

付録-6 橋梁目視調査票

Bridge name	Opening	Authority	Type	定期点検、日常的な補修の継続 で対応可能(損傷少ない)	定期点検、日常的な補修の継続 で対応可能(損傷有り)	定期点検までに落橋の危険性は ないが詳細な点検が望ましい	全面改修が必要	補修履歴	補修計画
01_Patum Tani	1984	DOH	PC-Box	概ね健全である					
02_Patom Tani2	2009	DOH	PC-Box	概ね健全である					
03_Nonthaburi	1959	DOH	Truss				全面的に腐食、ひび割れがある	高欄追加	なし
04_Rama 4	2006	DRR	PC-Box	概ね健全である					
05_New Phra Nangklao	2008	DOH	PC-Box	概ね健全である					
06_Phra Nangklao	1985	DOH	PC-Box		ヒンジの抜け、支承の移動、漏水				
07_Rama 5	2002	DRR	PC-Box	概ね健全である					
08_Rama 7	1992	DRR	PC-Box	概ね健全である					
10_Krung Thon	1958	DRR	Truss			断面減少、ひび割れが多い			来年度全 面補修
11_Rama 8	2002	BMA	Cable-stayed	概ね健全である					
12_Pinklao	1973	DRR	PC-Box		伸縮排水の劣化、取付橋ひび割れ				
13_Memorial	1932	DRR	Truss			歩道床版の橋軸ひび割れ、車両 衝突、船舶衝突による部材変形		大規模補修	歩道床版 打ち替え
14_Phra Pokklao	1984	DRR	PC-Box	概ね健全である					
15_Taksin	1982	DRR	PC-Box		斜めひびわれの可能性				
16_Rama 3	2000	DRR	PC-Box	概ね健全である					
17_Krung Thep	1959	DRR	Truss		中央支間の一部断面減少			塗装が新しい	
18_Rama 9	1987	EXAT	Cable-stayed	大規模点検が行われ補修中				20年点検済	
19_IRR North	2006	DRR	Cable-stayed			塔柱のひび割れの可能性			
20_IRR_South	2006	DRR	Cable-stayed			塔柱のひび割れの可能性			
21_Kanchanapisek	2007	DOH	Cable-stayed						

Bridge name	Completion	Authority	Type	Superstructure				Slab		Pavement	Pier,pylon	Bearing	Expansion joint		Drainage		Barrier	Handrail	Others
				Main girder, chord	Other member	Ship collision	Vehicle collision	Main road	Walkway				Spacing, Structure	Drain	Blocked	Others			
01_Patum Tani	1984	DOH	PC-Box	lime, crack under medium								set error of side block, rust		partly			chipped		difference of grade of longitudinal joint
02_Patom Tani2	2009	DOH	PC-Box	lime												lack of catch basin			
03_Nonthaburi	1959	DOH	Truss	rust	reduce thickness			breaking exfoliation	breaking	breaking			fixed	leakage		rust			Lighting
04_Rama 4	2006	DRR	PC-Box	lime leakage of rust											partly				
05_New Phra Nangklao	2008	DOH	PC-Box												partly				
06_Phra Nangklao	1985	DOH	PC-Box	lime								rust, movement		leakage	partly		chipped		Hinge breaking, leakage of water supply
07_Rama 5	2002	DRR	PC-Box	lime		scratch							extension spacing		upstream	lack of catch basin		stolen	
08_Rama 7	1992	DRR	PC-Box	lime on approach										leakage	partly			lost bolt	leakage of water supply, lighting cover
10_Krung Thon	1958	DRR	Truss	rust	reduce thickness		surface, under girder		crack exfoliation			rust soil dump		leakage		pipe falling	chipped		
11_Rama 8	2002	BMA	Cable-stayed							pot-hole									leakage from cable
12_Pinklao	1973	DRR	PC-Box	lime									corrosion	leakage					leakage from manhole, crack of approach pier
13_Memorial	1932	DRR	Truss	rust remaining water	rust remaining water	1 member lost		lime, crack	lime, crack		crack under bearing	rust soil dump	rust						rivet lost
14_Phra Pokklao	1984	DRR	PC-Box	lime on center bridge		scratch											chipped		
15_Taksin	1982	DRR	PC-Box	lime, cold joint, or crack				-		unevenness (small)		rust, movement		partly			cover disappear		
16_Rama 3	2000	DRR	PC-Box									-	-	-	-	-	-	-	
17_Krung Thep	1959	DRR	Truss	rust	reduced thickness at center span			lime, crack	crack exfoliation		crack under bearing (approach)	rust		partly		lack of catch basin			
18_Rama 9	1987	EXAT	Cable-stayed																
20_IRR North	2006	DRR	Cable-stayed	remaining water					crack		crack		noise						unevenness of vertical alignment
21_IRR_South	2006	DRR	Cable-stayed	-					crack		crack								
22_Kanchanapisek	2007	DOH	Cable-stayed																

	Slight defect
	Remarkable defect
	Difficult to approach and measure the defect. Possibility of remarkable defect

Inspection sheet of visual survey

Bridge No. 1

Photo No. (~)




Bridge name		Patum Thani Bridge		Route name		3110, 346		Authority		DOH		Code of authority		-		
Place		from Amphue Lat Lun Kaeo		Distance		from km+ 0						No.		-		
		to Amphoe Mueang Pathum Thani				to km+ 0						Survey date		2009/10/28		
Bridge properties	Bridge type(1)	main road · side road · ramp														
	Bridge type(2)	bridge · viaduct · plank pass														
	Bridge type(3)	4-span continuous PC box girder														
	Total length	240.00 (m)														
	Span	47 + 73 + 73 + 47 (m)														
	Nos. of span	4 span														
	Width	32.21 (m) / 10.6-original (m)														
	Completion	1984 original, 2006 additional														
Road information	Horizontal	Straight · incli ($\theta = 1.5^\circ$) · Curve (R m)														
	Gradient	One way (\nearrow · \searrow) parabo (\square · \square)														
	Nearby tunnel	yes · no (m)														
	Nearby crossing	yes · no (m)														
	Traffic	Much · Medium · Little														
	Commercial traffic	Much · Medium · Little														
Environ	1. Urban	2. Suburbs		3. Mountain		4. Seaside										
	5. Industrial	6. Harbor		7. Residential		8. Bussiness										
	9. Salty	10. Cold and snow		11. Heavy snow		12. Others										
Under brid	1. Shinkanser	2. Railway		3. Highway		4. Road										
	5. River	6. Lake		7. Ravine		8. Valley										
	9. Waterway	10. Parking		11. Bike parkin		12. Park										
	13. Vacant	14. Harbor		Name (Chao Phraya)												
Access method	Superstructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()														
	Substructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()														
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required														
Survey result	Joint	Camber deform	yes · no													
		Difference in glade	yes · no													
		Continuous of barrier	yes · no													
		Continuous of curve	yes · no													
	Noise	Noise	yes · no													
		Space change	yes · no													
		difference grade	yes · no													
		draining damage	yes · no													
Blocked drainage	Blocked drainage	yes · no														
	Crack of pavement	yes · no														
	Damage of lighting	yes · no														
	Damage of sign	-														
Damage of handrail	Damage of handrail	yes · no														
	Possibility of scour	yes · no														
	Walkway yes · no															
	Vehicle yes · no															
Inspection way																
Height of girde	about 10m															
Deterioration of bridge	deficient · fair · good															
Noticeable point	· Fracture of slab under gap															
	· Difference of grade of Longitudinal joint															
Out line of damage	Item	Type		State												
	Main girder	PC-Box		Leakage from gap between girder												
	Cross beam	-		-												
	Stringer	-		-												
Cross frame	Cross frame	-		-												
	Lateral brace	-		-												
	Slab			free lime, leakage												
	Abutment	Rectangular		-												
Pier	Pier	plate, rectangular		-												
	Bearing	Slide bearing		Spacing is seen in side block												
	Barrier	Trapezoidal		Generally healthy												
	Railing	Steel		Generally healthy												
Curb	Curb	-		-												
	Pavement	asphalt · concrete		Generally healthy												
	Joint	drained · undrained		leakage at end												
	Drainage	yes · no		Blocked												
Impressions	· Fracture of slab concrete is seen under longitudinal joint by leakage															
	· Difference of grade (less than 10mm?) is appeared															
History of repair	· Additional 2-box girder was opened at 2006.															
	Repaint ; - yy - mm															
	Surveyor ; Mr. Chujo, Mr. Kudo															

Present state (1 / 6)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

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Present state (2 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

	Picture No.	4
	Span	1
	Member	Longitudinal joint
	Longitudinal joint between girder	
	Leakage from joint	
	Picture No.	5
	Span	1
	Member	Longitudinal joint
	Longitudinal joint between girder	
	Exfoliation of concrete	
	Picture No.	6
	Span	1
	Member	Approach bridge
	Limit of vehicle height, 3.5m	

Present state (3 / 6)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				



Picture No.	7
Span	1
Member	Side baffle
コンクリートの剥離	



Picture No.	8
Span	1
Member	Expansion joint
Leakage	



Picture No.	9
Span	1
Member	Longitudinal joint
Difference of grade	

Present state (4 / 6)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				

[illegible]

Picture No.	11
Span	1
Member	bearing
Spacing of side block	
<i>*Survey on board, 31-oct</i>	

[illegible]

Present state (5 / 6)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				



Picture No.	7
Span	1
Member	manhole
About 5m.	



Picture No.	8
Span	1
Member	Catch basin
Blocking of catch basin	



Picture No.	9
Span	1
Member	Walkway
Obstacle of bicycle	

Present state (6 / 6)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani bridge				



Picture No.	10
Span	1
Member	Barrier
Chipping of barrier	



Picture No.	11
Span	1
Member	Footing
Ship collision to protection	



Picture No.	12
Span	1
Member	


Inspection sheet of visual survey

Bridge No. 2


Photo No. (~)

Bridge name		Patom Thani 2 Bridge		Route name		345		Authority		DOH		Code of authority		-	
Place		from Amphue Lat Lun Kaeo		Distance		from km+ 0						No.		-	
		to Amphoe Mueang Pathum Thani				to km+ 0						Survey date		2009/10/28	
Bridge properties	Bridge type(1)	main road · side road · ramp													
	Bridge type(2)	bridge · viaduct · plank pass													
	Bridge type(3)	3-span continuous PC box girder													
	Total length	778.10 (m)													
	Span	(180) + 129.05 + 160 + 129.05 + (180) (m)													
	Nos. of span	3 span													
	Width	27.90 (m) / (m)													
	Completion	2009													
Road information	Horizontal	Straight · incli ($\theta =$ °) · Curve (R m)													
	Gradient	One way (↗ · ↘) parabo ($\frac{1}{4}$ · $\frac{3}{4}$)													
	Nearby tunnel	yes · no (m)													
	Nearby crossing	yes · no (m)													
	Traffic	Much · Medium · Little													
	Commercial traffic	Much · Medium · Little													
Envirom	1. Urban	2. Suburbs		3. Mountain		4. Seaside									
	5. Industrial	6. Harbor		7. Residential		8. Bussiness									
	9. Salty	10. Cold and snow		11. Heavy snow		12. Others									
	1. Shinkanser	2. Railway		3. Highway		4. Road									
	5. River	6. Lake		7. Ravine		8. Valley									
	9. Waterway	10. Parking		11. Bike parkin		12. Park									
	13. Vacant	14. Harbor		Name (Chao Phraya)											
Access method	Superstructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()													
	Substructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()													
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required													
Survey result	Camber deform	yes · no													
	Difference in glade	yes · no													
	Continuous of barrier	yes · no													
	Continuous of curve	yes · no													
	Noise	yes · no													
	Space change	yes · no													
	difference grade	yes · no													
	draining damage	yes · no													
Joint	Blocked drainage	yes · no													
	Crack of pavement	yes · no													
	Damage of lighting	yes · no													
	Damage of sign	-													
	Damage of handrail	yes · no													
	Possibility of scour	yes · no													
	Walkway yes · no														
	Vehicle yes · no														
Inspection way															
Out line of damage	Item	Type		State											
	Main girder	PC-Box		Free lime from construction hole											
	Cross beam	-		-											
	Stringer	-		-											
	Cross frame	-		-											
	Lateral brace	-		-											
	Slab			Free lime from construction hole											
	Abutment	Rectangular		-											
Impressions	Pier	-		Girder directry connect to footing											
	Bearing	Slide bearing		Generally healthy											
	Barrier	Trapezoidal		Generally healthy											
	Railing	Steel		Generally healthy											
	Curb	-		-											
	Pavement	asphalt · concrete		Generally healthy											
	Joint	drained · undrained		Generally healthy											
	Drainage	yes · no		Without catch basin											
Diagnosis is	◆ Deterioration of bridge ◆ deficient · fair · good														
	◆ Noticeable point ◆														
History of repair	Surveyor ;										Mr. Chujo, Mr. Kudo				
	Repaint ;										- yy - mm				


Present state (1 / 2)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani 2 bridge				



Picture No.	1
Span	1
Member	Side view



Picture No.	2
Span	2
Member	View on road



Picture No.	3
Span	1
Member	View under bridge

Present state (2 / 2)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Patum Tani 2 bridge				

	Picture No.	4
	Span	1
	Member	Bearing
	Picture No.	5
	Span	1
	Member	Longitudinal joint
	Lime from construction hole	
	Picture No.	6
	Span	1
	Member	Drainage
	Without catch basin	

Inspection sheet of visual survey

Bridge No. 3

Photo No. (~)

Bridge name		Nonthaburi Bridge		Route name		307		Authority		DOH		Code of authority		-		
Place		from Phathum Thani to Nonthaburi		Distance		from km+ 0 to km+ 0						No.		-		
												Survey date		2009/10/28		
Bridge properties	Bridge type(1)		main road · side road · ramp													
	Bridge type(2)		bridge · viaduct · plank pass													
	Bridge type(3)		4-span steel truss													
	Total length		260.00 (m)													
	Span		65+65+65+65 (m)													
	Nos. of span		4 span													
	Width		about 13 (m) / (m)													
	Completion		1959													
Road information	Horizontal		Straight · incli ($\theta =$ °) · Curve (R m)													
	Gradient		One way (↗ · ↘) parabo ($\frac{1}{4}$ · $\frac{3}{4}$)													
	Nearby tunnel		yes · no (m)													
	Nearby crossing		yes · no (m)													
	Traffic		Much · Medium · Little													
	Commercial traffic		Much · Medium · Little													
Environ	1. Urban		2. Suburbs		3. Mountain		4. Seaside									
	5. Industrial		6. Harbor		7. Residential		8. Bussiness									
	9. Salty		10. Cold and snow		11. Heavy snow		12. Others									
Under brid	1. Shinkanser		2. Railway		3. Highway		4. Road									
	5. River		6. Lake		7. Ravine		8. Valley									
	9. Waterway		10. Parking		11. Bike parkin		12. Park									
	13. Vacant		14. Harbor		Name (Chao Phraya)											
Access method	Superstructure		1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()													
	Substructure		1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()													
	Reason		· All bridge section is on the water · If inspection car is not available, false work will be required													
Survey result	Camber deform		yes · no													
	Difference in glade		yes · no													
	Continuous of barrier		yes · no													
	Continuous of curve		yes · no													
	Noise		yes · no													
	Space change		yes · no													
	difference grade		yes · no													
	draining damage		yes · no													
	Blocked drainage		yes · no													
	Crack of pavement		yes · no													
Joint	Damage of lighting		yes · no													
	Damage of sign		-													
	Damage of handrail		yes · no													
	Possibility of scour		yes · no													
	Walkway yes · no															
	Vehicle yes · no															
Inspection way																
Out line of damage	Item		Type		State											
	Main girder		Truss		Corrosion, Deterioration of proofing, deformation											
	Cross beam		I section steel		leakage											
	Stringer		I section steel		leakage											
	Cross frame		T section steel		-											
	Lateral brace		-		-											
	Slab				breaking, free lime, leakage											
	Abutment		Oval		-											
	Pier		Oval		-											
	Bearing		Pin bearing		Generally healthy											
Impressions	Barrier		Trapezoidal		Generally healthy											
	Railing		Steel		Generally healthy											
	Curb		-		-											
	Pavement		asphalt · concrete		Breaking on cross beam											
	Joint		drained · undrained		Joint was filled by asphalt, leakage											
	Drainage		yes · no		Under barrier. Deterioration of drain function.											
History of repair		· Setting of barrier to protect vehicle collision to vertical member Repaint ; - yy - mm														
Surveyor ;		Mr. Chujo, Mr. Kudo														

Present state (1 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

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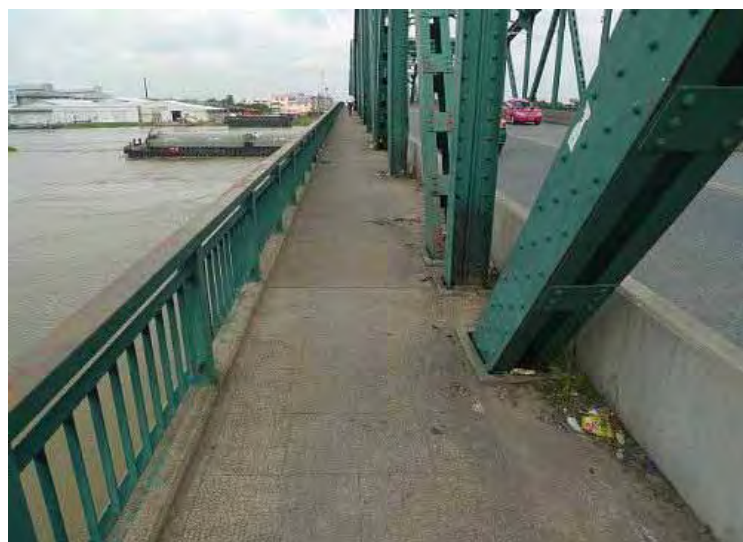
Present state (2 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	4
Span	1
Member	Side view of a span

**Survey on board, 31-oct*



Picture No.	5
Span	1
Member	Walkway






Picture No.	6
Span	1
Member	Expansion joint

Expansion joint was filled by asphalt

Bangkok side

Present state (3 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	7
	Span	1
	Member	Expansion joint
	Leakage from expansion joint	
	Picture No.	8
	Span	1
	Member	Expansion joint
	Thon Buri side	
	Picture No.	9
	Span	1
	Member	
	Lack of rubber at end	
	Thon Buri side	

Present state (4 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	10
Span	1
Member	Water supply
Water supply was removed	
Limit of vehicle height, 3.0m	





Picture No.	11
Span	1
Member	Newel




Picture No.	12
Span	1
Member	Newel
Opening of door	
Erosion of abutment	

Present state (5 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	7
	Span	1
	Member	Approach road
	Approach road is 4 lane	
	Main bridge is 2 lane	
	Approach road of Thon Buri side is under widening.	

	Picture No.	8
	Span	1
	Member	Bearing
	Structure around bearing	

	Picture No.	9
	Span	1
	Member	Approach bridge
	Corrosion on bearing	
	Deterioration of corrosion proofing	

Present state (6 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	10
Span	1
Member	Bearing
Expansion of steel by corrosion	
Deterioration of corrosion proofing	






Picture No.	11
Span	1
Member	Bearing
Inclination of locker bearing of Approach bridge	



Picture No.	12
Span	1
Member	Vertical member
Gap between steel and slab	
Mount up around steel member	
It's good countermeasure for corrosion proofing by water	

Present state (7 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	13
	Span	1
	Member	Vertical member
	Remarkable reducing of thickness of plate	
	Opening at bottom end	
	Picture No.	14
	Span	1
	Member	Vertical member
	Enlarged photo	
	Opening at bottom end	
	Picture No.	15
	Span	1
	Member	Vertical member
	Remarkable reducing of thickness of plate	
	Hole position is higher than contact section with concrete	

Present state (8 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	16
Span	1
Member	Bearing
Remarkable reducing of thickness of plate	



Picture No.	17
Span	1
Member	Vertical member
Proceeding of corrosion is different between each member	



Picture No.	18
Span	1
Member	Vertical member
Deformation by vehicle collision	

Present state （ 9 / 19 ）					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	13
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Picture No.	14
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Picture No.	15
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	


Present state (10/19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	16
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	
	Mark of reinforcement	


	Picture No.	17
	Span	1
	Member	Chord member
	Deformation by vehicle collision	

	Picture No.	18
	Span	1
	Member	Vertical member
	Deformation by vehicle collision	


Present state (11/19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	19
Span	1
Member	Vertical member
Deformation by vehicle collision	






Picture No.	20
Span	1
Member	Bracket
Deformation by vehicle collision	



Picture No.	21
Span	1
Member	Pavement
Breaking of pavement on cross beam	

Present state (12/19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	22
	Span	1
	Member	Pavement
	Breaking of pavement on cross beam	
	Severe leakage is found on bottom slab.	
	It is estimated that this breaking go through slab.	
	Picture No.	23
	Span	1
	Member	Pavement
	Breaking of pavement on cross beam	
	Picture No.	24
	Span	1
	Member	Drainage
	Catch basin may exist under barrier	
	Deterioration of drain function	

Present state (15 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	25
Span	1
Member	Drainage
Drainage under barrier	



Picture No.	26
Span	1
Member	slab
Crack	
Free lime	



Picture No.	27
Span	1
Member	Slab
Deterioration of corrosion proofi	
Fracture of concrete surface	
Free lime	

Present state (16/19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	28
Span	1
Member	Slab
Leakage from slab on cross beam	






Picture No.	29
Span	1
Member	Slab
Leakage from slab on cross beam	




Picture No.	30
Span	1
Member	slab
Crack	
Free lime	


Present state (17/19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	31
	Span	1
	Member	Slab
	Leakage from slab on cross beam	
	Crack, free lime	
	Concrete slab was changed to dirt	
	<i>*Survey on board, 31-oct</i>	
		Picture No.
Span		1
Member		slab
Plant		
Possibility of soil dump		
		Picture No.
	Span	1
	Member	Slab
	Reduce of thickness by corrosion	
	<i>*Survey on board, 31-oct</i>	

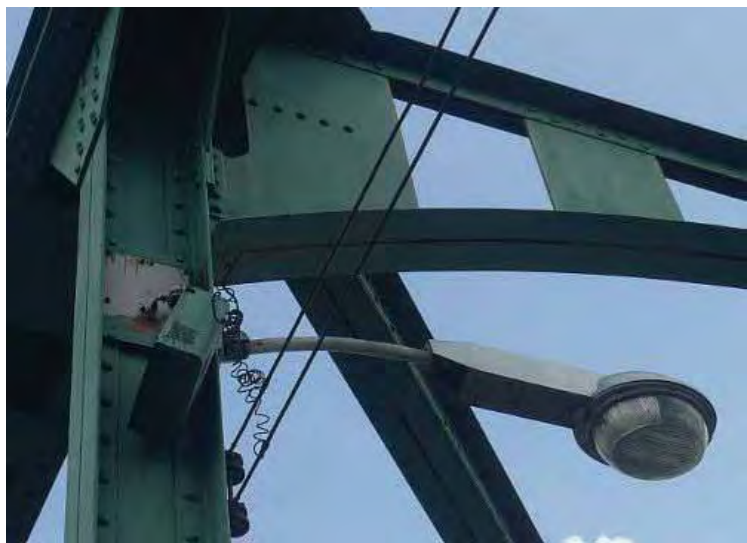
Present state (18/19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				



Picture No.	34
Span	1
Member	Approach bridge
コンクリートの剥離と補修	



Picture No.	35
Span	1
Member	Chord member
防蝕性能の劣化	



Picture No.	36
Span	1
Member	Lighting pole
破損	

Present state (17 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

[illegible]

Picture No.	38
Span	1
Member	Transverse beam
Corrosion and fall of rivet	
<i>*Survey on board, 31-oct</i>	



Picture No.	39
Span	1
Member	Cross frame
Deformation by ship collision	
2nd span from Bangkok side	
<i>*Survey on board, 31-oct</i>	

Present state (18 / 19)

Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				


[illegible]

Picture No.	41
Span	1
Member	Bottom chord
Deformation by ship collision	
<i>*Survey on board, 31-oct</i>	



Picture No.	42
Span	1
Member	Bottom chord
Deformation by ship collision	
<i>*Survey on board, 31-oct</i>	

Present state (19 / 19)					
Authority	DOH	Address	Bangkok	Data	28-Oct-09
Bridge	Nonthaburi bridge				

	Picture No.	43	
	Span	1	
	Member	Slab	
	Fracture of concrete surface		
	Rock pocket		
	Crack		
	<i>*Survey on board, 31-oct</i>		
		Picture No.	44
		Span	1
Member			
<i>*Survey on board, 31-oct</i>			
		Picture No.	45
		Span	1
	Member		


Inspection sheet of visual survey

Bridge No. 4


Photo No. (~)

Bridge name		RAMA IV Bridge		Route name		-		Authority		DRR		Code of authority		-		
Place		from Anphoe Bang Bua Thong to Anphoe Pak Kret		Distance		from km+ 0 to km+ 0						No.		-		
												Survey date		2009/10/20		
Bridge properties	Bridge type(1)	main road · side road · ramp														
	Bridge type(2)	bridge · viaduct · plank pass														
	Bridge type(3)	3-span continuous PC box girder														
	Total length	278.00 (m)														
	Span	72 + 134 + 72 (m)														
	Nos. of span	3 span														
	Width	13.65 x 2 (m) / (m)														
	Completion	2006														
Road information	Horizontal	Straight · incli ($\theta =$ °) · Curve (R m)														
	Gradient	One way (↗ · ↘) parabo ($\frac{1}{4}$ · $\frac{3}{4}$)														
	Nearby tunnel	yes · no (m)														
	Nearby crossing	yes · no (m)														
	Traffic	Much · Medium · Little														
	Commercial traffic	Much · Medium · Little														
Survey result	Joint	Camber deform	yes · no													
		Difference in grade	yes · no													
		Continuous of barrier	yes · no													
		Continuous of curve	yes · no													
	Out line of damage	Noise	yes · no													
		Space change	yes · no													
		difference grade	yes · no													
		draining damage	yes · no													
Inspection way	Blocked drainage	yes · no														
		Crack of pavement	yes · no													
		Damage of lighting	yes · no													
		Damage of sign	-													
	Possibility of scour	Damage of handrail	yes · no													
		Walkway	yes · no (water supply)													
		Vehicle	yes · no													
Access method	Superstructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()														
		Substructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()													
			Reason	· All bridge section is on the water · If inspection car is not available, false work will be required												
	Diagnosis			Deterioration of bridge	deficient · fair · good											
		Noticeable point			Generally healthy											
History of repair																
		Surveyor ;	Mr. Chujo, Mr. Kudo													


Present state (1 / 5)					
Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				



Picture No.	1
Span	1
Member	View under girder
<i>*Survey on board, 31-oct</i>	






Picture No.	2
Span	1
Member	View on ground



Picture No.	3
Span	1
Member	Side view
<i>*Survey on board, 31-oct</i>	

Present state (2 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				

	Picture No.	4
	Span	1
	Member	Name plate
	Picture No.	5
	Span	1
	Member	Box-girder
	Insufficiency of cover concrete	
	Repairing work was finished	
	Picture No.	6
	Span	1
	Member	Expansion joint

Present state (3 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				

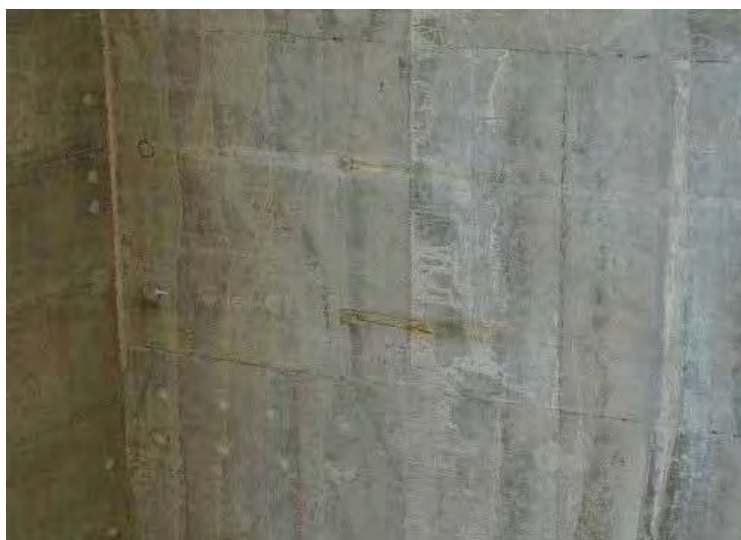


Picture No.	7
Span	1
Member	桁下全景

water supply

No expanded metal plate.

It's not suitable for inspection.



Picture No.	8
Span	1
Member	slab (walkway, roadway)

Ooze out of rust

**Survey on board, 31-oct*



Picture No.	9
Span	1
Member	Bearing

Drainage function of joint is good.

Present state (4 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	RAMA IV				



Picture No.	10
Span	1
Member	Lighting pole
Mark of filling concrete at bottom of lighting pole	
Possibility of fracturing in future	



Picture No.	11
Span	1
Member	Catch basin
Partly blocked	



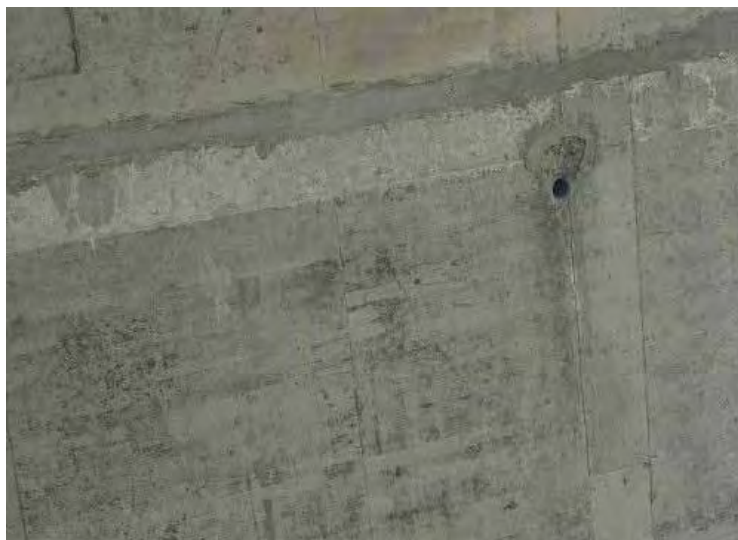
Picture No.	12
Span	1
Member	View of walkway

Present state (5 / 5)

Road		Address	Bangkok	Data	20-Oct-09
Bridge	Rama IV				



Picture No.	13
Span	1
Member	Barrier
Crack.	
Repariring material with permeability?	



Picture No.	14
Span	1
Member	
Chipped concrete around drainage	
<i>*Survey on board, 31-oct</i>	



Picture No.	15
Span	1
Member	Substructure
<i>*Survey on board, 31-oct</i>	

Inspection sheet of visual survey

Bridge No. 5

Photo No. (~)

Bridge name		New Phra Nangklao Bridge		Route name		-		Authority		DOH		Code of authority		-		
Place		from Anphoe Bang Bua Thong		Distance		from km+ 0						No.		-		
		to Anphoe mueang Nonthaburi				to km+ 0						Survey date		2009/10/24		
Bridge properties	Bridge type(1)	main road · side road · ramp														
	Bridge type(2)	bridge · viaduct · plank pass														
	Bridge type(3)	5-span continuous PC box girder														
	Total length	329.10 (m)														
	Span	50.55 + 72 + 84 + 72 + 50.55 (m)														
	Nos. of span	5 span														
	Width	10.9 x 2 (m) / (m)														
	Completion	2008														
Road information	Horizontal	Straight · incli ($\theta =$ °) · Curve (R m)														
	Gradient	One way (↗ · ↘) parabo ($\frac{1}{4}$ · $\frac{3}{4}$)														
	Nearby tunnel	yes · no (m)														
	Nearby crossing	yes · no (m)														
	Traffic	Much · Medium · Little														
	Commercial traffic	Much · Medium · Little														
Environ	1. Urban				2. Suburbs				3. Mountain				4. Seaside			
	5. Industrial				6. Harbor				7. Residential				8. Bussiness			
	9. Salty				10. Cold and snow				11. Heavy snow				12. Others			
Under brid	1. Shinkanser				2. Railway				3. Highway				4. Road			
	5. River				6. Lake				7. Ravine				8. Valley			
	9. Waterway				10. Parking				11. Bike parkin				12. Park			
	13. Vacant				14. Harbor				Name (Chao Phraya)							
Access method	Superstructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()														
	Substructure	1. Inspection car 2. Falsework 3. On ground 4. Ladder 5. Lift car 6. On boat 7. Special camera 8. Others ()														
	Reason	· All bridge section is on the water · If inspection car is not available, false work will be required														
Survey result	Joint	Camber deform	yes · no													
		Difference in glade	yes · no													
		Continuous of barrier	yes · no													
		Continuous of curve	yes · no													
	Noise	Noise	yes · no													
		Space change	yes · no													
		difference grade	yes · no													
		draining damage	yes · no													
Blocked drainage	Blocked drainage	yes · no														
	Crack of pavement	yes · no														
	Damage of lighting	yes · no														
	Damage of sign	-														
Damage of handrail	Damage of handrail	yes · no														
	Possibility of scour	yes · no														
	Walkway yes · no															
	Vehicle yes · no															
Inspection way																
Height of girde	about 10m															
Deterioration of bridge	deficient · fair · good															
	Noticeable point															
	Generally healthy															
Impressions																
History of repair	Repaint ; - by - mm															
	Surveyor ; Mr. Chujo, Mr. Kudo															

Present state (1 / 3)					
Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				



Picture No.	1
Span	1
Member	Side view



Picture No.	2
Span	1
Member	View on road



Picture No.	3
Span	1
Member	View under girder

Present state (2 / 3)

Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				



Picture No.	4
Span	1
Member	Pier
Pier height is low	
The structure may occur large moment after shrinkage, creep and temperature.	
Continuous careful checking is required.	




Picture No.	5
Span	1
Member	Drainage
Parts for water sprinkling	
Garbage	



Picture No.	6
Span	1
Member	Drainage

Present state (3 / 3)					
Authority	DOH	Address	Bangkok	Data	24-Oct-09
Bridge	New Phra Nangklao Bridge				

	Picture No.	7
	Span	1
	Member	Drainage
	Partly blocked	
	Picture No.	8
	Span	1
	Member	
	Picture No.	9
	Span	1
	Member	
	Thon Buri side	