Name of the Project	**:**	**VISUAL INSPECTION OF ROB (171A) NEAR CEMENT NAGAR**
Location	**:**	**NEAR CEMENT NAGAR**
Location Co-ordinates	**:**	**15°30'18.7"N, 78°12'36.3"E**
Date of Inspection	**:**	**24th NOVEMBER, 2019**

Summary:

a) Slight Spalling and Reinforcement exposure is observed at the bottom of the slab.
b) Cracks are observed in the Abutments
c) Pointing Failure Observed in Retaining wall
d) Vegetation observed in the Retaining walls.

Tests to be conducted:

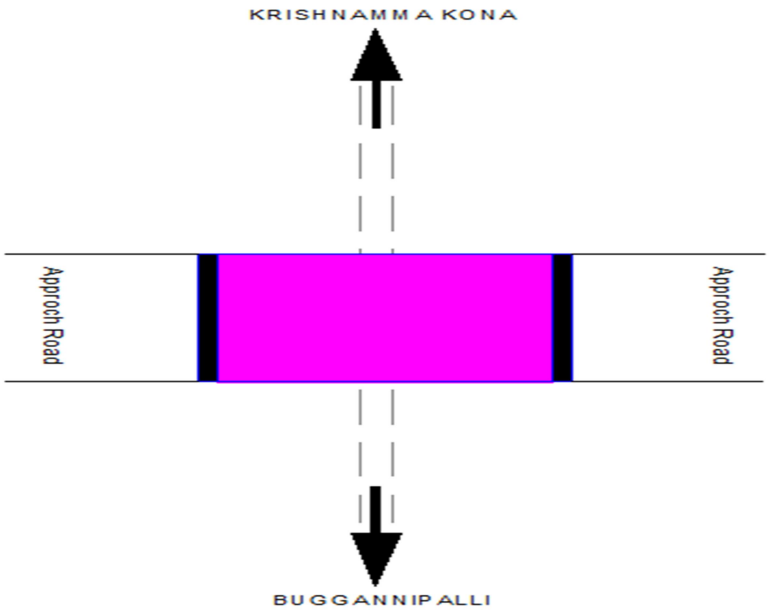
a) Rebound Hammer test to measure surface strength of the concrete.
b) Ultrasonic Pulse Velocity (UPV) Test to determine the Quality of concrete, such as uniformity and homogeneity of concrete, location of internal defects in concrete, porosity.
c) Profometer Test for the concrete cover and diameter 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.
f) Core Drilling Method is to evaluate the exact compressive strength of concrete
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 near Cement Nagar
Location	Near Cement Nagar
Date of Inspection	24th November 2019.

PART 1 GENERAL INFORMATION AND OBSERVATION		
1.1	Name of the Bridge	ROB (171A)
1.2	Location Location co-ordinates	Near Cement Nagar 15°30'18.7"N 78°12'36.3"E
1.3	Type of Bridge	RCC Slab Bridge
1.4	Year of Construction	Data Not Available
1.5	Grade of Concrete	Data Not Available
1.6	Design Load	Data Not Available
1.7	Roadway Width	5.7 m
1.8	Overall Deck Width	6.4 m
1.9	Average Skew	Bridge is not in skew
1.10	Span arrangement (no x Span in meters)	1x 5.65 m (Total Length)
1.11	No of Railway Lines Crossings	1 track
1.12	Vertical Clearance (from rail top to girder bottom)	5.354 m
1.13	History of Repair/ Maintenance	Patch works observed
1.14	Original Structural Drawings	Not available

1.15 Key Plan



	PART 2 STRUCTURAL SYSTEM OF THE BRIDGE		
			Note
2.1	**Foundation details**		Details Not visible at site
	Type of foundation	Open 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 Type	
	Maximum height of Abutment from Ground level	5.84 m	
	Abutment width along the Track	6.40 m	
	Abutment thickness	-	
	Condition (Crack, Settlement, Scour, Tilting, Steel Corrosion, Strains and other damages etc...)		Minor Cracks Observed in the Abutments
	Efficiency of drainage of backfill behind Abutments (Check functioning of weep holes, evidence of moisture on Abutment faces, etc..)	No weep holes Provided	
2.3	**Pier**		
	Type (Shape)	-	There is no Pier, as bridge is having only one span.
	Material	-	
	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		
	General condition (Check Corrosion, cleanliness, seizing of plates silting, accumulations of dirt in case of submersible bridges)		No bearings Provided
	Type/ shape of Pedestal		No Pedestals Provided
	General condition (Check Corrosion, cleanliness, seizing of plates silting)		
2.5	**Super Structure**		
	Type/Shape of Girder (I-beam, box-	-	No Girders Provided as Bridge is RCC Slab Bridge
	Material of Girder	-	
	No of		
	Dimensions of Slab		
	Structural System of Bridge		Simply Supported
	Condition of Slab	-	
	Type/Shape of Secondary Girder	-	
	Material of Secondary Girder	-	
	No of Secondary Girders	-	
	Condition of Secondary Girder		
2.6	**Slab**		
	Material of Slab	RCC Slab	
	Thickness of Slab	0.6 m	
	Condition of Slab from Bottom		Spalling & patchwork observed. (Refer Fig-2)
	Condition of Slab from Top		Not visible as covered with wearing coat
	Condition of Flooring/Wearing Coat	Cracks observed	Cracks observed in the wearing coat
	Parapet wall/Railing		
	Type of Parapet wall/Railing	RCC Railing	
	Height	1.1 m	
	Condition of Wall/Railing	Fair	

PART 3 SURVEY OF SIGNS OF DISTRESS, DEFORMATION IN BRIDGES			
	Defects	**Location**	**Notes**
	Cracking in RCC components	Abutments	Minor cracks are observed in Abutments
	Water seepage		No water seepage is observed
	Spalling	Slab	Slight Spalling is observed in Slab
	Reinforcement Exposure	Slab	Reinforcement Exposure is observed in Slab

Fig: 1 Front view of ROB

Fig 2: Abutment on both sides (**A1** and **A2**)

Fig 3: Bottom view of Slab

Fig 4: Chipped surface of slab bottom above OHE cable on both sides of ROB and vegetation at railing

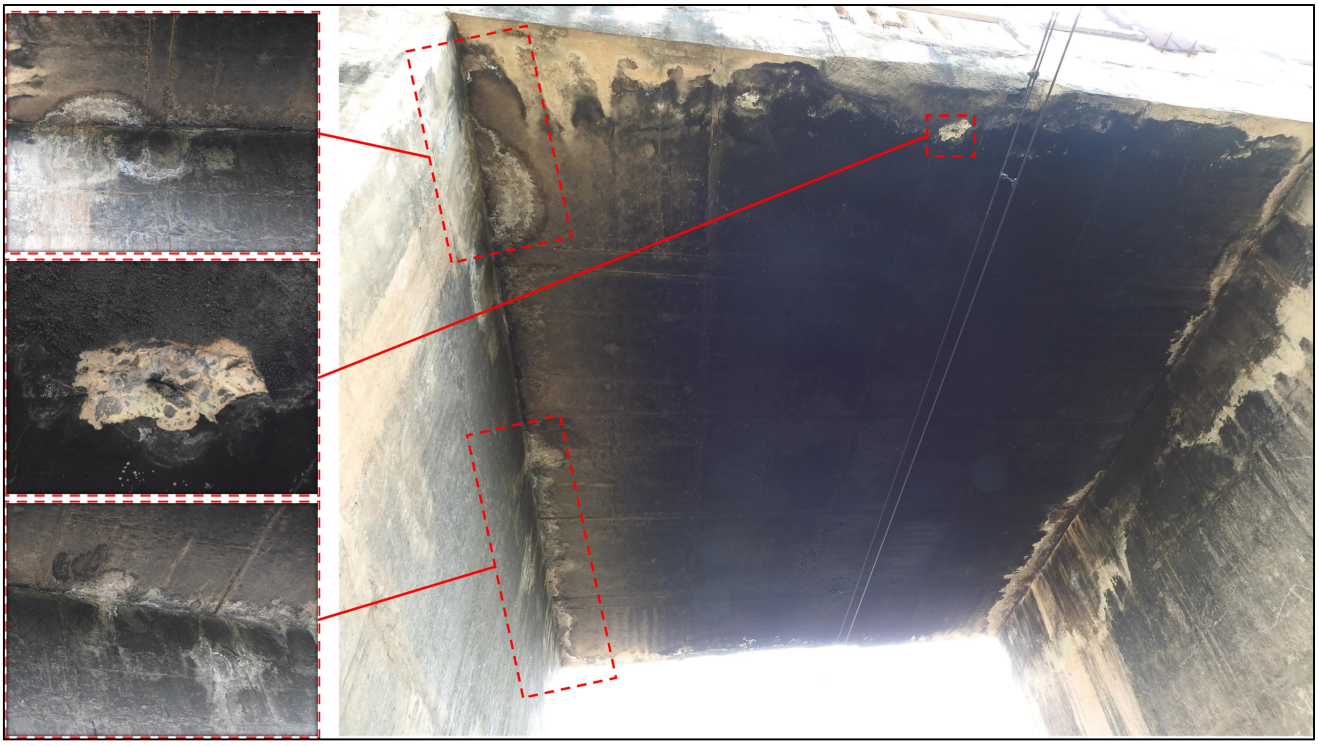


Fig 5(a): Leaching and slight spalling in slab

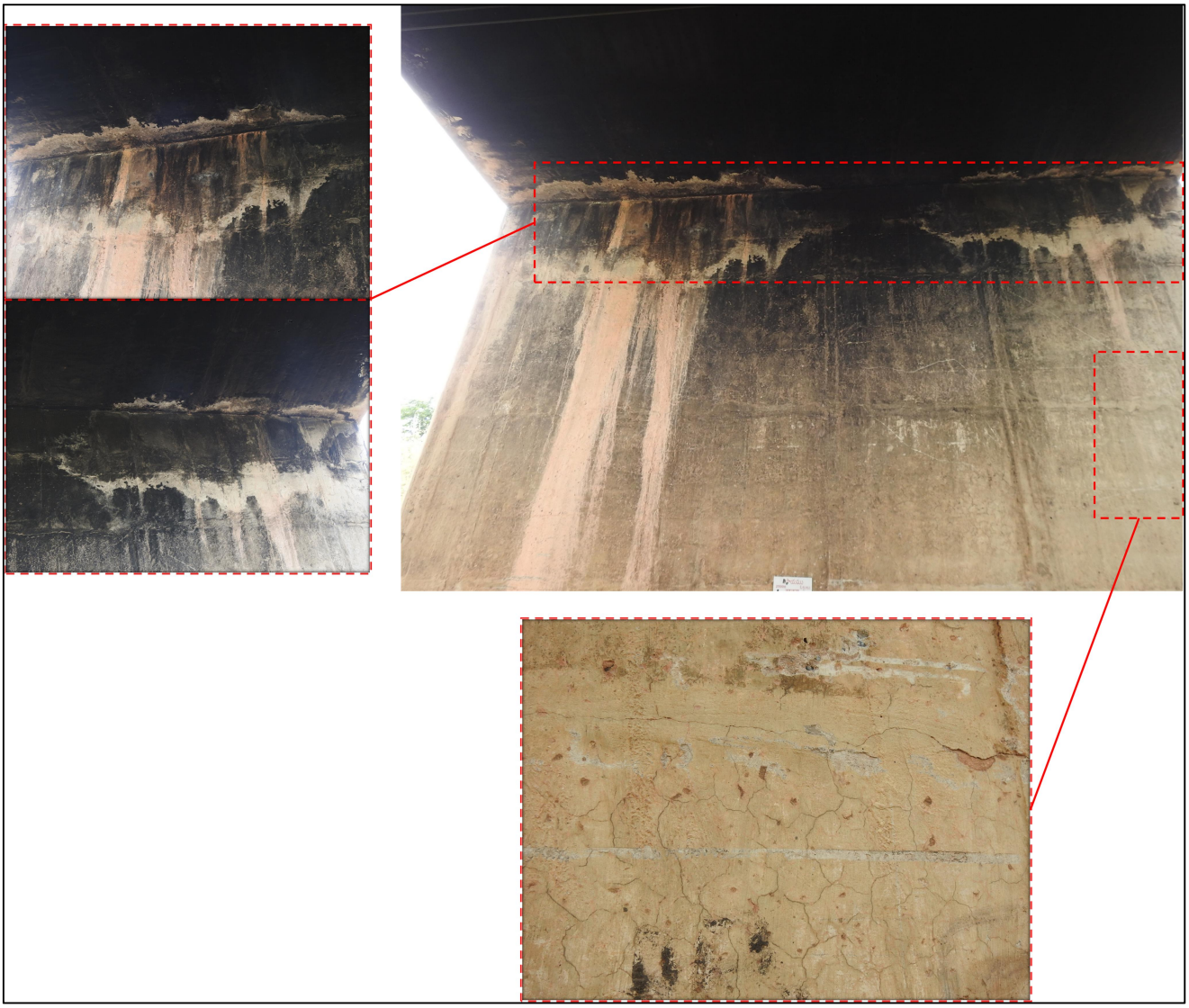


Fig 5(b): Leaching and Cracks observed on Abutment-2

Fig 6: Utility services passing on the Bridge and Wearing Coat condition