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पत्रांक- 7200/स० भू०वै०-01/2021

दिनांक:- 20/11/2021

सेवा में,

अधिशाली अभियन्ता,
प्रान्तीय खण्ड, लो०नि०वि०,
रानीखेत।

विषय:- न्यायालय सिविल जज (जू०डि०) रानीखेत के भवनों के निर्माण हेतु भूगर्भीय निरीक्षण के सम्बन्ध में।

महोदय,

उपरोक्त विषय के क्रम में न्यायालय सिविल जज (जू०डि०) रानीखेत के भवनों के निर्माण हेतु भूगर्भीय निरीक्षण आख्या संलग्न कर प्रेषित की जा रही है।

संलग्न:- उपरोक्तानुसार।

unil dutt
(सुनील दत्त) 20/11/2021

सहायक भूवैज्ञानिक
कार्यालय मुख्य अभियन्ता
लो०नि०वि० अल्मोड़ा।

Geological Assessment of the site proposed for Buildings Construction of Court Civil Judge (J.D.) Ranikhet.

(1)-Introduction:- The Provincial Division PWD Ranikhet has been entrusted for the Buildings construction of Court Civil Judge (J.D.) Ranikhet, Distt- Almora. On the request made by Er. Lalit Kumar Goyal, Executive Engineer, Provincial Division PWD Ranikhet (In reference to letter no. 3289/109सी, dated 17-11-2021). I carried out geological assessment of the proposed site on 17-11-2021 in the presence of Er. Umesh Lal Sah JE, Provincial Division PWD Ranikhet.

(2)-Location:- There are Two site for above said building construction. Site 1 and Site 2 (Coordinates 29°39'21"N, 79°24'47"E). The site 1 lies in the lower slope of Chiniyanaula Link Motor Road while the site 2 lies in the Upper slope of Chiniyanaula link motor Road. Site 2 is sloppier than Site 1 and occupied by dense forest. Thus the site 1 is considered for building construction.

Coordinates of proposed Site 1 (100x98mt.)

- (1) 29°39'23.70"N, 79°24'47.40"E (2) 29°39'24.61"N, 79°24'50.84"E
(3) 29°39'20.78"N, 79°24'49.20"E (4) 29°39'21.55"N, 79°24'52.58"E

(3)-Geological Assessment:- The Ground measuring dimensions 100 m (l) x 98 m (b) proposed for the construction of building lies in part of Kumaun Himalaya. Geologically, the area containing it lies in a part of Almora Nappe which is a geological structure. Almora Nappe is bounded by South Almora thrust (SAT) in South and by North Almora Thrust (NAT) in North direction. Geologically this area is occupied by the rocks of Almora group which in this section are represented by the Biotite Mica Schist, Micaceous Quartzite of Saryu formation and Granite-Granodiorite-Granitic Gneiss plutonic bodies.

The area containing the site is characterized by the gentle topography and it is vegetated. The geometry of the slope has been altered in the form of small terraces. The Slope containing this ground is inclined roughly low to moderate angle oriented roughly N70° direction. The hydrological condition of the area are mainly dry, except in rainy Season. There is no prominent nala adjoining this site. Scantly outcrops are exposed around the proposed area.

Schist and Gneiss rock masses observed near to proposed land which is hard compact to weak in strength. The strength of the rock is estimated by manual test. Moderate Deformation and weathering is observed in rock.

The entire Proposed Ground/Slope is covered by Pines tree, Shrub, Herbs and variety of vegetation. The proposed site covered by the thick cover of overburden material or soil comprised of angular rock fragments embedded in sandy silty matrix and clay. The slope forming overburden material/Soil is naturally well compacted, hard, and dense in dry condition but these become soft in the contact of water.

By and large the proposed site / slope are stable and presently free from any land slide/ mass wasting activity. Nowhere the signatures like the development of sink/pot holes were encountered during the site visit.

(4)-Seismicity of the area:- According to Indian standard code the site falls in seismic zone of IV of Seismic Zoning Map of India (IS 1893 Part 1 2002) Which corresponds to intensity VIII on mm scale.

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 Buildings failing to these this report will be automatically treated as cancelled.

(5)-Recommendation

- 1- Construction of the building should be carried on a deep and strong foundation as there the no rock outcrops exposed at the construction site. The foundation must be deep enough to withstand the load of the building.
- 2- The foundation of the proposed building must be designed based on the geotechnical parameters of the ground.
- 3- It is advised to carry out Sub surface soil investigation to ascertain the geotechnical parameters of the ground.
- 4- The proper drainage arrangements all around the proposed structures and disposal of waste water shall be done in a planned way.
- 5- The courtyard and the surrounding hill side slope of the building must be protected by the construction of suitably designed retaining walls. These structure must contain properly inclined weep holes.

- 6- Seal the entire surface of the courtyard by cement concrete and make adequate arrangement of the disposal of water.
- 7- As the proposed site falls in seismic zone IV, therefore the building must adopt proper earthquake resistant design as per the appropriate code of practice.
- 8- Carry out the Slope Stability Analysis by the expert agency considering the load of the building construction on the Hill slope
- 9- All the construction activities must be carried out as per the prescribed norms and the standard codes of the practices laid by 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 Buildings Construction of Court Civil Judge (J.D.) Ranikhet, District Almora.

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.

Letter No: 7200/ स० भू० वै०-01/2021

Date: 20-11-2021

Sunil Dutt
(Sunil Dutt) 20/11/2021

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