Geological Assessment of the 3.00 km long alignment corridor proposed for the construction of Budogi – Sablikhal Motor Road in Tehri Constituency Distt- Tehri Garhwal.

1-Introduction:-The Construction Division, PWD Chamba, Tehri Garhwal, has been entrusted for the construction of 3.00 km long alignment corridor proposed for the construction of Budogi– Sablikhal Motor Road in Tehri Constituency, Distt- Tehri Garhwal. On the request of Er. N.S.Kholiya, Executive Engineer, Construction Division PWD Chamba, Tehri Garhwal, I Carried out the geological assessment of the proposed alignment corridor on 27-02-2020 in the presence of Er. Aashish Panwar, JE Construction Division PWD Chamba, Distt- Tehri Garhwal.

2-Location.:- The proposed alignment corridor of above said motor road originate from Km 02.00 of Budogi Motor Road and meet at Km. 232.5 of NH 707A (Tuni-Chakrata-Mussuree-New tehri-Srinagar motor road, in Tehri constituency, Distt- Tehri Garhwal. 4 Hair pin bend are proposed in this alignment.

3-Geological Assessment:- Geologically the alignment corridor of the proposed road is located in the Garhwal Lesser Himalayan Belt, bounded by the Main Central Thrust in the North and Main Boundary Thrust in the South direction. Another prominent thrust namely Srinagar Thrust runs in between this belt which separates the rocks of Krol Nappe from the rocks of Garhwal Group. The proposed alignment is located the close vicinity of Srinagar thrust and two different lithological units namely Chandpur phyllites and Nagthat Quartzites are exposed on its southern direction. Generally the Thinly foliated phyllite rock are exposedin and around the area of proposed alignment. The effect of Srinagar Thrust is clearly manifested on these rocks hence they are sheared shattered and fractured in nature. Most of these rock are thinly foliated, folded, and partially weathered in nature.

The entire alignment corridor of proposed road passes across the slope inclined at roughly at 40°, N100° direction and the alignment slopes are covered with the thick cover of overburden material comprised of angular rock fragments embedded in clay-silt matrix. Scantly outcrops were seen along the alignment. The slope forming overburden material is naturally well compacted, dense and non-dispersive in nature. Major part of the alignment passes through the cultivated land field, step like terraces. The alignment slopes are covered by Pines tree, shrubs and varieties of vegetation. All HP bend located at stable portion of the alignment.

Prima facie: the alignment slope are stable and presently free from any land slide/ mass wasting activity.

On the basis of the geological / geotechnical studies carried at the site and the facts mentioned above the following recommendation being made for the construction of the proposed road.

4-Recommendation:-

1- Form the road by half cut - half fill techniques and compact the fill material properly by dynamic compaction.
2- Do not dump/dispose the excavated waste on the downhill slope.
3- Construct suitably designed Retaining Wall / Breast Wall all along the road wherever required, it is essential for the stability of the hill slope and the road.
4- Construct large size lined long drain all along the hill side of the road and make adequate cross drainage arrangement.
5- The drainage work must be taken up immediately after the excavation of the hill slopes.
6- Dispose the drained water on the safe/stable ground.
7- Special attention need to be given for stability of road where alignment Crossing the nala (gadhera).
8- All the construction activity must be carried out as per the standard codes of practices laid by the BIS and MORTH.

5-Conclusion:- On the basis of geological / geotechnical studies carried at the site and with the above recommendation the site was found geologically suitable for the Construction of3.00 km long alignment corridor proposed for the construction of Budogi Sablikhal Motor Road in Tehri Constituency Distt- Tehri Garhwal.

Note- The above report is on the basis of the conditions of the day of inspection. The conditions at the site are liable to change in future. At the time of construction it need geological concern.

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