

प्रारूप—

भूवैज्ञानिक आख्या

परियोजना का नाम— राज्य योजना के अन्तर्गत जनपद उत्तरकाशी के विकास खण्ड चिन्यालीसौड में चिन्यालीसौड़-जोगथ मोटर मार्ग से पुजारगांव भडेश्वर मन्दिर तक मोटर मार्ग का निर्माण कार्य 1.825 किमी० (लम्बाई) निर्माण हेतु 1.4385 हे० आरक्षित/सिविल वन भूमि हस्तान्तरण प्रस्ताव।

प्रस्तावित परियोजना की भूवैज्ञानिक आख्या सलग्न है।

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष
उत्तराखण्ड लोक निर्माण विभाग,
देहरादून

मू-गर्भीय निरीक्षण आख्या ए0जी0- 33/सड़क/पुल/सम्प्रेषण/उत्तराखण्ड/गढ़वाल-2016

Geological assessment of 2 km long alignment corridor
proposed for the construction of motor road joining
Bhadeshwar mandir in Pujargaon with the Chinyalisaur-
Jaugath motor road, Chinyalisaur block, Distt. Uttarkashi

25 फरवरी 2017

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Shiv Kumar Raj

25.01.2017

1- Introduction:- Mr. Premnath D. Goyal, Public Works Department, Chinyalisaur vide L.O. No. 333/11(2)/14-15/2000/2013 dated 21.01.2014 has been entrusted for the construction of 2 km long motor road (Actual length is 4.825 km on the hill slope) joining Bhaeshwar mandir in Pujargaon with the Chinyalisaur-Jaugath motor road, Chinyalisaur Block, Yamnoutri Constituency, Distt. Uttarkashi. On the request made by Er. D.K. Bisht, Executive Engineer I carried out the geological Assessment of the proposed alignment corridor on 13.01.2017, Er. P.K. Aggarwal, Asst. Engineer also accompanied the site visit.

2- Location:- The proposed alignment corridor of the above said motor road originates from the Bhadesbwar mandir of Pujargaon and ultimately joins with the Chinyalisaur -Jaugath motor road comprising 2 HP bend at Chainage 0/17 and 0/35 of 4.825 km across the hill slope.

3- Geological Assessment:- Chinyalisaur and its surrounding areas including the alignment corridor geologically forms a part of the Lower Himalayan Belt. This area is composed of the rocks quartzites, phyllites, shales/slates, belonging to Nathuakhan and Betal Ghat formation of Rangarik Group and the Bering quartzite of Jaunsar Group. The terrain containing this alignment is characterized by the hill slopes including gently between 30° - 35° . Most of this alignment corridor comprised the thick cover of overburden material and scant outcrops of bed rocks. The rocky slopes are exposed in isolated stretches of irregular pattern. The rock quartzites exposed along this alignment corridor are interbedded by thin bands of shales/slates. The rocks exposed along the alignment are slightly weathered, moderately hard and dissected by many numerous joint sets. The joint planes are linear and tight. According to the estimation made manually at the site the "Uniaxial Compressive Strength" of the rock masses exposed on the cross slopes of this alignment was found ranging between 80 MPa to 100 MPa. At places where the rock masses are sheared, shattered, pulverized and disintegrated in nature, they would not be of the said strength due to the effect of the Srinagar Thrust (ST) and a loose sand protruding the surface of the rock.

The overburden material exposed on the cross slopes of this alignment is mainly dense, hard, compact in nature and is composed of the jointed rock fragments embedded in the sandy silty clayey matrix. Huge boulders are also exposed on the cross slope which indicate that this area undergone a sliding activity in ancient time. The soils are mostly clayey and good cohesive in nature. The overburden material deposited on the hill slopes of this alignment is of the material of soil dispersive soils. These soils are of the type which are compression in dry state. At the site, the assessment made at the end the "Uniaxial Compressive Strength" of the composite soils exposed along this alignment was found ranging between 10 MPa to 15 MPa.

The talus slopes developed on the hill slopes which are adjacent to the corridor are undisturbed and do not manifest significant rock fall or landslides and no outward movements were entirely visible around it and around it is found some cracks and other signs, are related to the talus and some loose material which is not hazardous. The talus slopes are not a major concern for the alignment.

• B, and large the cross slopes of this alignment are stable and free from any recent landslides and any other mass wasting activities.

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

6- Recommendations:

- 1- Form the road by half cut and half fill technique and compact the fill material by dynamic compaction.
- 2- Do not throw the excavated waste on the lower slope otherwise it will damage the houses located lower slope and lead hill slope stability.
- 3- In order to maintain the overall stability of the hill slopes and the road construct suitably designed retaining walls/ breast 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- All the construction activity must be carried out as per the Indian standards codes of practice and norms prescribed by the BIS.

7- Conclusion: On the basis of the geological / geotechnical studies carried at the site and with the above recommendations, the proposed 2 km long alignment corridor (actual length is 1.825 km across the hill slopes) was found suitable for the construction of motor road joining Bhadeshwar Mandir to Pujargaon with the Chharyalisaur-Jaughath motor road comprising of HP bend, Chharyalisaur Block, Yamnauth Constituency, Distt. Uttarkashi.


(Shiv Kumar Rai)

Astt. Geologist

Office of the Engineer in Chief