizontal checks along their is are throughout the timber elements. These ch t will allow moisture to initiate decay on the inter corrosion <b>102 - Main - Main Span - Steel Deck T</b> Element Description fect <b>Truss-Steel Corrosion Steel Coating-Paint</b> cel 2020): See the report narrative for a list of mem osion 2020): See the report narrative for description of Coating-Paint ck truss of the main span was cleaned and pain e main span steel deck truss appears to be in g <b>Floor Beam-Timber Decay/Section Loss (Timber) Check/Shake (Timber)</b>	r neutral axis necks represe erior of the ele <b>Fruss</b> Env 4 4 4 bers that wer f the defects ted in the fall pood condition 4 4	that per that per nt a breaments. Total Qty 79 8 876 e inspec (7.8 m ir of 2013 573 58 458	etrate les ach in the Units m sq.m eted. as part of m	s than 50 perimete CS 1 71 0 876 * EA 01-0 57 0 0	0% of the er chemic (in each C CS 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	members al preserv ondition St <u>CS 3</u> 8 8 0 0 The paint 0 0 0	s tate <u>CS</u> ( ( ( ( ( ( ( ( ( ( ( (
warrant a wor (156-1150) Chea Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 120 120 120 120 515 (120) Truss-Stee FCMI(02/19/2 (120-1000) Corra FCMI(02/19/2 (120-515) Steel dec system on the 156 1140 1150 (156-1140) Deca	are throughout the timber elements. These child allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest will allow moisture to initiate decay on the interest to the initiate decay on the interest of the main Span - Steel Deck The Element Description Steel Coating-Paint of the report narrative for a list of memosion 2020): See the report narrative for description of Coating-Paint of the main span was cleaned and pain and an an an span steel deck truss appears to be in g Floor Beam-Timber Decay/Section Loss (Timber) Check/Shake (Timber)	r neutral axis necks represe rior of the electron of the elect	that per nt a breaments. Total Qty 79 8 876 e inspect (7.8 m ir of 2013 573 58 458	etrate les ach in the Units m sq.m eted. as part of m	s than 50 perimete <u>Qty</u> <u>CS 1</u> 71 0 876	0% of the er chemic 7 in each C CS 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	members al present ondition St <u>CS 3</u> 8 8 0 0 The paint 0 0 0	s tate CS ( ( ( ( ( ( ( ( ( ( ( ( ( ())))))))))
warrant a wor (156-1150) Chea Many of the fl thickness. These checks treatment tha lement Group lem Defect/ No. Prot Def 120 1200 515 120) Truss-Stee FCMI(02/19/2 120-1000) Corra FCMI(02/19/2 120-515) Steel of System on the 156 1140 1150 156-1140) Deca There is rot a from the BIR future incores	are throughout the timber elements. These chi time incorrect during ck/Shake (Timber) loor beams exhibit horizontal checks along their is are throughout the timber elements. These chi time and the moisture to initiate decay on the interport of the time of the	r neutral axis necks represe erior of the ele <b>Fruss</b> Env 4 4 4 4 bers that wer f the defects ted in the fall <u>pood condition</u> 4 4 4 4	that per nt a breaments. Total Qty 79 8 876 e inspect (7.8 m ir of 2013 573 58 458 edges o ecomme	etrate les ach in the Units m sq.m eted. as part of m f the floor endation b	s than 50 perimete <u>Qty</u> <u>CS 1</u> 71 0 876 57 0 0 0 beams ( out will be	0% of the er chemic v in each C CS 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	members al present ondition St <u>CS 3</u> 8 8 0 0 The paint 0 0 0 0 0 0 0	s vative tate CS ( ( ( ( ( ) ( ) ( ) ( ) ( ) ( ) ( ) (

IPERSTRUCTU	RE ELEMENT INSPECTION RATINGS	AND NOTES	3	(5	9) SUPER	STRUCTU	RE RATIN	G = (4
Elem Defect/ No. Prot Defe	Element Description ct	Env	Total Qty	Units	Qty CS 1	in each Co CS 2	ndition Sta CS 3	te CS 4
162	Steel Gusset Plate	2	40	each	40	0	0	0
(162) Steel Gusse	et Plate							
There were no 0A5904. The p	significant defects noted. The gusset plates paint system appears to be in good condition	was cleaned a	and pain	ted in the	e fall of 20	13 as par	t of EA 01	-
311	Bearing-Moveable	4	2	each	2	0	0	0
(311) Bearing-Mo	veable							
There were no	significant defects noted.							
313	Bearing-Fixed	4	2	each	2	0	0	C
(313) Bearing-Fix	ed							
There were no	significant defects noted.							
lement Group:	103 - Approach - Northern Spans 13	-34 - Timber	Deck	Trusses	;			
elem Defect/	Element Description	Env	Total Qtv	Units	Qty	in each Co	ndition Sta	te
					031	0.5 2	03.5	03
111	Girder/Beam-Timber	2	295	m	295	0	0	0
(111) Girder/Bear	n-Timber							
There were no	significant defects noted.							
117	Stringer-Timber	3	2757	m	2496	261	0	C
1150	Check/Shake (Timber)	3	261		0	261	0	C
thickness.							1	
treatment that	will allow moisture to initiate decay on the int	erior of the ele	ments.	ach in the	e perimete	r cnemica	li preserva	auve
135	Truss-Timber	3	208	m	3	195	10	C
1020	Connection	3	62		0	62	0	C
1140	Decay/Section Loss (Timber)	3	10		0	0	10	C
1150	Check/Shake (Timber)	3	133		0	133	0	(
1100								
(135) Truss-Timb	er							
(135) Truss-Timbo	er A from the BIR dated 08/18/2020 for detailed	Linformation of	n the ele	ment an	d associa	ted defect	s	
(135) Truss-Timbo See Appendix	er A from the BIR dated 08/18/2020 for detailed	l information o	n the ele	ement an	d associa	ted defect	s.	
(135) Truss-Timbo See Appendix The right 12 in in the middle s 08/18/2020).	er A from the BIR dated 08/18/2020 for detailed ch member in the third section of the catwalk ection of the catwalk in Span 22 is rotted aro	l information of of Span 20 is und the conne	n the ele rotted in ction poi	ment an the midd ints (see	d associa dle and th Photo 3 fi	ted defect e right 12 rom the B	s. inch mem IR dated	nber
(135) Truss-Timbo See Appendix The right 12 in in the middle s 08/18/2020). Approximately been split (see (135-1020) Conne	er A from the BIR dated 08/18/2020 for detailed ch member in the third section of the catwalk ection of the catwalk in Span 22 is rotted aro 50 of the timber scabs located at the connec Photos 33 - 37 from the BIR dated 10/11/20 ection	l information of of Span 20 is und the conne- tions of the dia 17).	n the ele rotted in ction poi agonal tr	ement an the midd ints (see uss mem	d associa dle and th Photo 3 fi ibers to th	ted defect e right 12 rom the B e bottom	s. inch mem IR dated chord hav	nber ve
(135) Truss-Timbo See Appendix The right 12 in in the middle s 08/18/2020). Approximately been split (see (135-1020) Conne Approximately significant sect Photos 21 - 23	er A from the BIR dated 08/18/2020 for detailed ch member in the third section of the catwalk ection of the catwalk in Span 22 is rotted aro 50 of the timber scabs located at the connect Photos 33 - 37 from the BIR dated 10/11/20 ection 30% of the threaded fasteners are exhibiting ion loss of a large number of the nuts on the from the BIR dated 10/11/2017 for typical co	I information of of Span 20 is und the conne- tions of the dia 17). signs of corro threaded rods ondition).	n the ele rotted in ction poi agonal tr sion. Th that hol	ement an the midd ints (see uss mem ne marine d the tim	d associa dle and th Photo 3 fi bers to th e environn ber memb	ted defect e right 12 rom the B e bottom nent has o pers in pla	s. inch mem IR dated chord hav caused ce (see	nber ve

lem Defect/					(00	- / -			
No. Prot D	Element Description efect		Env	Total Qty	Units	Qty i CS 1	n each Co CS 2	ndition Stat CS 3	te CS 4
135-1140) Deo	cay/Section Loss (Timbe	er)							
An area of d extends 10 f	lecay was found at the t feet from Bent 15 toward	op left horizontal between Bent ds Bent 16.	15 and	Bent 16	. The to	p 4 inches	s has core	e rot and	
An area of d top 3 inches	lecay was found at the t has core rot that exten	op of horizontal member to the ds 5 feet towards Bent 24.	right (ea	ast) of th	e catwal	k betweei	n Bent 23	and 24.	The
An area of d top 3 inches 135-1150) Che	lecay was found at the t has core rot that exten eck/Shake (Timber)	op of horizontal member to the ds 15 feet towards Bent 32.	right (ea	ast) of th	e catwal	k betweei	n Bent 31	and 32. <sup>-</sup>	The
All of the ver approximate 24 - 31 from	rtical and diagonal mem ly 3 to 4 inches into the the BIR dated 10/11/20	bers of the truss have checks a members' cross section (see F 017).	approxin Photos 6	nately 0. - 10 froi	125 to 0. m the BI	.25 inches R dated 0	wide tha 8/18/2020	t penetrat ) and Pho	e tos
These check treatment th	ks are throughout the tir at will allow moisture to	nber elements. These checks ru initiate decay on the interior of	epresen the elen	t a bread nents.	ch in the	perimeter	r chemica	ll preserva	ative
156	Floor Beam-Tim	ber	3	77	m	19	58	0	0
1140	Decay/Section L	oss (Timber)	3	7		0	7	0	0
1150	Check/Shake (Ti	mber)	3	51		0	51	0	0
156) Floor Bea	am-Timber								
See Append 156-1140) Dec	lix A from the BIR dated cay/Section Loss (Timbe	08/18/2020 for detailed inform er)	ation on	the eler	ment and	l associat	ed defect	S.	
There is rot	and decay present for a ed 10/11/2017). Severa	length of 6 to 12 inches on the I of the floor beams were drilled	outer e l and de	dges of termined tions.	the floor d to be s	beams (s ound.  Th	ee Photo is current	s 38 -39 fr ly does no	rom ot
the BIR date warrant a wo 156-1150) Che	ork recommendation bu eck/Shake (Timber)	t will be monitored during luture	, mopeo						
the BIR date warrant a wo 156-1150) Che Many of the thickness.	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor	zontal checks along their neutr	al axis ti	hat pene	etrate les	s than 50	% of the r	members	
the BIR date warrant a wo 156-1150) Che Many of the thickness. These check treatment th	ork recommendation bu ack/Shake (Timber) floor beams exhibit hor ks are throughout the tir at will allow moisture to	zontal checks along their neutr nber elements. These checks re initiate decay on the interior of	al axis the elem	hat pene t a bread nents.	etrate les	s than 50 perimeter	% of the r r chemica	members Il preserva	ative
the BIR date warrant a wa 156-1150) Che Many of the thickness. These check treatment th BSTRUC	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor ks are throughout the tir at will allow moisture to	zontal checks along their neutr nber elements. These checks r initiate decay on the interior of	al axis the elem	hat pene t a bread nents.	etrate les	s than 50 perimeter	% of the r	members Il preserva	ative
the BIR date warrant a wo 156-1150) Che Many of the thickness. These check treatment th BSTRUC CRIPTION U	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor ks are throughout the tir at will allow moisture to TURE JNDER STRUCTURE	zontal checks along their neutr nber elements. These checks re initiate decay on the interior of	al axis the elem	hat pene t a bread nents.	etrate les	s than 50 perimeter	% of the r	nembers Il preserva	ative
the BIR date warrant a wa 156-1150) Che Many of the thickness. These check treatment th BSTRUC CRIPTION L b) TYPE OF SE	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor as are throughout the tir at will allow moisture to TURE JNDER STRUCTURE RVICE UNDER	zontal checks along their neutr nber elements. These checks re initiate decay on the interior of 5-WATERWAY	al axis the elem	hat pene t a bread nents.	etrate les	s than 50 perimeter	% of the r r chemica	nembers Il preserva 1: BR PEF	ative RMIT
the BIR date warrant a wa 156-1150) Che Many of the thickness. These check treatment th <b>BSTRUO</b> <b>CRIPTION U</b> b) TYPE OF SE 9) UNDERCLE/	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor ks are throughout the tir at will allow moisture to <b>TURE</b> JNDER STRUCTURE RVICE UNDER ARANCES V - H	zontal checks along their neutr nber elements. These checks re initiate decay on the interior of 5-WATERWAY N NOT APPLICABLE (NBI)	al axis ti epresen the elen (38)   (111)	hat pene t a bread nents. NAVIGAT PIER PRO	FION CON	s than 50 perimeter	% of the r r chemica	nembers Il preserva 1: BR PEF 1 NOT R	ative RMIT I EQUI
the BIR date warrant a wo 156-1150) Che Many of the thickness. These check treatment th <b>BSTRUC</b> CRIPTION L b) TYPE OF SE 9) UNDERCLEA 1) WATER ADE	ork recommendation bu eck/Shake (Timber) floor beams exhibit hor at will allow moisture to TURE JNDER STRUCTURE RVICE UNDER ARANCES V - H EQUACY	zontal checks along their neutr nber elements. These checks ri initiate decay on the interior of 5-WATERWAY N NOT APPLICABLE (NBI) 9 ABOVE DESIRABLE	al axis the elem (38) ( (111) ( (39) (	hat pene t a bread nents. NAVIGAT PIER PRO	etrate les ch in the FION CON OTECTIO FION VER	s than 50 perimeter NTROL N RTICAL CLI	% of the r r chemica EARANCE	nembers Il preserva 1: BR PEF 1 NOT R	ative RMIT I EQUI 50
the BIR date warrant a wa 156-1150) Che Many of the thickness. These check treatment th <b>BSTRUC</b> CRIPTION L b) TYPE OF SE 9) UNDERCLE/ 1) WATER ADE 1) CHANNEL P	ork recommendation bu back/Shake (Timber) floor beams exhibit hor at will allow moisture to <b>TURE</b> <b>JNDER STRUCTURE</b> RVICE UNDER ARANCES V - H EQUACY ROTECTION	zontal checks along their neutr nber elements. These checks re initiate decay on the interior of 5-WATERWAY N NOT APPLICABLE (NBI) 9 ABOVE DESIRABLE 8 PROTECTED	al axis ti epresen (38) (38) (111) (39)	hat pene t a bread nents. NAVIGAT PIER PRO NAVIGAT	TION CON OTECTION FION VER	s than 50 perimeter NTROL NN RTICAL CLI SE NAV MII	% of the r r chemica EARANCE	nembers Il preserva 1: BR PEF 1 NOT R AL CLEAR	ative RMIT I EQUI 50

Wide, sandy bed on flat slope situated in bottom of relatively narrow canyon at outlet to the ocean. Tidally influenced; flow reversal. Bridge is on straight reach downstream of right bend, about 600 feet from the outlet to the ocean.

# SUBSTRUCTURE ELEMENT INSPECTION RATINGS AND NOTES

(60) SUBSTRUCTURE RATING = 4

Element Group: 101 - Approach - Southern Spans 1-11	- Timber I	Deck T	russes				
Elem Defect/ Element Description	Env	Total	Units	Qty	/ in each C	ondition St	ate
No. Prot Defect		Qty		CS 1	CS 2	CS 3	CS 4
205 Column-RC	3	2	each	2	0	0	0
(205) Column-RC							
There were no significant defects noted.							

			_		(60) 5083	STRUCTUR	RERATING	• •
lem Defect/ No. Prot D	Element Description Defect	Env	Total Qty	Units	Qty CS 1	in each Cor CS 2	ndition Sta CS 3	te CS 4
206	Column-Timber	3	24	each	15	9	0	0
1150	Check/Shake (Timber)	3	9		0	9	0	C
206) Column-	Timber							
See Appen 206-1150) Ch	dix A from the BIR dated 11/11/2017 for detail eck/Shake (Timber)	ed information o	n the el	ement an	d associa	ted defect	S.	
There are 0 section (see	0.125 to 0.25 inch wide vertical checks that per e Photo 11 from the BIR dated 08/18/2020).	netrate approxim	ately 3	to 4 inche	es into the	emembers	' cross	
These check treatment the	cks are throughout the timber elements. These nat will allow moisture to initiate decay on the i	checks represe nterior of the ele	nt a bre ments.	ach in the	e perimete	er chemica	l preserva	ative
208	Trestle-Timber	3	116	m	0	116	0	C
1020	Connection	3	23		0	23	0	C
1150	Check/Shake (Timber)	3	93		0	93	0	С
208) Trestle-T	imber							
See Appen 208-1020) Co	dix A from the BIR dated 11/11/2017 for detail nnection	ed information o	n the el	ement an	d associa	ted defect	S.	
Approximat throughout	ely 20% of the threaded connections have not (see Photos 44 - 47 from the BIR dated 10/11	been replaced a	and sho	w signs o	f corrosio	n with surf	face rust	
208-1150) Ch	eck/Shake (Timber)	nnections.		4 - 4 in - h -			1	
208-1150) Ch There are 0 section thro These chec treatment th	eck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot cks are throughout the timber elements. These hat will allow moisture to initiate decay on the i	nections. netrate approxim os 52 - 62 from t checks represe nterior of the ele	ately 3 he BIR nt a bre ments.	to 4 inche dated 10, ach in the	es into the /11/2017). e perimete	e members er chemica	' cross I preserva	ative
208-1150) Ch There are 0 section thro These cheo treatment th 215	eck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot cks are throughout the timber elements. These hat will allow moisture to initiate decay on the i Abutment-RC	nnections. netrate approxim os 52 - 62 from t checks represe nterior of the ele	nately 3 the BIR nt a bre tements. 11	to 4 inche dated 10, ach in the m	es into the /11/2017). e perimete 11	e members er chemica	' cross I preserva	ative C
208-1150) Ch There are 0 section thro These cheo treatment th 215 215) Abutmen	<ul> <li>b) 125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot checks are throughout the timber elements. These hat will allow moisture to initiate decay on the interest of the trest of the tre</li></ul>	nnections. netrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3	nately 3 the BIR nt a bre ments. 11	to 4 inche dated 10, ach in the m	es into the /11/2017). e perimete 11	e members er chemica	' cross I preserva 0	ative C
208-1150) Ch There are 0 section thro These chec treatment th 215 215) Abutmen There were	eck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot cks are throughout the timber elements. These hat will allow moisture to initiate decay on the i Abutment-RC at-RC e no significant defects noted.	nnections. netrate approxim os 52 - 62 from t checks represe nterior of the ele 3	ately 3 the BIR nt a bre ments. 11	to 4 inche dated 10, ach in the m	es into the (11/2017). e perimete 11	e members er chemica 0	' cross I preserva 0	ative (
208-1150) Ch There are 0 section thro These cheo treatment th 215 215) Abutmen There were 220	eck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot cks are throughout the timber elements. These hat will allow moisture to initiate decay on the i Abutment-RC tt-RC e no significant defects noted. Pile Cap/Footing-RC	nnections. netrate approxim os 52 - 62 from t checks represe nterior of the ele 3	nately 3 the BIR nt a bre ments. 11 30	to 4 inche dated 10, ach in the m m	es into the (11/2017). e perimete 11 30	e members er chemica 0	' cross I preserva 0 0	ative 0
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap	b) Solution to the load transfer ability of the conservation of the load transfer ability of the conservation of the transfer ability of the conservati	nnections. netrate approxim os 52 - 62 from t e checks represe <u>nterior of the ele</u> 3 2	nately 3 the BIR nt a bre <u>ments.</u> 11 30	to 4 inche dated 10, ach in the m m	es into the (11/2017). e perimete 11 30	e members er chemica 0	' cross I preserva 0 0	ative 0
208-1150) Ch There are 0 section thro These cheo treatment th 215 215) Abutmen There were 220 220) Pile Cap, There were	a significant defects noted. Footing-RC In Significant defects noted.	nections. netrate approxim os 52 - 62 from t checks represe nterior of the ele 3 2 presents the cor	nately 3 the BIR nt a bre ments. 11 30	to 4 inche dated 10, ach in the m m	es into the (11/2017). e perimete 11 30 ler each c	e members er chemica 0 0 0	' cross Il preserva 0 0 he trestle	ative 0 0
208-1150) Ch There are 0 section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234	b) Solution to the load transfer ability of the conservation of the transfer ability of the transfer ab	nnections. netrate approxim os 52 - 62 from t e checks represe nterior of the ele 3 2 presents the cor 3	nately 3 he BIR nt a bre <u>ments.</u> 11 30 <u>acrete fo</u> 8	to 4 inche dated 10, ach in the m m <u>ooting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8	e members er chemica 0 0 column of t	' cross Il preserva 0 0 <u>he trestle</u> 0	ative C C
208-1150) Ch There are 0 section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap	eck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that per bughout every member of the trestle (see Phot ecks are throughout the timber elements. These hat will allow moisture to initiate decay on the i Abutment-RC at-RC eno significant defects noted. Pile Cap/Footing-RC /Footing-RC e no significant defects noted. This element re Pier Cap-RC -RC	nnections. netrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3	nately 3 the BIR ments. 11 30 ncrete fo 8	to 4 inche dated 10, ach in the m m <u>poting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8	e members er chemica 0 0 column of t	' cross Il preserva 0 0 <u>he trestle</u> 0	ative C C
208-1150) Ch There are 0 section thro These cheo treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were	a significant defects noted. Pier Cap-RC Pier Cap-RC<	nnections. netrate approxim os 52 - 62 from t checks represe nterior of the ele 3 2 presents the cor 3	ately 3 the BIR nt a bre <u>ments.</u> 11 30 <u>acrete fo</u> 8	to 4 inche dated 10, ach in the m m <u>poting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8	e members er chemica 0 0 0 column of t	' cross I preserva 0 0 <u>he trestle</u> 0	ative C C
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were 235	Seck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that perbughout every member of the trestle (see Photecks are throughout the timber elements. These that will allow moisture to initiate decay on the	nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3	ately 3 the BIR nt a bre <u>ments.</u> 11 30 acrete fo 8	to 4 inche dated 10, ach in the m m <u>poting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8 10	e members er chemica 0 0 column of t 0 42	' cross I preserva 0 0 <u>he trestle</u> 0	ative C 0 9. 0
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were 235 1150	Seck/Shake (Timber) 0.125 to 0.25 inch wide vertical checks that perbughout every member of the trestle (see Phot output every member othet). Pile Cap/Footing-RC //Footing-RC <td>nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3 3 3</td> <td>ately 3 the BIR nt a bre ments. 11 30 acrete fo 8 52 42</td> <td>to 4 inche dated 10, ach in the m m <u>ooting unc</u> m</td> <td>es into the (11/2017). e perimete 11 30 ler each c 8 10 0</td> <td>e members er chemica 0 0 0 column of t 0 42 42</td> <td>' cross Il preserva 0 0 <u>he trestle</u> 0 0 0</td> <td>ative 0 0</td>	nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3 3 3	ately 3 the BIR nt a bre ments. 11 30 acrete fo 8 52 42	to 4 inche dated 10, ach in the m m <u>ooting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8 10 0	e members er chemica 0 0 0 column of t 0 42 42	' cross Il preserva 0 0 <u>he trestle</u> 0 0 0	ative 0 0
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were 235 1150 235) Pier Cap	Since Cartering and the load transfer ability of the conservery of the result (see Photocomposition of the trestle (see	nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3 3 3	ately 3 the BIR nt a bre <u>ments.</u> 11 30 acrete fo 8 52 42	to 4 inche dated 10, ach in the m m <u>poting unc</u> m	es into the (11/2017). e perimete 11 30 ler each c 8 10 0	e members er chemica 0 0 column of t 0 42 42	' cross I preserva 0 0 <u>he trestle</u> 0 0 0	ative C C C C C C C C C C C C
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were 235 1150 235) Pier Cap See Appen 235-1150) Ch	Since Cartering and the fold transfer ability of the conservery of the fold transfer ability of the conservery for the conservery of the trestle (see Photoconservery member of the trestle (see Photoconserver) (see Photoconserv	nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3 a ed information o	nt a bre ments. 11 30 acrete fo 8 52 42 n the ele	to 4 inche dated 10, ach in the m m <u>poting unc</u> m m	es into the (11/2017). e perimete 11 30 ler each c 8 10 0 d associa	e members er chemica 0 0 0 column of t 0 42 42 42 ted defects	' cross I preserva 0 0 <u>he trestle</u> 0 0 0 0 s.	ative C C C C C C C C C C
208-1150) Ch There are C section thro These chec treatment th 215 215) Abutmen There were 220 220) Pile Cap There were 234 234) Pier Cap There were 235 1150 235) Pier Cap See Appen 235-1150) Ch Many of the thickness (s	a significant defects noted. Pier Cap-RC -RC -Pier Cap-Timber Check/Shake (Timber) -Timber dix A from the BIR dated 08/18/2020 for detail eck/Shake (Timber) e floor beams exhibit horizontal checks along to see Photos 16 and 17 from the BIR dated 08/18	nnections. hetrate approxim os 52 - 62 from t checks represe <u>nterior of the ele</u> 3 2 <u>presents the cor</u> 3 3 a ed information o heir neutral axis 8/2020).	nately 3 the BIR nt a bre ments. 11 30 acrete for 8 52 42 n the eluthat per	to 4 inche dated 10, ach in the m m oting und m m ement an netrate les	es into the (11/2017). e perimete 11 30 ler each c 8 10 0 d associa ss than 50	e members er chemica 0 0 0 column of t 0 42 42 42 ted defects	' cross I preserva 0 0 <u>he trestle</u> 0 0 0 s. members	ative 0 0 9. 0 0 0

BSTR		LEMENT INSPECTION RATINGS AND	NOTES			(60) SUB	STRUCTU	IRE RATIN	G = 4
Elem I No.	Defect/ Prot Defect	Element Description	Env	Total Qty	Units	Qty CS 1	in each Co CS 2	ondition Sta CS 3	ate CS
205		Column-RC	3	4	each	3	1	0	(
	1080	Delamination/Spall/Patched Area	3	1		0	1	0	
205) (	Column-RC								
The Tov	ere is a delam wer 13.	ination measuring approximately 36 inches lo	ong by 18 in	ches hig	jh in the o	debris wa	ll near Co	olumn 2 of	
205-1 The	ere is a 6 inch	ation/Spail/Patched Area	east side of	f the sou	ith wall o	f the hase		r 13₋1∕I	
227		Pilo-PC	2	1	02	1	0	0	
			2	1	ea.		0	0	
227) H	Pile-RC	is included to indicate the processo of piles .	an this strue	turo Th		ioro pot o	where a fa	rvievel	
ins	plie element pection. No ir	ndication of pile distress was noted in any sub	ostructure el	ement.	ie plies w	ere not e	xposed ic	or visual	
228		Pile-Timber	2	1	ea.	1	0	0	
228) F	Pile-Timber								
The	e pile element pection. No ir	is included to indicate the presence of piles on the presence of piles on the presence of pile distress was noted in any sub-	on this struc ostructure el	ture. Th ement.	ne piles w	vere not e	exposed for	or visual	
		Pier Cap-RC	3	17	m	17	0	0	
234									
234 234) F	Pier Cap-RC	in the set of the set					4		
234 (234) F The 20 <sup>2</sup> emer	Pier Cap-RC ere were no si 16 under EA 0 <b>nt Group: 10</b>	ignificant defects noted. New concrete bearir 01-E2004. 03 - Approach - Northern Spans 13-34	ng pedestals	were co Deck 1	onstructe	d at each	ı truss sup	oport towe	er in
234 (234) F The 20 <sup>-</sup> emer	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/	ignificant defects noted. New concrete bearir 01-E2004. <b>03 - Approach - Northern Spans 13-34</b> Element Description	ng pedestals - <b>Timber</b> Env	<b>Deck 1</b> Total	onstructe <b>Frusses</b> Units	d at each	in each Co	oport towe	er in
234 234) F The 201 emer Elem F No.	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect	ignificant defects noted. New concrete bearin 01-E2004. <b>03 - Approach - Northern Spans 13-34</b> Element Description	ng pedestals - Timber Env	S were co Deck 1 Total Qty	onstructe Trusses Units	d at each Qty <u>CS 1</u>	in each Co CS 2	oport towe	er in ate <u>CS</u>
234 [234) F The 201 emer Elem F No. 205	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect	ignificant defects noted. New concrete bearin 01-E2004. 03 - Approach - Northern Spans 13-34 Element Description	ng pedestals - Timber Env 3	<b>Deck 1</b> Total Qty 2	onstructe <b>Frusses</b> Units each	d at each Qty <u>CS 1</u> 1	in each Co CS 2	oport towe	er in ate <u>CS</u>
234 (234) F The 201 emer Elem F No. 205	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect 1080	ignificant defects noted. New concrete bearin 01-E2004. 03 - Approach - Northern Spans 13-34 Element Description Column-RC Delamination/Spall/Patched Area	ng pedestals <b>- Timber</b> Env 3 3	Deck 1 Total Qty 2 1	onstructe <b>Frusses</b> Units each	d at each Qty <u>CS 1</u> 1 0	in each Co <u>CS 2</u> 1	oport towe ondition Sta <u>CS 3</u> 0 0	er in ate <u>CS</u>
234 (234) F The 20 <sup>2</sup> emer Elem F No. 205	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect 1080 080) Delamin	ignificant defects noted. New concrete bearin 01-E2004. 03 - Approach - Northern Spans 13-34 Element Description Column-RC Delamination/Spall/Patched Area ation/Spall/Patched Area	ng pedestals <b>- Timber</b> Env 3 3	Deck 1 Total Qty 2 1	onstructe Trusses Units each	d at each Oty <u>CS 1</u> 1 0	in each Co CS 2 1 1	opport towe ondition Sta <u>CS 3</u> 0 0	er in ate <u>CS</u>
234 234) F The 202 emer Elem F No. 205 205-1 The app	Pier Cap-RC ere were no si 16 under EA 0 nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24	ignificant defects noted. New concrete bearin 11-E2004. <b>03 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area all located along the northeast corner of Colur 4 inches tall by 12 inches wide and is located	ng pedestals - Timber Env 3 3 nn 2 at Ben 20 feet abo	Deck 1 Total Qty 2 1 t 14 has ve the g	onstructe Trusses Units each been pa round.	d at each Qty <u>CS 1</u> 1 0 tched. Th	in each Co <u>CS 2</u> 1 1 ne patch r	oport towe ondition Sta <u>CS 3</u> 0 0 0 neasures	er in ate <u>CS</u>
234 234) F The 207 emer Elem F No. 205 205-1 The app 206	Pier Cap-RC ere were no si 16 under EA 0 nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area all located along the northeast corner of Colur <b>4</b> inches tall by 12 inches wide and is located <b>Column-Timber</b>	ng pedestals <b>- Timber</b> Env 3 3 mn 2 at Ben <u>20 feet abo</u> 3	Deck T Total Qty 2 1 t 14 has ve the g 8	onstructe Trusses Units each been pa round. each	d at each Qty <u>CS 1</u> 1 0 tched. Th	in each Co <u>CS 2</u> 1 1 ne patch r	oport towe ondition Sta <u>CS 3</u> 0 0 0 measures 0	er in ate <u>CS</u>
234 234) F The 20' emer Elem F No. 205 205-1 The app 206	Pier Cap-RC ere were no si 16 under EA 0 nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24	ignificant defects noted. New concrete bearin 11-E2004. <b>33 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur 1 inches tall by 12 inches wide and is located <b>Column-Timber</b> <b>Check/Shake (Timber)</b>	ng pedestals - Timber Env 3 3 mn 2 at Ben 20 feet abo 3 3 3	Deck 1 Total Qty 2 1 t 14 has ve the g 8 2	onstructe Trusses Units each been pa round. each	d at each Qty <u>CS 1</u> 1 0 tched. Th 6 0	in each Co <u>CS 2</u> 1 1 1 ne patch r 2 2	oport towe ondition Sta <u>CS 3</u> 0 0 0 neasures 0 0	ate <u>CS</u>
234 234) F The 207 emer Elem F No. 205 205-1 The app 206	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24 1150 Column-Timbe	ignificant defects noted. New concrete bearin 1-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur <u>1 inches tall by 12 inches wide and is located</u> <b>Column-Timber</b> <b>Check/Shake (Timber)</b>	ng pedestals - Timber Env 3 3 3 mn 2 at Ben 20 feet abo 3 3	Deck 1 Total Qty 2 1 t 14 has ve the g 8 2	onstructe Trusses Units each been par round. each	d at each Qty CS 1 1 0 tched. Th 6 0	in each Co CS 2 1 1 1 ne patch r 2 2	oport towe ondition Sta <u>CS 3</u> 0 0 0 neasures 0 0	ate <u>CS</u>
234 234) F The 207 emer Elem F No. 205-1 The app 206 206) ( Sec	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24 1150 Column-Timbe e Appendix A	ignificant defects noted. New concrete bearin 11-E2004. <b>D3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur 4 inches tall by 12 inches wide and is located <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed ir trake (Timber)	ng pedestals <b>- Timber</b> Env 3 3 mn 2 at Ben <u>20 feet abo</u> 3 3 mn 2 at Pen 20 feet abo	Deck 1 Total Qty 2 1 t 14 has ve the g 8 2 n the ele	onstructe Trusses Units each been par round. each ement an	d at each Qty <u>CS 1</u> 1 0 tched. Th 6 0 d associa	in each Co <u>CS 2</u> 1 1 1 ne patch r 2 2 ated defec	oport towe cs 3 0 0 0 measures 0 0 0 cts.	ate <u>CS</u>
234 234) F The 207 emer Elem F No. 205 205-1 The 206 206) C Sec 206-1 The sec	Pier Cap-RC ere were no si 16 under EA C nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24 1150 Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area ation/Sp	ng pedestals - Timber Env 3 3 3 mn 2 at Ben 20 feet abo 3 3 and ate approxim	E were constrained by the second seco	onstructe Trusses Units each been par round. each ement an to 4 inche	d at each Qty <u>CS 1</u> 1 0 tched. Th 6 0 d associa	in each Co <u>CS 2</u> 1 1 1 ne patch r 2 2 ated defect	oport towe cs 3 0 0 0 neasures 0 0 0 cts. s' cross	ate CS
234 234) F The 207 emer Elem F No. 205 205-1 The 206 206) ( See 206-1 The sec The sec	Pier Cap-RC ere were no si <u>16 under EA C</u> <b>nt Group: 10</b> Defect/ <u>Prot Defect</u> <b>1080</b> 080) Delamin e incipient spa proximately 24 <b>1150</b> Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho ese checks ar atment that wi	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur 4 inches tall by 12 inches wide and is located <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed in thake (Timber) to 0.25 inch wide vertical checks that penetration to 11 from the BIR dated 08/18/2020). e throughout the timber elements. These che II allow moisture to initiate decay on the interi	ng pedestals - Timber Env 3 3 3 mn 2 at Ben 20 feet abo 3 3 an formation o ate approxim cks represe or of the ele	Total Qty 2 1 2 1 4 4 has ve the g 8 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	onstructe <b>Frusses</b> Units each been par round. each each ement an to 4 inches ach in the	d at each Oty <u>CS 1</u> 1 0 tched. Th 6 0 d associa es into the	in truss sup in each Co <u>CS 2</u> 1 1 1 1 ne patch r 2 2 ated defect e member er chemic	oport towe cs 3 0 0 0 neasures 0 0 0 cts. s' cross al preserv	ate <u>CS</u>
234 234) F The 207 emer Elem F No. 205 205-1 The app 206 206) ( Sec 206-1 The sec The trea 208	Pier Cap-RC ere were no si 16 under EA 0 nt Group: 10 Defect/ Prot Defect 1080 080) Delamin e incipient spa proximately 24 1150 Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho ese checks ar atment that wi	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area <b>Column-Timber</b> <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed in thake (Timber) to 0.25 inch wide vertical checks that penetration to 1.25 inch wide vertical checks that penetration to 11 from the BIR dated 08/18/2020). e throughout the timber elements. These che II allow moisture to initiate decay on the interior <b>Trestle-Timber</b>	ng pedestals - Timber Env 3 3 mn 2 at Ben 20 feet abo 3 a nformation o ate approxim cks represe or of the ele 3 3	b were constrained by the second seco	onstructe <b>Frusses</b> Units each been par round. each each each to 4 inche ach in the m	d at each Qty CS 1 1 0 tched. Th 6 0 d associa es into the e perimete	in truss sup in each Co <u>CS 2</u> 1 1 1 1 ne patch r 2 2 ated defect e member er chemic 515	oport towe ccs 3 0 0 0 measures 0 0 0 cts. s' cross al preserv 0	er in ate CS
234 234) F The 207 emer lem F No. 205 205-1 The app 206 206) ( See 206) ( See 208) ( See 20	Pier Cap-RC ere were no si <u>16 under EA 0</u> <b>nt Group: 10</b> Defect/ Prot Defect <b>1080</b> 080) Delamin e incipient spa proximately 24 <b>1150</b> Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho esse checks ar atment that wi	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur <b>4</b> inches tall by 12 inches wide and is located <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed in thake (Timber) to 0.25 inch wide vertical checks that penetration to 11 from the BIR dated 08/18/2020). e throughout the timber elements. These che II allow moisture to initiate decay on the interior <b>Trestle-Timber</b> <b>Connection</b>	ng pedestals - Timber Env 3 3 mn 2 at Ben 20 feet abo 3 3 aformation o ate approxim cks represe or of the ele 3 3 3	Total Qty 2 1 2 1 4 4 14 has ve the g 8 2 3 4 5 600 120	onstructe <b>Frusses</b> Units each been par round. each ement an to 4 inche ach in the m	d at each Qty <u>CS 1</u> 1 0 tched. Th 6 0 d associa es into the e perimete 0 0	in each Co <u>CS 2</u> 1 1 1 ne patch r 2 2 ated defect e member er chemic 515 120	oport towe cs 3 0 0 0 measures 0 0 0 ots. s' cross al preserv 0 0 0	er in ate CS
234 234) F The 207 emer Elem F No. 205 205-1 The app 206 206) ( See 206-1 The sec The trea 208	Pier Cap-RC ere were no si <u>16 under EA 0</u> <b>nt Group: 10</b> Defect/ <u>Prot Defect</u> <b>1080</b> 080) Delamin e incipient spa proximately 24 <b>1150</b> Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho ese checks ar atment that wi <b>1020</b> <b>1140</b>	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area ation/Spall/Patched Area <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed in thake (Timber) to 0.25 inch wide vertical checks that penetration to 1.25 inch wide vertical checks that penetration to 1.1 from the BIR dated 08/18/2020). e throughout the timber elements. These che II allow moisture to initiate decay on the interior <b>Trestle-Timber</b> <b>Connection</b> <b>Decay/Section Loss (Timber)</b>	ng pedestals - Timber Env 3 3 3 mn 2 at Ben 20 feet abo 3 3 nformation of ate approxim cks represe or of the elector 3 3 3 3 3 3 3 3 3 3 3 3 3	s were control of the second s	onstructe <b>Frusses</b> Units each been par round. each each to 4 inche ach in the m	d at each Qty CS 1 1 0 tched. Th 6 0 d associa es into the e perimete 0 0 0 0 0	in truss sup in each Co CS 2 1 1 1 1 ne patch r 2 2 ated defect e member er chemic 515 120 0	oport towe ondition Sta <u>CS 3</u> 0 0 0 neasures 0 0 0 cts. s' cross al preserv 0 0 0 0 0 0 0 0 0 0 0 0 0	er in ate <u>CS</u> erative
234 234) F The 207 emer 205 205-1 The app 206 206) ( Sec 206-1 The sec The treated	Pier Cap-RC ere were no si <u>16 under EA 0</u> <b>nt Group: 10</b> Defect/ Prot Defect <b>1080</b> 080) Delamin e incipient spa proximately 24 <b>1150</b> Column-Timbe e Appendix A 150) Check/S ere are 0.125 ction (see Pho ese checks ar atment that wi <b>1020</b> <b>1140</b> <b>1150</b>	ignificant defects noted. New concrete bearin 11-E2004. <b>3 - Approach - Northern Spans 13-34</b> Element Description <b>Column-RC</b> <b>Delamination/Spall/Patched Area</b> ation/Spall/Patched Area ation/Spall/Patched Area all located along the northeast corner of Colur <b>4</b> inches tall by 12 inches wide and is located <b>Column-Timber</b> <b>Check/Shake (Timber)</b> er from the BIR dated 11/11/2017 for detailed in thake (Timber) to 0.25 inch wide vertical checks that penetration to 11 from the BIR dated 08/18/2020). e throughout the timber elements. These che II allow moisture to initiate decay on the interior <b>Trestle-Timber</b> <b>Connection</b> <b>Decay/Section Loss (Timber)</b> <b>Check/Shake (Timber)</b>	ng pedestals - Timber Env 3 3 mn 2 at Ben 20 feet abo 3 3 an formation o ate approxim ocks represe or of the election 3 3 3 3 3 3 3 3 3 3 3 3 3	a were control of the second s	onstructe <b>Frusses</b> Units each been par round. each ement an to 4 inche ach in the m	d at each Qty <u>CS 1</u> 1 0 tched. Th 6 0 d associa es into the e perimete 0 0 0 0 0 0 0 0	in each Co CS 2 1 1 1 ne patch r 2 2 ated defect e member er chemic 515 120 0 395	oport towe cs 3 0 0 0 measures 0 0 0 cts. cross cross al preserv 0 0 0 0 0 0 0 0 0 0 0 0 0	er in ate <u>CS</u> erative

	RE ELEMENT INSPECT	ON RATINGS AND NO	OTES			(60) SUB	STRUCTU	RE RATIN	G = 4
Elem Defect/ No. Prot D	Element Description		Env	Total Qty	Units	Qty CS 1	in each Co CS 2	ondition Sta	ite CS 4
(208-1020) Co	nnection								
Approximat throughout	tely 20% of the threaded cor (see Photos 44 - 47 from th	nections have not been i e BIR dated 10/11/2017).	replaced a	and show	v signs c	of corrosio	n with su	rface rust	
Based on th claw plate s connections (208-1140) De	he observed corrosion of the shear connectors are in an e s is critical to the load transf cay/Section Loss (Timber)	e connection bolts, it is log equal state of distress. Th er ability of the connectio	gical to as he integrity ons.	sume the	at the int e split rir	ternal split ng (and ot	t ring, too her types	thed ring a b) of shear	and
There is a v at Bent 23 adjacent to approximat	void measuring approximate due to an apparent insect in the void are soft and crumb ely 2 feet above the concret	ly 12 inches high by 8 inc festation (see Photos 12 ly for about an inch in ea e footing support.	ches wide and 13 fro ch directio	by 4 inclored by 4 inclored by 4 inclored by 4 inclored by 5 inclored by	hes dee IR dated d the aff	p located l 08/18/20 ected area	in the cor 20). The a. The vo	e of Colur timber fib bid is locat	nn 4 ers æd
There is an face of the and 15 fron the timber s	other area of infestation pre column has a void measurir n the BIR dated 08/18/2020) scab.	sent at Column 2 of Bent g approximately 10 inche . The infestation has not	24. The es high by t reached	timber so 2 inches the colur	cab at th s wide by nn, but h	e footing y 3.5 inch nas penet	connectic es deep ( rated the	on on the e see Photo full depth	east os 14 of
Z08-1150) Ch	eck/Snake (Timber)	al chocks that paratrata	opprovin	atoly 2 to	o 1 inch	no into the	momher	e' cross	
section thro	bughout every member of the	e trestle (see Photos 52 -	- 62 from t	he BIR d	lated 10	/11/2017)	e member	s cross	
<b>—</b> , ,		`							
treatment t	cks are throughout the timbe hat will allow moisture to init	er elements. These check iate decay on the interior	of the ele	nt a brea ments.	ich in the	e perimete	er chemic	al preserv	ative
215	Abutment-RC		3	11	m	11	0	0	0
215) Abutmer	nt-RC								
There were	no significant defects noted	l.							
220	Pile Cap/Footing-R	2	2	90	m	90	0	0	0
<b>220</b> 220) Pile Cap	Pile Cap/Footing-RC	;	2	90	m	90	0	0	0
220 220) Pile Cap There were	Pile Cap/Footing-RC Footing-RC	. This element represen	2 its the con	90 crete foo	m oting und	90 Ier each c	0 olumn of:	0 the trestle	C e.
220 220) Pile Cap There were 234	Pile Cap/Footing-RC Footing-RC no significant defects noted Pier Cap-RC	2 I. This element represen	2 Its the con	90 crete foo	m oting und m	90 Ier each c 8	0 column of	0 the trestle	0 <u>.</u>
220 220) Pile Cap There were 234	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC	. This element represen	2 its the con 3	90 crete foc 8	m o <u>ting unc</u> m	90 Ier each c 8	0 column of 0	0 <u>the trestle</u> 0	0 <u>.</u> 0
220) Pile Cap There were 234 234) Pier Cap	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC -RC	. This element represen	2 ts the con 3	90 <u>crete foo</u> 8	m oting und m	90 <u>Ier each c</u> 8	0 <del>:olumn of</del> 0	0 <u>the trestle</u> 0	0 <u>.</u> 0
220) Pile Cap There were 234 234) Pier Cap There were 235	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC -RC e no significant defects noted Pier Cap-Timber	C This element represen	2 ts the con 3	90 crete foo 8	m oting unc m	90 ler each c 8	0 column of 0 17	0 the trestle 0	0 
220) Pile Cap There were 234 234) Pier Cap There were 235	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC -RC e no significant defects noted Pier Cap-Timber	2 I. This element represen I.	2 its the con 3 3	90 crete foo 8 17	m oting und m m	90 <u>ler each c</u> 8 0	0 <u>column of</u> 0 17	0 the trestle 0 0	C <u>.                                    </u>
220) Pile Cap 220) Pile Cap There were 234 234) Pier Cap There were 235 1150	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC e no significant defects noted Pier Cap-Timber Check/Shake (Timb	C I. This element represen I. er)	2 ts the con 3 3 3 3	90 crete foc 8 17 17	m o <u>ting unc</u> m m	90 ler each c 8 0 0	0 column of 0 17 17	0 the trestle 0 0 0	C <u>e.</u> C 0 0
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220 (220) Pile Cap There were 234 (234) Pier Cap There were 235 1150 (235) Pier Cap See Appen (235) Pier Cap See Appen (235) Pier Cap	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC e no significant defects noted Pier Cap-Timber Check/Shake (Timb -Timber dix A from the BIR dated 08 eck/Shake (Timber) e floor beams exhibit horizor see Photos 16 and 17 from the	2 4. This element represen 4. (18/2020 for a detailed in (18/2020 for a detailed in tal checks along their ne the BIR dated 08/18/2020	2 <u>its the con</u> 3 3 iformation eutral axis D).	90 crete foo 8 17 17 17 on which that pend	m oting und m m	90 ler each c 8 0 0 ers displa ss than 50	0 column of 0 17 17 y checkin 0% of the	0 the trestle 0 0 0 g. members	0
220 (220) Pile Cap There were 234 (234) Pier Cap There were 235 1150 (235) Pier Cap See Appen (235) Pier Cap See Appen (235-1150) Ch Many of the thickness (s These chec	Pile Cap/Footing-RC /Footing-RC e no significant defects noted Pier Cap-RC -RC e no significant defects noted Pier Cap-Timber Check/Shake (Timb -Timber dix A from the BIR dated 08 eck/Shake (Timber) e floor beams exhibit horizor see Photos 16 and 17 from the cks are throughout the timber hat will allow moisture to init	2 4. This element represen 4. (18/2020 for a detailed in 18/2020 for a	2 <u>its the con</u> 3 3 formation utral axis 0). s represent of the ele	90 crete foc 8 17 17 0n which that pend that pend nt a brea ments.	m <u>oting unc</u> m m m h member etrate les	90 ler each c 8 0 0 ers displa ss than 50 e perimete	0 column of 0 17 17 y checkin 0% of the er chemic	0 the trestle 0 0 g. members al preserv	0 <u>9.</u> 0 0 0
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# JOINT/APPR/RAIL WORK RECOMMENDATIONS

# SUPERSTRUCTURE WORK RECOMMENDATIONS

timber deck planks.

Rec Date	02/10/1984	Work By	SHOPP De ilia a la ano de	Est Cost	\$1,008,600	Dist Target	10110
Status		Action		Str Target	2 YEARS	EA	40110
F1-10/	F2-6 / F3-1 / Rail Ty	ype-WOOD.	Replace the bridge rail.				
JPERST	RUCTURE WORK	RECOMME	NDATIONS				
Rec Date	08/18/2020	Work By	BRIDGE CREW	Est Cost	\$5,000	Dist Target	
Status	PROPOSED	Action	Super-Misc.	Str Target	1 YEAR	EA	
Replace in the m connect	two rotted catwalk iddle and the right ion points.	members. 12 inch mem	The right 12 inch member i ber in the middle section o	n the third se f the catwalk	ection of the cat a in Span 22 is r	walk of Span otted around	20 is rotteo the
Rec Date	10/11/2017	Work By	MAINT. CONTRACT	Est Cost	\$7,500	Dist Target	
Status	PROGRAMMED	Action	Super-Epoxy Inject	Str Target	2 YEARS	EA	0E201
The mei member Rec Date Status	nber at Bent 23 ha at Bent 31 has an 10/11/2017 PROGRAMMED	s an area of area of deca Work By Action	decay within the top 3 inch ay within the top 3 inches o MAINT. CONTRACT Super-Misc.	es of the cro f the cross s Est Cost Str Target	oss section by 5 ection by 15 fee \$60,000 2 YEARS	feet in length t in length. Dist Target EA	0E201
Domovo	and rapiase the E	) oplit timbor	'	the northern		_	
Remove					approach span	5.	
			ATIONS				
DSINU							
Rec Date	08/18/2020	Work By	MAINT. CONTRACT	Est Cost	\$500	Dist Target	
Rec Date	08/18/2020 PROPOSED	Work By Action	MAINT. CONTRACT Sub-Epoxy Inject	Est Cost Str Target	\$500 2 YEARS	Dist Target EA	
Rec Date Status Epoxy in 24. The void at th	08/18/2020 PROPOSED ject the voids due to void at Column 4 o the east timber scab	Work By Action o insect infes f Bent 23 me at Column 2	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i at Bent 24 measures 10 in MAINT. CONTRACT	Est Cost Str Target t 23 and at th nches high b	\$500 2 YEARS ne east timber so by 8 inches wide by 2 inches wide	Dist Target EA cab at Colum by 4 inches by 3.5 inche	n 2 at Bent deep and th s deep.
Rec Date Status Epoxy in 24. The void at th Rec Date	08/18/2020 PROPOSED ject the voids due to void at Column 4 o the east timber scab 10/11/2017	Work By Action o insect infes f Bent 23 me at Column 2 Work By	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 in 2 at Bent 24 measures 10 in MAINT. CONTRACT	Est Cost Str Target t 23 and at th nches high b nches high b Est Cost	\$500 2 YEARS ne east timber so by 8 inches wide by 2 inches wide \$500,000	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target	n 2 at Bent deep and th s deep.
Rec Date Status Epoxy in 24. The void at th Rec Date Status	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ne east timber scab 10/11/2017 PROGRAMMED	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i 2 at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc.	Est Cost Str Target 23 and at th nches high b nches high b Est Cost Str Target	\$500 2 YEARS ne east timber so by 8 inches wide y 2 inches wide \$500,000 2 YEARS	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA	n 2 at Bent deep and th s deep. 0E201
Rec Date Status Epoxy in 24. The void at th Rec Date Status Continue nardware	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ne east timber scab 10/11/2017 PROGRAMMED the ongoing progra e (threaded rods, m	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts,	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs	Est Cost Str Target t 23 and at th nches high b Est Cost Str Target Remove an s, etc.) throug	\$500 2 YEARS ne east timber so by 8 inches wide y 2 inches wide \$500,000 2 YEARS d replace the bo ghout the entire	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA plted connect timber sub-si	n 2 at Bent deep and th s deep. 0E201 ions and tructure.
Rec Date Status Epoxy in 24. The void at th Rec Date Status Continue nardware Rec Date	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ne east timber scab 10/11/2017 PROGRAMMED the ongoing progra (threaded rods, m 07/01/1986	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts, Work By	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 in 2 at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs SHOPP	Est Cost Str Target t 23 and at th nches high b nches high b Est Cost Str Target Remove an s, etc.) throug Est Cost	\$500 2 YEARS ne east timber so by 8 inches wide y 2 inches wide \$500,000 2 YEARS d replace the bo ghout the entire \$1,500,000	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA olted connect timber sub-si Dist Target	n 2 at Bent deep and th s deep. 0E201 ions and tructure.
Rec Date Status Epoxy in 24. The void at th Rec Date Status Continue hardware Rec Date Status	08/18/2020 PROPOSED ject the voids due to void at Column 4 o the east timber scab 10/11/2017 PROGRAMMED the ongoing progra the ongoing progra (threaded rods, m 07/01/1986 LONG LEAD	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts, Work By Action	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs SHOPP Sub-Rehab	Est Cost Str Target t 23 and at th nches high b Est Cost Str Target Remove an s, etc.) throug Est Cost Str Target	\$500 2 YEARS ne east timber so by 8 inches wide \$500,000 2 YEARS d replace the bo ghout the entire \$1,500,000 2 YEARS	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA Dited connect timber sub-st Dist Target EA	n 2 at Bent deep and th <u>s deep.</u> 0E201 ions and tructure. 40110
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Rec Date Status Epoxy in 24. The 24. T	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ne east timber scab 10/11/2017 PROGRAMMED the ongoing progra <u>e (threaded rods, m</u> 07/01/1986 LONG LEAD and replace the bo ut the entire timber <b>ORK RECOMMEN</b> 10/11/2017 PROGRAMMED and replace the rus 03/28/2007	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts, Work By Action Ited connect sub-structur <b>DATIONS</b> Work By Action sted and faile	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 in 2 at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs SHOPP Sub-Rehab ions and hardware (thread- re. Replace the top left hor MAINT. CONTRACT Bridge-Misc ed pipe support along the r	Est Cost Str Target t 23 and at th nches high b Est Cost Str Target Remove an s, etc.) throug Est Cost Str Target ed rods, mal izontal timbe Est Cost Str Target ight side of t	\$500 2 YEARS he east timber so by 8 inches wide \$500,000 2 YEARS d replace the bo ghout the entire \$1,500,000 2 YEARS leys, nuts, splice er element betw \$25,000 2 YEARS he bridge. \$1,270,000	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA Dited connect timber sub-si Dist Target EA e plates/strap een Bent 15 Dist Target EA	n 2 at Bent deep and th s deep. 0E201 ions and tructure. 40110 os, etc) and Bent 16 0E201
Rec Date Status Epoxy in 24. The void at th Rec Date Status Continue Arcontinue Rec Date Status Remove Arrougho FHER W Rec Date Status Remove Rec Date Status Remove Status	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ine east timber scab 10/11/2017 PROGRAMMED the ongoing progra- to the ongoing progra- tot the ongoing pr	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts, Work By Action Ited connect sub-structur DATIONS Work By Action sted and faile Work By Action	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs SHOPP Sub-Rehab ions and hardware (thread- re. Replace the top left hor MAINT. CONTRACT Bridge-Misc ed pipe support along the r SHOPP Seismic-Retrofit	Est Cost Str Target t 23 and at th nches high b Est Cost Str Target Remove an s, etc.) throug Est Cost Str Target ed rods, mal rizontal timbe Est Cost Str Target ight side of t Est Cost Str Target	\$500 2 YEARS he east timber so by 8 inches wide \$500,000 2 YEARS d replace the bo ghout the entire \$1,500,000 2 YEARS leys, nuts, splice er element betw \$25,000 2 YEARS he bridge. \$1,270,000 4 YEARS	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA Dited connect timber sub-si Dist Target EA e plates/strap een Bent 15 Dist Target EA Dist Target EA	n 2 at Bent deep and th s deep. 0E201 ions and tructure. 40110 os, etc) and Bent 16 0E201
Rec Date Status Epoxy in 24. The 24. T	08/18/2020 PROPOSED ject the voids due to void at Column 4 o ine east timber scab 10/11/2017 PROGRAMMED the ongoing progra- (threaded rods, m 07/01/1986 LONG LEAD and replace the bo ut the entire timber <b>ORK RECOMMEN</b> 10/11/2017 PROGRAMMED and replace the rus 03/28/2007 LONG LEAD 81, This Bridge has ering. Steel truss m	Work By Action o insect infes f Bent 23 me at Column 2 Work By Action am of replac alleys, nuts, Work By Action Ited connect sub-structur <b>DATIONS</b> Work By Action sted and faile Work By Action	MAINT. CONTRACT Sub-Epoxy Inject station at Column 4 of Bent easures approximately 12 i at Bent 24 measures 10 in MAINT. CONTRACT Sub-Misc. ement of timber fasteners. splice plates/straps, scabs SHOPP Sub-Rehab ions and hardware (thread- re. Replace the top left hor MAINT. CONTRACT Bridge-Misc ed pipe support along the r SHOPP Seismic-Retrofit	Est Cost Str Target t 23 and at the nches high b Est Cost Str Target Remove and s, etc.) throug Est Cost Str Target ed rods, male rizontal timbe Est Cost Str Target ight side of t Est Cost Str Target ight side of t	\$500 2 YEARS he east timber so y 8 inches wide \$500,000 2 YEARS d replace the bo ghout the entire \$1,500,000 2 YEARS leys, nuts, splice er element betw \$25,000 2 YEARS he bridge. \$1,270,000 4 YEARS beening of the Off Score 2 8125	Dist Target EA cab at Colum by 4 inches by 3.5 inche Dist Target EA Dited connect timber sub-si Dist Target EA e plates/strap een Bent 15 Dist Target EA Dist Target EA	n 2 at Bent deep and th <u>s deep.</u> 0E201 ions and tructure. 40110 os, etc) and Bent 16 0E201 40110 uake IE LINF
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# OTHER WORK RECOMMENDATIONS

OBSOLETE, HAS A LOW LOAD RATING, AND IS AN INAPPROPRIATE DESIGN FOR THE ENVIRONMENT. THE LIFE CYCLE ECONOMIC COST OF ADEQUATE MAINTENANCE DOES NOT COMPARE FAVORABLY WITH COST OF REPLACEMENT WITH A STRUCTURE TYPE BETTER SUITED TO THE ENVIRONMENT.

IT IS THEREFORE URGENTLY RECOMMENDED THAT THIS STRUCTURE BE REPLACED. AN SM&I PEER REVIEW IN AUGUST 2007 REAFFIRMED THE RECOMMENDATION THAT THIS BRIDGE BE REPLACED.



Bridge Inspection Report



Bridge Number :	10 0136
Facility Carried:	STATE ROUTE 1
Location :	01-MEN-001-43.74
City :	
Inspection Date :	09/01/2020
Inspection Type	
Routine FC Under	water Special Other
	X:Other

## STRUCTURE NAME: ALBION RIVER

# CONSTRUCTION INFORMATION

Year Built :	1944	Skew (degrees):	0
Year Modified:	N/A	No. of Joints :	2
Length (m) :	295.4	No. of Hinges :	0

Structure Description: Simply supported 34-span bridge. Timber 2-ply plank deck, with AC riding surface, timber 17-girder spans on timber A-frame deck trusses on timber tower bents. Eleven timber approach spans at the south end of the bridge, with Span 8 & 10 being a timber A-frame deck truss. A single-span riveted steel deck truss on RC tower bents over the main channel. Twenty-two timber approach spans at the north end of the bridge, with Span 14, 16, 18, 20, 22, 24, 26, 28, & 30 being a timber A-frame deck truss. Both abutments are RC buttress-type with monolithic RC wingwalls and 3-column bents on spread footings. Foundations for Bents 2-10 & 26-34 are concrete pedestal-type spread footings, Tower 11-12 is on driven (split-rail reinforced) PC/RC piles and Tower 13-14 is on driven timber piles, Bents 15-25 are concrete pedestal-type footings on driven timber piles. (The main span is a riveted steel deck truss, expansion at Bent 12 and fixed at Bent 13, which was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 miles downstream of Bidwell Bar) All timber is treated Douglas Fir (from Washington State).

 Span Configuration
 :7 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 16.5 ft, 1 @

 130.0 ft, 1 @ 16.5 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @

 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @

#### SAFE LOAD CAPACITY AND RATINGS

Design Live Load:M-13.5 OR H-15Inventory Rating:RF=0.70 =>22.7 metric tonsCalculation Method: ALLOWABLE STRESSOperating Rating:RF=0.95 =>30.8 metric tonsCalculation Method: ALLOWABLE STRESSPermit Rating :PGGGOType 3S2: LegalType 3-3: Legal

## DESCRIPTION ON STRUCTURE

Deck X-Section: 0.3 ft br, 1.0 ft wg, 26.0 ft, 1.0 ft wg, 0.3 ft br Total Width: 8.5 m Net Width: 7.9 m No. of Lanes: 2 Speed: 50 mph Min. Vertical Clearance: Unimpaired Overlay Thickness: 2.0 inches

Rail Code: 0010

## DESCRIPTION UNDER STRUCTURE

Channel Description: Wide, sandy bed on flat slope situated in bottom of relatively narrow canyon at outlet to the ocean. Tidally influenced; flow reversal. Bridge is on straight reach downstream of right bend, about 600 feet from the outlet to the ocean.

## NOTICE

## INSPECTION COMMENTARY

#### 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

This investigation was conducted in two phases, each phase consisting of one week of inspection. The scope of this investigation was limited to the substructure timber trestle elements and its associated connection points as an extension of the last routine inspection dated 08/18/2020. A complete inspection of these elements was performed and the defects discovered during this investigation are detailed below. All conditions listed for elements not inspected during this investigation have been carried forward from the previous inspections.

The first phase of this investigation was conducted with the use of UAS technology during the week of 09/01/2020, consisting of up close inspection of each timber trestle tower for their full length with the use of the UAS device. High resolution video imaging was recorded of each member and was later analyzed to identify specific areas of interest or concern and mark these locations for further hands-on inspection methods during the second phase of the investigation. The main defects that were identified through this phase of investigation were corroded timber connection hardware including claw plates and anchor bolts, multiple split or fractured timber scabs and deterioration of timber preservative treatment and associated widespread checking of almost all of the timber elements.

The second phase of this investigation was performed during the week of 10/05/2020 focusing on the areas identified in the first phase, as well as a general visual inspection of all timber members. A climb team comprised of personnel from the Toll Bridges Investigations Office inspected all of the timber substructure members at and below the catwalk of Bents 16 through 26. A follow up rope access inspection of the remaining timber trestles will be scheduled for a future date pending weather permissibility and the rope access team availability. The inspection included close visual and auditory reconnaissance of the full length and all sides of every primary and secondary timber substructure element. Any suspect members were drilled to verify their integrity; and, if found to be deficient, the location, amount, and severity of any decay found was documented for future remediation. Please refer to the SUBSTRUCTURE condition text below for more detailed information.

#### HISTORY

This structure has a history of advanced corrosion occurring to the exposed portions of the bolted timber connections throughout the trestle substructure, as well as the timber truss superstructure. The nuts and bolts of the timber connections in the towers have historically been replaced by the District 01 Bridge Crew.

During the Climb inspection performed on 5/15/2012, it was discovered that, on average, approximately 50 to 70% of the nuts had failed due to corrosion from the marine environment. Due to the amount of labor and connections needing replacement, a

#### INSPECTION COMMENTARY

maintenance contract was put out to bid to replace the majority of the corroded bolts and nuts. There were approximately 5,000 bolts with nuts that needed replacement, 2,500 to 3,500 of which had failed.

In 2016, Maintenance Contract 01-E2004 was completed which replaced approximately 80% of all of the bolts and nuts throughout the substructure. None of the bolted connections of the superstructure were addressed. In addition, rotted and decaying horizontal scabs located between the trestle columns were filled with an epoxy system which filled any rotted voids present in the members. Another project is planned for November 2021 to replace the remaining corroded substructure bolts in these spans.

In addition to the advanced corrosion of the steel connection hardware, soil sampling taken during a District Preliminary Environmental Assessment dated July 2017, indicated chromium contamination around the timber towers. This is indicative of the preservative treatment leaching from the timbers. Without reliable chemical preservative treatment, an increased rate of decay of the treated timber elements is anticipated. Insect infestation noted during the previous routine inspection performed on 08/18/2020 indicates that the loss of preservative treatment is evident. SM&I is in the process of testing the treated timber members to determine the extent of preservative present in the timber with the hope that this can lead to a better understanding of the remaining lifespan of the preservative.

Based on the deficiencies detailed above along with the expectation that the decay and corrosion will continue at an increased rate over time, SM&I has initiated these advanced supplemental inspection methods on a regular inspection interval from this time going forward.

#### SUBSTRUCTURE

All of the timber members with observed checking were sounded with a hammer. Hollow sounding members were then subsequently drilled. In all, 12 locations were drilled, with the majority of those being horizontal trestle members located at the level where columns transitioned from 4 to 6 columns, and again at the level where the columns transitioned from 6 to 5 columns. The members were all drilled to a minimum depth of 6 inches and the timber borings examined for signs of decay and rot. In all cases, the members were found to be free of decay at their core. However, with the presence of the large checks and loss of preservative treatment as indicated by the District Preliminary Environmental Assessment dated July 2017, it is anticipated that moisture will continue to penetrate into the members, which will eventually lead to decay. SM&I is currently in the process of testing the remaining preservative treatment present in the timber members to use as a baseline for future comparisons on the remaining lifespan of said preservative treatment.

Approximately 80% of all of the bolted connections throughout the substructure were replaced under Contract 01-E2004. For a complete list of the bolts replaced, please refer to the hardware table in the as-built drawings for Contract 01-E2004. The remaining 20% of the connections exhibit surface rust throughout but without measurable section loss (see Photos 46 - 49 from the BIR dated 10/11/2017).

All of the timber columns in the timber bents and the timber columns that make up the trestles have 0.125 to 0.25 inch wide vertical checks for most of the members length (see Photos 50 - 64 from the BIR dated 10/11/2017). For a detailed list of each trestle member and its associated defect, please refer to the attached table in Appendix B from the BIR dated 10/11/2017.

The substructure condition (NBI 60) is rated a 4-Poor due to the widespread checking of the timber columns, decay potential due to diminished effectiveness of the preservative

#### INSPECTION COMMENTARY

treatment, distressed timber scab connections and the assumed corroded condition of the split ring, toothed ring and claw plate connectors, the majority of which are not visible for inspection.

#### SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SMI Ratings Branch. An updated Load Rating Summary Sheet will be archived when this review is complete. The current ratings are based on Midas computer program output dated 11/01/2011.

The steel deck truss main span was found to have lower Inventory, Operating and Permit Ratings than the timber truss spans, and therefore, to be the controlling portion of the structure. The load rating values shown are for the steel deck truss main span.

A work request (#9990) has also been submitted to SMI Ratings Branch to evaluate the affect of the termite infestation on the load bearing capacity of timber Column 4 at Bent 23. The extent of the infestation is documented under the respective parent element. Preliminary calculations indicate that the damage due to the termite infestation is not an immediate threat to the safe load capacity of the structure, however, the Load Ratings Branch will perform an in-depth review of the safe load capacity including the timber substructure elements.

## STEEL INVESTIGATIONS

This structure qualifies for an in-depth Steel investigation because it possesses the following fracture critical or fatigue prone details:

Truss: FC Members with Category E Welds

Fracture Critical: Yes

Inspection Freq.: 24

Next Inspection: 02/19/2022

ELEMEN	T INSPEC	TION RATINGS	AND COMMENTARY							
Elem No.	Defect De /Prot	fect Elemen	Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	onditior St. 3	n State St. 4
Element	Group: 1	L01 - Approach	- Southern Spans 1-11	L - Timb	er Decl	k Truss	es			
31		Deck-Timbe	r	3	651	sq.m	631	5	15	0
	1140	Decay/Sect	ion Loss (Timber)	3	20		0	5	15	0
	510	Deck Weari	ng Surface-Asphalt	3	594	sq.m	594	0	0	0

(31)

The spacer block in Bay 13 of Span 2 is loose and hanging down below the girders.

(31 - 1140)

The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are several areas of white fungus present on the soffit of the timber deck (see Photo 1 from the BIR dated 08/18/2020 and Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 21 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

(31-510)

Page 5 of 16

ELEMENT I	NSPECTION RATINGS AND COMMENTARY							
Elem Def No. /Pı	ect Defect Element Description	Env	Total Qty	Units Qt S	y in t. 1	each Co St. 2	ondition St. 3	n State St. 4
Element Gr	oup: 101 - Approach - Southern Spans 1-	-11 - Timbe	er Decl	k Trusses				
There were under EA (	no significant defects noted. A new AG 1-E2004.	C overlay w	as pla	ced on th	ne br	idge deo	ck in 20	)16
111	Girder/Beam-Timber	2	590	m	568	22	0	0
11!	0 Check/Shake (Timber)	2	22		0	22	0	0
(111) See Append defects.	lix A from the BIR dated 08/18/2020 for c	detailed in	format	ion on th	ne el	ement ar	nd assoc	ciated
(111-1150) Several ti 50% of the	mber girders display horizontal checks a member thickness (see Photo 2 from the	along their BIR dated	neutr 08/18/	al axis t 2020).	hat	penetrat	ce less	than
These check chemical p elements.	ks are throughout the timber elements. The reservative treatment that will allow more	These check pisture to	s repr initia	esent a k te decay	oreac on t	h in the he inter	e perime rior of	eter the
117	Stringer-Timber	3	690	m	667	23	0	0
11!	50 Check/Shake (Timber)	3	23		0	23	0	0
(117-1150) Several ti 50% of the These chec	mber stringers display horizontal checks e member thickness.	s along the These check	ir neu s repr	tral axis	tha	t peneti h in the	rate les	ss than
chemical p elements.	reservative treatment that will allow mo	pisture to	initia	te decay	on t	he inter	rior of	the
135	Truss-Timber	3	46	m	0	46	0	0
10:	20 Connection	3	14		0	14	0	0
11!	50 Check/Shake (Timber)	3	32		0	32	0	0
(135) See Append defects.	ix A from the BIR dated 08/18/2020 for d	detailed in	format	ion on tł	ne el	ement ar	nd assoc	ciated

Approximately 30% of the threaded fasteners are exhibiting signs of corrosion. The marine environment has caused significant section loss of a large number of the nuts on the threaded rods that hold the timber members in place (see Photos 21 - 23 from the BIR dated 10/11/2017 for typical condition).

## (135 - 1150)

Many of the vertical and diagonal members of the truss have checks approximately 0.125 to 0.25 inches wide that penetrate approximately 3 to 4 inches into the members' cross section (see Photos 6 - 10 from from the BIR dated 08/18/2020 and Photos 24 - 31 from the BIR dated 10/11/2017).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

156	Floor Beam-Timber	3	17	m	7	10	0	0
1140	Decay/Section Loss (Timber)	3	2		0	2	0	0

ELEMENT	I INSPECTIO	N RATINGS A	AND COMMENTARY							
Elem 1 No.	Defect Defect /Prot	Element	Description	Env	Total Qty	Units	Qty in St. 1	each Con St. 2	ndition St. 3	State St. 4
Element	Group: 101	- Approach	- Southern Spans 1-11	- Timbe	r Dec	k Trusse	es			
	1150	Check/Shake	(Timber)	3	8		0	8	0	0
(156) See App defects	pendix A from 8.	the BIR da	ted 08/18/2020 for deta	iled inf	format	ion on	the ele	ement and	d assoc:	iated
(156-11 There i (see Ph determi during	40) s rot and de notos 38 -39 .ned to be so future inspe	cay present from the BI und. This ctions.	for a length of 6 to 1 R dated 10/11/2017). S currently does not warr	2 inches everal c ant a wo	s on t of the ork re	he oute floor commend	r edges beams v ation k	s of the were drii	floor } lled and be mon:	beams d itored
(156-11 Many of 50% of	50) the floor b the members	eams exhibi thickness.	t horizontal checks alc	ong their	r neut	ral axi	s that	penetrat	te less	than
These c chemica element	checks are th 1 preservati 2s.	roughout the ve treatmen	e timber elements. Thes t that will allow moist	e checks ure to i	s repr nitia	esent a te deca	breach y on th	n in the ne inter:	perimet ior of t	ter the
205	(	Column-RC		3	2	each	2	0	0	0
(205) There w	vere no signi	ficant defe	cts noted.							
206		Column-Timbe	er	3	24	each	15	9	0	0
	1150	Check/Shake	(Timber)	3	9		0	9	0	0
(206) See App defects	endix A from	the BIR da	ted 11/11/2017 for deta	iled inf	format	ion on	the ele	ement and	d assoc:	iated
(206-11 There a members These c chemica	50) are 0.125 to s' cross sect checks are th al preservati	0.25 inch w ion (see Pho roughout th ve treatmen	ide vertical checks tha oto 11 from the BIR dat e timber elements. Thes t that will allow moist	t penetr ed 08/18 e checks ure to i	rate a 3/2020 s repr nitia	pproxim ). Tesent a te deca	ately 3 breach y on th	to 4 in n in the ne inter:	nches in periment ior of t	nto the ter the
element	.s.							110		
208	1020	rrestle-Timb	ber	3 ว	72 TT0	m	U	116 22	U	U
	1150	Check/Shake	(Timber)	3	23 93		0	23 93	0	0
(208) See App defects	pendix A from	the BIR da	ted 11/11/2017 for deta	iled inf	format	ion on	the ele	ement and	d assoc:	iated
(208-10 Approxi surface	220) mately 20% o rust throug	f the thread hout (see Pl	ded connections have no hotos 44 - 47 from the	t been r BIR date	replac ed 10/	ed and 11/2017	show si ).	.gns of (	corrosio	on with
Based o split r integri ability	on the observ ring, toothed ty of these of the conn	ed corrosion ring and c split ring ections.	n of the connection bol law plate shear connect (and other types) of sh	ts, it i ors are lear conn	s log in an nectic	ical to equal ons is c	assume state c ritical	e that th of distre to the	he inte: ess. Tl load t:	rnal ne ransfer

ELEMENT	INSPECTION RATINGS AND COMMENTARY							
Elem I No.	Defect Defect Element Description /Prot	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ndition St. 3	State St. 4
Element	Group: 101 - Approach - Southern Spans 1-1	ll - Timbe	er Decl	c Truss	ses			
(208-11	50)							
There a	re 0.125 to 0.25 inch wide vertical checks t	that penet	rate a	pproxir	mately 3	to 4 i	Inches in	nto the
members 10/11/2	' cross section throughout every member of ( 017).	the trestl	e (see	Photos	s 52 - 6	2 from	the BIR	dated
These c	hecks are throughout the timber elements. Th	hese check	s repr	esent a	a breach	in the	e perimet	er
chemica element	l preservative treatment that will allow mo: s.	isture to	initia	te deca	ay on th	e inter	rior of t	he
215	Abutment-RC	3	11	m	11	0	0	0
(215) There w	ere no significant defects noted.							
220	Pile Cap/Footing-RC	2	30	m	30	0	0	0
(220)								
There w	ere no significant defects noted. This eler	ment repre	sents	the cor	ncrete f	ooting	under ea	ach
column	of the trestle.							
234	Pier Cap-RC	3	8	m	8	0	0	0
(234)								
There w	ere no significant defects noted.							
235	Pier Cap-Timber	3	52	m	10	42	0	0
	1150 Check/Shake (Timber)	3	42		0	42	0	0
(235)								
See App defects	endix A from the BIR dated 08/18/2020 for de	etailed in	format	ion on	the ele	ment ar	nd associ	ated
(235-11	50)							
Many of 50% of	the floor beams exhibit horizontal checks a the members thickness (see Photos 16 and 17	along thei from the	r neut BIR da	ral axi ted 08,	is that /18/2020	penetra ).	ate less	than
These c	hecks are throughout the timber elements. Th	hese check	s repr	esent a	a breach	in the	e perimet	er
chemica element	l preservative treatment that will allow mo: s.	isture to	initia	te deca	ay on th	e inter	rior of t	he
332	Railing-Timber	3	512	m	410	0	102	0
	1020 Connection	3	102		0	0	102	0
(332)								
The tim	ber bridge rail was cleaned and painted in 2	2013 as pa	rt of	EA 01-0	DA5904.			
(332-10	20)							
the dec	per rall connection to the deck is affected k planks on both sides of the structure. The but conservatively estimated at 15 to $20$ %	by the de he exact a of the to	ск rot mount tal le	tnat : of deca	is prese ay (line f the de	nt alor ar foot ck	ig the ec tage) was	ige of s not
Element	Group: 102 - Main - Main Span - Steel Dec	ck Truss	241 10					
31	Deck-Timber	3	341	sq.m	331	2	8	0
	1140 Decay/Section Loss (Timber)	3	10	-	0	2	8	0
	510 Deck Wearing Surface-Asphalt	3	341	sq.m	341	0	0	0

						Pa	ige 8	of 16
ELEMENT INSPE	CTION RATINGS AND COMMENTARY							
Elem Defect D No. /Prot	efect Element Description	Env	Total Qty	Units (	)ty in ( St. 1	each Co St. 2	ndition St. 3	State St. 4
Element Group:	102 - Main - Main Span - Steel I	Deck Truss						
(31-1140) The timber decl oriented at a 3 top layer. The 8 from the BIR without decay of Large areas of sides throughou deck drains and (see Photos 9 -	c consists of two layers of 11.25 30 degree angle to the bridge deck ere are areas of white fungus pres- dated 10/11/2017). When these are or rot. rotted and decayed timber deck pla it the length of the structure. The d extended approximately 18 to 24 - 21 from the BIR dated 10/11/2017	inch by 3 ind and the both ent on the so eas were dri anks were dis he rot was ty inches into to ). The exact	ch tim tom la offit lled, scover ypical the de t amou	ber deck yer orig of the t the deck ed along ly prese ck on bo nt of de	y planks ented po timber of appeas of the ent of the lay ecay (1)	s with erpendideck (so red to deck dge of the area ers of inear fo	the top cular t ee Phot be soun deck on a benea deck pl ootage)	layer o the os 4 - d both th the anks was
(31-510) There were no sunder EA 01-E20	significant defects noted. A new .	AC overlay wa	as pla	ced on t	the brid	dge dec	k in 20	16
120	Truss-Steel	4	79	m	71	0	8	0
1000	Corrosion	4	8		0	0	8	0
515	Steel Coating-Paint	4	876	sq.m	876	0	0	0

(120)

FCMI(02/19/2020): See the report narrative for a list of members that were inspected.

(120 - 1000)

FCMI(02/19/2020): See the report narrative for description of the defects (7.8 m in CS3).

(120 - 515)

The steel deck truss of the main span was cleaned and painted in the fall of 2013 as part of EA 01-0A5904. The paint system on the main span steel deck truss appears to be in good condition.

156		Floor Beam-Timber	4	573	m	57	516	0	0
	1140	Decay/Section Loss (Timber)	4	58		0	58	0	0
	1150	Check/Shake (Timber)	4	458		0	458	0	0

(156 - 1140)

There is rot and decay present for a length of 6 to 12 inches on the outer edges of the floor beams (see Photos 38 and 39 from the BIR dated 10/11/2017). This currently does not warrant a work recommendation but will be monitored during future inspections.

(156 - 1150)

Approximately 80% of the floor beams exhibit horizontal checks approximately 0.125 to 0.25 inches wide that penetrate 3 to 4 inches into the members' cross section (see Photos 40 - 43 from the BIR dated 10/11/2017).

162	Steel Gusset Plate	2	40	each	40	0	0	0
(162)								

There were no significant defects noted. The gusset plates was cleaned and painted in the fall of 2013 as part of EA 01-0A5904. The paint system appears to be in good condition.

205		Colum	n-RC				3	4	e	ach	3	1		0	0	_
	108	0 Delam	ination/Sp	all/Patched Ar	ea		3	1			0	1		0	0	
(205) There	is a	delamination	measuring	approximately	36	inches	long	bv	18	inches	hiah	in t	he c	lebris	wall	

ELEMENT INSPECT	ION RATINGS AND COMMENTARY							
Elem Defect Def No. /Prot	ect Element Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	onditio St. 3	n State St. 4
Element Group: 10	02 - Main - Main Span - Steel Deck '	Truss						
near Column 2 of	Tower 13.							
(205-1080)								
There is a 6 inc of Tower 13-14.	h diameter spall that has been patche	d on th	e east	side (	of the	south wa	all of	the base
227	Pile-RC	2	1	ea.	1	0	0	0
(227)								
The pile element	is included to indicate the presence	of pil	es on	this s	tructur	e. The	piles '	were not
exposed for visu	al inspection. No indication of pile	aistre	ss was	noted	in any	substru	lcture	element.
228	Pile-Timber	2	1	ea.	1	0	0	0
(228)								
The pile element	is included to indicate the presence	of pil	es on	this s	tructur	e. The	piles ·	were not
	al inspection. No indication of pile	aistre	ss was	noted	In any	substru	leture	
234	Pier Cap-RC	3	17	m	17	0	0	0
(234) There were no sit truss support to	gnificant defects noted. New concret wer in 2016 under EA 01-E2004.	e beari	ng pec	lestals	were c	onstruct	ed at	each
301	Joint-Pourable Seal	2	17	m	9	8	0	0
2330	Seal Damage (Joints)	2	8		0	8	0	0
(301) New Type "A" pou	rable joint seals were installed at B	ents 13	and 1	.4 in 2	016 und	er EA 01	L-E2004	
(301-2330) The pourable join Bent 14 remains	nt seal at Bent 13 already exhibits s in good condition.	mall te	ars th	irougho	ut its i	length k	out the	seal at
304	Joint-Open Expansion	3	17	m	17	0	0	0
(304)								
There were no si	gnificant defects noted.							
311	Bearing-Moveable	4	2	each	2	0	0	0
(311)								
There were no si	gnificant defects noted.							
313	Bearing-Fixed	4	2	each	2	0	0	0
(313)								
There were no si	gnificant defects noted.							
332	Railing-Timber	3	79	m	63	0	16	0
1020	Connection	3	16		0	0	16	0
(332) The timber bridg	e rail was cleaned and painted in 201	3 as pa	rt of	EA 01-	0A5904.			
(332-1020)								
The timber rail of the deck plan	connection to the deck may be affecte ks on both sides of the structure.	d by th	e deck	rot t	hat is j	present	along	the edge
Element Group: 10	03 - Approach - Northern Spans 13-34	- Tim	ber De	ck Trus	sses			

	I INDERCIIC	N KATINGD	AND COMMENTANT							
Elem No.	Defect Defec /Prot	t Element	Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	onditior St. 3	1 State St. 4
Element	Group: 103	- Approach	- Northern Spans 13-34	- Tim	ber De	ck Trus	ses			
31		Deck-Timber		2	1557	sq.m	1511	10	36	0
	1140	Decay/Secti	on Loss (Timber)	2	46		0	10	36	0
	510	Deck Wearin	ng Surface-Asphalt	2	1420	sq.m	1420	0	0	0

DATTNES AND COMMEN

(31 - 1140)

The scuppers at the base of the wheel guards on both sides of the deck at the north end of the bridge are plugged with dirt and weeds.

The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are areas of white fungus present on the soffit of the timber deck (see Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 22 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

## (31-510)

There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.

111	Girder/Beam-Timber	2	295	m	295	0	0	0
(111)								
There	were no significant defects noted.							
117	Stringer-Timber	3	2757	m	2496	261	0	0
	1150 Check/Shake (Timber)	З	261		0	261	0	0

## (117)

See Appendix A from the BIR dated 08/18/2020 for detailed information on the element and associated defects.

#### (117 - 1150)

Several timber stringers display horizontal checks along their neutral axis that penetrate less than 50% of the member thickness.

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

135		Truss-Timber	3	208	m	3	195	10	0
	1020	Connection	3	62		0	62	0	0
	1140	Decay/Section Loss (Timber)	3	10		0	0	10	0
	1150	Check/Shake (Timber)	3	133		0	133	0	0

(135)

See Appendix A from the BIR dated 08/18/2020 for detailed information on the element and associated defects.

The right 12 inch member in the third section of the catwalk of Span 20 is rotted in the middle and

ELEMENT I	NSPECTION	RATINGS	AND COMMENTAR	RY							
Elem Def No. /P:	ect Defect rot	Element	Description		Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ndition St. 3	State St. 4
Element Gr	oup: 103 -	Approach	- Northern Sp	ans 13-34	- Timb	er Dec	k Trus	sses			
the right connection	12 inch me n points (s	mber in th see Photo 3	e middle secti from the BIR	ion of the dated 08/	catwal} 18/2020)	k in Sp ).	pan 22	is rott	ed arou	nd the	
Approximat bottom cho	ely 50 of ord have be	the timber en split (	scabs located see Photos 33	l at the co - 37 from	onnectio the BII	ons of R dated	the d d 10/1	iagonal 1/2017).	truss m	embers	to the
(135-1020) Approximat environmen that hold condition)	cely 30% of nt has caus the timber	the threa d signifi members i	ded fasteners cant section l n place (see F	are exhib loss of a P hotos 21	iting s large nu - 23 fro	igns o: umber o om the	f corro of the BIR da	osion. nuts on ated 10/	The mar the th 11/2017	ine readed for ty	rods /pical
The thread the left a sheared of	led connect side of Col If between	or that bo umn 3 at t: the brace	lts a 3 inch k he catwalk lev and the post.	by 8 inch o vel and ex	diagonal tends to	l brace o the f	e at Be top of	ent 17, Column	which i 3 in Be	s attao nt 18,	ched to has
(135-1140) An area of has core p	decay was not and ext	found at ends 10 fe	the top left h et from Bent 1	norizontal 15 towards	betweer Bent 16	n Bent 5.	15 and	d Bent 1	6. The	top 4	inches
An area of Bent 23 ar	decay was nd 24. The	found at top 3 inc	the top of hor hes has core r	rizontal m rot that e	ember to xtends 5	o the : 5 feet	right towar	(east) c ds Bent	of the c 24.	atwalk	between
An area of Bent 31 ar	decay was nd 32. The	found at top 3 inc	the top of hor hes has core r	rizontal motor that e	ember to xtends 1	the 1 15 feet	right t towa:	(east) c rds Bent	of the c 32.	atwalk	between
(135-1150) All of the wide that from the H	e vertical penetrate BIR dated (	and diagon approximat )8/18/2020	al members of ely 3 to 4 inc and Photos 24	the truss ches into - 31 from	have ch the memb the BIN	necks a pers' o R dateo	approx: cross d 10/1:	imately section 1/2017).	0.125 t (see Ph	o 0.25 otos 6	inches - 10
These check chemical p elements.	cks are thr preservativ	coughout th ve treatmen	e timber eleme t that will al	ents. These llow moist	e checks ure to i	s repre initia	esent a te deca	a breach ay on th	i in the le inter	perime	eter the
156	F	loor Beam-'	Fimber		3	77	m	19	58	0	0
11	40 D	ecay/Sectio	on Loss (Timbe	r)	3	7		0	7	0	0
11	50 C	heck/Shake	(Timber)		3	51		0	51	0	0
(156) See Append defects.	lix A from	the BIR da	ted 08/18/2020	) for deta	iled inf	Eormat:	ion on	the ele	ement an	d assoc	ciated
(156-1140) There is a (see Photo	cot and dec os 38 -39 f	ay present from the BI	for a length R dated 10/11/	of 6 to 1: /2017). S	2 inches everal c	s on tl of the	ne out floor	er edges beams w	of the vere dri	floor lled an	beams nd

determined to be sound. This currently does not warrant a work recommendation but will be monitored during future inspections.

(156-1150)

Many of the floor beams exhibit horizontal checks along their neutral axis that penetrate less than 50% of the members thickness.

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the

ELEMEN	TT INSPECTIO	ON RATINGS AND COMMENTARY							
Elem	Defect Defec	t Element Description	Env	Total	Units	Otv in	each Co	ondition	State
No.	/Prot	<b>•</b> • • • • • • • • •		Qty		St. 1	St. 2	St. 3	St. 4
Element	t Group: 103	- Approach - Northern Spans 13-34	- Tim	ber Dec	ck Trus	ses			
elemen	ts.								
205		Column-RC	3	2	each	1	1	0	0
	1080	Delamination/Spall/Patched Area	3	1		0	1	0	0
(205-1 The in patch ground	080) cipient spal measures app	l located along the northeast corner roximately 24 inches tall by 12 inche	of Co es wid	olumn 2 le and	at Ber is loca	nt 14 ha ated 20	as been feet ab	patched. Dove the	. The
206		Column-Timber	3	8	each	6	2	0	0
	1150	Check/Shake (Timber)	3	2		0	2	0	0
(206) See Ap defect	pendix A fro s. 150)	m the BIR dated 11/11/2017 for detail	led in	lformat	ion on	the ele	ement ar	nd associ	lated
There member	are 0.125 to s' cross sec	0.25 inch wide vertical checks that tion (see Photo 11 from the BIR dated	penet d 08/1	rate a 8/2020	pproxim).	nately 3	3 to 4 i	inches ir	nto the
These chemic elemen	checks are t al preservat ts.	hroughout the timber elements. These ive treatment that will allow moistur	check re to	s repr initia	esent a te deca	a breach ay on th	n in the ne inter	e perimet rior of t	cer che
208		Trestle-Timber	3	600	m	0	515	0	85
	1020	Connection	3	120		0	120	0	0
	1140	Decay/Section Loss (Timber)	3	85		0	0	0	85
	1150	Check/Shake (Timber)	3	395		0	395	0	0
(208) See Ap defect	pendix A fro s.	m the BIR dated 11/11/2017 for detail	led in	ıformat	ion on	the ele	ement ar	nd associ	lated
(208-1	020)								
Approx surfac	imately 20% e rust throu	of the threaded connections have not ghout (see Photos 44 - 47 from the B	been IR dat	replac ed 10/	ed and 11/2017	show s: 7).	igns of	corrosio	on with
Based split integr abilit	on the obser ring, toothe ity of these y of the con	ved corrosion of the connection bolts d ring and claw plate shear connector split ring (and other types) of shea nections.	s, it rs are ar con	is log e in an inectio	ical to equal ns is o	o assume state c critical	e that t of distr l to the	the inter ress. The load to	rnal ne ransfer
(208-1 There the co 08/18/ direct footin	140) is a void me re of Column 2020). The ion around t g support.	asuring approximately 12 inches high 4 at Bent 23 due to termite infestat timber fibers adjacent to the void an he affected area. The void is locate	by 8 tion ( re sof ed app	inches see Ph t and proxima	wide k otos 12 crumbly tely 2	by 4 ind 2 and 13 7 for al feet al	ches dee 3 from t bout an bove the	ep locate the BIR o inch in e concret	ed in lated each ce
There connec inches has no	is another a tion on the wide by 3.5 t reached th	rea of infestation present at Column east face of the column has a void me inches deep (see Photos 14 and 15 fr e column, but has penetrated the ful:	2 of easuri rom th l dept	Bent 2 ng app ne BIR ch of t	4. The roximat dated ( he timb	e timber cely 10 08/18/20 per scal	r scab a inches D20). T D.	at the fo high by The infes	ooting 2 station

ELEMEN	T INSPECTION RATINGS AND COMMENTARY							
Elem No.	Defect Defect Element Description /Prot	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ondition St. 3	State St. 4
Element	t Group: 103 - Approach - Northern Spans 13-34	- Tim	ber Dec	ck Trus	ses			
(208-1 There member 10/11/	150) are 0.125 to 0.25 inch wide vertical checks that s' cross section throughout every member of the 2017).	t penet trestl	rate aj e (see	oproxir Photos	nately 3 3 52 - 6	to 4 : 2 from	inches ir the BIR	nto the dated
These chemic elemen	checks are throughout the timber elements. These al preservative treatment that will allow moist ts.	e check ure to	s repr initia	esent a te deca	a breach ay on th	in the e inter	e perimet rior of t	er the
215	Abutment-RC	3	11	m	11	0	0	0
(215) There	were no significant defects noted.							
220	Pile Cap/Footing-RC	2	90	m	90	0	0	0
(220) There column	were no significant defects noted. This element of the trestle.	t repre	sents	the cor	ncrete f	ooting	under ea	ach
234	Pier Cap-RC	3	8	m	8	0	0	0
(234) There	were no significant defects noted.							
235	Pier Cap-Timber	3	17	m	0	17	0	0
	1150 Check/Shake (Timber)	3	17		0	17	0	0
(235) See Ap checki	pendix A from the BIR dated 08/18/2020 for a det ng.	tailed	inform	ation o	on which	member	rs displa	ау
(235-1 Many o 50% of These	150) f the floor beams exhibit horizontal checks alon the members thickness (see Photos 16 and 17 fro checks are throughout the timber elements. These	ng thei om the e check	r neut: BIR da s repre	ral axi ted 08, esent a	is that j /18/2020 a breach	penetra ). in the	ate less e perimet	than
chemic elemen	al preservative treatment that will allow moist ts.	ure to	initia	te deca	ay on th	e inte:	rior of t	the
332	Railing-Timber	3	358	m	286	0	72	0
	1020 Connection	3	72		0	0	72	0
(332) The ti (332-1 The ti	mber bridge rail was cleaned and painted in 2013 020) mber rail connection to the deck is affected by	3 as pa the de	rt of : ck rot	EA 01-0	DA5904. is prese	nt alo	ng the ed	lge of
the de measur	ck planks on both sides of the structure. The e ed but conservatively estimated at 15 to 20% of	exact a the to	mount tal le:	of deca ngth of	ay (line E the de	ar foot ck.	tage) was	s not

RecDate: Action : Work By: Status :	08/18/2020 Sub-Epoxy Inject MAINT. CONTRACT PROPOSED	EstCost: StrTarget: DistTarget: EA:	\$500 2 YEARS	Epoxy inject the voids due to termite infestation at Column 4 of Bent 23 and at the east timber scab at Column 2 at Bent 24. The void at Column 4 of Bent 23 measures approximately 12 inches high by 8 inches wide by 4 inches deep and the void at the east timber scab at Column 2 at Bent 24 measures 10 inches high by 2 inches wide by 3.5 inches deep.
RecDate: Action : Work By: Status :	08/18/2020 Super-Misc. BRIDGE CREW PROPOSED	EstCost: StrTarget: DistTarget: EA:	\$5,000 1 YEAR	Replace two rotted catwalk members. The right 12 inch member in the third section of the catwalk of Span 20 is rotted in the middle and the right 12 inch member in the middle section of the catwalk in Span 22 is rotted around the connection points.
RecDate: Action : Work By: Status :	10/11/2017 Super-Misc. MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$60,000 2 YEARS 0E201	Remove and replace the 53 split timber scabs located throughout the northern approach spans.
RecDate: Action : Work By: Status :	10/11/2017 Bridge-Misc MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$25,000 2 YEARS 0E201	Remove and replace the rusted and failed pipe support along the right side of the bridge.
RecDate: Action : Work By: Status :	10/11/2017 Sub-Misc. MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$500,000 2 YEARS 0E201	Continue the ongoing program of replacement of timber fasteners. Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, splice plates/straps, scabs, etc.) throughout the entire timber sub- structure.
RecDate: Action : Work By: Status :	10/11/2017 Super-Epoxy Inject MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$7,500 2 YEARS 0E201	Epoxy inject the horizontal members to the right (east) of the catwalk at Bents 23 and 31 and to the left of the catwalk at Bent 15. The member at Bent 15 has an area of decay within the top 4 inches of the cross section by 15 feet in length. The member at Bent 23 has an area of decay within the top 3 inches of the cross section by 5 feet in length. The member at Bent 31 has an area of decay within the top 3 inches of the cross section by 15 feet in length.
RecDate: Action : Work By: Status :	10/11/2017 Deck-Misc. MAINT. CONTRACT PROPOSED	EstCost: StrTarget: DistTarget: EA:	\$500,000 2 YEARS	Remove the rotted and decaying portions of the deck located along the edge of deck on both sides of the bridge. Large areas of rotted timber deck was encountered along the outermost 24 inches of the bridge deck, particularly in the areas underneath the deck drains. The entire deck may have to be removed and replaced due to the configuration of the timber deck planks.

RecDate: Action : Work By: Status :	03/28/2007 Seismic-Retrofit SHOPP LONG LEAD	EstCost: \$1,270,000 StrTarget: 4 YEARS DistTarget: EA: 40110	Priority 181, This Bridge has been recommended for seismic retrofit by the screening of the Office of Earthquake Engingeering. Steel truss members may require strengthening. Priority 4. Final Score 2.8125. BELOW THE LINE.
RecDate: Action : Work By: Status :	04/05/1999 Bridge-Replace(Bridg SHOPP LONG LEAD	EstCost: \$13,200,000 StrTarget: 2 YEARS DistTarget: EA: 40110	Replace the steel main span. Estimated at \$2,000,000 (NOT including traffic handling costs). Or, replace the entire structure. Estimated at \$13,200,000.
			THIS AGING STRUCTURE IS IN A MARGINAL AND DETERIORATING CONDITION. IT IS FUNCTIONALLY OBSOLETE, HAS A LOW LOAD RATING, AND IS AN INAPPROPRIATE DESIGN FOR THE ENVIRONMENT. THE LIFE CYCLE ECONOMIC COST OF ADEQUATE MAINTENANCE DOES NOT COMPARE FAVORABLY WITH COST OF REPLACEMENT WITH A STRUCTURE TYPE BETTER SUITED TO THE ENVIRONMENT.
			IT IS THEREFORE URGENTLY RECOMMENDED THAT THIS STRUCTURE BE REPLACED. AN SM&I PEER REVIEW IN AUGUST 2007 REAFFIRMED THE RECOMMENDATION THAT THIS BRIDGE BE REPLACED.
RecDate: Action : Work By: Status :	07/01/1986 Sub-Rehab SHOPP LONG LEAD	EstCost: \$1,500,000 StrTarget: 2 YEARS DistTarget: EA: 40110	Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, splice plates/straps, etc) throughout the entire timber sub- structure. Replace the top left horizontal timber element between Bent 15 and Bent 16.
RecDate: Action : Work By: Status :	02/10/1984 Railing-Upgrade SHOPP LONG LEAD	EstCost: \$1,008,600 StrTarget: 2 YEARS DistTarget: EA: 40110	F1-10 / F2-6 / F3-1 / Rail Type-WOOD. Replace the bridge rail.
Team I	eader · Warren I. Pe	eterson	-POFFSS/04

11/10/2020

(Date)

Team Leader	:	Warren L. Peterson
Report Author	:	Warren L. Peterson
Inspected By	:	WL.Peterson/JT.Alamares

Warren L. Peterson (Registered Civil Engineer)



# STRUCTURE INVENTORY AND APPRAISAL REPORT

(-)		
(1)	STATE NAME- CALIFORNIA 06	9
(8)	STRUCTURE NUMBER 10 013	6
(5)	INVENTORY ROUTE (ON/UNDER) - ON 13100001	0
(2)	HIGHWAY AGENCY DISTRICT 0	T
(3)	COUNTY CODE 045 (4) PLACE CODE 0000	0
(6)	FEATURE INTERSECTED- ALBION RIVE	R
(7)	FACILITY CARRIED- STATE ROUTE	1
(9)	LOCATION- 01-MEN-001-43.7	4
(11)	MILEPOINT/KILOMETERPOINT 43.7	4
(12)	BASE HIGHWAY NETWORK- PART OF NET	1
(13)	LRS INVENTORY ROUTE & SUBROUTE 0000000010	1
(16)	LATITUDE 39 DEG 13 MIN 30.32 SE	С
(17)	LONGITUDE 123 DEG 46 MIN 09.83 SE	С
(98)	BORDER BRIDGE STATE CODE % SHARE	20
(99)	BORDER BRIDGE STRUCTURE NUMBER	
	****** STRIICTIIRE TYPE AND MATERIAL *******	
(13)	CTDIICTIDE TVDE MAIN,MATEDIAL_	т.
(43)	TVDE - TRUSS - DECK CODE 30	ц 9
(44)	STRUCTURE TYPE APPR.MATERIAL- WOOD OR TIMBE	R
(11)	TYPE- TRUSS - DECK CODE 70	9
(45)	NUMBER OF SPANS IN MAIN UNIT	1
(46)	NIMBER OF ADDROACH SDANS	2 2
(40)	NUMBER OF APPROACH SPANS 3	2
(107)	DECK STRUCTURE TYPE- TIMBER CODE	8
(108)	WEARING SURFACE / PROTECTIVE SYSTEM:	
A)	TYPE OF WEARING SURFACE- BITUMINOUS CODE	6
C)	TYPE OF MEMBRANE - NONE CODE	0
C)	TIPE OF DECK PROTECTION- NONE CODE	0
	******************* AGE AND SERVICE ************************************	r
(27)	YEAR BUILT 1944	ł
(106)	YEAR RECONSTRUCTED 0000	)
(42)	TYPE OF SERVICE: ON- HIGHWAY 1	L -
(28)	UNDER- WATERWAY	) N
(20)	AVERAGE DAILY TRAFFIC 2100	, ,
(30)	VEAR OF ADT 2009 (109) TRICK ADT 6 9	/ 
(10)	DVDACC DETOID LENCTH 62 KM	η Γ
(19)	BIPASS, DEIOUR LENGIN 02 Id.	1
( )	**************************************	-
(48)	LENGTH OF MAXIMUM SPAN 39.6 M	1
(49)	STRUCTURE LENGTH 295.4 M	I
(50)	CORB OR SIDEWALK: LEFT 0.3 M RIGHT 0.3 M	1 r
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB 7.9 M	1 r
(52)	DECK WIDTH OUT TO OUT 0.5 M	1
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M	1
(33)	CUEW ODEC (25) STRUCTURE ELARED NO	, ,
(34)	SKEW 0 DEG (35) SIROCIORE FLARED NO	
(10)	INVENTORY ROUTE MIN VERT CLEAR 99.99 M	1
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR 7.9 M	1 1
(54)	MIN VERT CLEAR OVER BRIDGE RDWI 99.99 M	r n
(5±) (55)	MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M	₄ 1
(56)	MIN LAT UNDERCLEAR LT	1
(30)	++++++++++++++++++++++++++++++++++++++	-
(20)	NAVIGATION CONTROL DR DEDMIT DEC	
(38)	NAVIGATION CONTROL- BE PERMIT REQ CODE 1	L
(TTT) (30)	NAVIGATION VERTICAL CLEARANCE	L
(116)	VERTICAL CLEARANCE 50.0 N	1
(40)	NAVIGATION HORIZONTAL CLEARANCE	1 1
( 10 /		•

*****	* * * * * * * * * * * * * * * * * * * *
SUFFICIENCY RATING =	31.3
PAINT CONDITION INDEX	= 100.0

	************* CLASSIFICATION *************	CODE
(112)	NBIS BRIDGE LENGTH- YES	Y
(104)	HIGHWAY SYSTEM- NOT ON NHS	0
(26)	FUNCTIONAL CLASS- MINOR ARTERIAL RURAL	06
(100)	DEFENSE HIGHWAY- NOT STRAHNET	0
(101)	PARALLEL STRUCTURE- NONE EXISTS	Ν
(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- STATE HIGHWAY AGENCY	01
(22)	OWNER- STATE HIGHWAY AGENCY	01
(37)	HISTORICAL SIGNIFICANCE- ELIGIBLE	2
	****	CODE
(50)	CONDITION	CODE
(58)		5
(59)	SUPERSTRUCTORE	4
(60)	SUBSTRUCTURE	4
(61)	CHANNEL & CHANNEL PROIECTION	8
(62)	COLVERIS	IN
	**************************************	CODE
(31)	DESIGN LOAD- M-13.5 OR H-15	2
(63)	OPERATING RATING METHOD- ALLOWABLE STRESS	2
(64)	OPERATING RATING-	30.8
(65)	INVENTORY RATING METHOD- ALLOWABLE STRESS	2
(66)	INVENTORY RATING-	22.7
(66) (70)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOA	22.7 DS 5
(66) (70) (41)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED-	22.7 DS 5 A
(66) (70) (41)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION	22.7 DS 5 A
(66) (70) (41)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOA STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE
(66) (70) (41) (67)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4
(66) (70) (41) (67) (68)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3
(66) (70) (41) (67) (68) (69)	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N
<pre>(66) (70) (41) (67) (68) (69) (71)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9
<ul> <li>(66)</li> <li>(70)</li> <li>(41)</li> <li>(67)</li> <li>(68)</li> <li>(69)</li> <li>(71)</li> <li>(72)</li> </ul>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115) (90) (92)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M 5182 2040 MO
<pre>(66) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115) (90) (92) 21)</pre>	INVENTORY RATING- BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 DS 5 A CODE 4 3 N 9 8 0010 5 M 5182 2040 MO ATE



Photo No. 12 Column 4 at Bent 23 has a void and rot due to termite infestation.





Photo No. 13 Core rot due to termites in Column 4 at Bent 23.
10 0136 ALBION RIVER 01-MEN-001-43.74 113 - PHOTO> Sub-Damage/Deterioration





Photo No. 14 The east scab at Column 2 of Bent 24 has a void and rot due to termite infestation.





Photo No. 15 Core rot due to termites in the eastern timber scab at Column 2 of Bent 24.



DEPARTMENT OF TRANSPORTATION	Bridge Number : 10 0136
Structure Maintenance & Investigations	Facility Carried: STATE ROUTE 1
	Location : 01-MEN-001-43.74
	City :
	Inspection Date : 08/18/2020
	Inspection Type
Bridge Inspection Report	Routine FC Underwater Special Other

### STRUCTURE NAME: ALBION RIVER

### CONSTRUCTION INFORMATION

Year Built :	1944	Skew (degrees):	0
Year Modified:	N/A	No. of Joints :	2
Length (m) :	295.4	No. of Hinges :	0

Structure Description: Simply supported 34-span bridge. Timber 2-ply plank deck, with AC riding surface, timber 17-girder spans on timber A-frame deck trusses on timber tower bents. Eleven timber approach spans at the south end of the bridge, with Span 8 & 10 being a timber A-frame deck truss. A single-span riveted steel deck truss on RC tower bents over the main channel. Twenty-two timber approach spans at the north end of the bridge, with Span 14, 16, 18, 20, 22, 24, 26, 28, & 30 being a timber A-frame deck truss. Both abutments are RC buttress-type with monolithic RC wingwalls and 3-column bents on spread footings. Foundations for Bents 2-10 & 26-34 are concrete pedestal-type spread footings, Tower 11-12 is on driven (split-rail reinforced) PC/RC piles and Tower 13-14 is on driven timber piles, Bents 15-25 are concrete pedestal-type footings on driven timber piles. (The main span is a riveted steel deck truss, expansion at Bent 12 and fixed at Bent 13, which was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 miles downstream of Bidwell Bar) All timber is treated Douglas Fir (from Washington State).

:7 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 1 @ 16.5 ft, 1 @ Span Configuration 130.0 ft, 1 @ 16.5 ft, 1 @ 38.0 ft, 1 @ 19.0 ft, 1 @ 38.0 ft, 4 @ 19.0 ft

### SAFE LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15 Inventory Rating: RF=0.70 =>22.7 metric tons Calculation Method: ALLOWABLE STRESS Operating Rating: RF=0.95 =>30.8 metric tons Calculation Method: ALLOWABLE STRESS : PGGGO Permit Rating Posting Load Type 3S2:<u>Legal</u> : Type 3: <u>Legal</u> Type 3-3:Legal

### DESCRIPTION ON STRUCTURE

Deck X-Section: 0.3 ft br, 1.0 ft wg, 26.0 ft, 1.0 ft wg, 0.3 ft br Total Width: 8.5 m Net Width: 7.9 m No. of Lanes: 2 50 mph Speed: Min. Vertical Clearance: Unimpaired Overlay Thickness: 2.0 inches

Rail Code: 0010

### DESCRIPTION UNDER STRUCTURE

Channel Description: Wide, sandy bed on flat slope situated in bottom of relatively narrow canyon at outlet to the ocean. Tidally influenced; flow reversal. Bridge is on straight reach downstream of right bend, about 600 feet from the outlet to the ocean.

### NOTICE

### INSPECTION COMMENTARY

### 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 river was flowing at a depth of approximately 6 to 8 feet deep through Span 12 at the time of this investigation. The base of both main-span towers was out of the water. The soffit, superstructure and substructure were viewed with the aid of the Under Bridge Inspection Truck (UBIT) and from the catwalk and also from the ground underneath with binoculars. Spans 1 through 5 and Spans 32 and 33 were inspected from the ground below with the aid of binoculars. A complete routine inspection was performed on all of the visible elements.

This structure is fracture critical because of the lack of redundancy of the riveted steel deck truss main span. The Fracture Critical Investigation Team is responsible for inspection of the fracture critical steel elements of this bridge. The most recent Fracture Critical Investigation was performed on 02/19/2020 in accordance with the Fracture Critical Member Inspection Plan dated 03/22/2012. A hands-on visual inspection was performed on the tension members of the left and right steel truss in Span 12. No fractures or cracks were found.

The condition of the structure elements of this bridge below the catwalk could not be completely evaluated during this routine inspection due to the height of the timber towers (over 100 feet tall on average). Only the timbers and fasteners at the base of the bents could be completely examined. The timber members below the catwalk were inspected in May of 2012 by climbers who rappeled from the catwalk. A follow up in-depth inspection on the timber tower elements has been scheduled for late September/early October of 2020 utilizing UAS technology as well as climbers. These inspection methods will be employed on a regular inspection interval from this time going forward due to the advancing deterioration of the timber elements and diminished effectiveness of the preservative treatment.

A climb team comprised of personnel from the Toll Bridges Investigations Office inspected all timber structure members at and below the catwalk in May 2012. The inspection included close visual and auditory reconnaissance of the full length and all sides of every piece of timber. Any suspect members were drilled to verify their integrity; and, if found to be deficient, the location, amount, and severity of any decay found was documented for future remediation. Please refer to the 05/15/2012 BIR as well as the SUBSTRUCTURE condition text below for more detailed information.

### MISCELLANEOUS

The main span is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 miles downstream of Bidwell Bar.

During a District Preliminary Environmental Assessment dated July 2017, soil sampling

### INSPECTION COMMENTARY

indicated chromium contamination around the timber towers, This is indicative of the preservative treatment leaching from the timbers. Without reliable chemical preservative treatment, an increased rate of decay of the treated timber elements is anticipated. Insect infestation noted during this inspection indicates that the loss of preservative treatment is evident. SM&I is in the process of testing the treated timber members to determine the extent of preservative present in the timber with the hope that this can lead to a better understanding of the remaining lifespan of the preservative.

Recommendations to repair or replace portions or all of the structure have been added to the backlog of Outstanding Work for this bridge over more than 20 years. The District established an Expenditure Authorization (EA), 01-40110X, in April 1999 to address many of these issues. A partial listing includes:

1.) Replace the wood bridge rail.

2.) Remove and replace the bolted connections and hardware throughout the entire timber sub-structure.

- 3.) Replace the steel main span.
- 4.) Or, replace the entire structure.

This project has been included in the District's 2012 SHOPP Plan. It is programmed for funding; the EA is currently active with the contract tentatively scheduled to be advertised in June 2016. No work is under way at this time to deal with most of the outstanding Work Recommendations that have been consolidated under this EA.

A Structure Maintenance & Investigations Peer Review in August 2007 unanimously reaffirmed replacement of the structure as the preferred engineering and most fiscally responsible alternative to ensure the safety and reliability of this critical link of the state highway system. The decision to recommend replacement was based on the significant cost to upgrade the bridge and the need for future preventive maintenance, including continual replacement of the bolted connectors of the timber towers and repainting the truss of the main span of the structure every five to ten years. The district should proceed with complete replacement of this structure.

### DECK AND ROADWAY

The deck condition (NBI 58) is rated a 5-Fair based on the rot and decay that is present along the ends of the deck planks and the associated rail connection capacity at these locations. The timber bridge rail is also rated as substandard due to the material type when compared to current bridge rail standards. It is anticipated that the decay will continue at an advanced rate once it has been established.

### SUPERSTRUCTURE

The superstructure condition (NBI 59) is rated a 4-Poor due to the advanced corrosion of the connections, the multiple split and severed timber scabs and widespread checking of the timber elements. This widespread checking of the timber elements coupled with the loss of preservative treatment noted above are conditions that give rise to an increased rate of decay that will be difficult to predict. The increased rate of decay, corrosion of the steel split ring, toothed ring and claw plate connectors used in all timber connections, as well as the condition of over 50 split timber scabs throughout the timber truss is an item of high concern due to the effect this can have on the overall structural capacity of the structure.

### SUBSTRUCTURE

### INSPECTION COMMENTARY

The substructure condition (NBI 60) is rated a 4-Poor due to the widespread checking of the timber columns, decay potential due to diminished effectiveness of the preservative treatment, distressed timber scab connections and the assumed corroded condition of the split ring, toothed ring and claw plate connectors, the majority of which are not visible for inspection.

The bolted connections are acting as pins. If the nuts that retain the galvanized steel bolts or threaded rods should fail, there is a possibility that they will slide out of the connections as the timber members shift. Currently, approximately 50% to 75% of the nuts of the bolted connections in the towers are in unsatisfactory condition due to corrosion from the marine environment (see Photos 1 through 10 from the BIR dated 05/15/2012). Based on the configuration of the timber bents, it has been determined that there are 50 galvanized steel bolts or threaded rods in the top horizontals, 60 galvanized steel bolts or threaded rods at the intermediate horizontals, 8 galvanized steel bolts or threaded rods in the intermediate and 114 galvanized steel bolts or threaded rods in the intermediate steel bolts are as follows:

Bents 2-3, 4-5, and 6: 100 galvanized steel bolts or threaded rods.
Bents 7-8: 178 galvanized steel bolts or threaded rods.
Bents 9-10: 436 galvanized steel bolts or threaded rods.
Bents 15-16, 17-18, 19-20, 21-22 and 23-24: 2,560 galvanized steel bolts or threaded rods (512 per tower bent).
Bents 25-26 and 27-28: 888 galvanized steel bolts or threaded rods (444 per tower bent).
Bents 29-30: 379 galvanized steel bolts or threaded rods.
Bents 31-32: 178 galvanized steel bolts or threaded rods.
Bents 33-34: 100 galvanized steel bolts or threaded rods.

Total: 4,819 galvanized steel bolts or threaded rods. Estimate 5,000 galvanized steel bolts or threaded rods, malleys, and nuts for contract purposes.

At least 15 to 20% of the timber scabs at the connections of the legs/columns between each level have 0.25 to 0.5 inch wide splits where the threaded rods, malleys, and nuts have compressed and distorted the wood (see Photos 2, 7 and 9 from the BIR dated 05/15/2012).

The galvanized steel straps located at every level, which connect/tie the timber legs/columns between each level to the ones above or below across the horizontal timber beams, have moderate to severe areas of corrosion (see Photos 1, 3, 5, 6 and 8 from the BIR dated 05/15/2012).

Approximately 800 of the bolts in some of the connections throughout the substructure of Spans 15 through 34 were replaced in 2016 under EA 01-E2004. Another project is planned for November 2021 to replace the remaining corroded substructure bolts in these spans. Until the work is completed, the Bridge Crew should closely monitor the integrity of the connections and continue replacing fasteners as needed.

### SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by SMI Ratings Branch. An updated Load Rating Summary Sheet will be archived when this review is complete. The current ratings are based on Midas computer program output dated 11/01/2011.

The steel deck truss main span was found to have lower Inventory, Operating and Permit Ratings than the timber truss spans, and therefore, to be the controlling portion of the structure. The load rating values shown are for the steel deck truss main span.

### INSPECTION COMMENTARY

A work request (#9990) has also been submitted to SMI Ratings Branch to evaluate the affect of the termite infestation on the load bearing capacity of timber Column 4 at Bent 23. The extent of the infestation is documented under the respective parent element. Preliminary calculations indicate that the damage due to the termite infestation is not an immediate threat to the safe load capacity of the structure, however, the Load Ratings Branch will perform an in-depth review of the safe load capacity including the timber substructure elements.

### WATERWAY

The ten year channel cross section is due for this structure. Due to the height of the structure and high winds, the ABME was unable to take the cross section during this inspection. A work request (#8305) has been submitted to the Hydraulics Division to complete this work.

### STEEL INVESTIGATIONS

This structure qualifies for an in-depth Steel investigation because it possesses the following fracture critical or fatigue prone details:

Truss: FC Members with Category E Welds

Fracture Critical: Yes Inspection Freq.: 24

ELEMEN	NT INSPECTION	ON RATINGS AND COMMENTARY									
Elem No.	Defect Defec /Prot	t Element Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ondition St. 3	1 State St. 4		
ELEMENT INSPECTION RATINGS AND COMMENTARY         Elem Defect Defect Element Description No. //rot       Env Total Units Qty in each Condition State Qty         St. 1       St. 2       St. 3       St. 4         Element Group: 101 - Approach - Southern Spans 1-11 - Timber Deck Trusses         31       Deck-Timber       3       651       sq.m       631       5       15       0         1140       Decay/Section Loss (Timber)       3       20       0       5       15       0         510       Deck Wearing Surface-Asphalt       3       594       sq.m       594       0       0       0         (31)       The spacer block in Bay 13 of Span 2 is loose and hanging down below the girders.											
31		Deck-Timber	3	651	sq.m	631	5	15	0		
	1140	Decay/Section Loss (Timber)	3	20		0	5	15	0		
	510	Deck Wearing Surface-Asphalt	3	594	sq.m	594	0	0	0		
(31) The sp	31) The spacer block in Bay 13 of Span 2 is loose and hanging down below the girders.										
The ti orient top la Photo drille Large sides deck d (see P not me	(31-1140) The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are several areas of white fungus present on the soffit of the timber deck (see Photo 1 from this report and Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot. Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 21 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck										
(31-51 There under	(31-510) There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.										
111		Girder/Beam-Timber	2	590	m	568	22	0	0		
	1150	Check/Shake (Timber)	2	22		0	22	0	0		
(111)											

See Appendix A for detailed information on the element and associated defects.

Next Inspection: 02/19/2022

Elem Defect Defect Element Description No. /Prot

Env Total Units Qty in each Condition State Qty St. 1 St. 2 St. 3 St. 4

Element Group: 101 - Approach - Southern Spans 1-11 - Timber Deck Trusses

(111 - 1150)

Several timber girders display horizontal checks along their neutral axis that penetrate less than 50% of the member thickness (see Photo 2).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

117	Stringer-Timber	3	690	m	667	23	0	0
1150	Check/Shake (Timber)	3	23		0	23	0	0

### (117 - 1150)

Several timber stringers display horizontal checks along their neutral axis that penetrate less than 50% of the member thickness.

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

135	Truss-Timber	3	46	m	0	46	0	0
1020	Connection	3	14		0	14	0	0
1150	Check/Shake (Timber)	3	32		0	32	0	0

(135)

See Appendix A for detailed information on the element and associated defects.

(135 - 1020)

Approximately 30% of the threaded fasteners are exhibiting signs of corrosion. The marine environment has caused significant section loss of a large number of the nuts on the threaded rods that hold the timber members in place (see Photos 21 - 23 from the BIR dated 10/11/2017 for typical condition).

### (135 - 1150)

Many of the vertical and diagonal members of the truss have checks approximately 0.125 to 0.25 inches wide that penetrate approximately 3 to 4 inches into the members' cross section (see Photos 6 - 10 from this report and Photos 24 - 31 from the BIR dated 10/11/2017).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

156	Floor Beam-Timber	3	17	m	7	10	0	0
1140	Decay/Section Loss (Timber)	3	2		0	2	0	0
1150	Check/Shake (Timber)	3	8		0	8	0	0

(156)

See Appendix A for detailed information on the element and associated defects.

(156-1140)

There is rot and decay present for a length of 6 to 12 inches on the outer edges of the floor beams (see Photos 38 -39 from the BIR dated 10/11/2017). Several of the floor beams were drilled and determined to be sound. This currently does not warrant a work recommendation but will be monitored during future inspections.

(156-1150)

ELEMENT INSPE	ECTION RAT	INGS AND COMMENTARY									
Elem Defect No. /Prot	Defect El	ement Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ndition St. 3	State St. 4		
Element Group:	101 - Appr	oach - Southern Spar	ns 1-11 - Timb	er Dec	k Truss	es					
Many of the fl 50% of the men	loor beams on Noers thickn	exhibit horizontal ch ness.	ecks along thei	r neut	ral axi	is that	penetra	te less	than		
These checks a chemical prese elements.	These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.										
205	Columr	- RC	3	2	each	2	0	0	0		
(205) There were no	significant	defects noted.									
206	Columr	-Timber	3	24	each	15	9	0	0		
1150	Check/	Shake (Timber)	3	9		0	9	0	0		
(206) See Appendix A defects.	A from the 1	BIR dated 11/11/2017	for detailed in	format	ion on	the ele	ement ar	nd assoc	iated		
(206-1150) There are 0.12 members' cross	25 to 0.25 : s section (;	inch wide vertical ch see Photo 11).	ecks that penet	rate a	pproxim	mately 3	3 to 4 i	nches in	nto the		
These checks a chemical prese elements.	are through ervative tro	out the timber elemen eatment that will all	ts. These check ow moisture to	s repr initia	esent a te deca	a breacl ay on tl	n in the ne inter	e perime tior of t	ter the		
208	Trest	e-Timber	3	116	m	0	116	0	0		
1020	Connec	tion	3	23		0	23	0	0		
1150	Check/	Shake (Timber)	3	93		0	93	0	0		
(208) See Appendix A defects.	A from the 1	BIR dated 11/11/2017	for detailed in	format	ion on	the ele	ement ar	id assoc	iated		
(208-1020) Approximately surface rust t	20% of the throughout	threaded connections (see Photos 44 - 47 f	have not been rom the BIR dat	replac ed 10/	ed and 11/2017	show s: 7).	igns of	corrosio	on with		
Based on the o split ring, to integrity of t ability of the	observed com oothed ring these split e connection	rrosion of the connec and claw plate shear ring (and other type ns.	tion bolts, it connectors are s) of shear con	is log in an nectio	ical to equal ns is o	o assume state o critica	e that t of distr l to the	the inte tess. The load t	rnal he ransfer		
(208-1150)											
There are 0.12 members' cross 10/11/2017).	25 to 0.25 s s section t	inch wide vertical ch nroughout every membe	ecks that penet r of the trestl	rate a e (see	pproxim Photos	nately 3 5 52 - 0	3 to 4 i 52 from	nches in the BIR	nto the dated		
These checks a chemical prese elements.	are through ervative tre	out the timber elemen eatment that will all	ts. These check ow moisture to	s repr initia	esent a te deca	a breacl ay on tl	n in the ne inter	e perimetrior of t	ter the		
215	Abutme	nt-RC	3	11	m	11	0	0	0		
(215)											

ELEMENT INSPEC	TION RATINGS AND COMMENTARY										
Elem Defect De No. /Prot	efect Element Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ndition St. 3	State St. 4			
Element Group: 3	101 - Approach - Southern Spans 1-11	- Timbe	er Decl	k Truss	es						
There were no s	ignificant defects noted.										
220	Pile Cap/Footing-RC	2	30	m	30	0	0	0			
(220) There were no significant defects noted. This element represents the concrete footing under each column of the trestle.											
234	Pier Cap-RC	3	8	m	8	0	0	0			
(234) There were no s	ignificant defects noted.										
235	Pier Cap-Timber	3	52	m	10	42	0	0			
1150	Check/Shake (Timber)	3	42		0	42	0	0			
See Appendix A for detailed information on the element and associated defects. (235-1150) Many of the floor beams exhibit horizontal checks along their neutral axis that penetrate less than 50% of the members thickness (see Photos 16 and 17). These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the											
332	Pailing_Timber	3	512	m	410	0	102				
1020	Connection	3	102	iii	0	0	102	0			
(332) The timber brid (332-1020) The timber rail the deck planks measured but co	ge rail was cleaned and painted in 20 connection to the deck is affected by on both sides of the structure. The nservatively estimated at 15 to 20% or	13 as pa y the de exact a f the to	rt of ck rot mount tal le	EA 01-0 that i of deca ngth of	A5904. s prese ay (line the de	nt alon ar foot ck.	g the ed age) was	lge of s not			
Element Group: 3	102 - Main - Main Span - Steel Deck	Truss									
31	Deck-Timber	3	341	sq.m	331	2	8	0			
1140	Decay/Section Loss (Timber)	3	10		0	2	8	0			
510	Deck Wearing Surface-Asphalt	3	341	sq.m	341	0	0	0			
(31-1140) The timber deck oriented at a 3 top layer. The 8 from the BIR without decay o Large areas of sides throughou deck drains and (see Photos 9 - not measured bu	The timber deck consists of two layers of 11.25 inch by 3 inch timber deck planks with the top layer oriented at a 30 degree angle to the bridge deck and the bottom layer oriented perpendicular to the top layer. There are areas of white fungus present on the soffit of the timber deck (see Photos 4 - 8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound without decay or rot. Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 21 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.										

ELEMEI	NT INSPECTIO	ON RATINGS AND COMMENTARY							
Elem No.	Defect Defec /Prot	t Element Description	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ndition St. 3	State St. 4
Elemen	t Group: 102	- Main - Main Span - Steel Deck Tru	lss						
(31-51	.0)								
There	were no sign	ificant defects noted. A new AC over	lay w	as pla	ced on	the bri	dge deo	k in 20	16
under	EA 01-E2004.								
120		Truss-Steel	4	79	m	71	0	8	0
	1000	Corrosion	4	8		0	0	8	0
	515	Steel Coating-Paint	4	876	sq.m	876	0	0	0
(120) FCMI(0	)2/19/2020):	See the report narrative for a list o	f memi	bers t	hat wei	re inspe	cted.		
(120-1	.000)								
FCMI(0	02/19/2020):	See the report narrative for descript	ion o	f the	defects	s (7.8 m	in CS3	;).	
(120-5	515)								
The st 0A5904	eel deck tru . The paint	ss of the main span was cleaned and pa system on the main span steel deck t	ainte russ	d in t appear	he fall s to be	l of 201 e in goo	3 as pa d condi	rt of E tion.	A 01-
156		Floor Beam-Timber	4	573	m	57	516	0	0
	1140	Decay/Section Loss (Timber)	4	58		0	58	0	0
	1150	Check/Shake (Timber)	4	458		0	458	0	0
(156-1	140)								
There	is rot and d	lecay present for a length of 6 to 12	inche	s on t	he oute	er edges	of the	e floor	beams
(see F	Photos 38 and	1 39 from the BIR dated 10/11/2017).	This	curren	tly doe	es not w	arrant	a work	
recomm	nendation but	will be monitored during future insp	ectio	ns.					
Approx wide t dated	simately 80% that penetrat 10/11/2017).	of the floor beams exhibit horizontal e 3 to 4 inches into the members' cros	chec ss se	ks app ction	roximat (see Pł	tely 0.1 notos 40	25 to ( - 43 f	.25 inc from the	hes BIR
162		Steel Gusset Plate	2	40	each	40	0	0	0
(162)									
There	were no sign	ificant defects noted. The gusset pla	ates	was cl	eaned a	and pain	ted in	the fal	l of
2013 a	AS PAIL OI EA	oi-oA3904. The paint system appears				-			
205		Column-RC	3	4	each	3	1	0	0
	1080	Delamination/Spall/Patched Area	3	1		0	1	0	0
(205)									
There near C	is a delamin Column 2 of T	ation measuring approximately 36 incheroistics and a second	es lo:	ng by	18 incl	nes high	in the	e debris	wall
(205-1	080)								
There of Tow	is a 6 inch ver 13-14.	diameter spall that has been patched o	on th	e east	side d	of the s	outh wa	ll of t	he base
227		Pile-RC	2	1	ea.	1	0	0	0
(227)									
The pi expose	le element i ed for visual	s included to indicate the presence of inspection. No indication of pile d	f pil istre	es on ss was	this st noted	ructure in any	. The substru	piles w ucture e	ere not lement.
228		Pile-Timber	2	1	ea.	1	0	0	0
(228)									

Page

9 of 17

ELEME	NT INSPECTIO	ON RATINGS AND COMMENTARY							
Elem No.	Defect Defec /Prot	t Element Description	Env	Total Qty	Units	Qty in St. 1	each C St. 2	onditio St. 3	n State St. 4
Elemen	t Group: 102	- Main - Main Span - Steel Deck Tru	ISS						
The pi expose	le element i d for visual	s included to indicate the presence o inspection. No indication of pile d	f pil istre	es on ess was	this st noted	tructure in any	e. The substr	piles ucture	were not element.
234		Pier Cap-RC	3	17	m	17	0	0	0
(234) There truss	were no sign support towe	ificant defects noted. New concrete r in 2016 under EA 01-E2004.	beari	.ng ped	estals	were co	onstruc	ted at	each
301		Joint-Pourable Seal	2	17	m	9	8	0	0
	2330	Seal Damage (Joints)	2	8		0	8	0	0
(301) New Ty (301-2 The po Bent 1	vpe "A" poura 2330) Durable joint .4 remains in	ble joint seals were installed at Ben seal at Bent 13 already exhibits sma good condition.	ts 13 ll te	and 1	4 in 20 roughou	016 unde ut its I	er EA 0 Length	1-E2004 but the	seal at
304		Joint-Open Expansion	3	17	m	17	0	0	0
(304) There	were no sign	ificant defects noted.							
311		Bearing-Moveable	4	2	each	2	0	0	0
(311) There	were no sign	ificant defects noted.							
313		Bearing-Fixed	4	2	each	2	0	0	0
(313) There	were no sign	ificant defects noted.							
332		Railing-Timber	3	79	m	63	0	16	0
	1020	Connection	3	16		0	0	16	0
(332) The ti $(332-1)$ The ti of the	mber bridge 020) mber rail co e deck planks	rail was cleaned and painted in 2013 a nnection to the deck may be affected i on both sides of the structure.	as pa by th	art of 3 ne deck	EA 01-0 rot tł	)A5904. nat is p	present	along	the edge
Elemen	t Group: 103	- Approach - Northern Spans 13-34 -	- Tim	ber Dec	ck Trus	ses			
31		Deck-Timber	2	1557	sq.m	1511	10	36	0
	1140	Decay/Section Loss (Timber)	2	46		0	10	36	0
	510	Deck Wearing Surface-Asphalt	2	1420	sq.m	1420	0	0	0
(31-11 The sc are pl	.40) cuppers at th .ugged with d	e base of the wheel guards on both siding and weeds.	des c	of the o	deck at	the no	orth en	d of th	e bridge
The ti orient top la	mber deck co ded at a 30 d ayer. There	nsists of two layers of 11.25 inch by egree angle to the bridge deck and th are areas of white fungus present on	3 ir e bot the s	nch tim tom lag soffit	ber dec yer or: of the	ck plan iented p timber	ks with perpend deck (	the to icular see Pho	p layer to the tos 4 -

8 from the BIR dated 10/11/2017). When these areas were drilled, the deck appeared to be sound

10 0136/AABB/62260

 Elem
 Defect Defect
 Element Description
 Env Total
 Units Qty in each Condition State

 No.
 /Prot
 Qty
 St. 1
 St. 2
 St. 3
 St. 4

Element Group: 103 - Approach - Northern Spans 13-34 - Timber Deck Trusses

without decay or rot.

Large areas of rotted and decayed timber deck planks were discovered along the edge of deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks (see Photos 9 - 22 from the BIR dated 10/11/2017). The exact amount of decay (linear footage) was not measured but conservatively estimated at 15 to 20% of the total length of the deck.

(31-510)

There were no significant defects noted. A new AC overlay was placed on the bridge deck in 2016 under EA 01-E2004.

111	Girder/Beam-	Timber	2	295	m	295	0	0	0
(111)									
There	were no significant defec	ets noted.							
117	Stringer-Tim	ber	3	2757	m	2496	261	0	0
	1150 Check/Shake	(Timber)	3	261		0	261	0	0

(117)

See Appendix A for detailed information on the element and associated defects.

(117 - 1150)

Several timber stringers display horizontal checks along their neutral axis that penetrate less than 50% of the member thickness.

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

135	Truss-Timber	3	208	m	3	195	10	0
1020	Connection	3	62		0	62	0	0
1140	Decay/Section Loss (Timber)	3	10		0	0	10	0
1150	Check/Shake (Timber)	3	133		0	133	0	0

(135)

See Appendix A for detailed information on the element and associated defects.

The right 12 inch member in the third section of the catwalk of Span 20 is rotted in the middle and the right 12 inch member in the middle section of the catwalk in Span 22 is rotted around the connection points (see Photo 3).

Approximately 50 of the timber scabs located at the connections of the diagonal truss members to the bottom chord have been split (see Photos 33 - 37 from the BIR dated 10/11/2017).

(135 - 1020)

Approximately 30% of the threaded fasteners are exhibiting signs of corrosion. The marine environment has caused significant section loss of a large number of the nuts on the threaded rods that hold the timber members in place (see Photos 21 - 23 from the BIR dated 10/11/2017 for typical condition).

The threaded connector that bolts a 3 inch by 8 inch diagonal brace at Bent 17, which is attached to the left side of Column 3 at the catwalk level and extends to the top of Column 3 in Bent 18, has sheared off between the brace and the post.

Elem Defect Defect Element Description No. /Prot

Env Total Units Qty in each Condition State Qty St. 1 St. 2 St. 3 St. 4

Element Group: 103 - Approach - Northern Spans 13-34 - Timber Deck Trusses

(135 - 1140)

An area of decay was found at the top left horizontal between Bent 15 and Bent 16. The top 4 inches has core rot and extends 10 feet from Bent 15 towards Bent 16.

An area of decay was found at the top of horizontal member to the right (east) of the catwalk between Bent 23 and 24. The top 3 inches has core rot that extends 5 feet towards Bent 24.

An area of decay was found at the top of horizontal member to the right (east) of the catwalk between Bent 31 and 32. The top 3 inches has core rot that extends 15 feet towards Bent 32.

(135 - 1150)

All of the vertical and diagonal members of the truss have checks approximately 0.125 to 0.25 inches wide that penetrate approximately 3 to 4 inches into the members' cross section (see Photos 6 - 10 from this report and Photos 24 - 31 from the BIR dated 10/11/2017).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

156	Floor Beam-Timber	3	77	m	19	58	0	0
1140	Decay/Section Loss (Timber)	3	7		0	7	0	0
1150	Check/Shake (Timber)	3	51		0	51	0	0

(156)

See Appendix A for detailed information on the element and associated defects.

(156 - 1140)

There is rot and decay present for a length of 6 to 12 inches on the outer edges of the floor beams (see Photos 38 -39 from the BIR dated 10/11/2017). Several of the floor beams were drilled and determined to be sound. This currently does not warrant a work recommendation but will be monitored during future inspections.

(156-1150)

Many of the floor beams exhibit horizontal checks along their neutral axis that penetrate less than 50% of the members thickness.

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

205	Column-RC	3	2	each	1	1	0	0
1080	Delamination/Spall/Patched Area	3	1		0	1	0	0

(205)

See Appendix A for detailed information on the element and associated defects.

(205 - 1080)

The incipient spall located along the northeast corner of Column 2 at Bent 14 has been patched. The patch measures approximately 24 inches tall by 12 inches wide and is located 20 feet above the ground.

206	Column-Timber	3	8	each	6	2	0	0
1150	Check/Shake (Timber)	3	2		0	2	0	0
(206)								

See Appendix A from the BIR dated 11/11/2017 for detailed information on the element and associated

Elem Defect Defect Element Description No. /Prot

Env Total Units Qty in each Condition State Qty St. 1 St. 2 St. 3 St. 4

Element Group: 103 - Approach - Northern Spans 13-34 - Timber Deck Trusses

defects.

(206 - 1150)

There are 0.125 to 0.25 inch wide vertical checks that penetrate approximately 3 to 4 inches into the members' cross section (see Photo 11).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

208	Trestle-Timber	3	600	m	0	515	0	85
1020	Connection	3	120		0	120	0	0
1140	Decay/Section Loss (Timber)	3	85		0	0	0	85
1150	Check/Shake (Timber)	3	395		0	395	0	0

(208)

See Appendix A from the BIR dated 11/11/2017 for detailed information on the element and associated defects.

(208 - 1020)

Approximately 20% of the threaded connections have not been replaced and show signs of corrosion with surface rust throughout (see Photos 44 - 47 from the BIR dated 10/11/2017).

Based on the observed corrosion of the connection bolts, it is logical to assume that the internal split ring, toothed ring and claw plate shear connectors are in an equal state of distress. The integrity of these split ring (and other types) of shear connections is critical to the load transfer ability of the connections.

(208 - 1140)

There is a void measuring approximately 12 inches high by 8 inches wide by 4 inches deep located in the core of Column 4 at Bent 23 due to termite infestation (see Photos 12 and 13). The timber fibers adjacent to the void are soft and crumbly for about an inch in each direction around the affected area. The void is located approximately 2 feet above the concrete footing support.

There is another area of infestation present at Column 2 of Bent 24. The timber scab at the footing connection on the east face of the column has a void measuring approximately 10 inches high by 2 inches wide by 3.5 inches deep (see Photos 14 and 15). The infestation has not reached the column, but has penetrated the full depth of the timber scab.

(208 - 1150)

There are 0.125 to 0.25 inch wide vertical checks that penetrate approximately 3 to 4 inches into the members' cross section throughout every member of the trestle (see Photos 52 - 62 from the BIR dated 10/11/2017).

These checks are throughout the timber elements. These checks represent a breach in the perimeter chemical preservative treatment that will allow moisture to initiate decay on the interior of the elements.

215	Abutment-RC	3	11	m	11	0	0	0
(215)								
There w	vere no significant defects noted.							
220	Pile Cap/Footing-RC	2	90	m	90	0	0	0
(220)								

ELEMEN	NT INSPECTIO	N RATINGS AND COMME	INTARY							
Elem No.	Defect Defec /Prot	t Element Descriptio	on	Env	Total Qty	Units	Qty in St. 1	each Co St. 2	ondition St. 3	State St. 4
Elemen	t Group: 103	- Approach - Norther	rn Spans 13-34	- Timl	oer De	ck Trus	ses			
There column	There were no significant defects noted. This element represents the concrete footing under each column of the trestle.									
234		Pier Cap-RC		3	8	m	8	0	0	0
(234) There	were no sign:	ficant defects noted								
235		Pier Cap-Timber		3	17	m	0	17	0	0
	1150	Check/Shake (Timber)		3	17		0	17	0	0
(235) See Ap	pendix A for	a detailed information	on on which memb	ers d	isplay	check:	ing.			
(235-1 Many o 50% of These chemic elemen	150) of the floor k the members checks are th cal preservat: ts.	peams exhibit horizon thickness (see Photos aroughout the timber of ve treatment that wi	tal checks along s 16 and 17). elements. These ll allow moistur	thei check e to	r neut s repr initia	cral ax: resent a ate deca	is that a breac ay on t	penetra h in the he inte:	ate less e perime rior of	than ter the
332		Railing-Timber		3	358	m	286	0	72	0
	1020	Connection		3	72		0	0	72	0
(332) The ti	mber bridge 1	ail was cleaned and p	painted in 2013	as pa	rt of	EA 01-0	DA5904.			
(332-1	020)	production to the deale	is affasted by t	ho do	ak rot	+hat	ia pros	ont ala	ag the s	dao of
the de	ck planks on	both sides of the st	ructure. The ex	act a	mount	of deca	ay (lin	ear foot	taqe) wa	is not

measured but conservatively estimated at 15 to 20% of the total length of the deck.

### WORK RECOMMENDATIONS

RecDate: 08/18/2020 Action : Sub-Epoxy Inject Work By: MAINT. CONTRACT Status : PROPOSED	EstCost: StrTarget: DistTarget: EA:	\$500 2 YEARS	Epoxy inject the voids due to termite infestation at Column 4 of Bent 23 and at the east timber scab at Column 2 at Bent 24. The void at Column 4 of Bent 23 measures approximately 12 inches high by 8 inches wide by 4 inches deep and the void at the east timber scab at Column 2 at Bent 24 measures 10 inches high by 2 inches wide by 3.5 inches deep.
RecDate: 08/18/2020 Action : Super-Misc. Work By: BRIDGE CREW Status : PROPOSED	EstCost: StrTarget: DistTarget: EA:	\$5,000 1 YEAR	Replace two rotted catwalk members. The right 12 inch member in the third section of the catwalk of Span 20 is rotted in the middle and the right 12 inch member in the middle section of the catwalk in Span 22 is rotted around the connection points.

RecDate: Action : Work By: Status :	10/11/2017 Super-Misc. MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$60,000 2 YEARS 0E201	Remove and replace the 53 split timber scabs located throughout the northern approach spans.
RecDate: Action : Work By: Status :	10/11/2017 Bridge-Misc MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$25,000 2 YEARS 0E201	Remove and replace the rusted and failed pipe support along the right side of the bridge.
RecDate: Action : Work By: Status :	10/11/2017 Sub-Misc. MAINT. CONTRACT PROGRAMMED	EstCost: S StrTarget: DistTarget: EA:	\$500,000 2 YEARS 0E201	Continue the ongoing program of replacement of timber fasteners. Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, splice plates/straps, scabs, etc.) throughout the entire timber sub- structure.
RecDate: Action : Work By: Status :	10/11/2017 Super-Epoxy Inject MAINT. CONTRACT PROGRAMMED	EstCost: StrTarget: DistTarget: EA:	\$7,500 2 YEARS 0E201	Epoxy inject the horizontal members to the right (east) of the catwalk at Bents 23 and 31 and to the left of the catwalk at Bent 15. The member at Bent 15 has an area of decay within the top 4 inches of the cross section by 15 feet in length. The member at Bent 23 has an area of decay within the top 3 inches of the cross section by 5 feet in length. The member at Bent 31 has an area of decay within the top 3 inches of the cross section by 15 feet in length.
RecDate: Action : Work By: Status :	10/11/2017 Deck-Misc. MAINT. CONTRACT PROPOSED	EstCost: S StrTarget: DistTarget: EA:	\$500,000 2 YEARS	Remove the rotted and decaying portions of the deck located along the edge of deck on both sides of the bridge. Large areas of rotted timber deck was encountered along the outermost 24 inches of the bridge deck, particularly in the areas underneath the deck drains. The entire deck may have to be removed and replaced due to the configuration of the timber deck planks.
RecDate: Action : Work By: Status :	03/28/2007 Seismic-Retrofit SHOPP LONG LEAD	EstCost: \$1 StrTarget: DistTarget: EA:	,270,000 4 YEARS 40110	Priority 181, This Bridge has been recommended for seismic retrofit by the screening of the Office of Earthquake Engingeering. Steel truss members may require strengthening. Priority 4. Final Score 2.8125. BELOW THE LINE.
RecDate: Action : Work By: Status :	04/05/1999 Bridge-Replace(Bridg SHOPP LONG LEAD	EstCost: \$13 StrTarget: DistTarget: EA:	,200,000 2 YEARS 40110	Replace the steel main span. Estimated at \$2,000,000 (NOT including traffic handling costs). Or, replace the entire structure. Estimated at \$13,200,000.
				THIS AGING STRUCTURE IS IN A MARGINAL AND DETERIORATING CONDITION. IT IS FUNCTIONALLY OBSOLETE, HAS A LOW LOAD RATING, AND IS AN INAPPROPRIATE DESIGN FOR THE ENVIRONMENT. THE LIFE CYCLE

### WORK RECOMMENDATIONS

ECONOMIC COST OF ADEQUATE MAINTENANCE DOES NOT COMPARE FAVORABLY WITH COST OF REPLACEMENT WITH A STRUCTURE TYPE BETTER SUITED TO THE ENVIRONMENT.

IT IS THEREFORE URGENTLY RECOMMENDED THAT THIS STRUCTURE BE REPLACED. AN SM&I PEER REVIEW IN AUGUST 2007 REAFFIRMED THE RECOMMENDATION THAT THIS BRIDGE BE REPLACED.

RecDate: 07/01/1986	EstCost: \$1,500,000	Remove and replace the bolted connections
Action : Sub-Rehab	StrTarget: 2 YEARS	and hardware (threaded rods, malleys,
Work By: SHOPP	DistTarget:	nuts, splice plates/straps, etc)
Status : LONG LEAD	EA: 40110	throughout the entire timber sub-
		structure. Replace the top left
		horizontal timber element between Bent 15

and Bent 16.

10/28/2020

(Date)

RecDate: 02/10/1984	EstCost: \$1,008,60	00 F1-10 / F2-6 / F3-1 / Rail Type-WOOD.
Action : Railing-Upgrade	StrTarget: 2 YEAR	RS Replace the bridge rail.
Work By: SHOPP	DistTarget:	
Status : LONG LEAD	EA: 4011	10

Team Leader	:	Warren L. Peterson
Report Author	:	Warren L. Peterson
Inspected By	: _	WL.Peterson/M.O'Leary

Warren L. Peterson (Registered Civil Engineer)



### STRUCTURE INVENTORY AND APPRAISAL REPORT

(1)	STATE NAME- CALIFORNIA	0	69
(8)	STRUCTURE NUMBER	10 01:	36
(5)	INVENTORY ROUTE (ON/UNDER) - ON 133	10000:	10
(2)	HIGHWAY AGENCY DISTRICT		01
(3)	COUNTY CODE 045 (4) PLACE CODE	000	00
(6)	FEATURE INTERSECTED- ALBIO	N RIV	ER
(7)	FACILITY CARRIED- STATE	ROUTE	1
(9)	LOCATION- 01-MEN-00	1-43.	74
(11)	MILEPOINT/KILOMETERPOINT	43.	74
(12)	BASE HIGHWAY NETWORK- PART OF NET		1
(13)	LRS INVENTORY ROUTE & SUBROUTE 00000	00001	01
(16)	LATITUDE 39 DEG 13 MIN 30	.32 S	EC
(17)	LONGITUDE 123 DEG 46 MIN 09	.83 SI	EC
(98)	BORDER BRIDGE STATE CODE % SHARE		90
(99)	BORDER BRIDGE STRUCTURE NUMBER		
,	****** STRUCTURE TYPE AND MATERIAL ****	****	
(43)	STRUCTURE TYPE MAIN: MATERIAL-	STE	EL
	TYPE- TRUSS - DECK COD	E 3(	09
(44)	STRUCTURE TYPE APPR:MATERIAL- WOOD OR	TIMB	ER
	TYPE- TRUSS - DECK CODI	E 7	09
(45)	NUMBER OF SPANS IN MAIN UNIT		1
(46)	NUMBER OF APPROACH SPANS		33
(107)	DECK STRUCTURE TYPE- TIMBER	CODE	8
(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	194	4
(106)	YEAR RECONSTRUCTED	000	00
(42)	TYPE OF SERVICE: ON- HIGHWAY		1
	UNDER- WATERWAY		5
(28)	LANES: ON STRUCTURE 02 UNDER STRUCTUR	RE C	00
(29)	AVERAGE DAILY TRAFFIC	210	00
(30)	YEAR OF ADT 2009 (109) TRUCK ADT	6	8
(19)	BYPASS, DETOUR LENGTH	62 K	M
	***************** GEOMETRIC DATA *********	*****	* *
(48)	LENGTH OF MAXIMUM SPAN	39.6	М
(49)	STRUCTURE LENGTH 2	95.4	М
(50)	CURB OR SIDEWALK: LEFT 0.3 M RIGHT	0.3	М
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	7.9	М
(52)	DECK WIDTH OUT TO OUT	8.5	М
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	7.3	М
(33)	BRIDGE MEDIAN- NO MEDIAN		0
(34)	SKEW 0 DEG (35) STRUCTURE FLARED	N	IO
(10)	INVENTORY ROUTE MIN VERT CLEAR 9	9.99	М
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	7.9	М
(53)	MIN VERT CLEAR OVER BRIDGE RDWY 9	9.99	М
(54)	MIN VERT UNDERCLEAR REF- NOT H/RR	0.00	M
(55)	MIN LAT UNDERCLEAR RT REF- NOT H/RR	0.0	М
(56)	MIN LAI UNDERCLEAR LT	0.0	М.
	**************************************	****	*
(38)	NAVIGATION CONTROL- BR PERMIT REQ C	ODE	1
(111)	PIER PROTECTION- NOT REQUIRED C	ODE	1
(39)	NAVIGATION VERTICAL CLEARANCE	50.0	М
(10)	VERT-LIFT BRIDGE NAV MIN VERT CLEAR		М
(40)	NAVIGATION HORIZONTAL CLEARANCE	35.7	М

*****	*****
SUFFICIENCY RATING =	31.3
PAINT CONDITION INDEX	= 100.0

	************* CLASSIFICATION *****************	ODE
(112)	NBIS BRIDGE LENGTH- YES	Y
(104)	HIGHWAY SYSTEM- NOT ON NHS	0
(26)	FUNCTIONAL CLASS- MINOR ARTERIAL RURAL	06
(100)	DEFENSE HIGHWAY- NOT STRAHNET	0
(101)	PARALLEL STRUCTURE- NONE EXISTS	Ν
(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- STATE HIGHWAY AGENCY	01
(22)	OWNER- STATE HIGHWAY AGENCY	01
(37)	HISTORICAL SIGNIFICANCE- ELIGIBLE	2
	****************** CONDITION ***********************	ODE
(58)	DECK	5
(59)	SUPERSTRUCTURE	4
(60)	SUBSTRUCTURE	4
(61)	CHANNEL & CHANNEL PROTECTION	8
(62)	CULVERTS	N
	**************************************	CODE
(31)	DESIGN LOAD- M-13 5 OR H-15	2
(63)	OPERATING RATING METHOD- ALLOWABLE STRESS	2
(64)	OPERATING RATING-	0.8
(65)	INVENTORY RATING METHOD- ALLOWABLE STRESS	2
(66)	INVENTORY RATING-	27
(70)	BRIDGE POSTING- EOUAL TO OR ABOVE LEGAL LOAD	)S 5
(70) (41)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD	)S 5
(70) (41)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION	DS 5 A
(70) (41)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION	DS 5 A
(70) (41)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	DS 5 A CODE
(67) (67) (68)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	S 5 A CODE 4
(67) (67) (68) (69)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	DS 5 A CODE 4 3 N
(67) (41) (67) (68) (69) (71)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	205 5 A CODE 4 3 N 9
(67) (41) (67) (68) (69) (71) (72)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2000E 4 3 9 8
<ul> <li>(67)</li> <li>(41)</li> <li>(67)</li> <li>(68)</li> <li>(69)</li> <li>(71)</li> <li>(72)</li> <li>(36)</li> </ul>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2000E 4 3 N 9 8 010
(67) (41) (67) (68) (69) (71) (72) (36) (113)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION *************** APPRAISAL ************************************	2000E 4 3 N 9 8 010 5
<pre>(60) (70) (41) (68) (69) (71) (72) (36) (113)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2000E 4 3 9 8 010 5
(67) (41) (67) (68) (69) (71) (72) (36) (113) (75)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2000E 4 3 N 9 8 010 5
(60) (70) (41) (67) (68) (71) (72) (36) (113) (75) (76)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2000E 4 3 N 9 8 010 5
(60) (70) (41) (67) (68) (71) (72) (36) (113) (75) (76) (94)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.7 ) 23.5 5 A 200DE 4 3 N 9 8 0010 5 M
(67) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	CODE 4 3 N 9 8 010 5 M
(67) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	CODE 4 3 N 9 8 010 5 M
(67) (41) (41) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2007 2007 2007 2007 2007 2007 2007 2007
<pre>(60) (70) (41) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	CODE 4 3 N 9 8 010 5 M
(67) (41) (41) (68) (69) (71) (72) (36) (113) (75) (75) (76) (94) (95) (96) (97) (114) (115)	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	CODE 4 3 N 9 8 010 5 M 182 040
<pre>(60) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	22.2.7 DS 5 A CODE 4 3 N 9 8 0010 5 M 182 040
<pre>(600) (70) (41) (64) (64) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115) (90)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2007 2007 2007 2007 4 3 N 9 8 0010 5 M 182 040 MO
<pre>(600) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (94) (95) (96) (97) (114) (115) (90) (92)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2007 A CODE 4 3 N 9 8 010 5 M 182 040 MO ATE
<pre>(60) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115) (90) (92) A)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2007 200 200
<pre>(60) (70) (41) (67) (68) (69) (71) (72) (36) (113) (75) (76) (94) (95) (96) (97) (114) (115) (90) (92) A) B)</pre>	BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOAD STRUCTURE OPEN, POSTED OR CLOSED- DESCRIPTION- OPEN, NO RESTRICTION ************************************	2007 200 200

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 2

South Face	Х
North Face	Х
Bottom Face	Х

## Columns

	Bottom Face	West Face	Top Face	East Face
C1				
C2			Х	
C3	Х		Х	
C4				

- X Condition State 2
- Y Condition State 3

### Girders

	West Face	East Face
G1	Х	
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		X

# Bent Cap 3

South Face	Х
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1	Х		Х	
C2	Х		Х	
C3				
C4	Х		Х	

Note: Bay 13 spacer block is loose

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 4

South Face	
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2				
C3				
C4				

- X Condition State 2
- Y Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3	Х	
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 5

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2				
C3		X (2")		
C4		X (2")		

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 6

South Face	
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1	X (3")	Х		
C2	Х	Х	Х	
C3	Х			
C4	Х			

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

### Bent Cap 7

South Face	
North Face	
Bottom Face	Х

## Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2				
C3		Х	Х	
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2				
H3				
H4				

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 8

South Face	
North Face	
Bottom Face	Х

## Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2				Х
C3		Х	Х	
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1		х	Х	
H2		х	Х	
H3			Х	
H4			Х	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1	Х	
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		Х

# Bent Cap 9

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2				
C3				
C4				

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2				
H3			X (2")	
H4			X (3")	

## **Truss Members**

		Top Face	Bottom Face	East Face	West Face
1	U <sub>0-1</sub>				
	L <sub>1-2</sub>				
2	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>		х		
3	U <sub>0-1</sub>	х	X (3")		
	L <sub>1-2</sub>	х	х		
4	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>	х			

### **Floor Beam**

South Face	
North Face	
Bottom Face	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 10

South Face	
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1				Х
C2				
C3			Х	
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			Х	
H3			Х	
H4			X (2")	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

### Bent Cap 11

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1	х			
C2	Х			
C3			Х	
C4		х		

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2				
H3				
H4			х	

### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>		х	
	L <sub>1-2</sub>	X(2")		
2	U <sub>0-1</sub>	X (2")		
	L <sub>1-2</sub>	х		
3	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>	X (2")	х	
4	U <sub>0-1</sub>	х		x
	L <sub>1-2</sub>			

### Floor Beam

South Face	
North Face	
Bottom Face	

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 12

South Face	Х
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2	Х			Х
C3				
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			X (2")	
H2			х	
H3			х	
H4			Х	

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 14

South Face	
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1				
C2			х	
C3	Х		х	
C4			х	

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	Х
H3			х	
H4		Х	Х	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

### Bent Cap 15

South Face	
North Face	
Bottom Face	Х

### Columns

	South Face	West Face	North Face	East Face
C1				
C2				
C3				
C4			Х	

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2			х	
H3				
H4			х	

### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	X (2")			
	L <sub>1-2</sub>	х			
2	U <sub>0-1</sub>	X (2")			
	L <sub>1-2</sub>		X (3")	X (2")	
3	U <sub>0-1</sub>				
	L <sub>1-2</sub>	X (2")		х	
4	U <sub>0-1</sub>	X (3")			
	L <sub>1-2</sub>				

### Floor Beam

South Face	
North Face	
Bottom Face	х

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 16

South Face	
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1	X (2")			
C2	Х			
C3	Х		х	
C4	Х	X (3")		х

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			X (2")	
H2			X (2")	Х
H3		Х	х	
H4		Х	Х	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

### Bent Cap 17

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2	Х		х	X (2")
C3	Х	х		
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	
H3			х	
H4			х	

### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	X (3")			
	L <sub>1-2</sub>	х	X (2")	х	
2	U <sub>0-1</sub>	х	х		
	L <sub>1-2</sub>	х		х	
3	U <sub>0-1</sub>	X (3")	х		
	L <sub>1-2</sub>	х	X (2")		
4	U <sub>0-1</sub>	x			
	L <sub>1-2</sub>				х

### Floor Beam

South Face	
North Face	х
Bottom Face	х

X - Condition State 2

Y - Condition State 3

## Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 18

South Face	Х
North Face	
Bottom Face	Х

### Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2				
C3			х	
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	Х
H2			х	
H3			X (2")	
H4		Х		

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

### Bent Cap 19

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2	Х			
C3				
C4	Х			

### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2			х	
H3				
H4			х	

### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	х	х		
	L <sub>1-2</sub>	х	х		
2	U <sub>0-1</sub>	х	х		
	L <sub>1-2</sub>		х	х	
3	U <sub>0-1</sub>	х			х
	L <sub>1-2</sub>	х	х		х
4	U <sub>0-1</sub>	х	X (2")		
	L <sub>1-2</sub>	х			x

### Floor Beam

South Face	
North Face	х
Bottom Face	

X - Condition State 2

Y - Condition State 3
# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 20

South Face	
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2	Х		х	
C3	Х	X (3")		
C4	Х			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	
H3			X (2")	
H4			Х	

X - Condition State 2

Y - Condition State 3

### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		х
G6		х
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16	Х	
G17		

# Bent Cap 21

South Face	
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1	Х			
C2				
C3			х	
C4	X (3")			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2				
H3				
H4			х	

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	X (2")		
	L <sub>1-2</sub>	X (2")		
2	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>			
3	U <sub>0-1</sub>	X (3")		
	L <sub>1-2</sub>	х		
4	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>		X (3")	

#### Floor Beam

South Face	
North Face	х
Bottom Face	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1	Х	Х
G2		
G3		Х
G4		
G5		
G6		Х
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 22

South Face	х
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1	х			
C2	X (2")		х	х
C3				
C4	X (2")			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			х	
H2			х	Х
H3			х	
H4		Х	Х	

X - Condition State 2

Y - Condition State 3

#### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16	Х	
G17		

# Bent Cap 23

South Face	
North Face	
Bottom Face	

## Columns

	South Face	West Face	North Face	East Face
C1	X (3")			
C2	X (3")		х	х
C3		Х	х	
C4	Х	Х	Х	

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2			х	
H3			х	
H4			х	

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>		х		
	L <sub>1-2</sub>		X (2")		
2	U <sub>0-1</sub>	X (2")	х	х	
	L <sub>1-2</sub>		X (2")		
3	U <sub>0-1</sub>	х			х
	L <sub>1-2</sub>		х		
4	U <sub>0-1</sub>	х	х		х
	L <sub>1-2</sub>	X (2")	х		X (2")

#### Floor Beam

South Face	
North Face	х
Bottom Face	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 24

South Face	
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1				х
C2			X (2")	
C3				
C4				

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	х
H3			X (4")	
H4			Х	

X - Condition State 2

Y - Condition State 3

#### Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		Х
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16	Х	
G17		

# Bent Cap 25

South Face	
North Face	
Bottom Face	Х

### Columns

	South Face	West Face	North Face	East Face
C1				х
C2	X (2")			
C3				
C4		Х		

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2				
H3			х	
H4		х	х	

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	х	х	х	
	L <sub>1-2</sub>	х			
2	U <sub>0-1</sub>	X (2")	х	х	
	L <sub>1-2</sub>	х		х	
3	U <sub>0-1</sub>	X (2")	х		
	L <sub>1-2</sub>	X (2")	х		х
4	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>	х			

#### Floor Beam

South Face	
North Face	х
Bottom Face	х

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 26

South Face	
North Face	
Bottom Face	Х

### Columns

	South Face	West Face	North Face	East Face
C1			х	
C2				
C3				
C4	X (3")			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2			х	
H3				Х
H4			Х	

X - Condition State 2

Y - Condition State 3

#### Girders

	West Face	East Face
G1	х	х
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17	х	

# Bent Cap 27

South Face	х
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2				
C3				
C4				

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	
H3			х	
H4			х	

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>			
2	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>	X (2")	х	
3	U <sub>0-1</sub>		х	
	L <sub>1-2</sub>	X (2")	х	х
4	U <sub>0-1</sub>	х		
	L <sub>1-2</sub>		X (2")	х

#### Floor Beam

South Face	
North Face	
Bottom Face	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1	х	Х
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17	х	Х

# Bent Cap 28

South Face	
North Face	
Bottom Face	X (2")

### Columns

	South Face	West Face	North Face	East Face
C1			Х	
C2				
C3	Х		Х	
C4	X (2")			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			х	X (2")
H2				Х
H3			х	
H4		Х	Х	

X - Condition State 2

Y - Condition State 3

#### Girders

	West Face	East Face
G1	Х	х
G2		
G3		Х
G4		Х
G5		х
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17	х	Х

# Bent Cap 29

South Face	х
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1			х	
C2				
C3	Х	Х		
C4	Х			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			Х	
H2			х	
H3				
H4				

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	X (2")			
	L <sub>1-2</sub>				
2	U <sub>0-1</sub>	X (2")	х		
	L <sub>1-2</sub>		X (2")	х	
3	U <sub>0-1</sub>	х			х
	L <sub>1-2</sub>		X (2")		х
4	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>		х		x

#### Floor Beam

South Face	
North Face	
Bottom Face	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		Х
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10	Х	
G11	Х	
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 30

South Face	Х
North Face	
Bottom Face	

### Columns

		South Face	West Face	North Face	East Face
C	1			х	х
C	2	Х		х	х
C	3		х		
C	4	Х			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1			х	
H2			х	Х
H3		х	х	
H4			Х	

X - Condition State 2

Y - Condition State 3

#### Girders

	West Face	East Face
G1	х	Х
G2		х
G3		
G4		
G5		
G6		Х
G7		Х
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17	х	Х

# Bent Cap 31

South Face	
North Face	
Bottom Face	Х

### Columns

	South Face	West Face	North Face	East Face
C1	х		х	
C2				
C3				
C4	Х			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2				
H3				
H4				

#### **Truss Members**

Top Face Bottom Face East Face West Face

1	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>	х	X (2")		
2	U <sub>0-1</sub>	X (2")	х		
	L <sub>1-2</sub>	х	х	х	
3	U <sub>0-1</sub>	х	х		
	L <sub>1-2</sub>	х	х		
4	U <sub>0-1</sub>	х			
	L <sub>1-2</sub>	х			

#### Floor Beam

South Face	
North Face	
Bottom Face	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1	х	Х
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17	х	Х

# Bent Cap 32

South Face	х
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1			х	х
C2	Х		х	х
C3		х		
C4	Х			

#### Horizontals

	Bottom Face	West Face	Top Face	East Face
H1				
H2			X (2")	Х
H3		х		
H4			X (4")	

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 33

South Face	
North Face	
Bottom Face	х

### Columns

	South Face	West Face	North Face	East Face
C1				
C2	Х			
C3	Х			
C4				

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

# Bent Cap 34

South Face	Х
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2	Х			
C3	Х			
C4	Х			

X - Condition State 2

Y - Condition State 3

# Girders

	West Face	East Face
G1		
G2		
G3		
G4		
G5		
G6		
G7		
G8		
G9		
G10		
G11		
G12		
G13		
G14		
G15		
G16		
G17		

#### Abutment 34

South Face	
North Face	
Bottom Face	

### Columns

	South Face	West Face	North Face	East Face
C1				
C2				
C3				
C4				

X - Condition State 2

Y - Condition State 3

# 10 0136 ALBION RIVER 01-MEN-001-43.74 102 - PHOTO> Deck-Damage/Deterioration



# 10 0136 ALBION RIVER 01-MEN-001-43.74 102 - PHOTO> Deck-Damage/Deterioration













# 10 0136 ALBION RIVER 01-MEN-001-43.74 107 - PHOTO> Super-Damage/Deterioration



# 10 0136 ALBION RIVER 01-MEN-001-43.74 107 - PHOTO> Super-Damage/Deterioration



# 10 0136 ALBION RIVER 01-MEN-001-43.74 112 - PHOTO> Super-Fatigue/Cracking



# 10 0136 ALBION RIVER 01-MEN-001-43.74 112 - PHOTO> Super-Fatigue/Cracking
























Photo No. 12 Column 4 at Bent 23 has a void and rot due to termite infestation.





Photo No. 13 Core rot due to termites in Column 4 at Bent 23.

10 0136 ALBION RIVER 01-MEN-001-43.74 113 - PHOTO> Sub-Damage/Deterioration





Photo No. 14 The east scab at Column 2 of Bent 24 has a void and rot due to termite infestation.





Photo No. 15 Core rot due to termites in the eastern timber scab at Column 2 of Bent 24.







