


कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तरखण्ड लोक निर्माण विभाग,
देहरादून

भू-गर्भीय निरीक्षण आख्या एस0जी0- 928/श्सड़क/पुल सम्प्रेक्षण/गढ़वाल/2015

Geological Assessment of the 2 km long alignment corridor
proposed for the construction of NH-134 (94) km 174-175 to
Paulgaon motor road, Distt. Uttarkahsi.

01.जनवरी.2015


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Vijay Dangwal

01.01.2016

1-Introduction:- The Construction Division, Public Work Department, Barkot has been entrusted for the construction of 2 km long sanctioned length (Actual length 2.5 km) motor road namely NH 134 (94) km 174-175 to Paulgaon motor road, in Naugaon Block, Distt. Uttarkashi. On the request made by Er. B.D. Bhatt, Executive Engineer I carried out the geological assessment of the proposed alignment corridor on 26.10.2015. Er. P.L. Dobhal, Asst. Engineer and Er. Bhopal Singh, Jr. Engineer were present during the site visit.

2-Location:- The alignment corridor proposed for the construction of the above said motor road originates between km 174-175 of NH -134 and with 3 No's HP Bends provided at cross section 0/28; 0/37 and 1/16 it connects Paulgaon village with 2.5 km length.

3- Geological Assessment:- Geologically, the alignment corridor proposed for the above said motor road lies in a part of Garhiwal Lesser Himalayan Belt exposed by the rock masses belonging to Barkot and Bhatwari units of Almora Group. The terrain containing this is rugged and dissected and it is characterized by the lofty hills and having break in slope relief i.e low to moderate slope at lower level followed up to steeply inclined upslopes. The cross slopes of alignment bear a general inclination between 20° to 30° oriented towards N 340 to N 010 directions. The bed rocks are not exposed and not exposed to the surface along this alignment corridor as these are overlain by thick cover of overburden material comprised of the residual soils. The slope forming material deposited on and across this alignment corridor is naturally dense, hard, compact state and compact in nature. As the cross slopes are oriented towards the North direction the slope facets of this road retains little moisture round the year. The cross slopes of the alignment are altered in the form of small terraces constructed for the cultivation purpose. These fields are intact and undeformed. The depth of the overburden material comprising the slopes has been assessed ranging between 5-8 m thick.

The slope forming material of this road do not contain any soft soils. Its consistency has been assessed 400 K Pa to 500 K Pa and it is of good cohesive nature. Nowhere the signatures related to the ground deformation i.e landslide, subsidence, tension cracks and development of pot and sink holes were encountered during the walk

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over survey. The NH-134 passes on the lower slopes of this alignment therefore, in order to the smooth operation of highway it will be necessary to dump the excavated waste of this road on identified dump yard on stable ground, otherwise disposal of muck on the immediate lower slopes will threat the stability of the hill slope and the National Highway.

By and large the slopes of this alignment are stable and are free from any mass wasting activities.

On the basis of the geological inspection, studies carried at the site and the facts given above, the following recommendations are being made for the construction of the proposed motor road failing to these recommendations this report will be automatically treated as cancelled.

4- Recommendations:

1. Form the road by full excavation of the hill slopes.
2. Do not dispose the excavated waste on the lower slopes.
3. In order to maintain the overall stability of the hill slopes and the road construct suitably designed retaining walls/ brest walls all along the road.
4. Construct large hill side lined/concrete drain all along the road and make adequate cross drainage arrangements.
5. Make adequate arrangements to dispose the waste water on the safe/ stable ground.
6. The drainage work must be taken up immediately after the excavation of the hill slopes.
7. All the construction activity must be carried out as per the standards and norms following the BIS codes prescribed for the similar civil construction in Himalayan Zone.

5- Conclusion:- On the basis of the geological / geotechnical studies carried at the site and with the above recommendations, the 2.5 km long alignment corridor proposed for the construction of km 174-175 of NH- 134 (94) to Paulgaong motor road, in Naugaon Block, Distt. Uttarkashi was found geologically suitable.

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