Name of the Project	**:**	**VISUAL INSPECTION OF ROB – 268 A (Near Mallapur)**
Location	**:**	**Km 202/11-13 (Near Mallapur)**
Location Co-ordinates	**:**	**17°26'50.9"N 78°34'30.5"E**
Date of Inspection	**:**	**11th, 13th & 17th September 2019**



Summary:

a) Severe spalling and Reinforcement exposure is observed at the bottom of slab

b) Distresses are found in the Elastomeric Pad bearings.

Tests to be conducted:

a) Rebound Hammer test to measure surface strength of the concrete.

b) Ultrasonic Pulse Velocity (UPV) Test to determine the Quality of concrete, such as uniformity and homogeneity of concrete, location of internal defects in concrete and porosity.

c) Profometer Test for the concrete cover and diameter of rebar (if Required).

d) Micrometer/card comparator is to determine the Crack width and depth.

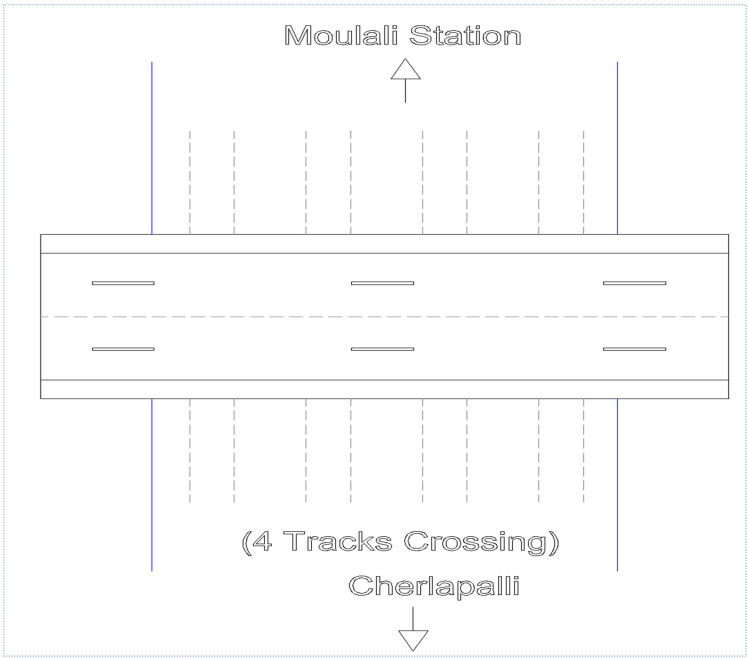
e) Tests for Carbonation, pH and Chloride Content to determine the extent of chemical attack on concrete

VISUAL INSPECTION OF ROAD OVER BRIDGE

Name of the Project	Visual inspection of ROB Near Mallapur (268 A)
Location	268A (km 202/11-13)
Date of Inspection	11th, 13th & 17th September 2019

PART 1 GENERAL INFORMATION AND OBSERVATION		
1.1	Name of the Bridge	ROB (268A)
1.2	Location Location co-ordinates	Near Mallapur, 268 A (km 202/11-13) 17°26'50.9"N 78°34'30.5"E
1.3	Type of Bridge	Composite girder
1.4	Year of Construction	Not available
1.5	Grade of Concrete	Not Available
1.6	Design Load	Class AA-70R (Assumed)
1.7	Roadway Width	1 x 7 m
1.8	Overall Deck Width	1 x 10 m
1.9	Average Skew	Not available
1.10	Span arrangement (no x Span in meters)	1 x 19 m
1.11	No of Railway Lines Crossings	4 tracks
1.12	Vertical Clearance (from rail top to girder bottom)	6.264 m
1.13	History of Repair/ Maintenance	Not Available
1.14	Original Structural Drawings	Not available

1.15 Key Plan



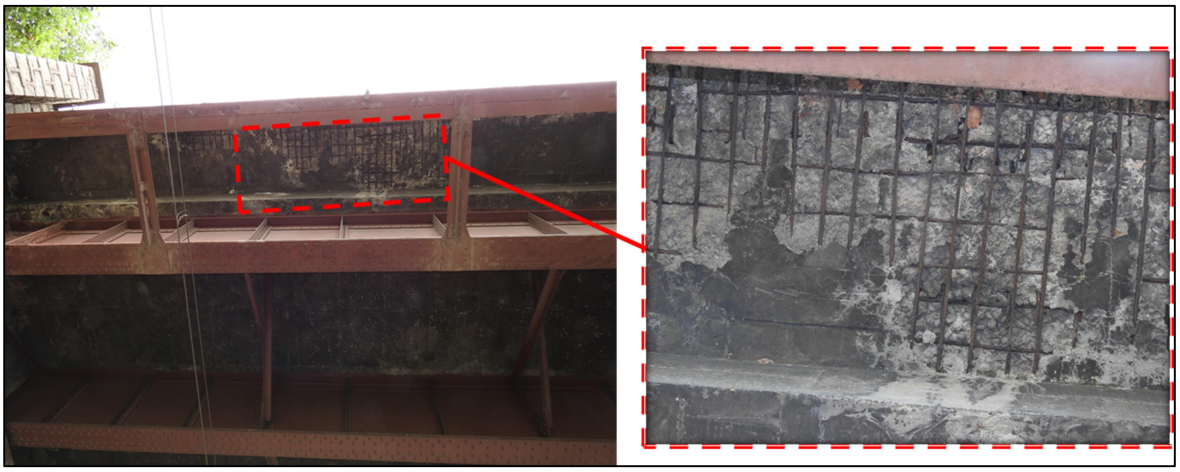
	PART 2 STRUCTURAL SYSTEM OF THE BRIDGE		
			Notes
2.1	**Foundation details**		Not visible at site
	Type of foundation		
	Foundation Details (if available…)		
	Foundation Status (Check Settlement, abnormal Scour and Tilting, if any etc…)		
	Type Of Damage (Check cracking, disintegration, decay, erosion, Cavitation's etc.,)		
2.2	**Abutment (A1 & A2)**		
	Type	Stone masonry	Refer **fig :1**
	Maximum height of Abutment from Ground level	6.10 m	
	Abutment width along the Track	2 x 14.3 m	
	Abutment thickness	Not Available	
	Condition (Crack, Settlement, Scour, Tilting, Steel Corrosion, Strains and other damages etc...)	Crack along the joints is observed and Pointing has failed	Refer **fig:2**
	Efficiency of drainage of backfill behind Abutments (Check functioning of weep holes, evidence of moisture on Abutment faces, etc..)		Weep holes are functioning properly.
2.3	**Pier**		
	Type (Shape)		There is no Pier, as bridge is having only one

	Material		span.
	No. of Piers in a row/column		
	Maximum Height of Pier		
	Pier Diameter/Dimension		
	Pier Cap Material		
	Pier Cap Condition		
	Pier Condition (Crack, Settlement, Scour, Tilting, Steel Corrosion, Strains and other damages etc...)		
	Efficiency of drainage of backfill behind Abutments (Check functioning of weep holes, evidence of moisture on Abutment faces, etc..)		
2.4	**Bearing & Pedestal**		
	Type of Bearings	Elastomeric Pad	
	General condition (Check Corrosion, cleanliness, seizing of plates silting, accumulations of dirt in case of submersible bridges)		All the bearings are in distressed condition (*Refer **part 4- 4.3***)
	Type/ shape of Pedestal	Rectangle plate of 12mm thick base below the bearings	
	General condition (Check Corrosion, cleanliness, seizing of plates silting)	Corroded	
2.5	**Super Structure (Composite Girder)**		
	Type/Shape of Girder (I-beam, box-girder etc.)	Plate girders and triangulated trusses at end	a) 4 Nos. Plate girders are provided below the slab at a distance of 2.30m c/c b) 2 No. Triangulated angular trusses are provided at ends at a distance of 1.5 m from plate girder
	Material of Girder	Steel	a) Plate girder is made of web plate of thick 12 mm b) Two angular sections of size 2/ 150 x150x 20 mm on top and bottom of web plate to connect flange plate. c) Three plates of 14 mm thick are supported at bottom of section.
	No of Girder	4 x Plate girders, 2 x triangulated trusses	
	Dimensions of Girder		Plate girders Depth = 1.2 m Trusses = 1.70 m

	Structural System of Girder		Simply Supported
	Condition of Girder		Corrosion is observed at top and bottom of girder near end supports
2.6	**Slab**		
	Material of Slab	RCC	
	Thickness of Slab	-	Not Accessible
	Condition of Slab from Bottom		Spalling & Reinforcement exposure has been observed.
	Condition of Slab from Top		Not visible, as covered with wearing coat
	Condition of Flooring/Wearing Coat		Thickness of wearing coat is not measured
	Parapet wall/Railing		
	Type of Parapet wall/Railing	Parapet wall	
	Height	1.5 m	
	Condition of Wall/Railing	Good	

PART 4 SURVEY OF SIGNS OF DISTRESS, DEFORMATION IN BRIDGES

4.1 ✓ Spalling and Reinforcement exposure is observed at the bottom of slab.



4.2 ✓ Corrosion and Severe spalling observed near Drainage Spout



4.3 ✓ Distresses are found in the Elastomeric Pad bearings.

PART 4 SURVEY OF SIGNS OF DISTRESS, DEFORMATION IN BRIDGES			
	Defects	**Location**	**Notes**
1.	Cracking in RCC components	Slab bottom	cracks are observed
2.	Water seepage		No water seepage is observed
3.	Spalling	Slab	Spalling is observed in Slab.
4.	Reinforcement Exposure	Slab	Reinforcement Exposure is observed in Slab.(*Refer **part 4- 4.1***)
5.	Steel girders	Main girders	Corrosion of girders near end supports (*Refer **fig :3 and 4***)



Fig 1: Bearings in distressed condition



Fig 2: Stone masonry abutments



Fig 3: Crack and peeling of pointing in Dirt wall



Fig 4: Reinforcement exposed in slab and corrosion of main girder

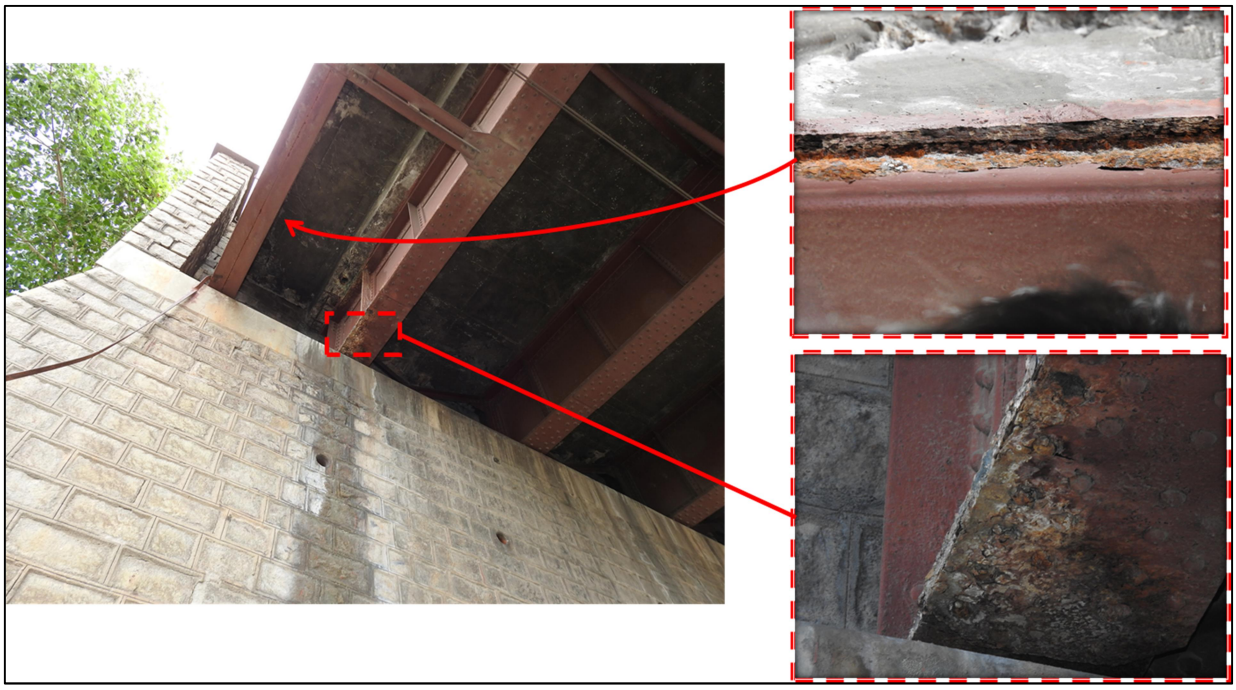


Fig 5: Corrosion of main girder



Fig 6: Base plate corrosion