परियोजना का नामः– जनपद बागेश्वर में जखेड़ा बैन्ड से जूनियर हाईस्कूल तक सम्पर्क मोटर मार्ग का निर्माण ।

भू–वैज्ञानिक की आख्या

– संलग्न है –

नोट– प्रयोक्ता ऐजेन्सी द्वारा भू–वैज्ञानिक की आख्या प्राप्त कर प्रस्ताव के साथ संलग्न की जायेगी।

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तराखण्ड लोक निर्माण विभाग,
देहरादून।

भू–गर्भीय निरीक्षण आख्या एस0जी0–242 / सड़क / पुल सम्रेखण / कुमांऊ / 2015

Geological Assessment of the 2.5 km long alignment corridor proposed for Jakheda Bend to Junior High School motor road in Garur Block, Distt. Bageshwar, Uttarakhand.

22–अगस्त–2015

Geological Assessment of the 2.5 km long alignment corridor proposed for Jakheda Bend to Junior High School motor road in Garur Block, Distt. Bageshwar, Uttarakhand.

Vijay Dangwal

22-08-2015

1. Introduction:- The Provincial Division, PWD, Bageshwar vide G.O No-4417 / III(2) / 15–04(मु0मं0घो0) / 2015 दिनांक 27.05.2015 has been entrusted for the construction of 2.5 km long alignment corridor namely Jakhda Bend to Junior High School motor road located in Garur Block, District Bageshwar, Uttarakhand. On the request made by Shri. R.K Punetha, Executive Engineer I carried out the geological/geotechnical assessment of the proposed alignment corridor on 15.08.2015. Er. A.S. Bisht, Astt. Engineer and Er. Sanjay Karki, Junior Engineer, PWD, Bageshwar was present during the site visit.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 was proposed for the construction of the above said motor road. On the basis of the various geological, geotechnical, geo-morphological parameters and vis-a-vis study, the alignment No.1 was found suitable for the construction of the above said motor road. The present report is being generated based for the proposed alignment No. 1.

2. Location:- The proposed alignment of the above said motor road originates from km 16 of Dangoli-Sailani Dadimkhet motor road and it passes through village Jakheda at km 1 and Khankari at km 2 and ends at Junior High School Jakheda located in Garur Block, Distt. Tehri Garhwal.

3. Geological Assessment:- Located in a part of Kumaon Lesser Himalayan Belt varieties of schists belonging to Almora Crystallines, quartzites of Berinag Formations and dolomites of Tejam Group are exposed in and around the study area. The alignment in question is representated by the lithological exposures of the quatzites and dolomites. The cross slopes of this alignment are inclined at 20^0 to 30^0 angle towards the N 040 direction for about the one and a half km length and thereafter 35^0 towards N220 direction upto the end chainage. The terrain containing this alignment is characterized by the rugged and dissected features and it is drained by a deep intrenched stream named as Khaneri Gadhera. Mostly the bed rocks along this alignment are overlained by the thick cover of the overburden material generated by the hill/slope wash process. The exposed rock masses at various section along this alignment reveals that these are jointed, sheared, shattered and tectonized in nature and exhibits low to moderate values of physical competency. According to estimation made at the site the "Uniaxial Compressive Strength" of the quartzites and dolomites exposed has been assessed ranging between 50 M Pa to 75 M Pa. These rocks are almost fresh (W_0) to slightly weathered (W_1) in nature. These rocks have been traversed by four prominent joint sets which are widely spaced to one another. The surfaces of these joints are smooth and planer and each of these bears sharp contact to the rest part of the rocks mass.

The overburden material deposited on the cross slopes of this alignment is dense, hard, compact in nature and it is comprised of the angular rock fragments containing scanty boulders. These rocks clasts are firmly embedded in the binding silty clay matrix. This overburden material do not contain plastic/dispersive material therefore, it is semi dispersive in nature and it falls under the category of heavy soils. According to an estimation made at the site the "Undrained Shear Strength " of these soils was found ranging between 300 K Pa to 400 K Pa.

By and large the alignment slopes are stable and presently free form any landslide/ mass wasting activities.

On the basis of the above and the study carried at the site the following recommendations are being made for the construction of the proposed road, failing to these the report will be treated as cancelled.

4. Recommendations:-

1. Form the road by half cut - half fill method and compact the fill material properly by dynamic compaction.
2. Do not dispose the excavated waste on the lower slopes, otherwise it will threat the overall stability of the hill slopes.
3. Construct suitably designed retaining walls/ brest walls all along the road.
4. Construct large size lined long hill side drain all along the road and make adequate cross drainage arrangements.
5. Make adequate arrangements to dispose the drained 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 standard codes of practice and standards and norms laid by the BIS/MORTH.

5. Conclusion:- On the basis of the geological studies carried at the site and with the above recommendations, the proposed site was found geologically suitable for the construction of 2.5 km long alignment corridor namely Jakhda Bend to Junior High School motor road located in Garur Block, District Bageshwar, Uttarakhand.

22/8/15

(Vijay Dangwal)
Sr. Geologist
Office of the Engineer in Chief,
PWD Dehradun

Photo Copy Duly Attested
26-8-15
सहायक अभियन्ता
प्रान्तीय खण्ड लो0 नि0 वि0
बागेश्वर