Geological Assessment of the 2.5 km long alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road in Garur Block,Distt. Bageshwar.

Vijay Dangwal
30.03.2015

1- Introduction:- The PMGSY Division, Bageshwar has been entrusted for the proposed the construction of 2.5 km long motor road namely Garur-Binkholi motor road to Kothon motor road in Garur Block, under the Pradham Mantri Gram Sadak Yojna (PMGSY) in response to the request made by Er. Rajendra Prasad, Executive Engineer, I carried out the geological assessment of the proposed alignment on 12.02.2015 in presence of Er. Vijay Krishna , Astt. Engineer and Er. Harendra Rana and Er. Anil Gururani both Jr. Engineer, PMGSY, Irrigation Division, Bageshwar.

2- Location:- Located in Garur Block of Distt. Bageshwar the alignment corridor of the above said proposed motor road originates from km 3.00 of Baijnath to Anyartoli motor road.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 have been prepared by the concerned Division for the construction of the proposed road in question. On the basis of various geological, geotechnical, geo-morphological parameters and the comparative studies carried at the site the alignment No.1 was found suitable for the construction. The present report bears the details of the study carried out for the alignment No.1.

***3-* Geological Assessment:-** Geologically the alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road lies in a part of Kumaon Lesser Himalayan Belt bounded by two sympathetic thrust planes i.e, the North Almora Thrust to the North direction and South Almora Thrust to the South. The rock masses belonging to Almora Group are exposed in this area which are comprised of granites, granodiorites, varieties of schists containing plagioclase feldspars in abundance. The terrain containing this alignment bears a mild topography and the landforms are marked by small hillocks, shallow river valleys and very low lying terraces. The cross slopes containing this alignment are inclined at very low to low angle and these are oriented in N 080 N 260 direction on the right bank and left bank of Panchagarhi Nadi. The varieties of schists belonging to Almora Thrust Sheet are scantiliy exposed all along the alignment corridor which are largely overlained by the 0.5 m to 2.5 m thick cover of overburden material. The rock masses exposed along this alignment corridor are slight to partially weathered in nature and the overburden material deposited over these has been generated by the slow decomposition of the in-situ rock masses therefore, the soils covering these are largely residual in nature. The exposed in-situ rock masses are Weak to Fair in physical competency as the estimation of the "Uniaxial Compressive Strength" of these rocks was found ranging between 5 M Pa to 30 M Pa. These rock masses have been traversed by many linear discontinuities which are linear, tight and bears very long persistence. The rock masses contains clay-minerals in abundance which are sensitive for the exogamic alteration.

The overburden material deposited along this alignment corridor contains very large quantity of clays and it contains rock fragments in a small quantity. The soils comprising the overburden are naturally hard in dry condition, these well compacted and dense and the rock fragments are firmly embedded in these. If remained dry these soils are very hard and stiff but under the wet/saturated

Geological Assessment of the 2.5 km long alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road in Garur Block,Distt. Bageshwar.

Vijay Dangwal
30.03.2015

1- Introduction:- The PMGSY Division, Bageshwar has been entrusted for the proposed the construction of 2.5 km long motor road namely Garur-Binkholi motor road to Kothon motor road in Garur Block, under the Pradham Mantri Gram Sadak Yojna (PMGSY) in response to the request made by Er. Rajendra Prasad, Executive Engineer, I carried out the geological assessment of the proposed alignment on 12.02.2015 in presence of Er. Vijay Krishna , Astt. Engineer and Er. Harendra Rana and Er. Anil Gururani both Jr. Engineer, PMGSY, Irrigation Division, Bageshwar.

2- Location:- Located in Garur Block of Distt. Bageshwar the alignment corridor of the above said proposed motor road originates from km 3.00 of Baijnath to Anyartoli motor road.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 have been prepared by the concerned Division for the construction of the proposed road in question. On the basis of various geological, geotechnical, geo-morphological parameters and the comparative studies carried at the site the alignment No.1 was found suitable for the construction. The present report bears the details of the study carried out for the alignment No.1.

***3-* Geological Assessment:-** Geologically the alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road lies in a part of Kumaon Lesser Himalayan Belt bounded by two sympathetic thrust planes i.e, the North Almora Thrust to the North direction and South Almora Thrust to the South. The rock masses belonging to Almora Group are exposed in this area which are comprised of granites, granodiorites, varieties of schists containing plagioclase feldspars in abundance. The terrain containing this alignment bears a mild topography and the landforms are marked by small hillocks, shallow river valleys and very low lying terraces. The cross slopes containing this alignment are inclined at very low to low angle and these are oriented in N 080 N 260 direction on the right bank and left bank of Panchagarhi Nadi. The varieties of schists belonging to Almora Thrust Sheet are scantiliy exposed all along the alignment corridor which are largely overlained by the 0.5 m to 2.5 m thick cover of overburden material. The rock masses exposed along this alignment corridor are slight to partially weathered in nature and the overburden material deposited over these has been generated by the slow decomposition of the in-situ rock masses therefore, the soils covering these are largely residual in nature. The exposed in-situ rock masses are Weak to Fair in physical competency as the estimation of the "Uniaxial Compressive Strength" of these rocks was found ranging between 5 M Pa to 30 M Pa. These rock masses have been traversed by many linear discontinuities which are linear, tight and bears very long persistence. The rock masses contains clay-minerals in abundance which are sensitive for the exogamic alteration.

The overburden material deposited along this alignment corridor contains very large quantity of clays and it contains rock fragments in a small quantity. The soils comprising the overburden are naturally hard in dry condition, these well compacted and dense and the rock fragments are firmly embedded in these. If remained dry these soils are very hard and stiff but under the wet/saturated

Geological Assessment of the 2.5 km long alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road in Garur Block,Distt. Bageshwar.

Vijay Dangwal
30.03.2015

1- Introduction:- The PMGSY Division, Bageshwar has been entrusted for the proposed the construction of 2.5 km long motor road namely Garur-Binkholi motor road to Kothon motor road in Garur Block, under the Pradham Mantri Gram Sadak Yojna (PMGSY) in response to the request made by Er. Rajendra Prasad, Executive Engineer, I carried out the geological assessment of the proposed alignment on 12.02.2015 in presence of Er. Vijay Krishna , Astt. Engineer and Er. Harendra Rana and Er. Anil Gururani both Jr. Engineer, PMGSY, Irrigation Division, Bageshwar.

2- Location:- Located in Garur Block of Distt. Bageshwar the alignment corridor of the above said proposed motor road originates from km 3.00 of Baijnath to Anyartoli motor road.

Two alternative alignments i.e Alignment No.1 and Alignment No.2 have been prepared by the concerned Division for the construction of the proposed road in question. On the basis of various geological, geotechnical, geo-morphological parameters and the comparative studies carried at the site the alignment No.1 was found suitable for the construction. The present report bears the details of the study carried out for the alignment No.1.

***3-* Geological Assessment:-** Geologically the alignment corridor proposed for Garur-Binkholi motor road to Kothon motor road lies in a part of Kumaon Lesser Himalayan Belt bounded by two sympathetic thrust planes i.e, the North Almora Thrust to the North direction and South Almora Thrust to the South. The rock masses belonging to Almora Group are exposed in this area which are comprised of granites, granodiorites, varieties of schists containing plagioclase feldspars in abundance. The terrain containing this alignment bears a mild topography and the landforms are marked by small hillocks, shallow river valleys and very low lying terraces. The cross slopes containing this alignment are inclined at very low to low angle and these are oriented in N 080 N 260 direction on the right bank and left bank of Panchagarhi Nadi. The varieties of schists belonging to Almora Thrust Sheet are scantiliy exposed all along the alignment corridor which are largely overlained by the 0.5 m to 2.5 m thick cover of overburden material. The rock masses exposed along this alignment corridor are slight to partially weathered in nature and the overburden material deposited over these has been generated by the slow decomposition of the in-situ rock masses therefore, the soils covering these are largely residual in nature. The exposed in-situ rock masses are Weak to Fair in physical competency as the estimation of the "Uniaxial Compressive Strength" of these rocks was found ranging between 5 M Pa to 30 M Pa. These rock masses have been traversed by many linear discontinuities which are linear, tight and bears very long persistence. The rock masses contains clay-minerals in abundance which are sensitive for the exogamic alteration.

The overburden material deposited along this alignment corridor contains very large quantity of clays and it contains rock fragments in a small quantity. The soils comprising the overburden are naturally hard in dry condition, these well compacted and dense and the rock fragments are firmly embedded in these. If remained dry these soils are very hard and stiff but under the wet/saturated