

परियोजना का नाम:- जनपद बागेश्वर में लमचूला-गनीगांव मोटर मार्ग का निर्माण ।

भू-वैज्ञानिक की आख्या

- शेजात ई -

नोट- प्रयोक्ता एजेन्सी 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 एस0जी0-243/सडक/पुल सम्प्रेक्षण/कुमाऊं/2015

Geological Assessment of the 3 km long alignment corridor
proposed for Lamchula to Ganigaon in Garur Block, Distt.
Bageshwar, Uttarakhand.

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22-अगस्त-2015

**Geological Assessment of the 3 km long alignment corridor
proposed for Lamchula to Ganigaon in Garur Block, Distt.
Bageshwar, Uttarakhand.**

Vijay Dangwal

22-08-2015

1. Introduction:- The Provincial Division, PWD, Bageshwar vide G.O. No-4417 / 111(2) / 15-04(मु0म0घ00) / 2015 दिनांक 27.05.2015 (announcement no. 694/2015) has been entrusted for the construction of 3 km long alignment corridor namely Lamchula to Ganigaon 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, Asst. 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 7 of Jakheda-Lamchula motor road and it passes through village Lamchula, Bamadgaon and Ganigaon falling at km 1, 2 and 3 respectively.

3. Geological Assessment:- The entire gamut containing this alignment and its surrounding areas geologically falls in a part of Inner lands of Kumaon Lesser Himalaya. Mostly the rock masses belonging to Almora Group, Berinag Foramtion and Tejam Group are exposed in this area. The area containing this alignment is characterized by the rugged and dissected terrain marked by the steeply inclined hill slopes. The cross slopes facets containing this alignment are inclined at moderate to low angle oriented towards the SW directions.

The exposed rocks along the alignment are almost fresh, hard and compact in nature and these are dissected by four prominent joint sets. All the joints are tight and sealed by secondary inclusions. The surfaces of the joints are rough and undulating. These rock masses are fairly strong in competence and according to an estimation made at the site the "Uniaxial Compressive Strength" of these rock masses were found ranging between 100 M Pa -150 M Pa.

The material exposed on the cross slopes of this alignment are comprised of the stiff soils which are naturally dense, hard and compact in nature. The entire soil forming cross slopes do not exhibits any signature related to the ground movement. These soils do not contain plastic clays in abundance. According to an assessment the strength of the soils exposed on and across this alignment corridor was found ranging between 400 K Pa to 450 K Pa. These values indicates that the ground can be excavated for the road construction provided the scientific methodology is adopted.

By and large the alignment slopes are stable and presently free from 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 3 km long alignment corridor namely Lamchula to Ganigaon motor road located in Garur Block, District Bageshwar, Uttarakhand.

Vijay Dangwal
22/8/15
(Vijay Dangwal)

Sr. Geologist

Office of the Engineer in Chief,
PWD Dehradun

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