Damage	classification	of members

Damping of steel member	Bridge name		 			0	06Memo	rial					<u></u>			Span No.			2
Upper hord			Dam	ages of	steel me	mbers		Damag	es of co	ncrete n	nembers						· · · · · · · · · · · · · · · · · · ·	_	
Upper herdy				Cracking	Missing bolts	Fracture	Cracking, Water leakage, Free lime	No.	Rebar exposure	Pop-outs	Deck cracking	Damages at anchorage of PC tender	Level difference of road surface	Functional damage of bearings	Damages in substructures	Damages in pavemnents	Damages in expansion joints	Damages in cable	Remarks
Billotten bedy 0.1 d s c a a a b b c c c c c c c c																			
March 10				_						to the same		la comita de la comita del la comita del la comita del la comita del la comita de la comita del la comita							
Vertical member	member	02															Property of	100	
Vertical member 01	Diagonal															and the second			
Vertical interface O											100 miles			P. William	P. San San San San	10.000	JENNON PROCESS		
Cloper O O O O O O O O O																			
Lateral braining O1						-													
Clover																41			
Clipper	(Lower)																		
Company Comp		01	а	a	а	а													
Stringer 03	(Upper)	01															1100000		
Stringer Ost		02																	
Stringer OS																			
O	Cénin					_													
O	Stringer					***************************************													
The component of the																			
Floor beam		09																	
Floor beam	ļ																		
Sway bracing (Lower) O1	Floor beam								200										
Clower							DESTRUMPNISH OF THE PROPERTY OF												
Sway bracing (Lower) Obs.		01	d	a	е	а													
03	(LECTION)								а	a	С	a							
Sway bracing Clower				and the second section of the second															
Sway bracing (Lower) 05	,												, ed						
Clower																		1.	
Clower 08	Sway bracing																		
09	(Lower)		1			PERCENTENDADA SHIP			_										
11					146	ACCUMULATION CONTRACTOR						a							
12	e a																		
Pier		12				711	AND DESCRIPTION OF THE PARTY OF								Treficial de la distribute de la constante de				
C											¢								
Bearings	Pier									CANADA CONTRACTOR									
201		101					-		-	100				а					
202	Bearings					1								a					
Road surface													10						
Expansion joints 01 a a a a a a a a a a a a a a a a a a	Road surface		20, 30,										a						
Expansion joints 0 a a a	Barriers Railings													1					
expansion joints																	CONSTRUCTION OF THE PARTY OF TH	a	
	Expansion joints																		

Estimation of repair quantity

	idge name			006Memorial		•		*	S	pan No.	2
	Subje	ect		Quant	ity					narks	
1	Span length	* *		69.658	m		Length of 1 spa	an			
2	Road width for pay	ement		10.6	m		Width for pave	ment	area (Vehicl	le lane)	
3	Total road width			17.8	m		Deck width				·
4	Area of bridge surf	ace		1,239,9	m ²		Span length x 7	Total	width		
5	Area of pavement			738.4	m ²		Span length x Y	Width	for pavement		
			01	concre	te		Type of barrier	s & г	ailings		
6	Barriers & railings	* 1	02	concre	te		Same as above				
U	Barriers & rainings		03	-			Same as above				
			04	-			Same as above				
7	Expansion joints		01	steel			Type of expans	sion j	oint		
	Expansion joints		02	steel			Same as above				
	Painting area			Total %	Numbe memb		Member %	P	ainting area	Remark	is
	Total painting area			100.0%		1	-		5,600.0 m ²	:	
	Main 52.0%	Upper chord	65.0%	33.8%		2	16.9%	*****	950.0 m ²	Experience value	
	structure 32.076	Bottom chord	35.0%	18.2%		- 2,	9.1%		510.0 m ²	Experience value	
		Diagonal	20.0%	3.6%		2	1.8%	7.1	110.0 m ²	Experience value	
8	Sway bracing	Vertical member	15.0%	2.7%		2	1.4%		80.0 m ²	Experience value	
	Lateral 18 00%	Laural bracing (Upper)	20.0%	3.6%		2	1.8%		110.0 m ²	Experience value	
	bracing 18.078 Portal	Luteral bracing (Lower)	15.0%	2.7%		2	1.4%		80.0 m ²	Experience value	
	frame	Sway tracing (Upper)	15.0%	2.7%		1	2.7%	12.1	160.0 m ²	Experience value	
		Sway bracing (Upper)	15.0%	2.7%		1	2.7%		160.0 m ²	Experience value	
		Stringer	60.0%	19.2%		10	1.9%		110.0 m ²	Experience value	
	Floor system 32.0%	Floor beam	40.0%	12.8%	15%	ó	1.9%		110.0 m ²	End floor beam(15%	pos.)
			10.076		70%	ó	9.0%		510.0 m ²	Interm. floor beam(7	0% for all)
	Repaired area of de	ck		Quantity					Remar	ks	
9	Divided area		Α	95.4			13 div.		Area of bridge s	urface / number of divisi	on
	Area of re	ebarb expos	sure	11.4	m ²	A	× 0.120	15			
		eck crackir		59.1	m ³	A	× 0.620				
	Repair quanity of su			Quantity			·		Remar	ks	. :
10	Cracking, Wat		Free lime	5.54		er s	ubstructure				
	Rebar exposur	е	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	2.24	m² p	er s	ubstructure				
11.	Concrete barrier			Quanti				1.	Ren	narks	
	Rebar exposur	е	Marie 184	4.96	m ²		A of bridge surf. x	0.	004		

Countermeasure classification of members

Counte		sure classification	1 10 11		ers 006Memori	al				Span 1	NO.		. 0
-	T	[<u> </u>			<u> </u>	·	٦		Span I	T :		ഗ Countermeasure classification വ
		,		nage ficatio	Countermeasure classification	l						nage	atio
] .				sifi	1				ļ	ı	ficatio	sific
				n	clas			1			1	n	clas
			l _		ure								ıre (
			Classification		leas						Classification		eası
iber		äge	fica		j j		ber			98	fical		erm
Member	Š.	Damage	assi	Judge	l ju		Member			Damage	ıssi	Judge	unt
	Z			Ę	_ Ŭ	_	Σ	4	No.		<u> </u>	Juc	ပိ
		Corrosion	b	-	4		₽0 ′	ធ		Corrosion	a		
Ę.	01	Cracking	a	-	5	Sway	bracing	g	01	Cracking	a	-	5
Upper chord		Missing bolts Fracture	a		5	Ś	pre ;	⋾		Missing bolts	a	- 1	5
o Ie	<u> </u>	Corrosion	a b		5	_		4		Fracture	a		5
ďď		Cracking		-	<u>4</u> 5					Corrosion	a		5
ר	02	Missing bolts	a a		5			1	01	Cracking	a		5
		Fracture	a	-	5			١		Missing bolts Fracture	a	-	5 5
	 	Corrosion	d		2			ł		Corrosion	a		5
		Cracking	a		5			١		Cracking	a		5
ord	01	Missing bolts	e		2			1	02	Missing bolts	a	-	5
ch		Fracture	a	-	5			ı		Fracture	a	-	5
Bottom chord		Corrosion	d		2			ł		Corrosion	a		5 5
3off		Cracking	a	-	5			١		Cracking	a		5
بيو	02	Missing bolts	e	-	2			ı	03	Missing bolts	a	-	5
		Fracture	a	-	5			ı		Fracture	a	_	5
		Corrosion	a	-	- 5			ı		Corrosion	a	_	5
	01	Cracking	a	-	5					Cracking	a	-	5
ai	01	Missing bolts	a	-	5				04	Missing bolts	a	-	5
Diagonal		Fracture	a	-	5					Fracture	a	-	5
)iag		Corrosion	b	-	4					Corrosion	a	-	5
ı	02	Cracking	a	-	5			١	05	Cracking	a	-	5
	"-	Missing bolts	a	-	5		ы	١	05	Missing bolts	a	· •	5
		Fracture	a	-	5		nge			Fracture	a	-	5
		Corrosion	a	-	5		Stringer	1		Corrosion	a	-	5
ember	01	Cracking	a		5		-		06	Cracking	a	- '	5
em		Missing bolts	a	-	5					Missing bolts	a	_	5
Vertical m		Fracture	a	-	5			-		Fracture	a	-	5
tica		Corrosion	a	-	5			۱		Corrosion	a	- '	5
Ver		Cracking	a	-	5			ı	07.	Cracking	a	-	5
ġ,		Missing bolts Fracture	a	_	5 5			1		Missing bolts	a		5
<u> </u>		Corrosion	a	-	5			ŀ		Fracture	a		5
per		Cracking	a	_	5	- :		1		Corrosion Cracking	a	-	5 5
(Up		Missing bolts	a a	-	5					Missing bolts	a		5
ng (Fracture	a		5			1		Fracture	a	•	5
aci		Corrosion	a		5			ŀ		Corrosion	a a	-	5
.1 br		Cracking	a		5			١		Cracking	a		5
tera		Missing bolts	a	_	5					Missing bolts	a	-	5
Lai		Fracture	a	-	5			I		Fracture	a		5
(i)		Corresion	a	_	5			ŀ		Corrosion	a		5
3W6		Cracking	a	•	5					Cracking	a		5
(Ľ		Missing bolts	a	-	5					Missing bolts	a	-	5
ing		Fracture	a	-	5			1		Fracture	а		5
rac		Corresion	a	-	5								
Lateral bracing (Lower) Lateral bracing (Upper)		Cracking	a	· _	5								
iter		Missing bolts	a	-	5								
Γέ		Fracture	a	-	5								

F	Brid	ge name	l		006Memori	al		Span N	No.	·····	2
			classi	nage ficatio					Dar classi	nage ficatio n	dassification
Member	No.	Damage	Classification	Judge	Countermeasure classification	Member	No.	Damage	Classification	Judge	ം Countermeasure classification
		Corrosion	a		5			Rebar exposure	a	-	5
	01	Cracking	· a	-	5		08	Pop-outs	a	-	5
	İ	Missing bolts	a	-	5			Deck cracking	a	-	5
_	<u> </u>	Fracture	a		5		<u> </u>	Damages at anchorage of PC tendon	a	-	5
Floor beam		Corrosion	a		5			Rebar exposure	a	-	5
I p	02	Cracking	a	<u> </u>	5		09	Pop-outs	a	-	5
ုိ		Missing bolts	a		5	·		Deck cracking	a	-	5
Ε.	 	Fracture	a	-	5	ļ		Damages at anchorage of PC tendon	a	-	5
		Corrosion	a		5			Rebar exposure	a	-	5
	03	Cracking	a	-	5		10	Pop-outs	a	-	5
l .		Missing bolts	a	-	5	یا		Deck cracking	a	-	5
ļ	-	Fracture	a		5	Deck		Damages at anchorage of PC tendon	a		5
Z gi (F		Corrosion	d		2			Rebar exposure	a	-	5
Sway bracing (Lower)	01	Cracking	а	-	5	l	11	Pop-outs	a	-	5
S th		Missing bolts	e		2			Deck cracking	a	-	5
<u></u>	<u> </u>	Fracture	a	-	5		L	Damages at anchomge of PC tendon	a	-	5
		Rebar exposure	a	-	5			Rebar exposure	a	-	5
	01	Pop-outs	a	-	5		12	Pop-outs	a	-	5
		Deck cracking	С	•	3			Deck cracking	a		5
]		Damages at anchorage of PC tendon	a	-	5	·		Damages at anchorage of PC tendon	a	-	5
		Rebar exposure	a	-	5			Rebar exposure	a	-	5
	02	Pop-outs	a	-	5		13	Pop-outs	a	_	5
		Deck cracking	a	-	5		ا	Deck cracking	С	-	3
		Damages at anchorage of PC tention	a	-	- 5			Damages at anchorage of PC tendon	a	-	5
		Rebar exposure	a	-	5	4)		Cracking etc.	c	-	3
	03	Pop-outs	a	-	5	ructure	01	Rebar exposure	a	-	5
		Deck cracking	a	-	5			Damages in substructures	a	-	5
· ·		Damages at anchorage of PC tendon	a		- 5	Substr		Cracking etc.	С		3
		Rebar exposure	a	-	5	Sa	02	Rebar exposure	a	_	5
Deck	04	Pop-outs	a	-	5			Damages in substructures	a	-	5
Ω		Deck cracking	a	-	5	80	101	Functional damage of bearings	a	-	5
		Damages at anchorage of PC terrion	a	-	5	Bearings	102	Punctional damage of bearings	a		5
		Rebar exposure	a	-	5	Sea	201	Functional damage of bearings	a		5
	05	Pop-outs	а	-	5	14	202	Functional damage of bearings	a	. 	5
		Deck cracking	a		5	Road	01	Level difference of road surface	a	-	5
		Damages at anchorage of PC tendon	a		5	SII.		Damages in pavemnents	a .	-	5
		Rebar exposure	a	-	5	S 85	01	Damages in barriers	a	-	5
	บอ	Pop-outs	а		5	Barriers Railings	02	Damages in barriers	a	-	5
	55	Deck cracking	a	^	5	Bar {ai]	03	Damages in barriers		<u>-</u> I	_
		Damages at anchorage of PC tendon	a		5	7 14	04	Damages in barriers	-	-	<u>.</u>
** *		Rebar exposure	a	-	5	Expansio n joints	01	Damages in expansion joints	a		5
	07	Pop-outs	a	-	5	Exp joi	02	Damages in expansion joints	_		-
	0,	Deck cracking	a	-	5						
1 .		Damages at anchomge of PC tendon	a	-	5						4. V

Approximate repair price for countermeasures

Bridge name	Тора	price for countermeasures 006Memo	rial			Span ?	No.	2	1							
Member	No.	Damage	Damage decification	Countermeasure	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2	Repair price	Remaining years up to counter measure	Repair price	Remaining years up to counter measure	Phaned repa reconstruct Repair price (B)	
		Corresion Cracking	b a	5	Repainting	950.0		3,500	3,325,000	-	-	cl 2 5	3,325,000	el 2 10	3,325,000	20
	01	Missing bolts	а	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400		<u> </u>		-	-	 - :		-
Upper chord	\vdash	Fracture Currosion	a b	5	Reinf. for fracture Repainting	950.0	Pos.	166,700 3,500	3,325,000			- 5	3,325,000	- 10	3,325,000	20
	02	Cracking Missing bolts	a a	5	Roinf, with steel pl. Bult change for splice pl.		Pos.	166,700 133,400	-				3,323,000	- 10	- 3913,000	- 20
	<u> </u>	Fracture	а	5	Reinf, for fracture		Pos.	166,700		-	<u> </u>	-			-	├
	10	Corrosion Cracking	d a	5	Repainting Roinf, with steel pl.	510.0	Pos.	3,500 166,700	1,785,000	1,785,000	-	. 5		10	1,785,000	20
D. H		Missing bolts Fracture	e	5	Holt change for splice pl. Reinf, for fracture	1.0	Pos.	133,400	133,400	133,400				-		-
Bottom chord	1	Corresion Cracking	d	5	Repainting Reinf, with steel pl.	510,0	m²	3,500	1,785,000	1,785,000		5		10	1,785,000	20
	02	Missing bolts	0	2	Bolt change for splice pt.	0,1	Pos.	166,700 133,400	133,400	133,400	-	 :	 		:	 - :
	 	Fracture Corresion:	a a	5	Reinf. for fracture Repainting	110.0	Pos.	166,700 3,500	385,000	-	-	5		10	385,000	20
1	01	Cracking Missing bolts	a	5	Reinf with steel pl. Bolt change for splice pl.	:	Pos.	166,700 133,400		-			-	-		
Diagonal	H	Fracture Corresion	a b	5	Reinf. for tracture Repointing	110,0	Pos.	166,700	-							
	02	Cracking	a	5	Roinf, with steel pl.		Pos.	3,500 166,700	385,000	-		. 5 -	385,000	10	385,000	20
		Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf. for fracture		Pos.	133,400 166,700			-				-	
	01	Corrosion Cracking	a	5	Repainting Reinf, with steel pl.	80.0	m ² Pos.	3,500 166,700	280,000		-	5	<u> </u>	10	280,000	20
Vertical	"	Missing bolts Fracture	a	5	Bolt change for splice pl. Roinf, for fracture	1.0	Pos.	133,400	166,700			=	- :	=		
member	_	Corresion	a	5	Repainting	80.0	Pos.	166,700 3,500	166,700 280,000	-	-	- 5		10	280,000	20
·	02	Cracking Missing bolts	a	5	Reinf. with steel pl. Bolt change for splice pl.		Pos.	133,400	-	-	-		-	-		-
	╁	Fracture Corrosion	8	5	Reinf. for fracture Repainting	110.0	Pos.	166,700 3,500	385,000	-		5	-		Officer Control of the Control	
	01	Cracking Missing bolts	a a		Roinf, with steel pl.		Pos.	166,700	- 383,000	-		- 3	-	10	385,000	20
Lateral bracing		Fracture	a	5	Bolt change for splice pl. Reinf, for fracture		Pos. Pos.	133,400 166,700								-
	02	Corrosion Cracking	a	5	Ropainting Roinf, with steel pl.	110.0	m² Pos.	3,500 166,700	385,000		-	5		10	385,000	20
	"	Missing bolts Fracture	B B	5	Bolt change for splice pl. Reinf, for fracture	-	Pos.	133,400 166,700				-		-		
		Corresion Cracking	a	5	Repainting	110.0	m²	3,500	385,000		-	5		10	385,000	20
Lateral	01	Missing bolts	a a	5	Roinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400		-						
bracing	-	Fracture Corrosion	a	5	Reinf. for fracture Repainting	110.0	Pos.	166,700 3,500	385,000			- 5		10	385,000	- 20
(Lower)	02	Cracking Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400							-	
	<u> </u>	Fracture Corresion	а	5	Roinf, for fracture		Pos.	166,700			-				-	
Sway bracing	01	Cracking	a	5	Repaining Reinf, with steel pl.	160.0	m² Pos.	3,500 166,700	560,000		<u> </u>	5		10	560,000	20
(Upper)		Missing bolts Fracture	a	5	Bolt change for splice pt. Reinf. for fracture		Pos.	133,400 166,700	-				-			=
	١.,	Corrosion Cracking	a	5	Repainting Roinf, with steel pl.	110.0	m² Pos.	3,500 166,700	385,000			5		10	385,000	20
}	01	Missing bolts Fracture	a	5	Bolt change for splice pl.		Pos.	133,400			•					
	H	Corresion s	a a	5	Reinf, for fracture Repainting	110.0	Pos.	166,700 3,500	385,000	-	 -	5		10	385,000	20
	02	Cracking Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400		-						H
Stringer	\vdash	Fracture Corresion	a		Reinf, for fracture Repainting	110.0	Pos.	166,700 3,500	385,000	-		- 5	-	- :	and the same of th	
	03	Cracking Missing bolts	4	5	Roinf, with steel pl.		Pos.	166,700	303,000					10	385,000	20
	L.	Fracture	n	5	Bolt change for splice pl. Reinf, for fracture		Pos.	133,400					-			
	04	Cortusion Cracking	a		Repainting Reinf, with steel pl.	110.0	Pos.	3,500 166,700	385,000			5		10	385,000	20
	"	Missing bolts Fracture	a a		Bolt charge for splice pl. Reinf, for fracture		Pos.	133,400 166,700				-				
		Corresion	а	5	Repainting	110.0	m²	3,500	385,000			. 5		10	385,000	20
	0.5	Crucking Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400				- :				
	\vdash	Practure Corrosion	a a		Reinf. for fracture Reprenting	110.0	Pos.	166,700 3,500	385,000			- 5	-	10	385,000	20
	06	Cracking Missing bolts	a		Roinf, with steel pl. Bolt change for spiles pl.		Pos.	166,700 133,400			-					
		Fracture	a	5	Roinf, for fracture		Pos.	166,700								
	07	Corrosion Cracking	a	- 5	Repainting Reinf, with steel pl.	110.0	Pos.	3,500 166,700	385,000			5	-	10	385,000.	20
Stringer		Missing bolts Fracture	a a		Bolt change for splice pt. Reinf, for fracture	•	Pos.	133,400								
aunger		Corresion Cracking	a	5	Repainting Roinf, with steel pl.	110.0	m² Pos.	3,500 166,700	385,000				-	10	385,000	20
	08	Missing bolts	а	5	Bolt change for splice pl.		Pos.	133,400					-	:		
		Fracture Corresion	a		Reminting	110.0	Pos.	166,700 3,500	385,000			5	-	10	385,000	20
	09	Cracking Missing bolts	a		Reinf, with steel pl. Bolt change for splice pl.	-	Pos.	166,700 133,400								二
		Fracture Corrosion	a a	5	Reinf. for fracture Repainting	110.0	Pos.	166,700 3,500	385,000							
	10	Cracking	a	5	Roinf, with stool pl.		m ² Pos.	166,700	385,000	 :		5		10	385,000	20
		Missing bolts Fracture	a a	5	Bolt change for splice pl. Reinf. for fracture	•	Pos.	133,400 166,700			-	•	-			\exists
Floor t	ļ ".	Corrosion Cracking	a		Repainting Reinf, with steel pl.	110.0	m² Pos.	3,500 166,700	385,000					10	385,000	20
Floor beam	01	Missing bolts Fracture	11	5	Bolt change for splice pl.	-	Pos.	133,400								
		Corrosion	a a	5	Rainf, for fracture Repainting	510.0	Pos.	166,700 3,500	1,785,000		-			10	1,785,000	20
	02	Cracking Missing bolts	a a		Roinf, with steel pl. Bolt change for splice pl.	-	Pos.	166,700 133,400							-	
Floor beam	\vdash	Fracture Corrosion	a	5	Reinf, for fracture Repainting	110.0	Pos,	166,700 3,500	385,000			- 5		- ;		
	03	Cracking	ä	5	Reinf with steel pl.	110.0	Pos.	166,700	383,000			- 5	:	10	385,000	20
		Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf. for fracture		Pos.	133,400 166,700								
Sway bracing		Corrosion Cracking	d		Repainting Reinf. with steel pl.	160.0	m² Pos.	3,500 1100,000	560,000	560,000		5		10	560,000	20
(Lower)	01	Missing bolts	ę	2	Bolt change for splice pt.	1.0	Pos.	133,400	133,400	133,400						二
	Ь	Fracture	B	-2	Reinf. for fracture	~.	Pos.	166,700								ان

	Π		Ĭ.,								countermeasure cla	ssification	countenneasure cla	ssification	Planned repair	r&
Member	Na.	Damage	Danage dassification	Countermeasure dessification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2 (B)	Repair price	Remaining years up to counter measure c1 2	Repair price	Remainin g years up to counter measure cl 2	Repair price (B)	Life cycle
		Rebar exposure	a		Patching	11.4	m²	17,500	199,500	:		7	-	15	12 1 2 1 3 1 1 2 1 2 1 2 1 3 1 3 1 3 1 3	30
	01	Pop-outs Deck cracking	a C	3	Patching & CFR CFR	59.1	Pos.	10,000	-	-				-	_	
	1	Damages at anchorage of PC tendon	C B	5	CFR (upper & bottom)	39.1	Pos.	22,500 45,000	1,329,800	<u> </u>	1,329,800		<u> </u>	15	1,329,800	30
		Rebar exposure	£l.	5	Patching	11.4	m ²	17,500	199,500		-	7	-	15	-	30
	02	Pop-outs	8	5	Patching & CFR CFR	-	Pos.	10,000	1 720 000	-			-			
	1	Deck cracking Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	59.1	Pos.	22,500 45,000	1,329,800	 	-	- ' -	<u> </u>	15	1,329,800	30
		Rebar exposure	a	5	Patching	11.4	_m²	17,500	199,500			7		15	-	30
	03	Pop-outs Deck-cracking	a a	5	Patching & CFR CFR	59.1	Pos.	10,000 22,500	1,329,800		<u>-</u>	7		- 15	1,329,800	30
		Damages at anchorage of PC tendon	ū	5	CFR (upper & bottom)		Pos.	45,000		-		Ė			· Ipraziono	1 11
		Rebar exposure Pop-outs	<u>a</u>	5	Patching Patching & CFR	11.4	Pos.	17,500	199,500			7		15		30
	04	Deck eracking	8	5	CFR	59.1	Pos.	22,500	1,329,800			7	-	15	1,329,800	30
	-	Damages at anchorage of PC tendon	ħ	5	CFR (upper & bottom) Patching	-	Pos.	45,000				<u> </u>	·		-	
	0.5	Rebar exposure Pop-outs	8	5	Patching & CFR	11.4	m² Pos.	17,500 10,000	199,500	-	-	- 7	-	15		30
	03	Deck encking	n	.5	CFR	59.1	Pos.	22,500	1,329,800			7		15	1,329,800	30
	\vdash	Damages at anchorage of PC tendon Rebar exposure	- A - D	5	CFR (upper & bottom) Patching	11.4	Pos.	45,000 17,500	199,500			7	-	15		
	06	Pop-outs	n	5	Patching & CFR		Pos.	10,000	-	-				- 13	-	30
	~~	Deck cracking	a a	5	CFR (upper & boilem)	59.1	Pos.	22,500 45,000	1,329,800	-		7	-	15	1,329,800	30
	┢┈	Damages at anchomige of PC tendon Rebar exposure	a		Patching	11.4	m ²	17,500	199,500			7	-	15		30
Deck	07	Pop-outs	11	5	Patching & CFR		Pos.	10,000		-				-		-
		Deck eracking Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	59.1	Pos.	22,500 45,000	1,329,800	•	<u>-</u>	7	-	15	1,329,800	30
	-	Rebar exposure	a_	5	Patching	11.4	m ²	17,500	199,500	-		7		15		30
	08	Pop-outs Deck cracking	a	5	Patching & CFR CFR	59.1	Pos.	10,000	1 100 000				-			·
		Damages at anchorage of PC tendon	21	5	CFR (upper & bottom)	39.1	Pos.	22,500 45,000	1,329,800		-	7		15	1,329,800	30
		Rebar exposure	a	5	Priching	11.4	m²	17,500	199,500	-		7	-	15		30
	09	Pop-outs Deck cracking	<u>n</u>	5	Patching & CFR CFR	59.1	Pos.	10,000	1,329,800	-	-	- 7		- 15	1,329,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)		Pos.	45,000				-	-	- 13	1,227,000	- 30
		Rebar exposure Pop-outs	a	5	Potching Potching & CFR	11.4	m² Pos.	17,500 10,000	199,500			7	-	15		30
	10	Dock cracking	ា	5	CFR CFR	59.1	Pos.	22,500	1,329,800	-		7		15	1,329,800	30
	<u></u>	Damages at anchorage of PC tendon	a	5	CFR (upper & boitom)		Pos.	45,000		-			-	-		·
	١	Rebar exposure Pop-outs	ล	5	Patching Patching & CFR	11.4	m ² Pos.	17,500	199,500		-			15		30
	11	Deck cracking	a_	5	CFR	59.1	Pos.	22,500	1,329,800			7	-	15	1,329,800	30
	 	Damages at anchorage of PC tendon Rebar exposure	2)	5	CFR (upper & boltom) Patching	11.4	Pos.	45,000 17,500	199,500	-			-	15		-
	12	Pop-outs	8	5	Patching & CFR	- 11.4	m	10,000	199,300		-	- :	-	13		30
- '	'-	Deck cracking	а	5	CFR	59.1	m	22,500	1,329,800	-		7	-	15	1,329,800	30
	\vdash	Damages at unchorage of PC tendon Rebar exposure	a	5	CFR (upper & bottom) Patching	11.4	m m	45,000 17,500	199,500		<u> </u>	7		15		30
	13	Pop-outs	a	. 5	Priching & CFR		m	10,000						-		
	ŀ	Deck cracking Damages at unchorage of PC tendon	C.	3	CFR (upper & bottom)	59.1	m m	22,500 45,000	1,329,800		1,329,800	7	-	15	1,329,800	30
		Cracking etc.	c	3	Resin injection	5.54	E	5,000	27,700		27,700	7	-	15		30
	01	Rebar exposure Damages in substructures	а	5	Patching Foot protection	2,24	m	17,500	39,200	•		7		15	39,200	30
Substructure		Cracking etc.	a C	3	Resininjaction	5.54	m	5,000	27,700		27,700	7		15		30
	02	Rebar exposure	a	5	Patching	2,24	m	17,500	39,200	•		7		15	39,200	30
	101	Damages in substructures Runctional damage of bearings	a	5	Foot protection Metal spraying	1.0	m Pos.	1,750,000	120,000		-	7	<u> </u>	15	120,000	30
Bearings	102	Functional damage of bearings	8	5	Metal spraying	1.0	Pos.	120,000	120,000			7		15	120,000	30
		Functional damage of bearings #	8	5	Motal spraying Motal spraying	1.0	Pos.	120,000	120,000	-	<u> </u>	7		15	120,000	30
Pond surface	01	Level difference of road surface	a	5	Pavement replacement	738.4	Pos.	5,000	3,691,900			5		15 10	120,000	30 20
Road surface		Damages in pavemnents	ы	5	same as above	738.4	m²	5,000	3,691,900			5		10	3,691,900	20
Barners	01	Damages in barriers Damages in barriers	a	5	Patching. Patching.	4.96 4.96	표	17,500 17,500	86,800 86,800			7	-	15	86,800 86,800	30 30
Railings	03		Η		Patching.	4.96	ពាំ	17,500	86,800			7		15	86,800	30
Expansion	04	- Damages in expansion foints	- B	5	Patching. change of steel exp.	4,96 17.8	3 B.	17,500	86,800 2,374,600			7	-	15 15	86,800	30 30
joints		Damages in expansion joints	-	Ė	change of steel exp.	17.8	m	133,400	2,374,600		-	7		15	2,374,600 2,374,600	

Damage classification of members

Bridge name		Na	0.000 5	atool	0	06Memo	rial								Span No.			3
		Dama	ages of s	steel me	mbers	<u> </u>	Damag	es of co	ncrete n	nembers				Otl	iers			
		Corrosion	Cracking	Missing bolts	Fracture	Cracking, Water leakage, Free lime	No.	Rebar exposure	Pop-outs	Deck cracking	Damages at anchorage of PC tender	Level difference of road surface	Functional damage of bearings	Damages in substructures	Damages in pavennents	Damages in expansion joints	Damages in cable	Remarks
Upper chord	01	· a	a	a	а													
member	02	а	a	a	a													
Bottom chord	01	b	a	e	a													
member	02	b	a	e	a													
Diagonal	01 02	a	a	a	a													
	01	a a	a a	a a	a													
Vertical member	02	a	a	e e	a a									77				
Lateral bracing	01	a	a	a	a													
(Upper)	02	a	a	a	a													
Lateral bracing	01	а	a	а	a													
(Lower)	02	a	а	а	а													
Sway bracing	01	a	a	а	а													
(Upper)													10.0					-
	01	a	a	a	a									1.5				
	02	a	a	a	a a													
	04	a	a	a	a													
a	05	а	a	a	a								917					
Stringer	06	a	a	а	8.													<u> </u>
	07	a	a	a	a					in the second								
	08	a	a	а	a	r e												
	09	a	a	a	a													
	10	a	a	a	а													
Floor beam	01	a	a	a	a													
rioor bealii	02	a	a	a a	a a	15.00				400			2					
Sway bracing																		
(Lower)	01	ь	a	а	a								1	1				
	01					and the second		a	a	С	a							
4	02				*			a	a	а	а							
	03			. 6				a	a	a	а							
	04 05			1.4				a	а	а	a							
	06	5.5			4.2.1			<u>a</u>	a	8	a							
Sway bracing	07							a a	a a	a a	a a							
(Lower)	- 08							a	a	a	a							
	09							a	a	a	a							
	10							а	a	а	a							
	11	10						a	а	a	а							
	12			1				a	a	a	a			1.00				
	13					10.13		a	a	С	a		17 J					
Pier	01 02					C	-	a						a				
	101					a	_	a					•	а		ec.		·
	102												a					
Bearings	201					100							a					
<u> </u>	202	0.00	Y Company										a					
Road surface		# 10 m										a			a			
Barriers Railings	01															a		
canners Namings	02	100														a		
Expansion joints	01			11							20,000	J.A					a	
1	02	T 194		1 He 1 C	100		9, 90				1			I			а	

Estimation of repair quantity

	dge name				006Memorial				S	pan No.	3
		Subje	ect		Quant	ty	· · · · ·			narks	
1	Span leng	th			80.054	m		Length of 1 spa			
2	Road wide	h for pay	ement		10.6	m		Width for pave		le lane)	
3	Total road	width		· · · · · · · · · · · · · · · · · · ·	17.8	m		Deck width			
4	Area of br	idge surf	ace		1,425.0	m^2		Span length x	Fotal width		
5	Area of pa	vement			848.6	m^2		Span length x	Width for pavement		
				01	concre	te		Type of barrier	s & railings		
	D 0			02	concre	te		Same as above			
6	Barriers &	cranings		03	-			Same as above			
	L			04				Same as above			
7	Expansion	iointa		01	steel			Type of expans	sion joint		
′	Lapatisioi	i jonns		02	steel			Same as above			
	Painting area	1			Total %		ber of ibers	Member %	Painting area	Remar	ks
	Total paintin	g area			100.0%		1	-	6,300.0 m ²		
	Main		Upper chord	65.0%	33.8%		2	16.9%	1,070.0 m ²	Experience value	
	structure	52.0%	Bottom chord	35.0%	18.2%		2	9.1%	580.0 m ²	Experience value	
			Diagonal	20.0%	3.6%		2	1.8%	120.0 m ²	Experience value	
8	Sway		Vertical member	15.0%	2.7%		2	1.4%	90.0 m ²	Experience value	
٥	bracing Lateral	18.0%	Cateral bracing (Upper)	20.0%	3.6%		2	1.8%	120.0 m ²	Experience value	
	bracing Portal	10.070	Lucral bracing (Lower)	15.0%	2.7%		2	1.4%	90.0 m ²	Experience value	
	frame		Sway bracing (Upper)	15.0%	2.7%		1	2.7%	180.0 m ²	Experience value	
			Sway bracing (Upper)	15.0%	2.7%		1	2.7%	180.0 m ²	Experience value	
		,	Stringer	60.0%	19.2%		10	1.9%	130.0 m ²	Experience value	
	Floor system	32.0%	Floor beam	40.0%	12.8%	15	%	1.9%	130.0 m ²	End floor beam(15%	% pos.)
			Tioor beam	40.078	12,070	70	%	9.0%	570.0 m ²	Interm. floor beam(70% for all)
	Repaired a	rea of de	ck		Quantity				Remar	ks	
9	Divid	led area		A	109.6	m²		13 div.	Area of bridge s	urface / number of divis	sion
,		Area of r	ebarb expo	sure	13.2	m ²	Α	× 0.120		-	
		Area of d	eck crackir	ng	68.0	m ³	A	× 0.620			
	Repair qua	anity of s	ubstructure		Quantity				Remar	ks	
10	Crack	cing, Wat	er leakage,	Free lime	5.54	m	per s	ubstructure			
	Reba	r exposur	е		2.24	m²	per s	ubstructure			
11	Concrete b	parrier			Quanti	ty			Ren	narks	Birini - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
11	Reba	r exposur	е		5,70	m²		A of bridge surf. x	0.004		

Counte		sure classification	n or r			0.1							
	סוום	ge name	 		006Memori	ai		_		Span l	Yo.		3'
			classi	nage ficatio n	classification						classi	nage ficatio	classification
Member	No.	Damage	Classification	Judge	o Countermeasure classification		Member		No.	Damage	Classification	Judge	ഗ Countermeasure classification ധ
		Corrosion	a	-	5	T				Corrosion	a	-	5
	01	Cracking	a	•	5	'ay	ini	힖	01	Cracking	a	-	5
Upper chord		Missing bolts	a	-	5	Š	bracing	5	UI	Missing bolts	a	-	5
r ch		Fracture	a		5	L				Fracture	a	-	5
ppe		Corrosion	a	-	5 .			ı		Corrosion	a	-	5
ď	02	Cracking	a	-	5				01	Cracking	a	-	5
		Missing bolts	a	-	5			١	•	Missing bolts	a	-	5
		Fracture	a	-	5			ļ		Fracture	a		5
		Corrosion	b	-	4	ľ				Corresion	a		5
덩	01	Cracking	a	-	5				02	Cracking	a		5
Bottom chord		Missing bolts	е	-	2			١		Missing bolts	a	-	5
Ħ		Fracture	a	. +	5	1		ŀ		Fracture	a		5
otto		Corrosion	b	-	4	l		-		Corrosion	a		5
m	02	Cracking	a	-	5			-	03	Cracking	a		5
		Missing bolts	e	-	2			1	. :	Missing bolts	a		5
		Fracture Corrosion	a	-	5 5			ŀ		Fracture	a	-	5
		Corrosion Cracking	a	-				١		Corrosion	. a	- .	5
	01	Missing bolts	a		5				04	Cracking	a		5
nal		Fracture	a		<u>5</u>					Missing bolts	a		5
Diagonal		Corrosion	a a	-	5			ŀ		Fracture Corrosion	a	-	5 5
Ä		Cracking	a		5						a		5
	02	Missing bolts	a		5			١	05	Cracking Missing bolts	a	-	5
		Fracture	a		5		ger	١		Fracture	a	-	5
-		Corrosion	a		5		Stringer	ŀ		Corrosion	a		5
k		Cracking	a	_	5		S	١		Cracking	a		5
ember	01	Missing bolts	a	_	5				06	Missing bolts	a		5
meı		Fracture	a		5			1		Fracture	a		5
la:		Corrosion	a		5			ł		Corrosion	a		5
Vertical m		Cracking	a		5			١		Cracking	a		5
Š		Missing bolts	е	-	2			1		Missing bolts	а	-	5
		Fracture	а	-	5					Fracture	a		5
(£)		Corrosion	a	-	5			ı		Corrosion	а	_	5
bbe	01	Cracking	a	-	5					Cracking	a	-	5
D.	UI	Missing bolts	a		5			1	08	Missing bolts	а	-	5
ing		Fracture	a	-	5					Fracture	а	- 1	5
лас		Corrosion	а	-	5			ſ		Corrosion	а	-	5
alb	02	Cracking	a		5			١	09	Cracking	а	-	5
ater	: 02	Missing bolts	a		5			١	UF	Missing bolts	a .	- 1	5
ij		Fracture	a	1	5					Fracture	а	-	, 5
er)		Corrosion	а		5			ſ		Corrosion	а	-	5
MO.		Cracking	a	_	5				10	Cracking	а		5
Ð,	U1	Missing bolts	а	-	5				10	Missing bolts	а	- 1	5
ing		Fracture	a	-	5			J	l	Fracture	а	_	5
жас		Corrosion	a	-	5								
Lateral bracing (Lower) Lateral bracing (Upper)		Cracking	a	-	5								
ater	1.	Missing bolts	a	-	5						÷.		
Ľ		Fracture	а	-	5								

	Brid	ge name	:		006Memori	al		Span N	Vo.		-3
			classi	nage ficatio 1	classification				classi	nage ficatio 1	classification
Member	No.	Damage	Classification	əgpnr	Countermeasure classification	Member	No.	Damage	Classification	Judge	Countermeasure classification
		Corrosion	а	-	5			Rebar exposure	a	-	5
	01	Cracking	a	-	5]	08	Pop-outs	a		5
		Missing bolts	a	-	5	1	"	Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchomge of PC tendon	a		5
Floor beam		Corrosion	a	-	5	l		Rebar exposure	a	-	5
r ż	02	Cracking	a	-	5		09	Pop-outs	a	-	5
]o		Missing bolts	a	-	5			Deck cracking	a	-	5
1		Fracture	a	-	5		<u> </u>	Damages at anchomge of PC tendon	a	-	5
		Corrosion	a	-	5			Rebar exposure	a	-	5
	03	Cracking Missing bolts	a	-	5	ł	10	Pop-outs	a	-	5
		Fracture	a	-	5 5	يد	100	Deck cracking Damages at anchomge of PC terrion	a		5
		Corrosion	a b		4	Deck	-		a	-	<u>5</u>
Sway bracing (Lower)		Cracking	-	-	5		,	Rebar exposure	a		5
Sway bracing (Lower)	01	Missing bolts	a a		5		11	Pop-outs Deck cracking	a	-	5
7 E		Fracture	a		5	ł		Damages at anchorage of PC tendon	a a	-	5
		Rebar exposure	a		5		\vdash	Rebar exposure	a		5
		Pop-outs	a	_	5	1		Pop-outs	a		5
	01	Deck cracking	C	_	3	1	12	Deck cracking	a	_	5
		Damages at anchorage of PC tendon	a	_	5	1		Damages at anchorage of PC tention	a		5
		Rebar exposure	a	-	5	1		Rebar exposure	a	-	5
	00	Pop-outs	а	-	5	1		Pop-outs	a	_	5
	02	Deck cracking	а	-	5	1	13	Deck cracking	С	-	3
		Damages at anchorage of PC tendon:	а	-	5			Damages at anchorage of PC tendon	а	-	5
		Rebar exposure	а		5			Cracking etc.	С		3
	03	Pop-outs	a	-	5	ure	01	Rebar exposure	a		5
·	03	Deck cracking	a	-	5	act act		Damages in substructures	a	-	5
		Damages at anchomge of PC tendon	a		5	Substructure		Cracking etc.	a	. #	5
		Rebar exposure	a		5	Sa	02	Rebar exposure	a	-	5
Deck	04	Pop-outs	a	-	5			Damages in substructures	a	-	5
Q.		Deck cracking	a	-	5	88	-	Functional damage of bearings	a		5
		Damages at anchomage of PC tendon	a	-	5	Bearings		Functional damage of bearings	a	-	5
		Rebar exposure	a	-	5	Be		Functional damage of bearings	a		5
,	i us i	Pop-outs	a	_	5		202	Functional damage of bearings	a	-	5
		Deck cracking	a	- 1	5	Road	01	Level difference of road surface	a		5
		Damages at anchomage of PC tendon	a	-	5 5			Damages in pavemnents	a		5
		Rebar exposure	a	-	5	ers igs	_	Damages in barriers	a		5
	เบอเ	Pop-outs Deck cracking	a	-	5	Barriers Railings		Damages in barriers Damages in barriers	a		5
		Damages at anchorage of PC tendon	a	-	.5	m %		Damages in barriers	-		-
		Rebar exposure	a		5	ig s		Damages in expansion joints	- a	_	5
		Pop-outs	a	_	5	Expansio n joints		Damages in expansion joints	a a		5
	07	Deck cracking	a	-	5	Щ.	لـكـــا		a		
		Damages at anchorage of PC tendon	a	_	5						

Approximate repair price for countermeasures

Bridge name	10,000	price for countermeasures 006Memor	ial			Span?	No.	3	1							
	T		Ę				Ī	<u> </u>		Approximate repair	countermeasure ck	ssification	countermeasure c	assification		
Member	No.	Damage	Damage classification	Counternessure dassification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	price for countermeasure classification 1 & 2 (B)	Repair price (B)	Remaini g years up to counter measure	Repair price	Remainir g years up to counter measure	Repair price	Life cycle
		Corrosion Cracking	а	5	Repainting	1,070.0	m²	3,500	3,745,000			cl 2 5		ct 2 10	3,745,000	20
	01	Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400	-	-	-	:	-	-		-
Upper chord	 	Fracture Corrosion	a	5	Reinf, for fracture Repainting	1,070,0	Pos.	166,700 3,500	3,745,000			- 5		10	3,745,000	1 - 30
	02	Cracking Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400	-					- 10	3243,000	20
	<u> </u>	Fracture Corresion	a	5	Roinf for fracture	•	Pos.	166,700							<u> </u>	 :
	01	Cracking	8	5	Repainting Reinf. with steel pl.	580.0	m² Pos.	3,500 166,700	2,030,000	<u> </u>	-	5	2,030,000	10	2,030,000	20
Bottom chord		Missing bolts Fracture	e a	5	Bolt change for splice pl. Reinf, for fracture	1.0	Pos.	133,400 166,700	133,400	133,400	:	-		-	-	-
Bottom energ	02	Corresion Cracking	b a	5	Repainting Reinf, with steel pl.	580.0	m² Pos.	3,500 166,700	2,030,000			. 5	2,030,000	10	2,030,000	20
-	"-	Missing bolts Fracture	e	5	Bolt change for splice pl. Reinf, for fracture	1.0	Pos.	133,400	133,400	133,400	<u> </u>				<u> </u>	
		Gerrosion	ā	5	Repainting	120.0	m²	166,700 3,500	420,000	<u> </u>	:	5	-	10	420,000	20
.	01	Cracking Missing bolts	a tı	5	Reinf, with atcel pl. Bolt change for splice pl.		Pos. Pos.	166,700 133,400					-	-	- :	F
Diagonal		Fracture Corrosion	a	5	Reinf. for fracture Repainting	120.0	Pos.	166,700 3,500	420,000		-	- 5		10	420,000	20
	02	Cracking Missing bolts	8	5	Roinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400						Ë		
		Fracture Corrosion	a	5	Roinf, for fracture		Pos.	166,700				:	-		-	<u> </u>
	01	Cracking	a	5	Repainting Reinf, with steel pl.	90.0	m² Pos.	3,500 166,700	315,000	-	- :	5	-	10	3 15,000	20
Vertical		Missing bolts Fracture	a	5 5	Bolt change for splice pl. Reinf, for fracture	-	Pos.	133,400 166,700	-		-	-	-	-		-
member		Corresion: Cracking	a	5	Repainting Reinf. with steel pl.	90,0	m² Pos.	3,500 166,700	315,000			. 5	-	10	315,000	20
	02	Missing bolts Fracture	e a	2	Bolt change for splice pl. Reinf, for fracture	1,0	Pos.	133,400	133,400	133,400						 ;
		Corrosion	a.	5	Repainting	120.0	Pos.	166,700 3,500	420,000			5	-	10	420,000	20
	01	Cracking Missing bolts	a	5	Reinf, with steel pl. Bolt change for splice pl.	-	Pos.	166,700 133,400	-			=		-	-	
Lateral bra		Fracture Corrosion	а	5	Reinf, for fracture Repainting	130.0	Pos. m²	166,700 3,500	455,000	:		÷		-	mater of the same and	
	02	Cracking Missing bolts	а	5	Reinf, with steel pl.		Pos.	166,700	433,000			5	-	10	455,000	20
		Fracture	B B	5	Holt change for splice pl. Reinf, for fracture		Pos.	133,400 166,700	-		-	 :	-	-		
	01	Corrosion Cracking	a	5	Repaining Reinf with steel pl.	120,0	Pos.	3,500 166,700	420,000			5	-	10	420,000	20
Lateral	٠.	Missing bolts Fracture	a		Bult change for splice pl. Reinf, for fracture	-	Pos.	133,400 166,700			-			==		Ė
bracing (Lower)		Cortosion a	п	5	Repainting	130.0	m ²	3,500	455,000		-	. 5	-	10	455,000	20
	02	Missing bolts	a a	5	Roinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400	-		-				-	==
C		Fracture Corrosion	a	5	Reinf. for fracture Repainting	180.0	Pos.	166,700 3,500	630,000		-	- 5	-	10	630,000	20
Sway bracing	01	Cracking Missing bolts	a	5	Roinf, with steel pl. Bolt change for splice pl.		Pos. Pos.	166,700 133,400							-	
(Upper)	_	Fracture Corrosion	a a	5	Reinf. for fracture Repainting	130,0	Pos.	166,700			•	-		-	:	
	01	Cracking	а	5	Roinf, with steel pl.		m² Pos.	3,500 166,700	455,000				-	10	455,000	20
		Missing bolts Fracture	a a	5	Bolt change for splice pl. Reinf. for fracture		Pos.	133,400 166,700	-		-	-	-	-		=
	02	Corrosion Cracking	a		Repainting Reinf, with steel pl.	130,0	m² Pos.	3,500 166,700	455,000			5	-	10	455,000	20
C4	"-	Missing bolts Fracture	a		Bolt change for splice pl. Roinf, for fracture	-	Pos.	133,400 166,700		-	-					
Stringer		Corresion Cracking	a	5	Repainting Reinf, with steel pl.	130.0	m^2	3,500	455,000			5		10	455,000	20
	03	Missing bolts	а.	5	Bolt change for splice pl.		Pos.	166,700 133,400	-	-			-	-		
		Fracture Corresion	a a	5	Reinf. for fracture Repainting	130,0	Pos.	166,700 3,500	455,000		-	5		10	455.000	20
	04	Cracking Missing bolts	a		Roinf, with steel pt. Bolt change for splice pt.		Pos.	166,700 133,400	-				-	-		
ļ		Fracture Corrosion	a	5	Roinf for fracture Repainting	130.0	Pos.	166,700	455,000							
	0.5	Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	433,000					10	455,000	20
		Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf, for fracture		Pos.	133,400 166,700	-			-				
	06	Corrosion Cracking	a a		Repainting Reinf. with specipl.	130,0	m² Pos.	3,500 166,700	455,000			5	•	10	455,000	20
	. [Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf, for fracture		Pos.	133,400			-		-			
		Corrusian Cracking	а	5	Repainting Reinf, with steel pl.	130.0	m²	3,500	455,000		:	. 5		10	455,000	20
	07	Missing bolts	a	5	Bolt change for splice pl.		Pos.	166,700 133,400				:				=
Stringer		Fracture Corrosion	a		Roinf. for fracture Repainting	130.0	Pos.	166,700 3,500	455,000	-		- 5		- 10	455,000	20
		Cracking Missing bolts	п	5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	166,700 133,400		-		-			A A A A A A A A A A A A A A A A A A A	
		Fracture	B.	5	Roinf for fracture		Pos.	166,700	-				•			
	no [Compaign Cracking	a a	5	Repainting Reinf with steel pl.	130.0	m² Pos.	3,500 166,700	455,000		-	5		10	455,000	20
		Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf, for fracture		Pos.	133,400 166,700	-	-	-					=
	- 1	Corrosion Cracking	a a		Repainting Reinf, with steel pl.	130.0	m² Pos.	3,500 166,700	455,000			5		_10	455,000	20
		Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf: for fracture		Pos.	133,400				÷			=	二
		Corrosion	а	5	Repainting	130.0	Pos.	166,700 3,500	455,000			- 5		10	455,000	20
Floor beam	" [Cracking Missing bolts	n .	5	Reinf. with steel pl. Bult change for splice pl.		Pos.	166,700 133,400		-						三
<u> </u>		Fracture Corrusión	a a	5	Reinf. for fracture Repainting	570.0	Pos.	166,700 3,500	1,995,000			- 5	-	10	1,995,000	20
		Cracking	а	5	Reinf, with steel pl.	-	Pos.	166,700	-		-		-		· ·	- 40
Floor beam		Missing bolts Fracture	a a	5	Bolt change for splice pl. Roinf, for fracture		Pos.	133,400 166,700					-	:		
	03	Corrosion Cracking	EL EL		Repainting Reinf, with steal pl.	130,0	m² Pos.	3,500 166,700	455,000		-	5		10	455,000	20
	~ }	Missing bolts Fracture	a	5	Bolt change for splice pl. Reinf. for fracture		Pos.	133,400 166,700								\equiv
Sway		Corrusion Cracking	b	4	Repainting	180.0	m ²	3,500	630,000			. 5	630,000	10	630,000	20
bracing (Lower)	١, ١,	Missing bolts	B B	. 5	Reinf, with steel pl. Bolt change for splice pl.		Pos.	1 146 700 133,400	-							
		Fracture	a	5	Reinf. for fracture	1	Pos.	166,700			-			-	-	

	No.			Т		T					countermeasure classification		countermeasure classification		Planned repair &	
Member		Damage	Danage dassification	Countermeasure	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure chasilication 1 & 2 (B)	Repair price (B)	Remainin g years up to counter measure cl 2	Repair price	Remainin g years up to counter measure c1 2	reconstructs Repair price (18)	Life oycle
		Rebar exposure Pop-outs	a	5	Patching Patching & CFR	13.2	m²	17,500	231,000			7		15	-	30
	01	Deck encking	c		CFR CFR	68.0	Pos.	10,000			1,530,000	7	-			
		Damages at anchorage of PC tendon	a		CFR (upper & bottom)	- 00.0	Pos.	45,000	1,330,000		1,530,000			15	1,530,000	30
		Rebar exposure	Ц	5	Patching	13.2	m².	17,500	231,000	-	-	7	-	15		30
	02	Pop-outs Deck cracking	a	5	Patching & CFR CFR	68,0	Pos.	10,000					-		-	
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	08.0	Pos.	22,500 45,000	1,530,000			7	-	15	1,530,000	30
		Rebar exposure	а	5	Patching	13.2	m ²	17,500			-	7		15		30
	03	Pop-outs	a		Patching & CFR		Pos.	10,000				-			-	-50
		Deck eracking Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	68.0	Pos.	22,500 45,000	1,530,000	-		7	:	15	1,530,000	30
		Rebar exposure	a	5	Patching	13.2	m ²	17,500		<u> </u>		7		15		30
	04	Pop-outs	a				Pos.	10,000	-	-			-			- 30
	'	Deck ansching	B B	5	CFR (upper & bottom)	68.0	Pos.	22,500	1,530,000			7	-	15	1,530,000	30
	\vdash	Damages at anchorage of PC tendon Rebar exposure	а	5	Patching	13.2	Pos.	45,000 17,500	231,000		-	7		- 15		1
1	0.5	Pop-outs	а	5	Patching & CFR		Pos.	10,000	-					 		30
1	1	Deck cracking	u		CFR (upper & bottom)	68.0	Pos.	22,500	1,530,000	·	-	7		15	1,530,000	30
	 	Damages at anchorage of PC tendon Rebar exposure	a	5	Patching	13.2	Pos.	45,000 17,500	231,000			7	-		-	
	06	Pop-outs	а	5	Patching & CFR		Pos.	10,000	231,000				-	15		30
		Deck cracking	a		CFR	68.0	Pos.	22,500	1,530,000	-	-	7	-	15	1,530,000	30
	-	Darmages at anchorage of PC tendon Rebar exposure	a		CFR (upper & bottom) Patching	13.2	Pos.	45,000	221 000				-	-	-	
70	0.7	Pop-outs	a	5	Patching & CFR.	13.2	m ² Pos.	17,500	231,000	-	<u>-</u>	7		15		30
Deck	."	Deck encking	a	5	CFR	68.0	Pos.	22,500	1,530,000	-	-	7		15	1,530,000	30
1		Damages at anchorage of PC tendon	ш	5	CFR (upper & bottom)		Pos.	45,000		-			-	-	-	-
		Rebar exposure Pop-outs	a a	5	Patching Patching & CFR	13,2	m ² Pos.	17,500	231,000			7		15		30
İ	08	Deck cracking	8	5	CFR	68.0	Pos.	22,500	1,530,000			7	-	15	1.530,000	30
		Damages at anchorage of PC tendon	а		CFR (upper & bottom)		Pos.	45,000	-	-		-			-	-30
l .		Rebar exposure Pop-outs	a	- 3	Patching Patching & CFR	13.2	m ² Pos.	17,500	231,000			7		15	•	30
	09	Deck cracking	8	. 5	CFR	68.0	Pos.	22,500	1,530,000			7	<u> </u>	15	330,000 گرا	30
		Damages at anchorage of PC tendon	В	5	CFR (upper & bottom)		Pos.	45,000	-		-				- 1,000,000	
		Rebar exposure Pop-outs	a n	5	Patching Patching & CFR	13.2	m ²	17,500	231,000			7		15	-	30
	10	Deck cracking	n	5	CFR	68.0	Pos.	22,500	1,530,000		-			15	1,530,000	30
İ		Damages at anchorage of PC tendon	а		CFR (upper & bottom)	-	Pos.	45,000	-	-			-		-	-30
		Rebar exposure Pop-outs	a a		Patching Patching & CFR	13.2	m²	17,500	231,000	-	-	7		15	-	30
	11	Deck cracking	a		CFR	68.0	Pos.	10,000 22,500	1,530,000			7	<u>-</u>	15	1,530,000	30
	L	Damages at unchorage of PC tendon	11_	5	CFR (upper & bettern)		Pos.	45,000	- 1,5,50,552	-	-			- 12	1,00,000	30
		Rebar exposure Pop-outs	a.		Paching	13.2	m	17,500	231,000	-	-	7		15	-	30
	12	Deck cracking	a a	5	Patching & CFR CFR	68.0	m m	10,000	1,530,000			7	<u> </u>	15	1,530,000	30
		Damages at anchorage of PC tendon	R.	5	CFR (upper & bottom)		m	45,000	- 1,5.10,000						- UUv,ucqii	30
		Rebar exposure	a	5	Patching	13,2	tn	17,500	231,000			7		15		30
	13	Pop-outs Deck cracking	a c	3	1'atching & CFR CFR	68.0	m m	10,000	1,530,000		1,530,000	7		<u> </u>		
	$ldsymbol{ldsymbol{ldsymbol{eta}}}$	Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	•	m	45,000	- 1.7,10,000		1,,,30,000	- '		15	1,530,000	30
Substructure	01	Cracking etc.	С	3	Resin injection	5.54	m	5,000	27,700		27,700	7	-	15		30
		Rebar exposure Damages in substructures	a	5	Patching Foot protection	2.24	m	17,500	39,200			7		15	19,200	30
		Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700			7	-	15		30
		Rebar exposure	8	5	Patching	2,24	m	17,500	39,200	-		7		15	5 39,200	30
Bearings	101	Damages in substructures Functional damage of bearings	8	5	Font protection Metal spraying	1.0	m Pos.	1,750,000	120,000			7		-:	10000000000000000000000000000000000000	三
		Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000			7	-	15 15	120,000	30
	201	Functional damage of bearings	a		Metal spraying	1.0	Pos.	120,000	120,000	-		7		15	120,000	30
Road surface		Punctional damage of bearings Level difference of road surface	a a	5	Metal spraying Pavement replacement	1.0 848.6	Pos.	120,000	120,000	=	-	7		15	120,000	30
	-01	Damages in payemnents	<u>а</u> в	-3-	same as above	848.6	m²	5,000	4,242,900 4,242,900			5	<u> </u>	10	4,242,900	20
	01	Damages in berniers	a	5	Patching.	5.70	m² m²	17,500	99,800			7		15	99,800	30
Barriers	02	Damages in barriers	8	5	Patching.	5.70	m'	17,500	99,800			7		1.5	99,800	30
Railings	0.3		-		Patching. Patching.	5.70 5.70	ता ता	17,500	99,800 99,800			7	-	15 15	99,800	30 30
Expansion	01	Damages in expansion joints	а	5	change of steel exp.	17.8	m	133,400	2,374,600			- '		15	99,800 2,374,600	30
joints	02	Damages in expansion Joints	a	5	clunge of steel exp.	17.8	m	133,400	2,374,600			7	•	15	2,374,600	30

Approx	dmate total repair co:	st	Annual	repair cost (B)		
Year	Span No.1	Span No.2	Span No.3	Periodic inspection	Bridge total	Cummalative cost (B)
2011	8,684,484	8,249,937	4,675,084	+ reserve for unexpected matters 233,400	21,842,904	21,842,904
2012 2013				-	-	21,842,904
2014				-		21,842,904 21,842,904
2015 2016	-		-	233,400	222.400	21,842,904
2017	-	2 2 1 2 000	-	233,400	233,400	22,076,304 22,076,304
2018 2019	-	2,715,000	-		2,715,000	24,791,304 24,791,304
2020 2021	10,022,584	10 054 725	10.050.504			24,791,304
2022	10,022,384	10,754,737	12,052,584	233,400	33,063,304	57,854,609 57,854,609
2023		-				57,854,609
2025	-				-	57,854,609 57,854,609
2026 2027				233,400	233,400	58,088,009
2028			-	-		58,088,009 58,088,009
2029 2030	-	6,064,737	-		<u>6,064,737</u>	64,152,746 64,152,746
2031	25,099,884 4,242,900	16,861,637 5,504,737	27,312,784	233,400	69,507,704	133,660,450
2033	4,242,900	3,304,737	-		9,747,637	143,408,088 143,408,088
2034 2035						143,408,088
2036				233,400	233,400	143,408,088 143,641,488
2037			-	-		143,641,488
2039	· -	-			-	143,641,488 143,641,488
2040 2041	22,337,200	17,734,400	22,337,200	233,400	62,642,200	143,641,488 206,283,688
2042 2043	6,934,884	10,754,737	8,964,884		26,654,504	232,938,192
2044			-	-		232,938,192 232,938,192
2045 2046	-			- 202 (00		232,938,192
2047	-		-	233,400	233,400	233,171,592 233,171,592
2048 2049		2,659,600	-	-	2 (50 (00	233,171,592
2050	-	6,064,737	-	-	2,659,600 6,064,737	235,831,192 241,895,929
2051 2052	28,159,884	16.861.637	30,372,784	233,400	233,400 75,394,304	242,129,329
2053	4,242,900	16,861,637 5,504,737	2012121101	-	9,747,637	317,523,634 327,271,271 327,271,271
2054 2055			<u> </u>		-	327,271,271 327,271,271
2056 2057				233,400	233,400	327.504.671
2058						327,504,671 327,504,671
2059 2060	-		-	-	-	327,504,671
2061			-	233,400	233,400	327,504,671 327,738,071
2062 2063	6,934,884	10,754,737	8,964,884	-	26,654,504	327,738,071 354,392,575
2064 2065		-		-	20,034,304	354,392,575
2066				233,400	233,400	354,392,575 354,625,975
2067 2068			-	-	-	354,625,975
2069				-		354,625,975 354,625,975
2070		6,064,737		233,400	6,298,137	354,625,975 360,924,112
2072	22,337,200	17,734,400	22,337,200	-	62,408,800	423,332,912
2073 2074	25,099,884 4,242,900	16,861,637 5,504,737	27,312,784		69,274,304 9,747,637	492,607,217 502,354,854
2075 2076	-		<u> </u>			•502,354,854
2077		-		233,400	233,400	502,588,254 502,588,254
2078	-			-	-	502,588,254
2080		2,659,600	-		2,659,600	502,588,254 505,247,854
2081 2082				233,400	233,400	505,481,254 505,481,254
2083	3,060,000	10.751.000	3,060,000		6,120,000	511,601,254
2084 2085	6,934,884	10,754,737	8,964,884 -	-	26,654,504	538,255,758 538,255,758
2086 2087		-	-	233,400	233,400	538,489,158
2088			-		-	538,489,158 538,489,158
2089 2090		-	-		<u> </u>	538,489,158
2091				233,400	233,400	538,489,158 538,722,558
2092	-	6,064,737		-	6,064,737	544,787,296
2094	25,099,884	16,861,637	27,312,784		69,274,304	544,787,296 614,061,600
2095	4,242,900	5,504,737	-	233,400	9,747,637 233,400	623,809,237 624,042,637
2097	-	-				624,042,637
2098 2099			.			624,042,637 624,042,637
2100		-		202 (00	<u> </u>	624,042,637
2101 2102				233,400	233,400	624,276,037 624,276,037
2103 2104	22,337,200	17,734,400	22,337,200		62,408,800	686,684,837
2105	6,934,884	10,754,737	8,964,884	<u> </u>	26,654,504	686,684,837 713,339,342
2106 2107		-	-	233,400	233,400	713,572,742
2108		<u> </u>				713,572,742 713,572,742
2109 2110	-			143	·	713,572,742
4110	-1				-1	713,572,742

