

YCDC Bridge Inspection

Type of Inspection and Activities

Inspection	Inspector	Frequency	Method	Remarks
Routine Inspection	- Technician - Engineer	Twice / Year	Visual	General check (Vehicle patrol / Foot patrol) (Optional)
Periodic Inspection	- Technician - Engineer - Consultant	Once / 3-Year	Visual and Necessary Testing	If it is appeared to be necessary according to the visual inspection result.
Emergency Inspection	- Technician - Engineer	Optional (Client)	Visual and Necessary Testing	In case of a disaster (Earthquake, Heavy rain, Flood & etc.)
Advanced Inspection	- Technician - Engineer - Consultant	Optional (Client)	Visual and Necessary Testing	If it is appeared to be necessary according to the visual inspection result.

-Refer to Bridge Inspection and Evaluation Manual , JICA and Ministry of Transportation, Kingdom of Thailand.

-Technician and Engineer is the Contractor team.

-YCDC is the Client and decision authority.

-Consultant is Department of Bridge, Ministry of Construction.

Condition Ratings

The National Bridge Inventory (NBI) includes a structural evaluation of deck, superstructure, substructure, and culvert on a 0-9 scale:^[2]

Description	Code
NOT APPLICABLE	N
EXCELLENT CONDITION	9
VERY GOOD CONDITION - no problems noted.	8
GOOD CONDITION - some minor problems.	7
SATISFACTORY CONDITION - structural elements show some minor deterioration.	6
FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.	5
POOR CONDITION - advanced section loss, deterioration, spalling or scour.	4
SERIOUS CONDITION - loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.	3
CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.	2
"IMMINENT" FAILURE CONDITION - major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.	1
FAILED CONDITION - out of service - beyond corrective action.	0

Meaning and Associated Repair Action

Rating	Description	Repair Action
9	Excellent Condition	None
8	Very Good Condition	None
7	Good Condition	Minor Maintenance
6	Satisfactory Condition	Minor Maintenance
5	Fair Condition	Minor Repair
4	Poor Condition	Minor Repair
3	Serious Condition	Rehabilitate
2	Critical Condition	Replace
1	Imminent Failure Condition	Close Bridge & Evaluate
0	Failed Condition	Beyond Corrective Action

***CABLE STAY BRIDGE
INSPECTION SHEETS***

1-STEEL TOWER

2-CONCRETE TOWER

Superstructure
(Steel Tower)
Inspection Sheets

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 အင်ဂျင်နီယာဌာန(လမ်းနှင့်တံတား)
INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUPERSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -				Date-		
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A.	STRUCTURE (Cable Stay)					
1.	CABLE					
	- Cover					
	- Paint					
	- Corrosion					
	- Anti-Corrosion Function					
	- Vibration or Movement					
	- Deformation					
	- Water Leakage					
2.	Damping & Anchorages					
	- Fixing Units					
	- Welding Joints					
	- Loose & Loss/Broken (Bolt & Nut)					
	- Water Leakage					
	- Corrosion					
	- Cracks					
	- Deformation					
	- Mossy					
	- Vegetation					
	- Cleaning					
	- Vibration or Movement					
3.	Tower (Steel & Steel Truss)					
	-Tilt					
	- Paint					
	- Corrosion					
	- Anti-Corrosion Function					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
	- Loose & Loss/Broken (Rivet / Pin / Bolt & Nut)					
	- Fixing Units					
	- Vibration or Movement under traffic					
	- Welding Joints					
	- Buckled or Twisted or Wrinkle					
	- Fracture					
B.	DECK					
1.	- Wearing Surface					
2.	-Deck Panel					
3.	-Overlay Concrete Crack					
4.	-Spalling					
5.	-Rebar Expose					
6.	-Rebar Corrosion					
7.	-Expansion Joint					
8.	-Bearing					
9.	-Road Curb					
10.	-Handrail					
11.	-Vibration or Movement					
12.	-Water Leakage					
13.	-Free Lime					
14.	-Cleaning					
15.	-Paint (Road curb & Handrail)					
16.	-Drainage Pipe & Drain					
Sign:						
Name:						
Position:						
Date:						

Substructure
(Steel Tower)
Inspection Sheets

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INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUBSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -					Date-	
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A.	Cross Beam, Shaft and Cap					
1.	Paint					
2.	Peeling					
3.	Anti-Corrosion Function					
4.	Free Lime					
5.	Water Leakage					
6.	Rebar Expose					
7.	Rebar Corrosion					
8.	Spalling					
9.	Alignment					
10.	Tilt					
11.	Settlement					
12.	Erosion					
13.	Cracks					
14.	Mossy					
B.	Foundation (Bored Pile)					
1.	Surface Crack					
2.	Spalling & Scaling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Tilt					
6.	Scour					
7.	Collision Damage					
8.	Protrusive Length (Avg)					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
C. Abutment & Retaining Wall						
1.	Surface Crack					
2.	Spalling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Sink					
6.	Hole & Cavities					
7.	Collapse					
6.	Vegetation					
7.	Deformation					
D. Approach						
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
Comments:						
Sign:						
Name:						
Position:						
Date:						

Superstructure

(Cable Stayed , Concrete Tower)

Inspection Sheets

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INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUPERSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -					Date-	
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A.	STRUCTURE (Cable Stay)					
1.	CABLE					
	- Cover					
	- Paint					
	- Corrosion					
	- Anti-Corrosion Function					
	- Vibration or Movement					
	- Deformation					
	- Water Leakage					
2.	Damping & Anchorages					
	- Fixing Units					
	- Welding Joints					
	- Loose & Loss/Broken (Bolt & Nut)					
	- Water Leakage					
	- Corrosion					
	- Cracks					
	- Deformation					
	- Mossy					
	- Vegetation					
	- Cleaning					
	- Vibration or Movement					
3.	Tower (Concrete)					
	- Concrete Crack					
	- Spalling & Scaling					
	-Tilt					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
	- Rebar Expose					
	- Rebar Corrosion					
	- Paint					
	-Vibration or Movement					
B.	DECK					
1.	Wearing Surface					
2.	Deck Panel					
3.	Overlay Concrete Crack					
4.	Spalling					
5.	Rebar Expose					
6.	Rebar Corrosion					
7.	Expansion Joint					
8.	Bearing					
9.	Road Curb					
10.	Handrail					
11.	Vibration or Movement					
12.	Water Leakage					
13.	Free Lime					
14.	Cleaning					
15.	Paint (Road curb & Handrail)					
16.	Drainage Pipe & Drain					
Comment:						
Sign:						
Name:						
Position:						
Date:						

Substructure

(Cable Stayed , Concrete Tower)

Inspection Sheets

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INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUBSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -					Date-	
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A. Cross Beam, Shaft and Cap						
1.	Paint					
2.	Peeling					
3.	Anti-Corrosion Function					
4.	Free Lime					
5.	Water Leakage					
6.	Rebar Expose					
7.	Rebar Corrosion					
8.	Spalling					
9.	Alignment					
10.	Tilt					
11.	Settlement					
12.	Erosion					
13.	Cracks					
14.	Mossy					
B. Foundation (Bored Pile)						
1.	Surface Crack					
2.	Spalling & Scaling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Tilt					
6.	Scour					
7.	Collision Damage					
8.	Protrusive Length (Avg)					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
C. Abutment & Retaining Wall						
1.	Surface Crack					
2.	Spalling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Sink					
6.	Hole & Cavities					
7.	Collapse					
6.	Vegetation					
7.	Deformation					
D. Approach						
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
Comments:						
Sign:						
Name:						
Position:						
Date:						

***STEEL OR CONCRETE BRIDGE
INSPECTION SHEETS***

**Superstructure
(Steel or Concrete)
Inspection Sheets**

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INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUPERSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -					Date-	
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A.	STRUCTURE (STEEL TRUSS or CONCRETE)					
1.	Paint					
2.	Corrosion					
3.	Anti-Corrosion Function					
4.	Loose & Loss/Broken (Rivet / Pin / Bolt & Nut) (Steel)					
5.	Fixing Units (Steel)					
6.	Vibration or Movement under traffic					
7.	Welding Joints (Steel)					
8.	Buckled or Twisted or Wrinkle (Steel)					
9.	Fracture (Steel)					
10.	Cracks					
11.	Deformation					
12.	Water Leakage					
13.	Mossy					
14.	Vegetation					
15.	Cleaning					
B.	DECK					
1.	Wearing Surface					
2.	Overlay Concrete Cracks					
3.	Spalling					
4.	Rebar Expose					
5.	Rebar Corrosion					
6.	Expansion Joint					
7.	Road Curb					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
8.	Handrail					
9.	Vibration or Movement under traffic					
10.	Water Leakage					
11.	Free Lime					
12.	Drain & Drainage Pipe					
13.	Paint (Road curb & Handrail)					
14.	Cleaning					
C. Girder						
1.	Cracks					
2.	Spalling					
3.	Rebar Expose					
4.	Rebar Corrosion					
5.	Camber					
6.	Bearing					
7.	Vibration or Movement under traffic					
8.	Water Leakage					
9.	Free Lime					
Comments:						
Signature						
Name						
Designation						
Date						

**Substructure
(Steel or Concrete)
Inspection Sheets**

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INSPECTION SHEET

Project - BRIDGE INSPECTION WORKS						
SUBSTRUCTURE						
Client - YCDC						
Contractor-						
Bridge Name -						
Inspection Location -					Date-	
No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
A.	Cross Beam, Shaft and Cap					
1.	Paint					
2.	Peeling					
3.	Anti-Corrosion Function					
4.	Free Lime					
5.	Water Leakage					
6.	Rebar Expose					
7.	Rebar Corrosion					
8.	Spalling					
9.	Alignment					
10.	Tilt					
11.	Settlement					
12.	Erosion					
13.	Cracks					
14.	Mossy					
B.	Foundation (Bored Pile)					
1.	Surface Crack					
2.	Spalling & Scaling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Tilt					
6.	Scour					
7.	Collision Damage					
8.	Protrusive Length (Avg)					

INSPECTION SHEET

No.	Description	Checking method	Checking		CRI Value	Remarks
			Rating	Repair Action		
C. Abutment & Retaining Wall						
1.	Surface Crack					
2.	Spalling					
3.	Rebar Expose & Corrosion					
4.	Erosion					
5.	Sink					
6.	Hole & Cavities					
7.	Collapse					
6.	Vegetation					
7.	Deformation					
D. Approach						
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
	Side-----					
1.	Erosion in Fill					
2.	Settlement					
3.	Road Surface Rutting & Waving					
Comments:						
Sign:						
Name:						
Position:						
Date:						