Section : Woldiya
Road Segment: Woldiya-Dilb
Bridge No B22 -1 -003 (Tikur Wuha)

15.1 Brief Description of the Structure

Tikur Wuha bridge is a multi-span R.C deck girder structures spanning 180 meters across the wide and deep river course. The terrain is mountainous and the river bed is rocky soil covered with transported gravel mix soil deposits in the upper middle reach of the river course. The above the mean sea level is found to be 1738metrs.The structure is located 528.44km away from the capital with the GPS coordinate of (0560888, 1308076).The number of girder beams is five and are placed every 162cm centers the depth of which is 135cm.The deck slab thickness is 18cm having a clear carriage way and walkway width of 7 & 0.75meters respectively. The number of span across the valley is 9 each measures summing up 180meters.The supporting piers concrete column walls resting upon an R.C direct mat foundation size 9.1x 2.5meters on plan. Similarly the end support structures are concrete walls laid on class C concrete foundation measuring 9.6x11.1 & 9.6x13.6 meters on plan for the A1 & A2 type RC abutments respectively.

15.2 Dimensions of the Structure

Clear water way opening--------- 180m
Width of 1st abutment ---------- 9m
Width of 2nd t abutment ---------- 9m
Height of 1st abutment----------5.1m
Height of 2nd abutment----------5.5m
Length of 1st Wing wall ---------- 10.50m
Length of 2nd Wing wall ---------- 13.00m
Height of piers ----------4.20m
Clear carriage way width ---------- 7.0m
Walk way width ----------0.75m
GPS coordinate: X=0560888, Y=1308076,
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15.3 Distresses on the Structure

The major distresses on the structure are:

- A serious water leakage on the deck girder and pier caps
-Serious pavement crack at the surface
- Serious water pooling on the surface due to malfunctioning of the drain pipe
-Water leakage on the expansion joint
-Drainage pipe missing
-Expansion joint missing and dislocation

-Serious receding problems at the deck center parallel to traffic
-Serious water leakage on the deck slab
-Serious peel off at the expansion joint edges

Water leakage

Surface Crack

Expansion Jpint Missing

15.4Recommendation of the Inspector

The structure must be given a 1st priority level based on the emergency requirement and level of damage cost for immediate intervention.

The damage observed due to the mentioned structural distresses are to proceed with the **repair & maintenance for Water Leakage, and Drainage Pipe Damage** as per the designed specification and working drawings for such construction activities