

No. PL-50 (14)/74-SP

*Dated the 5th September 1974*

To

Chief Engineers of all State PWDs and Union Territories dealing with roads

Subject : Provision of proper cross-drainage facilities across roads

It has been observed that in many local situations, waterlogging and salinity have been caused by lack of adequate cross-drainage works along roads. As a result productivity of land has been affected over a considerable area of the country. This is a serious situation in the context of conserving the national soil and land resources.

2. Apart from other evils resulting from inadequacy of cross-drainage structures, waterlogging is caused at times by roads unduly interfering with the natural drainage of the area, especially in situations where the road alignment runs transverse to the general slope of the ground. In the absence of easy passage, flood water tends to accumulate on one side of the road, leading to a rise in the sub-soil water level. In turn, this creates conditions of waterlogging and salinity with consequent loss in soil fertility.

3. To obviate the above referred difficulties, it is reemphasised that due attention should be paid to the different aspects of cross drainage on National Highways as well as roads in the State as normally also expected in highway planning and construction. The following points for this may specially be kept in view :

- (i) Alignment of new roads should be so fixed that minimum interference is caused to the natural drainage of the area road alignment preferably and wherever possible with due regard to overall economic consideration being located and made to run on ridges and high land, consistent of course as far as possible also with the requirement to achieve short alignment length.
- (ii) Whenever a new road is built, adequate crossdrainage works should be provided right in the beginning, based on a precise study of the hydrological requirements and road formation (pavement subgrade level) kept adequately high providing requisite adequate free board above H.F.L. Advisably, an integrated plan should be devised for long continuous sections rather than piecemeal proposals for short lengths of the road;
- (iii) Generally all roads for constant and quick drainage of road land should be provided with parallel roadside ditches, built to proper levels and gradients which should be continuous, possess adequate capacity, and be appropriately connected to the normal drainage channels serving the area;
- (iv) Along existing roads, where the lack of cross drainage structures is known to have impeded natural drainage, creating condition of waterlogging, early steps must be taken to provide additional waterway at appropriate locations and road side ditches as necessary to relieve the situation;
- (v) Where potential for waterlogging exists, maintenance personnel should pay extra attention to keep the cross drainage structures and road side drains clear of any debris or other obstructions to water flow.

3. It is requested that suitable action may be taken on the above suggestions under intimation to this Ministry. Contents of this circular may please be brought to notice of all officers in your department engaged on road works as also to all other State departments if any handling road construction such as Zilla Prishads, Rural Engineering Works Organisation, Forest Deptt., Irrigation Department etc.