

परियोजना का नाम— कृषि उत्पादन मण्डी समिति हल्द्वानी जनपद नैनीताल का
परियोजना का नाम:- कृषि उत्पादन मण्डी समिति, हल्द्वानी, जनपद नैनीताल का
विस्तारीकरण कार्य

Task Force Certificate

- (i) Lay out of the Land-be followed as far as possible.
- (ii) Heavy cutting/filling be avoided-as far as possible. The technology of cut
भू-वैज्ञानिक की संस्तुतियों/सुझावों का अनुपालन किये जाने का प्रमाण-पत्र
- (iii) Unstable/slide-prone areas to be avoided. For identifying such areas the
advice of Geotechnical engineers and geologists to be taken during the
survey for alignment.
- (iv) प्रमाणित किया जाता है कि विषयगत परियोजना के निर्माण हेतु भू-वैज्ञानिक
द्वारा दिये गये सुझावों/संस्तुतियों का अनुपालन सुनिश्चित किया जायेगा।

Apart from the stage of planning the road alignment, effective steps are also required to be taken by ground engineer during the process of road construction for minimized ecological disturbance to the hill roads. Broadly the measures to be taken have been identified as :-

- (i) Cut and fill method to be adopted while excavating for road formation and
heavy earth cutting is to be avoided. Box cutting is to be preferred to the
extent possible.

(प्रयोक्ता एजेन्सी)
धनिक,
- (ii) Blasting by explosives is to be restricted to the minimum. Slopes
to be drilled for blasting is to be planned keeping in view the line of least
resistance and the existence of joints. Controlled blasting should be
repeated using low charge and care be taken to avoid activating slide
zones or widening fissures and cracks in road. Use of delay detonators in
large scale basting work is to be made for anaoline dispersion of shock
waves; so that minimum disturbance is caused to the rock stratum as a
result of the blasting process.
- (iii) All-cut slopes, unusable hill side and side prone erosion prone areas are
to be provided with suitable correction measures by using one or the other
of the techniques developed by CRRI. Several techniques have been
sponsored by CRRI like simple vegetative turning, hit/men/muck treatment
and slide treatment by jute netting coir netting of these simple vegetative
turning seems to be the most appropriate preventive measure in many
situations. This should be established in the denuded slopes immediately
after the excavation is made.
- (iv) Adequate drainage measures and protective structures like intercepting
catch water drains, longitudinal drains/culverts, breast walls, retaining walls
are to be provided for purpose of establishing the slips. Growth vegetative
cover is to be stimulated in the disturbed hill slopes above the road level by
planting suitable fast growing shrubs and plants. In