Damage classification of members

Bridge name		004Krung Thon											Span No.						4
		Damages of steel members				Damages of concrete members						Others							
		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 pavemnents	Damages in expansion joints	Damages in cable	Remarks
Upper chord member	01	a	a	a	a													
	02	a	a	a	a													
Bottom chord member	01	a	a	a	a													
	02	a	a	a	a													
Diagonal	01	a	a	a	a													
	02	a	a	a	a													
Vertical member	01	a	a	a	a													
	02	a	a	a	a													
Lateral bracing (Upper)	01	a	a	a	a													
Lateral bracing (Lower)	01	a	a	a	a													
Sway bracing (Upper)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Stringer	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
	04	a	a	a	a													
	05	a	a	a	a													
	06	a	a	a	a													
	07	a	a	a	a													
	08	a	a	a	a													
	09	a	a	a	a													
	10	a	a	a	a													
	11	a	a	a	a													
	12	a	a	a	a													
Floor beam	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01							a	a	c	a							
	02							a	a	a	a							
	03							a	a	a	a							
	04							a	a	a	a							
	05							a	a	a	a							
	06							a	a	a	a							
	07							a	a	a	a							
	08							a	a	a	a							
	09							a	a	a	a							
	10							a	a	a	a							
	11							a	a	a	a							
	12							a	a	a	a							
	13							a	a	c	a							
Pier	01					a	-	a						a				
	02					a	-	a						a				
Bearings	101												a					
	102												a					
	201												a					
	202												a					
Road surface												a			a			
Barriers Railings	01															c		
	02															c		
	03																	
	04																	
Expansion joints	01																a	
	02																-	

Estimation of repair quantity

Bridge name	004Krung Thon	Span No.	4

	Subject		Quantity	Remarks
1	Span length		65.0 m	Length of 1 span
2	Road width for pavement		11.5 m	Width for pavement area (Vehicle lane)
3	Total road width		18.5 m	Deck width
4	Area of bridge surface		1,202.5 m^2	Span length x Total width
5	Area of pavement		747.5 m^2	Span length x Width for pavement
6	Barriers & railings	01	concrete	Type of barriers & railings
		02	concrete	Same as above
		03	-	Same as above
		04	-	Same as above
7	Expansion joints	01	steel	Type of expansion joint
		02	steel	Same as above

	Painting area			Total %	Number of members	Member %	Painting area	Remarks
8	Total painting area			100.0%	1	-	5,400.0 m^2	
	Main structure	52.0%	Upper chord 65.0%	33.8%	2	16.9%	920.0 m^2	Experience value
			Bottom chord 35.0%	18.2%	2	9.1%	500.0 m^2	Experience value
	Sway bracing Lateral bracing Portal frame	18.0%	Diagonal 20.0%	3.6%	2	1.8%	100.0 m^2	Experience value
			Vertical member 15.0%	2.7%	2	1.4%	80.0 m^2	Experience value
			Lateral bracing (Upper) 20.0%	3.6%	1	3.6%	200.0 m^2	Experience value
			Lateral bracing (Lower) 15.0%	2.7%	1	2.7%	150.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	150.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	150.0 m^2	Experience value
	Floor system	32.0%	Stringer 60.0%	19.2%	12	1.6%	90.0 m^2	Experience value
			Floor beam 40.0%	12.8%	15%	1.9%	110.0 m^2	End floor beam(15% pos.)
					70%	9.0%	490.0 m^2	Interm. floor beam(70% for all)

	Repaired area of deck	Quantity	Remarks
9	Divided area A	92.5 m^2	13 div. Area of bridge surface / number of division
	Area of rebarb exposure	11.1 m^2	A × 0.120
	Area of deck cracking	57.4 m^3	A × 0.620

	Repair quanity of substructure	Quantity	Remarks
10	Cracking, Water leakage, Free lime	5.54 m	per substructure
	Rebar exposure	2.24 m^2	per substructure

	Concrete barrier	Quantity	Remarks
11	Rebar exposure	4.81 m^2	A of bridge surf. x 0.004

Countermeasure classification of members

Bridge name			004Krung Thon				Span No.			4
Member	No.	Damage	Damage classification		Countermeasure classification	Member	No.	Damage	Damage classification		Countermeasure classification
			Classification	Judge					Classification	Judge	
Upper chord	01	Corrosion	a	-	5	Stringer	01	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		02	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Bottom chord	01	Corrosion	a	-	5		03	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		04	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Diagonal	01	Corrosion	a	-	5		05	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		06	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Vertical member	01	Corrosion	a	-	5		07	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		08	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Upper)	01	Corrosion	a	-	5		09	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Lower)	01	Corrosion	a	-	5		10	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Sway bracing (Upper)	01	Corrosion	a	-	5		11	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		12	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	03	Corrosion	a	-	5						
		Cracking	a	-	5						
		Missing bolts	a	-	5						
		Fracture	a	-	5						

Bridge name			004Krung Thon					Span No.					4
Member	No.	Damage	Damage classification		Countermeasure classification	Member	No.	Damage	Damage classification		Countermeasure classification
			Classification	Judge					Classification	Judge	
Floor beam	01	Corrosion	a	-	5	Deck	08	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		09	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		10	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Sway bracing (Lower)	01	Corrosion	a	-	5		11	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		12	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		13	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	c	-	3
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Deck	01	Rebar exposure	a	-	5	Substructure	01	Cracking etc.	a	-	5
		Pop-outs	a	-	5			Rebar exposure	a	-	5
		Deck cracking	c	-	3			Damages in substructures	a	-	5
		Damages at anchorage of PC tendon	a	-	5		02	Cracking etc.	a	-	5
	02	Rebar exposure	a	-	5			Rebar exposure	a	-	5
		Pop-outs	a	-	5			Damages in substructures	a	-	5
		Deck cracking	a	-	5	Bearings	101	Functional damage of bearings	a	-	5
		Damages at anchorage of PC tendon	a	-	5		102	Functional damage of bearings	a	-	5
	03	Rebar exposure	a	-	5		201	Functional damage of bearings	a	-	5
		Pop-outs	a	-	5		202	Functional damage of bearings	a	-	5
		Deck cracking	a	-	5	Road surface	01	Level difference of road surface	a	-	5
		Damages at anchorage of PC tendon	a	-	5			Damages in pavemnents	a	-	5
	04	Rebar exposure	a	-	5	Barriers Railings	01	Damages in barriers	c	-	2
		Pop-outs	a	-	5		02	Damages in barriers	c	-	2
		Deck cracking	a	-	5		03	Damages in barriers	-	-	-
		Damages at anchorage of PC tendon	a	-	5		04	Damages in barriers	-	-	-
	05	Rebar exposure	a	-	5	Expansion joints	01	Damages in expansion joints	a	-	5
		Pop-outs	a	-	5		02	Damages in expansion joints	-	-	-
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	06	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	07	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						

Approximate repair price for countermeasures

Bridge name	004Krung Thon					Span No.		4									
Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2 (B)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (B)	Remaining years up to counter measure cl. 2	Repair price (B)	Remaining years up to counter measure cl. 2	Repair price (B)	Life cycle
Upper chord	01	Corrosion	a	5	Repainting	920.0	m^2	3,500	3,220,000	-	-	5	-	10	3,220,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	920.0	m^2	3,500	3,220,000	-	-	5	-	10	3,220,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Bottom chord	01	Corrosion	a	5	Repainting	500.0	m^2	3,500	1,750,000	-	-	5	-	10	1,750,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	1.0	Pos.	133,400	133,400	-	-	-	-	-	-	-
		Fracture	a	2	Reinf. for fracture	2.0	Pos.	166,700	333,400	333,400	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	500.0	m^2	3,500	1,750,000	-	-	5	-	10	1,750,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	1.0	Pos.	133,400	133,400	-	-	-	-	-	-	-
		Fracture	a	2	Reinf. for fracture	2.0	Pos.	166,700	333,400	333,400	-	-	-	-	-	-
Diagonal	01	Corrosion	a	5	Repainting	100.0	m^2	3,500	350,000	-	-	5	-	10	350,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	100.0	m^2	3,500	350,000	-	-	5	-	10	350,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Vertical member	01	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Upper)	01	Corrosion	a	5	Repainting	200.0	m^2	3,500	700,000	-	-	5	-	10	700,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Lower)	01	Corrosion	a	5	Repainting	200.0	m^2	3,500	700,000	-	-	5	-	10	700,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Upper)	01	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	01	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	04	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	05	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	06	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	07	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	08	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	09	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	10	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	11	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	12	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-

Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (¥)	Approximate repair price (¥)	Approximate repair price for countermeasure classification 1 & 2 (¥)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (¥)	Remaining years up to countermeasure cl 2	Repair price (¥)	Remaining years up to countermeasure cl 2	Repair price (¥)	Life cycle
Floor beam	01	Corrosion	a	5	Repainting	110.0	m^2	3,500	385,000	-	-	5	-	10	385,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Floor beam	02	Corrosion	a	5	Repainting	490.0	m^2	3,500	1,715,000	-	-	5	-	10	1,715,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	110.0	m^2	3,500	385,000	-	-	5	-	10	385,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Lower)	01	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	2	Reinf. for fracture	1.0	Pos.	166,700	166,700	166,700	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	150.0	m^2	3,500	525,000	-	-	5	-	10	525,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Deck	01	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	57.4	m^2	22,500	1,291,500	-	1,291,500	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	02	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	m^2	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	03	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	04	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
Deck	05	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	06	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	07	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	08	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	09	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	10	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	11	Rebar exposure	a	5	Patching	11.1	m^2	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	Pos.	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	12	Rebar exposure	a	5	Patching	11.1	m	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	57.4	m	22,500	1,291,500	-	-	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
	13	Rebar exposure	a	5	Patching	11.1	m	17,500	194,300	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	57.4	m	22,500	1,291,500	-	1,291,500	7	-	15	1,291,500	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
Substructure	01	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
	02	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
Bearings	101	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	102	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	201	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	202	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
Road surface	01	Level difference of road surface	a	5	Pavement replacement	747.5	m^2	5,000	3,737,500	-	-	5	-	10	-	20
		Damages in pavements	a	5	same as above	747.5	m^2	5,000	3,737,500	-	-	5	-	10	3,737,500	20
Barriers Railings	01	Damages in barriers	c	2	Patching.	4.81	m	17,500	84,200	84,200	-	7	-	15	84,200	30
	02	Damages in barriers	c	2	Patching.	4.81	m	17,500	84,200	84,200	-	7	-	15	84,200	30
	03	-	-	-	Patching.	4.81	m	17,500	84,200	-	-	7	-	15	84,200	30
	04	-	-	-	Patching.	4.81	m	17,500	84,200	-	-	7	-	15	84,200	30
Expansion joints	01	Damages in expansion joints	a	5	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30
	02	Damages in expansion joints	-	-	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30

Damage classification of members

Bridge name		004Krung Thon											Span No.					5
		Damages of steel members				Damages of concrete members						Others						
		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 pavemnents	Damages in expansion joints	Damages in cable	Remarks
Upper chord member	01	a	a	a	a													
	02	a	a	a	a													
Bottom chord member	01	a	a	a	a													
	02	a	a	a	a													
Diagonal	01	a	a	a	a													
	02	a	a	a	a													
Vertical member	01	a	a	a	a													
	02	a	a	a	a													
Lateral bracing (Upper)	01	a	a	a	a													
Lateral bracing (Lower)	01	a	a	a	a													
Sway bracing (Upper)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Stringer	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
	04	a	a	a	a													
	05	a	a	a	a													
	06	a	a	a	a													
	07	a	a	a	a													
	08	a	a	a	a													
	09	a	a	a	a													
	10	a	a	a	a													
	11	a	a	a	a													
	12	a	a	a	a													
Floor beam	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01							a	a	c	a							
	02							a	a	a	a							
	03							a	a	a	a							
	04							a	a	a	a							
	05							a	a	a	a							
	06							a	a	a	a							
	07							a	a	a	a							
	08							a	a	a	a							
	09							a	a	a	a							
	10							a	a	a	a							
	11							a	a	a	a							
	12							a	a	a	a							
	13							a	a	c	a							
Pier	01					a	-	a						a				
	02					a	-	a						a				
Bearings	101												a					
	102												a					
	201												a					
	202												a					
Road surface												a			a			
Barriers Railings	01																c	
	02																c	
	03																	
	04																	
Expansion joints	01																	a
	02																	-

Estimation of repair quantity

Bridge name	004Krung Thon	Span No.	5

	Subject		Quantity	Remarks
1	Span length		57.0 m	Length of 1 span
2	Road width for pavement		11.5 m	Width for pavement area (Vehicle lane)
3	Total road width		18.5 m	Deck width
4	Area of bridge surface		1,054.5 m^2	Span length x Total width
5	Area of pavement		655.5 m^2	Span length x Width for pavement
6	Barriers & railings	01	concrete	Type of barriers & railings
		02	concrete	Same as above
		03	-	Same as above
		04	-	Same as above
7	Expansion joints	01	steel	Type of expansion joint
		02	steel	Same as above

	Painting area			Total %	Number of members	Member %	Painting area	Remarks
8	Total painting area			100.0%	1	-	4,600.0 m^2	
	Main structure	52.0%	Upper chord 65.0%	33.8%	2	16.9%	780.0 m^2	Experience value
			Bottom chord 35.0%	18.2%	2	9.1%	420.0 m^2	Experience value
	Sway bracing Lateral bracing Portal frame	18.0%	Diagonal 20.0%	3.6%	2	1.8%	90.0 m^2	Experience value
			Vertical member 15.0%	2.7%	2	1.4%	70.0 m^2	Experience value
			Lateral bracing (Upper) 20.0%	3.6%	1	3.6%	170.0 m^2	Experience value
			Lateral bracing (Lower) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
	Floor system	32.0%	Stringer 60.0%	19.2%	12	1.6%	80.0 m^2	Experience value
			Floor beam 40.0%	12.8%	15%	1.9%	90.0 m^2	End floor beam(15% pos.)
					70%	9.0%	420.0 m^2	Interm. floor beam(70% for all)

	Repaired area of deck	Quantity	Remarks
9	Divided area A	81.1 m^2	13 div. Area of bridge surface / number of division
	Area of rebarb exposure	9.7 m^2	A × 0.120
	Area of deck cracking	50.3 m^3	A × 0.620

	Repair quanity of substructure	Quantity	Remarks
10	Cracking, Water leakage, Free lime	5.54 m	per substructure
	Rebar exposure	2.24 m^2	per substructure

	Concrete barrier	Quantity	Remarks
11	Rebar exposure	4.22 m^2	A of bridge surf. x 0.004

Countermeasure classification of members

Bridge name			004Krung Thon				Span No.			5
Member	No.	Damage	Damage classification: Classification	Damage classification: Judge	Countermeasure classification	Member	No.	Damage	Damage classification: Classification	Damage classification: Judge	Countermeasure classification
Upper chord	01	Corrosion	a	-	5	Stringer	01	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		02	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Bottom chord	01	Corrosion	a	-	5		03	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		04	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Diagonal	01	Corrosion	a	-	5		05	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		06	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Vertical member	01	Corrosion	a	-	5		07	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		08	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Upper)	01	Corrosion	a	-	5		09	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Lower)	01	Corrosion	a	-	5		10	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Sway bracing (Upper)	01	Corrosion	a	-	5		11	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		12	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	03	Corrosion	a	-	5						
		Cracking	a	-	5						
		Missing bolts	a	-	5						
		Fracture	a	-	5						

Bridge name			004Krung Thon			Span No.			5		
Member	No.	Damage	Damage classification		Countermeasure classification	Member	No.	Damage	Damage classification		Countermeasure classification
			Classification	Judge					Classification	Judge	
Floor beam	01	Corrosion	a	-	5	Deck	08	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		09	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		10	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Sway bracing (Lower)	01	Corrosion	a	-	5		11	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		12	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		13	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	c	-	3
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Deck	01	Rebar exposure	a	-	5	Substructure	01	Cracking etc.	a	-	5
		Pop-outs	a	-	5			Rebar exposure	a	-	5
		Deck cracking	c	-	3			Damages in substructures	a	-	5
		Damages at anchorage of PC tendon	a	-	5		02	Cracking etc.	a	-	5
	02	Rebar exposure	a	-	5			Rebar exposure	a	-	5
		Pop-outs	a	-	5			Damages in substructures	a	-	5
		Deck cracking	a	-	5	Bearings	101	Functional damage of bearings	a	-	5
		Damages at anchorage of PC tendon	a	-	5		102	Functional damage of bearings	a	-	5
	03	Rebar exposure	a	-	5		201	Functional damage of bearings	a	-	5
		Pop-outs	a	-	5		202	Functional damage of bearings	a	-	5
		Deck cracking	a	-	5	Road surface	01	Level difference of road surface	a	-	5
		Damages at anchorage of PC tendon	a	-	5			Damages in pavemnents	a	-	5
	04	Rebar exposure	a	-	5	Barriers Railings	01	Damages in barriers	c	-	2
		Pop-outs	a	-	5		02	Damages in barriers	c	-	2
		Deck cracking	a	-	5		03	Damages in barriers	-	-	-
		Damages at anchorage of PC tendon	a	-	5		04	Damages in barriers	-	-	-
	05	Rebar exposure	a	-	5	Expansion joints	01	Damages in expansion joints	a	-	5
		Pop-outs	a	-	5		02	Damages in expansion joints	-	-	-
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	06	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	07	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						

Approximate repair price for countermeasures

Bridge name	004Krung Thon					Span No.		5								
Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2 (B)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (B)	Remaining years up to counter measure cl. 2	Repair price (B)	Remaining years up to counter measure cl. 2	Repair price (B)	Life cycle
Upper chord	01	Corrosion	a	5	Repainting	780.0	m^2	3,500	2,730,000	-	-	5	-	10	2,730,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	780.0	m^2	3,500	2,730,000	-	-	5	-	10	2,730,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Bottom chord	01	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Diagonal	01	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Vertical member	01	Corrosion	a	5	Repainting	70.0	m^2	3,500	245,000	-	-	5	-	10	245,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	70.0	m^2	3,500	245,000	-	-	5	-	10	245,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Upper)	01	Corrosion	a	5	Repainting	170.0	m^2	3,500	595,000	-	-	5	-	10	595,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Lower)	01	Corrosion	a	5	Repainting	170.0	m^2	3,500	595,000	-	-	5	-	10	595,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Upper)	01	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	01	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	04	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	05	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	06	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	07	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	08	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	09	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	10	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	11	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	12	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-

Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2 (B)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (B)	Remaining years up to countermeasure cl 2	Repair price (B)	Remaining years up to countermeasure cl 2	Repair price (B)	Life cycle
Floor beam	01	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Floor beam	02	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Lower)	01	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Deck	01	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	50.3	m^2	22,500	1,131,800	-	1,131,800	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	02	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	m^2	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	03	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	04	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
Deck	05	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	06	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	07	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	08	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
Deck	09	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	10	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	11	Rebar exposure	a	5	Patching	9.7	m^2	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	Pos.	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	12	Rebar exposure	a	5	Patching	9.7	m	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.3	m	22,500	1,131,800	-	-	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
	13	Rebar exposure	a	5	Patching	9.7	m	17,500	169,800	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	50.3	m	22,500	1,131,800	-	1,131,800	7	-	15	1,131,800	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
Substructure	01	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
	02	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
Bearings	101	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	102	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	201	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	202	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
Road surface	01	Level difference of road surface	a	5	Pavement replacement	655.5	m^2	5,000	3,277,500	-	-	5	-	10	-	20
		Damages in pavements	a	5	same as above	655.5	m^2	5,000	3,277,500	-	-	5	-	10	3,277,500	20
Barriers Railings	01	Damages in barriers	c	2	Patching.	4.22	m^2	17,500	73,900	73,900	-	7	-	15	73,900	30
	02	Damages in barriers	c	2	Patching.	4.22	m^2	17,500	73,900	73,900	-	7	-	15	73,900	30
	03	-	-	-	Patching.	4.22	m^2	17,500	73,900	-	-	7	-	15	73,900	30
	04	-	-	-	Patching.	4.22	m^2	17,500	73,900	-	-	7	-	15	73,900	30
Expansion joints	01	Damages in expansion joints	a	5	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30
	02	Damages in expansion joints	-	-	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30

Damage classification of members

Bridge name		004Krung Thon											Span No.						6
		Damages of steel members				Damages of concrete members						Others							
		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 pavemments	Damages in expansion joints	Damages in cable	Remarks
Upper chord member	01	a	a	a	a													
	02	a	a	a	a													
Bottom chord member	01	a	a	a	a													
	02	a	a	a	a													
Diagonal	01	a	a	a	a													
	02	a	a	a	a													
Vertical member	01	a	a	a	a													
	02	a	a	a	a													
Lateral bracing (Upper)	01	a	a	a	a													
Lateral bracing (Lower)	01	a	a	a	a													
Sway bracing (Upper)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Stringer	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
	04	a	a	a	a													
	05	a	a	a	a													
	06	a	a	a	a													
	07	a	a	a	a													
	08	a	a	a	a													
	09	a	a	a	a													
	10	a	a	a	a													
	11	a	a	a	a													
	12	a	a	a	a													
Floor beam	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01	a	a	a	a													
	02	a	a	a	a													
	03	a	a	a	a													
Sway bracing (Lower)	01							a	a	c	a							
	02							a	a	a	a							
	03							a	a	a	a							
	04							a	a	a	a							
	05							a	a	a	a							
	06							a	a	a	a							
	07							a	a	a	a							
	08							a	a	a	a							
	09							a	a	a	a							
	10							a	a	a	a							
	11							a	a	a	a							
	12							a	a	a	a							
	13							a	a	c	a							
Pier	01					a	–	a						a				
	02					a	–	a						a				
Bearings	101												c					
	102												c					
	201												a					
	202												a					
Road surface												a			a			
Barriers Railings	01															c		
	02															c		
	03																	
	04																	
Expansion joints	01																a	
	02																a	

Estimation of repair quantity

Bridge name	004Krung Thon	Span No.	6

	Subject		Quantity	Remarks
1	Span length		57.1 m	Length of 1 span
2	Road width for pavement		11.5 m	Width for pavement area (Vehicle lane)
3	Total road width		18.5 m	Deck width
4	Area of bridge surface		1,056.4 m^2	Span length x Total width
5	Area of pavement		656.7 m^2	Span length x Width for pavement
6	Barriers & railings	01	concrete	Type of barriers & railings
		02	concrete	Same as above
		03	-	Same as above
		04	-	Same as above
7	Expansion joints	01	steel	Type of expansion joint
		02	steel	Same as above

8	Painting area			Total %	Number of members	Member %	Painting area	Remarks
	Total painting area			100.0%	1	-	4,600.0 m^2	
	Main structure	52.0%	Upper chord 65.0%	33.8%	2	16.9%	780.0 m^2	Experience value
			Bottom chord 35.0%	18.2%	2	9.1%	420.0 m^2	Experience value
	Sway bracing Lateral bracing Portal frame	18.0%	Diagonal 20.0%	3.6%	2	1.8%	90.0 m^2	Experience value
			Vertical member 15.0%	2.7%	2	1.4%	70.0 m^2	Experience value
			Lateral bracing (Upper) 20.0%	3.6%	1	3.6%	170.0 m^2	Experience value
			Lateral bracing (Lower) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
			Sway bracing (Upper) 15.0%	2.7%	1	2.7%	130.0 m^2	Experience value
	Floor system	32.0%	Stringer 60.0%	19.2%	12	1.6%	80.0 m^2	Experience value
			Floor beam 40.0%	12.8%	15%	1.9%	90.0 m^2	End floor beam(15% pos.)
					70%	9.0%	420.0 m^2	Interm. floor beam(70% for all)

9	Repaired area of deck	Quantity	Remarks
	Divided area A	81.3 m^2	13 div. Area of bridge surface / number of division
	Area of rebarb exposure	9.8 m^2	A × 0.120
	Area of deck cracking	50.4 m^3	A × 0.620

10	Repair quanity of substructure	Quantity	Remarks
	Cracking, Water leakage, Free lime	5.54 m	per substructure
	Rebar exposure	2.24 m^2	per substructure

11	Concrete barrier	Quantity	Remarks
	Rebar exposure	4.23 m^2	A of bridge surf. x 0.004

Countermeasure classification of members

Bridge name			004Krung Thon					Span No.			6
Member	No.	Damage	Damage classification: Classification	Damage classification: Judge	Countermeasure classification	Member	No.	Damage	Damage classification: Classification	Damage classification: Judge	Countermeasure classification
Upper chord	01	Corrosion	a	-	5	Stringer	01	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		02	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Bottom chord	01	Corrosion	a	-	5		03	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		04	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Diagonal	01	Corrosion	a	-	5		05	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		06	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Vertical member	01	Corrosion	a	-	5		07	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		08	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Upper)	01	Corrosion	a	-	5		09	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Lateral bracing (Lower)	01	Corrosion	a	-	5		10	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
Sway bracing (Upper)	01	Corrosion	a	-	5		11	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	02	Corrosion	a	-	5		12	Corrosion	a	-	5
		Cracking	a	-	5			Cracking	a	-	5
		Missing bolts	a	-	5			Missing bolts	a	-	5
		Fracture	a	-	5			Fracture	a	-	5
	03	Corrosion	a	-	5						
		Cracking	a	-	5						
		Missing bolts	a	-	5						
		Fracture	a	-	5						

Bridge name			004Krung Thon			Span No.					6
Member	No.	Damage	Damage classification		Countermeasure classification	Member	No.	Damage	Damage classification		Countermeasure classification
			Classification	Judge					Classification	Judge	
Floor beam	01	Corrosion	a	-	5	Deck	08	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		09	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		10	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Sway bracing (Lower)	01	Corrosion	a	-	5		11	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	02	Corrosion	a	-	5		12	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	a	-	5
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
	03	Corrosion	a	-	5		13	Rebar exposure	a	-	5
		Cracking	a	-	5			Pop-outs	a	-	5
		Missing bolts	a	-	5			Deck cracking	c	-	3
		Fracture	a	-	5			Damages at anchorage of PC tendon	a	-	5
Deck	01	Rebar exposure	a	-	5	Substructure	01	Cracking etc.	a	-	5
		Pop-outs	a	-	5			Rebar exposure	a	-	5
		Deck cracking	c	-	3			Damages in substructures	a	-	5
		Damages at anchorage of PC tendon	a	-	5		02	Cracking etc.	a	-	5
	02	Rebar exposure	a	-	5			Rebar exposure	a	-	5
		Pop-outs	a	-	5			Damages in substructures	a	-	5
		Deck cracking	a	-	5	Bearings	101	Functional damage of bearings	c	-	3
		Damages at anchorage of PC tendon	a	-	5		102	Functional damage of bearings	c	-	3
	03	Rebar exposure	a	-	5		201	Functional damage of bearings	a	-	5
		Pop-outs	a	-	5		202	Functional damage of bearings	a	-	5
		Deck cracking	a	-	5	Road surface	01	Level difference of road surface	a	-	5
		Damages at anchorage of PC tendon	a	-	5			Damages in pavemnents	a	-	5
	04	Rebar exposure	a	-	5	Barriers Railings	01	Damages in barriers	c	-	2
		Pop-outs	a	-	5		02	Damages in barriers	c	-	2
		Deck cracking	a	-	5		03	Damages in barriers	-	-	-
		Damages at anchorage of PC tendon	a	-	5		04	Damages in barriers	-	-	-
	05	Rebar exposure	a	-	5	Expansion joints	01	Damages in expansion joints	a	-	5
		Pop-outs	a	-	5		02	Damages in expansion joints	a	-	5
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	06	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						
	07	Rebar exposure	a	-	5						
		Pop-outs	a	-	5						
		Deck cracking	a	-	5						
		Damages at anchorage of PC tendon	a	-	5						

Approximate repair price for countermeasures

Bridge name	004Krung Thon				Span No.		6									
Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (B)	Approximate repair price (B)	Approximate repair price for countermeasure classification 1 & 2 (B)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (B)	Remaining years up to counter measure cl 2	Repair price (B)	Remaining years up to counter measure cl 2	Repair price (B)	Life cycle
Upper chord	01	Corrosion	a	5	Repainting	780.0	m^2	3,500	2,730,000	-	-	5	-	10	2,730,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	780.0	m^2	3,500	2,730,000	-	-	5	-	10	2,730,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Bottom chord	01	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Diagonal	01	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Vertical member	01	Corrosion	a	5	Repainting	70.0	m^2	3,500	245,000	-	-	5	-	10	245,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	70.0	m^2	3,500	245,000	-	-	5	-	10	245,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Upper)	01	Corrosion	a	5	Repainting	170.0	m^2	3,500	595,000	-	-	5	-	10	595,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Lateral bracing (Lower)	01	Corrosion	a	5	Repainting	170.0	m^2	3,500	595,000	-	-	5	-	10	595,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Upper)	01	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	01	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	04	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Stringer	05	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	06	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	07	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	08	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	09	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	10	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	11	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	12	Corrosion	a	5	Repainting	80.0	m^2	3,500	280,000	-	-	5	-	10	280,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-

Member	No.	Damage	Damage classification	Countermeasure classification	Repair method	Repair quantity	Unit	Approximate unit price (¥)	Approximate repair price (¥)	Approximate repair price for countermeasure classification 1 & 2 (¥)	countermeasure classification 3		countermeasure classification 4		Planned repair & reconstruction	
											Repair price (¥)	Remaining years up to counter measure cl 2	Repair price (¥)	Remaining years up to counter measure cl 2	Repair price (¥)	Life cycle
Floor beam	01	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Floor beam	02	Corrosion	a	5	Repainting	420.0	m^2	3,500	1,470,000	-	-	5	-	10	1,470,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	90.0	m^2	3,500	315,000	-	-	5	-	10	315,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Sway bracing (Lower)	01	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	02	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
	03	Corrosion	a	5	Repainting	130.0	m^2	3,500	455,000	-	-	5	-	10	455,000	20
		Cracking	a	5	Reinf. with steel pl.	-	Pos.	166,700	-	-	-	-	-	-	-	-
		Missing bolts	a	5	Bolt change for splice pl.	-	Pos.	133,400	-	-	-	-	-	-	-	-
		Fracture	a	5	Reinf. for fracture	-	Pos.	166,700	-	-	-	-	-	-	-	-
Deck	01	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	50.4	m^2	22,500	1,134,000	-	1,134,000	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	02	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	m^2	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	03	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	04	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
Deck	05	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	06	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	07	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	08	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	09	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	10	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	11	Rebar exposure	a	5	Patching	9.8	m^2	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	Pos.	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	Pos.	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	Pos.	45,000	-	-	-	-	-	-	-	-
	12	Rebar exposure	a	5	Patching	9.8	m	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	a	5	CFR	50.4	m	22,500	1,134,000	-	-	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
	13	Rebar exposure	a	5	Patching	9.8	m	17,500	171,500	-	-	7	-	15	-	30
		Pop-outs	a	5	Patching & CFR	-	m	10,000	-	-	-	-	-	-	-	-
		Deck cracking	c	3	CFR	50.4	m	22,500	1,134,000	-	1,134,000	7	-	15	1,134,000	30
		Damages at anchorage of PC tendon	a	5	CFR (upper & bottom)	-	m	45,000	-	-	-	-	-	-	-	-
Substructure	01	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
	02	Cracking etc.	a	5	Resin injection	5.54	m	5,000	27,700	-	-	7	-	15	-	30
		Rebar exposure	a	5	Patching	2.24	m	17,500	39,200	-	-	7	-	15	39,200	30
		Damages in substructures	a	5	Foot protection	-	m	1,750,000	-	-	-	-	-	-	-	-
Bearings	101	Functional damage of bearings	c	3	Metal spraying	1.0	Pos.	120,000	120,000	-	120,000	7	-	15	120,000	30
	102	Functional damage of bearings	c	3	Metal spraying	1.0	Pos.	120,000	120,000	-	120,000	7	-	15	120,000	30
	201	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
	202	Functional damage of bearings	a	5	Metal spraying	1.0	Pos.	120,000	120,000	-	-	7	-	15	120,000	30
Road surface	01	Level difference of road surface	a	5	Pavement replacement	656.7	m^2	5,000	3,283,300	-	-	5	-	10	-	20
		Damages in pavements	a	5	same as above	656.7	m^2	5,000	3,283,300	-	-	5	-	10	3,283,300	20
Barriers Railings	01	Damages in barriers	c	2	Patching	4.23	m^2	17,500	74,100	74,100	-	7	-	15	74,100	30
	02	Damages in barriers	c	2	Patching	4.23	m^2	17,500	74,100	74,100	-	7	-	15	74,100	30
	03	-	-	-	Patching	4.23	m^2	17,500	74,100	-	-	7	-	15	74,100	30
	04	-	-	-	Patching	4.23	m^2	17,500	74,100	-	-	7	-	15	74,100	30
Expansion joints	01	Damages in expansion joints	a	5	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30
	02	Damages in expansion joints	a	5	change of steel exp.	18.5	m	133,400	2,467,900	-	-	7	-	15	2,467,900	30

Approximate total repair cost

Year	Annual repair cost (B)								Cumulative cost (B)
	Span No.1	Span No.2	Span No.3	Span No.4	Span No.5	Span No.6	Periodic inspection + reserve for unexpected matters	Bridge total	
2011	74,100	147,800	5,042,900	4,609,400	147,800	148,200	233,400	10,403,600	10,403,600
2012	-	-	-	-	-	-	-	-	10,403,600
2013	-	-	-	-	-	-	-	-	10,403,600
2014	-	-	-	-	-	-	-	-	10,403,600
2015	-	-	-	-	-	-	-	-	10,403,600
2016	-	-	-	-	-	-	233,400	233,400	10,637,000
2017	-	-	-	-	-	-	-	-	10,637,000
2018	-	2,263,600	2,583,000	2,583,000	2,263,600	240,000	-	9,933,200	20,570,200
2019	-	-	-	-	-	-	-	-	20,570,200
2020	-	-	-	-	-	-	-	-	20,570,200
2021	3,414,050	3,408,500	-	-	-	2,268,000	233,400	9,323,950	29,894,150
2022	-	-	-	-	-	-	-	-	29,894,150
2023	-	-	-	-	-	-	-	-	29,894,150
2024	-	-	-	-	-	-	-	-	29,894,150
2025	-	-	-	-	-	-	-	-	29,894,150
2026	-	-	-	-	-	-	233,400	233,400	30,127,550
2027	-	-	-	-	-	-	-	-	30,127,550
2028	-	-	-	-	-	-	-	-	30,127,550
2029	-	-	-	-	-	-	-	-	30,127,550
2030	-	-	-	-	-	-	-	-	30,127,550
2031	25,107,350	25,096,000	29,080,000	29,080,000	25,341,000	25,107,350	233,400	159,045,100	189,172,650
2032	-	-	-	-	-	-	-	-	189,172,650
2033	-	-	-	-	-	-	-	-	189,172,650
2034	-	-	-	-	-	-	-	-	189,172,650
2035	-	-	-	-	-	-	-	-	189,172,650
2036	-	-	-	-	-	-	233,400	233,400	189,406,050
2037	-	-	-	-	-	-	-	-	189,406,050
2038	-	-	-	-	-	-	-	-	189,406,050
2039	-	-	-	-	-	-	-	-	189,406,050
2040	-	-	-	-	-	-	-	-	189,406,050
2041	20,310,300	15,476,100	17,232,800	17,232,800	15,476,100	17,728,200	233,400	103,689,700	293,095,750
2042	3,488,150	3,556,300	168,400	168,400	147,800	148,200	-	7,677,250	300,773,000
2043	-	-	-	-	-	-	-	-	300,773,000
2044	-	-	-	-	-	-	-	-	300,773,000
2045	-	-	-	-	-	-	-	-	300,773,000
2046	-	-	-	-	-	-	233,400	233,400	301,006,400
2047	-	-	-	-	-	-	-	-	301,006,400
2048	-	-	-	-	-	-	-	-	301,006,400
2049	-	2,263,600	2,583,000	2,583,000	2,263,600	240,000	-	9,933,200	310,939,600
2050	-	-	-	-	-	-	-	-	310,939,600
2051	-	-	-	-	-	-	233,400	233,400	311,173,000
2052	25,107,350	25,096,000	29,080,000	29,080,000	25,341,000	27,375,350	-	161,079,700	472,252,700
2053	-	-	-	-	-	-	-	-	472,252,700
2054	-	-	-	-	-	-	-	-	472,252,700
2055	-	-	-	-	-	-	-	-	472,252,700
2056	-	-	-	-	-	-	233,400	233,400	472,486,100
2057	-	-	-	-	-	-	-	-	472,486,100
2058	-	-	-	-	-	-	-	-	472,486,100
2059	-	-	-	-	-	-	-	-	472,486,100
2060	-	-	-	-	-	-	-	-	472,486,100
2061	-	-	-	-	-	-	233,400	233,400	472,719,500
2062	-	-	-	-	-	-	-	-	472,719,500
2063	3,414,050	3,408,500	-	-	-	-	-	6,822,550	479,542,050
2064	-	-	-	-	-	-	-	-	479,542,050
2065	-	-	-	-	-	-	-	-	479,542,050
2066	-	-	-	-	-	-	233,400	233,400	479,775,450
2067	-	-	-	-	-	-	-	-	479,775,450
2068	-	-	-	-	-	-	-	-	479,775,450
2069	-	-	-	-	-	-	-	-	479,775,450
2070	-	-	-	-	-	-	-	-	479,775,450
2071	-	-	-	-	-	-	233,400	233,400	480,008,850
2072	20,310,300	15,476,100	17,232,800	17,232,800	15,476,100	17,728,200	-	103,456,300	583,465,150
2073	25,181,450	25,243,800	29,248,400	29,248,400	25,488,800	25,255,550	-	159,666,400	743,131,550
2074	-	-	-	-	-	-	-	-	743,131,550
2075	-	-	-	-	-	-	-	-	743,131,550
2076	-	-	-	-	-	-	233,400	233,400	743,364,950
2077	-	-	-	-	-	-	-	-	743,364,950
2078	-	-	-	-	-	-	-	-	743,364,950
2079	-	-	-	-	-	-	-	-	743,364,950
2080	-	2,263,600	2,583,000	2,583,000	2,263,600	240,000	-	9,933,200	753,298,150
2081	-	-	-	-	-	-	233,400	233,400	753,531,550
2082	-	-	-	-	-	-	-	-	753,531,550
2083	-	-	-	-	-	2,268,000	-	2,268,000	755,799,550
2084	3,414,050	3,408,500	-	-	-	-	-	6,822,550	762,622,100
2085	-	-	-	-	-	-	-	-	762,622,100
2086	-	-	-	-	-	-	233,400	233,400	762,855,500
2087	-	-	-	-	-	-	-	-	762,855,500
2088	-	-	-	-	-	-	-	-	762,855,500
2089	-	-	-	-	-	-	-	-	762,855,500
2090	-	-	-	-	-	-	-	-	762,855,500
2091	-	-	-	-	-	-	233,400	233,400	763,088,900
2092	-	-	-	-	-	-	-	-	763,088,900
2093	-	-	-	-	-	-	-	-	763,088,900
2094	25,107,350	25,096,000	29,080,000	29,080,000	25,341,000	25,107,350	-	158,811,700	921,900,600
2095	-	-	-	-	-	-	-	-	921,900,600
2096	-	-	-	-	-	-	233,400	233,400	922,134,000
2097	-	-	-	-	-	-	-	-	922,134,000
2098	-	-	-	-	-	-	-	-	922,134,000
2099	-	-	-	-	-	-	-	-	922,134,000
2100	-	-	-	-	-	-	-	-	922,134,000
2101	-	-	-	-	-	-	233,400	233,400	922,367,400
2102	-	-	-	-	-	-	-	-	922,367,400
2103	20,310,300	15,476,100	17,232,800	17,232,800	15,476,100	17,728,200	-	103,456,300	1,025,823,700
2104	74,100	147,800	168,400	168,400	147,800	148,200	-	854,700	1,026,678,400
2105	3,414,050	3,408,500	-	-	-	-	-	6,822,550	1,033,500,950
2106	-	-	-	-	-	-	233,400	233,400	1,033,734,350
2107	-	-	-	-	-	-	-	-	1,033,734,350
2108	-	-	-	-	-	-	-	-	1,033,734,350
2109	-	-	-	-	-	-	-	-	1,033,734,350
2110	-	-	-	-	-	-	-	-	1,033,734,350

Eestimation of LCC