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# GOVERNMENT OF INDIA
# MINISTRY OF ROAD TRANSPORT & HIGHWAYS

Transport Bhawan,
1, Parliament Street,
New Delhi – 110001

No. RW/NH- 33044/14/2003- S&R(R) (Pt.II) Dated: the 5 September, 2013

To

1. The Chief Secretaries of all State Governments/U.Ts.
2. The Principal Secretaries /Secretaries of all States/U.Ts. Public Works Department dealing with National Highways, other Centrally Sponsored Schemes and State Schemes.
3. The Engineers-in-Chief and Chief Engineers of Public Works Departments of States/U.Ts dealing with National Highways, other Centrally Sponsored Schemes and State Schemes.
4. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
5. Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi- 110 010.

**Subject: Tentative Guidelines for drainage through Rain Water Harvesting and Artificial recharging along National Highways**

The surface run-off from roads is huge in quantity and is further increasing due to large construction programme of roads in the country. This run-off needs to be properly managed so that it does not go waste. One of the ways is to utilize this water to recharge ground water which is depleting due to increasing use of water for various development activities.

2. Considering that the average annual rainfall in India is about 1100 mm, the total annual volume of run-off from a 1 km long National Highway, taking run-off efficiency as 80%, is: 1000 m x 7 m x $\frac{80}{100}$ x $\frac{1100}{1000}$ mm = 6160 cubic metres = 61,60,000 litres.

3. As per Ministry of Environment and Forests Notification, dated 8 October, 2009 and 23 April, 2010, construction of Rain water harvesting structure/ adoption of artificial recharge of ground water in the country is to be taken up by all government departments to augment ground water resources and to save it from further depletion. In this regard this Ministry had also issued necessary directions vide OM No RW/NH/33023/1/2008- S&R ( R) dated 1st June, 2010.

1-SOP issued vide circular dated 03.09.2019

4. Indian Road Congress has recently revised the guidelines on urban drainage viz. IRC: SP: 50 to address the large number of infrastructure projects like widening of roads to multilane facilities, construction of flyovers, subways, metro etc. to address internal drainage of pavement structure, drainage of sub grade, surface and sub-surface drains etc. IRC SP 50 also has emphasized the need for artificial recharging.

5. It has, accordingly, been decided to introduce artificial recharging methods along the National Highways to substantially improve drainage as per IRC SP 50.

6. Filter system shall also be ensured as per IRC SP 50.

7 Artificial recharging can be taken up under Plan works where required.

8. The advice of Central Ground Water Board shall also be utilized for developing site specific cost-effective recharge augmentation techniques.

9. Where no guidelines are available, as a thumb rule, all Road projects may have one recharge shaft of 0.5 m dia for 10 to 15 m depth (as indicated in Expressway guidelines published by Ministry) one on each side of the carriageway along the side drain at the lowest point/ where water stagnates, in each km as part of the project.

10. The contents of this Circular may please be brought to the notice of all concerned in your Organization. Feedback on these guidelines is solicited, so that appropriate policy guidelines could be evolved for adoption.

This issues with the approval of Competent Authority.

Yours faithfully,

(Sanjay K Nirmal)
Superintending Engineer (S,R&T) (Roads)
For Director General (Road Development) & SS

Copy for information and necessary action to:

1. PS to Honourable Minister RT&H
2. PPS to Secretary, RT&H
3. PPS to DG(RD) & SS
4. All ADGs / JS (H) / JS (E&IC)
5. All Technical officers in the Ministry of Road Transport & Highways
6. All ROs and ELOs
7. The Secretary General, Indian Roads Congress
8. The Director, IAHE
9. Technical Circular file of S,R&T Section
10. NIC, for uploading on the website