



SOUTH CENTRAL RAILWAY

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No.W.352/BR/Policy/Subways

Sr.DEN/Co-ord/SC, BZA, GTL, GNT, HYB & NED

Dt. 21-10-2016
M. SRIDHAR RAO
Asst. Secy (NED)

Sub: Typical plan of LHS with protection measures to avoid flooding of RUBs

Ref: 1) This office letter of even No. dt.18/5/16
2) RDSO Drg No.RDSO/B-10159/1 & RDSO/B-10159

During heavy flood, some time certain RUBs may function as culvert and may have heavy discharge through them. Instructions were issued vide ref (1) to protect the RUBs against above exigencies and also to avoid ingress of surrounding water in RUBs are modified as below:

- 1) Pitching around the bank of the approach track shall be provided as being done in track bridges to prevent slippage of bank.
- 2) A hump of around 0.75m height shall be provided in the approach of the RUB from the point where retaining walls/cutting are starting. This will ensure no entry of water from approach road to the RUB. In case retaining walls are not constructed along the road and only earthen slopes are flattened, then cut earth shall be deposited along the bank of the road. This bund of earth along with hump of 0.75m height on the approach road shall protect against entry of rain water in the RUB.
- 3) A RCC pipe of 0.6m dia shall be provided in the approach road behind the hump to ensure smooth movement of rain water from one side to other side of the road.
- 4) Divisions shall try to have facility of natural drainage for RUB. Drainage arrangements with percolation pits/sump shall be used very sparingly only for LC gates with very low TVUs and RVUs.
- 5) The complete work of RUB including construction of drainage, protection arrangements, roads etc shall be completed within 45 days of launching of RCC boxes of the RUB.
- 6) Drain works shall preferable be completed in advance of RUB launching work or at least a kutchra drain shall be constructed before RUB launching work.

2.0 In addition to earlier instructions following instructions are also added to above instructions:

- 1) Width for approach road shall be 7.95m (2 lane) as provided in RDSO typical drawing duly providing splayed retaining wall upto 6.0m as shown in drawing.


Suitable widening of curve (60cm) shall be provided on the approach road, if situated on the curve. This will facilitate easy crossing of two opposite vehicles.

- 2) All the boxes will be casted for min 5m height vertical clearance & then filled with road crest layer to achieve desired road level.
- 3) Vertical clearance for unmanned /manned LC RUB can be min 4.65m in case it facilitate availability of natural drainage duly filling the road crest layer for the boxes casted with height of 5.0m.
- 4) The height of retaining should be kept as less as possible, if railway land/ Boundary width available, suitable open cut should be provided with 2m height of retaining wall & stable slope 1:1 to give openness feeling.

3.0 In addition to above, further for safeguarding against undermining of foundation of the boxes/culverts during heavy discharge through the RUB, following should also be added to above instructions:

- 1) Curtain wall & drop wall of 1.40m height at the box edge to protect box foundation due to undermining action.
- 2) Launching Apron in form of hand packed boulders of 450mm thick (Minimum weight 35Kg) upto a distance of 6.0m (approximately as per site condition) from box edge. This is to ensure safety of Box structure during floods.
- 3) As far as possible natural drainage is to be preferred and in unavoidable circumstances only percolation pit/sump should be adopted. Site specific water table condition to be studied properly while designing the percolation pit/sump including its drainage arrangements.

4.0 Modified drawing bearing Drg No.GM/W/SC/BR/RUB/STD/3424/2016 superseding the earlier drawing incorporating the above features is enclosed for implementation.


- 21/10/16

(S.N.Singh)

Principal Chief Engineer

Copy to: CAO/C/SC – for information and necessary action