

No. PL-67 (12)/76

Dated the 10th September 1976

To.

Chief Engineers/Addl. C.Es of State PWDS/Union Territories

Subject : Fixation of grade-line for new roads/sections of existing roads proposed to be raised

An important consideration in the design of new roads, or the raising of existing sections due to submergence, is the fixation of grade-line with reference to HFL or the water table. Present

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instructions of the Ministry contained in circular letter No. NHI-36 (2)/70 dated the 2nd April, 1970, are that the subgrade should be kept at least 2 ft. above the HFL and in the case of water-logged conditions, due consideration should be given to the raising of formation to a suitable level above the subsoil water level as well or adoption of other recommended measures against water-logging.

2. Since, National Highways occupy a key position in the country's road network, and it is desirable to keep these open to traffic with least disruption, in modification of the earlier instructions it has now been decided that the subgrade level on new roads or sections proposed to be raised should be kept at least one metre above the HFL. Where waterlogging conditions apply, after careful examination of the involved factors, the embankment should be raised to a suitable level above the water table as well, and other measures such as deep drains/capillary cutoffs adopted on the lines of IRC : 34-1970 "Recommendations for Road Construction in Water-logged Areas" so that the subgrade is not saturated due to capillary action.
3. In fixing the design HFL, care should be given to the possible rise in water level due to such factors as the embankment of the road itself, constriction of the waterway at bridges, and gradual accretion of water level because of siltation of the drainage courses. Where submersible section of an existing road is to be raised, additional cross drainage facilities should be provided, as required, so that cross flow of flood waters is assured without any heading up.
4. In general, when raising proposals are formulated, effect on adjoining section of the highway should also be simultaneously considered. It will be advisable to frame an integrated plan for a stretch of reasonable length than designing piecemeal proposals for short sections.
5. It is requested that these instructions may please be brought to notice of all officers in your department dealing with National Highways.