

Name of the Project	:	VISUAL INSPECTION OF ROB 295A
Location	:	NEAR KOMMARAPUDI RAILWAY STATION
Location Co-ordinates	:	14°17'25.2"N 79°54'24.2"E
Date of Inspection	:	28th NOVEMBER, 2019



Summary:

- a) Cracks, Spalling, Reinforcement exposure has been observed in mid span of exterior girders.
- b) Cracks, Spalling, Reinforcement exposure has been observed in girder end portions.
- c) Leaching observed in Abutment, Pier, slab & exterior girders.
- d) Accidental hitting marks observed on crash barrier.
- e) Cracks, Spalling & Reinforcement exposure has been observed in Abutments & pier.
- f) Epoxy grouting has done on Abutment-1 & Pier of the bridge.
- g) Moderate vibrations are observed in the Bridge.

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, porosity.
- c) Profometer Test for the concrete cover and diameter of rebar.
- d) Half-cell Potential Meter to measure the probability of corrosion.
- e) Micrometer/card comparator is to determine the Crack width and depth.
- g) Tests for Carbonation, pH and Chloride Content to determine the extent of chemical attack on concrete.

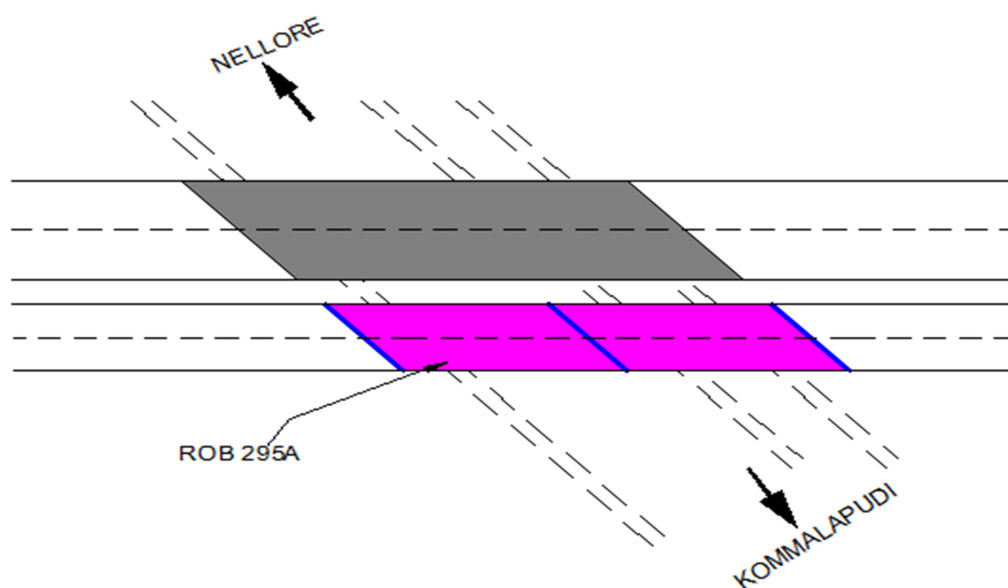
VISUAL INSPECTION OF ROAD OVER BRIDGE

Name of the Project	Visual inspection of ROB 295A
Location	Near KOMMARAPUDI Railway station
Date of Inspection	28 th November, 2019.

PART 1 GENERAL INFORMATION AND OBSERVATION

1.1	Name of the Bridge	ROB 295A
1.2	Location Location co-ordinates	Near KOMMARAPUDI Railway station 14°17'25.2"N 79°54'24.2"E
1.3	Type of Bridge	RCC Girder Bridge
1.4	Year of Construction	Data Not Available
1.5	Grade of Concrete (Slab)	Data Not Available
1.6	Design Load	Data Not Available
1.7	Carriageway Width	7.0 m
1.8	Overall Deck Width	8.5 m
1.9	Average Skew	45 ⁰
1.10	Span arrangement (no x Span in meters)	2 x 13.6 m
1.11	No of Railway Lines Crossings	03 tracks
1.12	Vertical Clearance (from rail top to girder bottom)	6.0 m
1.13	History of Repair/ Maintenance	Yes , Patch works and Epoxy grouting done
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	RCC Wall	
	Maximum height of Abutment from Ground level	5.15 m	
	Abutment width along the Track	13.4 m	
	Abutment thickness	2.2 m	
	Condition (Crack, Settlement, Scour, Tilting, Steel Corrosion, Strains and other damages etc...)		Cracks, Spalling, Honeycombing, Reinforcement exposure are observed at Abutment Patching works and Epoxy grouting done.
	Efficiency of drainage of backfill Behind Abutments (Check functioning of weep holes, evidence of moisture on Abutment faces, etc.)		Weep holes are in dry condition.
2.3	Pier	01 No.	
	Type (Shape)	Wall	Cracks, Spalling, Reinforcement exposure has been observed on Pier. Patch repair works and Epoxy grouting done.
	Material	RCC	
	No. of Piers in a row/column	-	
	Maximum Height of Pier	5.9 m	
	Pier Diameter/Dimension	1.1 m	
	Pier Cap Material	RCC	
	Pier Cap Condition	Distresses Found	
	Pier Condition (Crack, Settlement, Scour, Tilting, Steel Corrosion, Strains and other Damages etc...)	Distresses Found	

2.4	Bearing & Pedestal		
	Type of Bearings	Metal plate bearings	
	General condition (Check Corrosion, cleanliness, seizing of plates silting, accumulations of dirt in case of Type/ shape of Pedestal)		Debris accumulated at all bearings and filled with Mortar (Refer Fig-9)
	General condition (Check Corrosion, cleanliness, seizing of plates silting)		There is no Pedestal
2.5	Super Structure (Concrete Girder)		
	Type/Shape of Girder (I-beam, box-	I-Girder	
	Material of Girder	RCC	
	No of Girder	06 Nos.	
	Dimensions of Girder		Girder Depth = 0.9 m Width of the bottom flange = 0.3 m
	Structural System of Girder		Simply Supported
	Condition of Girder	Distresses Found	Cracks, Spalling, Reinforcement exposure has been observed (Refer Fig-4 & 5)
	Type/Shape of Secondary Girder	Rectangular	
	Material of Secondary Girder	RCC	
	No of Secondary Girders	7 Nos.	
	Condition of Secondary Girder	Distresses Found	
2.6	Slab		
	Material of Slab	RCC	
	Thickness of Slab	-	
	Condition of Slab from Bottom		Leaching has been Observed.
	Condition of Slab from Top		Not visible, as covered with wearing coat
	Condition of Flooring/Wearing Coat	Fair	(Refer Fig-9)
	Parapet wall/Railing		
	Type of Parapet wall/Railing	Crash Barrier	
	Height	1.1 m	
	Condition of Wall/Railing		Accident hit marks are observed on Crash Barrier as Bridge is Narrow (Refer Fig-9)

PART 3 SURVEY OF SIGNS OF DISTRESS, DEFORMATION IN BRIDGES			
	Defects	Location	Notes
	Cracking in RCC components	Girders, Abutment & Pier	Cracks are observed on Girders, Abutments & Pier
	Water seepage	Girder & Slab	Water seepage is observed on Girders & Slab
	Spalling	Girders, Abutment & Pier	Spalling is observed on Girders, Abutments & Pier
	Reinforcement Exposure	Girders, Abutment & Pier	Reinforcement Exposure is observed on Girders, Abutments & Pier



Fig: 1 View of ROB



Fig: 2 View of Abutments (A1 and A2)



Fig: 3 Bottom view of Bridge



Fig 4: Cracks observed in Exterior girder



Fig 5(a): Reinforcement exposed in exterior girder



Fig 5(b): Reinforcement exposed in exterior girder, pier and slab at drainage spout

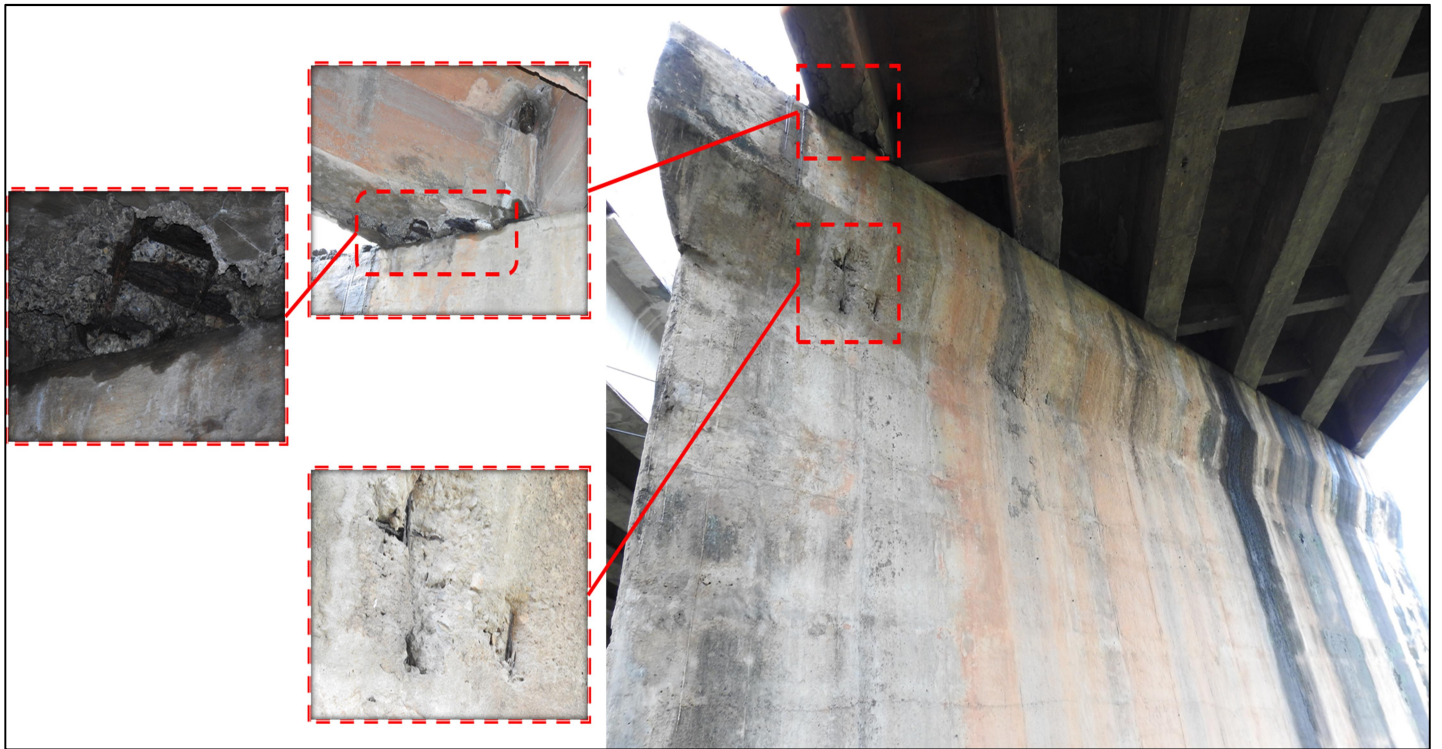


Fig 5(c): Reinforcement exposed, Leaching and cracks at girder end and Pier cap haunch



Fig 6: Distresses observed at Bearings



Fig 7: Cracks observed on pier

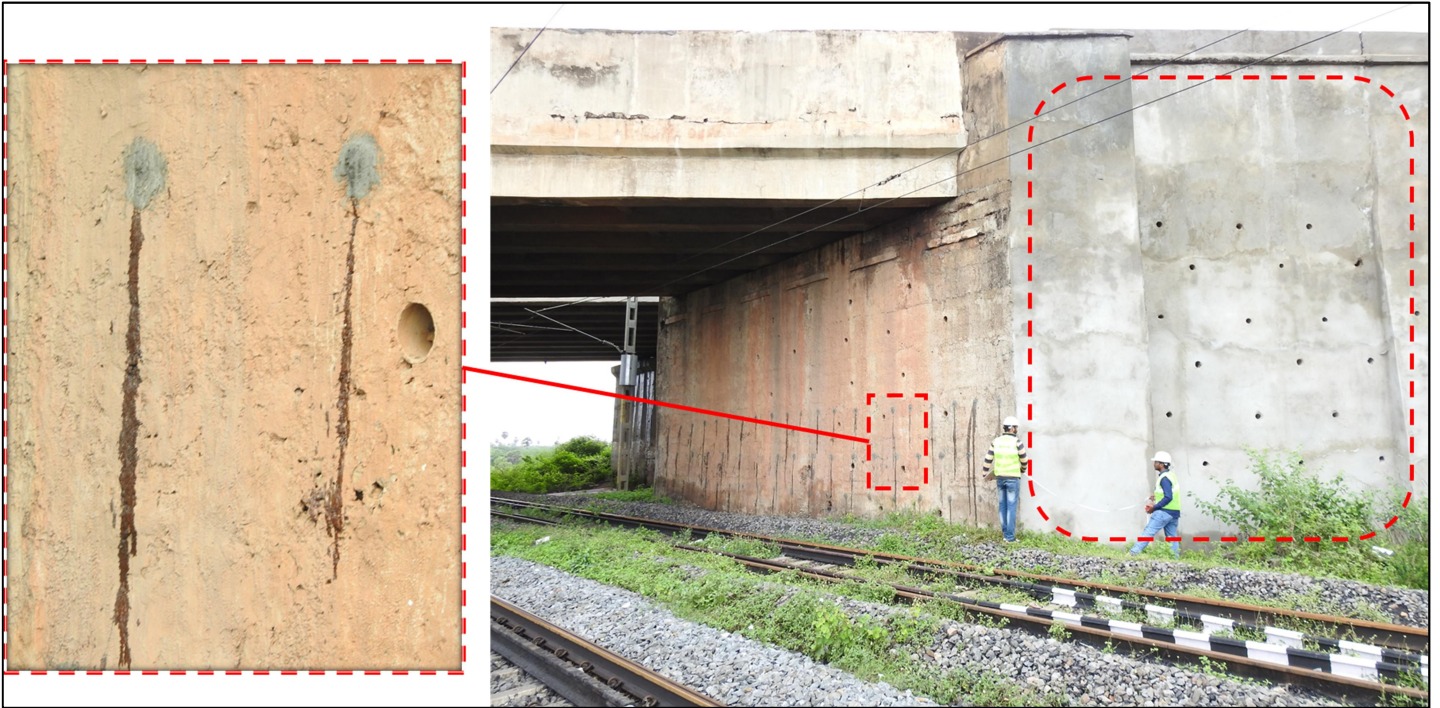


Fig 8: Epoxy grouting on Abutment & newly constructed retaining wall



Fig 9: Wearing Coat condition & Accident hitting marks on Crash Barrier.