

No. : HOM(FS)KULLU(FP/HP/Others/145712/2021- 2911

From

**Commandant Home Guards,
7th Battalion Kullu (H.P.)**

To

**The Divisional Forest Officer,
Seraj Forest Division at Banjar,
Distt.Kullu (H.P.)**

Dated Kullu-175101

10 June, 2024

Subject : Diversion of 0.1739 ha. of forest land in favour of Commandant Home Guards 7th Battalion Kullu for the construction of Home Guards 7/4 Company Office Banjar/Fire Post at Banjar within the jurisdiction of Seraj Forest Division, Distt. Kullu, H.P.

Sir,

On the subject cited above, as per Query related with Additional Info. sought by 'DFO', the No Objection certificate, Geological Stability Report of land identified and cost of soil and moisture conservation plan has been upload in Additional Information detail in Part-I.

It is, therefore requested that the case may kindly be pursued and sent to the competent authority of its approval please.

Encl : NOC, Geological report



**Commandant Home Guards,
7th Battalion Kullu (H.P.)**

REGISTERED

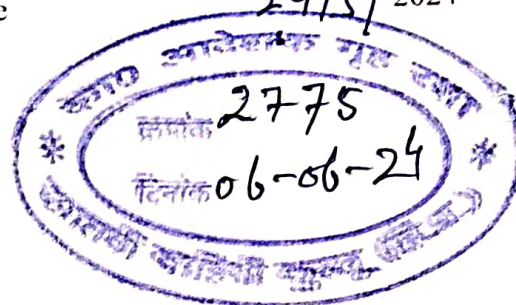
No. Ind. Bhu (Geo-7)Engg.-Kullu-8/2002-Vol-III
Government of Himachal Pradesh,
Department of Industries,
"Geological Wing"
Dated; Shimla - 171001, the

-1214

24/57 2024

To,

✓ The Commandant,
Home Guards, 7th Company,
Banjar, Tehsil Banjar,
Kullu, Distt. Kullu- H.P.



Subject :-

Regarding geological report of 0.1739 forest land in favour of Commandant Home Guards for the C/o Fire Post Banjar/7/4 Company Banjar, Tehsil Banjar, District Kullu (HP).

Sir,

Kindly refer to your letter No. Home(H.C.)Kullu-FP/HP/Others/145712/2021-

1314 dated 14.3.2024 on the subject cited above.

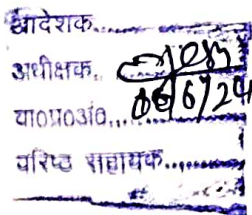
Please find enclosed herewith a Geological Stability Report of land identified for the construction of building for the Fire Office at Banjar, Distt. Kullu, Himachal Pradesh along with the bill amounting to Rs. 11.236/-on the account of investigation charges of the above site.

You are therefore requested to remit the service charges Rs. 11,236/- through Bank Draft only drawn in favour of State Geologist Himachal Pradesh payable at Shimla at the earliest please.

Enclosed:- Bill & Report.

Yours faithfully,

Geologist (Zone-IV)
Geological Wing
Department of Industries,
Himachal Pradesh



GEOLOGICAL STABILITY REPORT OF LAND IDENTIFIED FOR THE CONSTRUCTION OF BUILDING FOR THE FIRE OFFICE AT BANJAR

In hilly areas, the buildings have to be constructed on sloped topography and require comprehensive planning, site selection and design for slopes and sustainable concrete construction practices. Due to the paucity of land availability in hilly areas, it is very difficult to find suitable land for building constructions. Building constructions on slopes needs different architectural forms and configurations, which are guided by many factors in hills such as unpredictable geological situations, precarious climatic variation, hydrogeological conditions, orientation of buildings and sites, slopes and earthquake resistant considerations etc. Unfortunately, these factors are not given due importance as non-engineered construction is in practice. This is increasing, the risk of failures and damage to buildings and hill slopes causing loss of human life and property. Thus, there is an urgent need for engineered construction concerning the height of buildings in hills that mainly evolves out from topography, architecture, climate and disaster, and preparing guidelines for planning and designing buildings.

A request was received from The Commandant, Home Guards, 7th Company, Banjar, Tehsil Banjar, District Kullu, regarding a geological report of 0.1739 hectares of Land identified for the construction Building for the fire office at Banjar. at Tapri. A letter vide letter no. Home(H.C)Kullu-FP/HP/Others/145712/2021-1314 dated 14-March-2024 was received by the undersigned with a request to visit the said site and to give a Geological Report to the concern so that further action in the matter could be taken. Accordingly, the undersigned visited the site along with the officer/officials from the concerned Home Guard department on 04.04.2024

GENERAL OBSERVATIONS

The site under question is located just other the side of Banjar town and the downhill side of the proposed/under construction Banjar-Bypass road. The area is about 23-24 km from Aut and is approximately 53 kilometres from the District headquarters Kullu. The area is well connected by the National Highway and further by a small road of approximately 300 meters bifurcating from the Aut-Banjar-Sainj National Highway. It has been observed that the entire area under observation comprises of overburden or slope wash material and No rock formation was observed near the site under question.

Geologically, the area under investigation exposes rocks of the Rampur Group with Banjar Volcanics formations. The Rampur Group presents an association of meta basalts and metasediments dominated by clastics. It tectonically transgresses over the younger Larji Group of plat formal type carbonate rocks along a major thrust. The Rampur Group is divisible into three formations. These are the Bhallan Formation, the Banjar Volcanic Formation and the Manikaran Formation.

Lithostratigraphic classification of Rampur Group (Modified after Sharma, 1977)

<u>Formation</u>	<u>Lithology</u>
	Intrusive granitoid
Manikaran Formation	Grey and white massive quartzarenite, locally bands of metabasalt
Banjar Volcanics	<i>Mainly metabasalts as dark green phyllite.</i> <i>Interbeds of white massive quartzite and grey phyllite.</i>
Bhallan Formation	Slates, greenish phyllite schists with interbeds of white flaggy quartzarenite

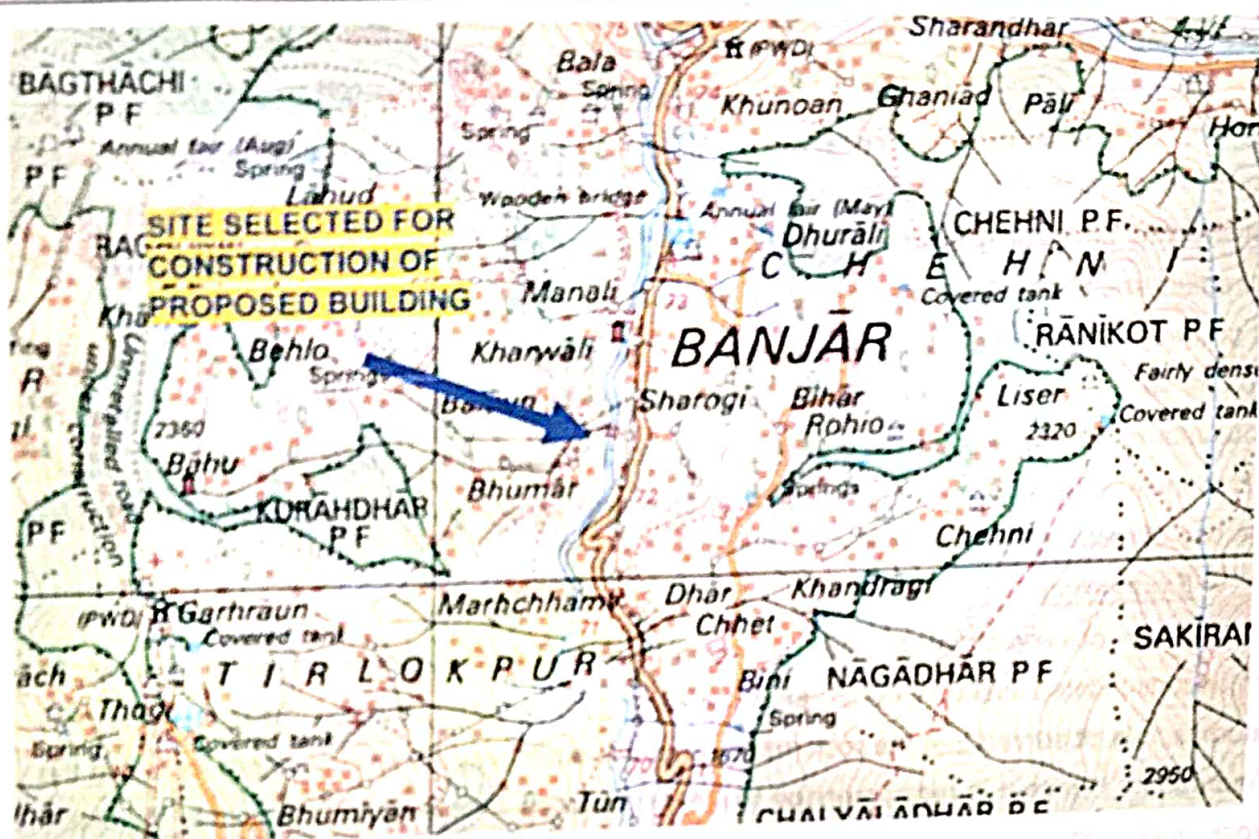
Bandal - Jeori - Wangtu Gneissic Complex

Banjar Volcanics (Green Bed Member)

The Banjar Volcanics (Green Bed Member) Comprises of thick sequence dark green phyllites representing metabasalts. These green stone rocks are well-exposed around Banjar. White massive quartzites and grey phyllites occur as interbeds within metabasalts. Vesicles and amygdulites are well preserved in many sections. Amphibole and plagioclase constitute the main mineral assemblage. Opaques are common. Biotite, tremolite-actinolite, Epidote are also seen more commonly in schistose rocks. The metabasalts mainly represent continental tholeiites.

After the inspection of the proposed site, the following observations have been taken in consideration:-

1. The area under investigation falls under the Survey of India Toposheet No. H43F6. It is located at 31°38'18.0"N 77°20'32.4" E and has an average elevation of 1400-1390 meters at the site.
2. The terrain of the site is largely sloping having an angle of 40-45 degrees with moderate slopes towards the downhill side and covered with the unconsolidated slope wash as well as road-cutting dumped material. The said area where muck has been dumped projects a sloping topography and the precise depth of rock can be obtained only after subsurface investigation of the area.
3. A perennial water channel i.e. Jibhi Khad has about 80.sq.km of catchment area flowing downhill side of the said chunk of land. The area is prone to moderate to heavy rainfalls which could result in flash floods and debris flow from the uphill side due to its peculiar geomorphic and Geological conditions in the Jibhi Khad catchment area. It is expected that during heavy rains the excessive water flow in the Khad could directly hit the toe portion and there may be a chance of toe erosion along the said land and there is a chance of landslide hence, the site needs to be protected before the construction of the Buildings.



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RECOMMENDATIONS

After inspection of the site, it is observed that due to the scarcity of developable space in the hilly regions construction on available surface or land has increased in the recent past. However in general practice to avoid these sites for building constructions. The buildings constructed on sloping surfaces transmit their load to the hill slope through foundations. It increases shear stress, which may cause instability of hill slopes. In order to carry out construction activities, the hill slope needs to be stabilized. The uphill as well as valley side strata are covered with overburdened material and no insitu rock mass is encountered/ observed, So the following recommendations/ suggestions may be considered, which include removal of loose material, proper drainage, both surface and sub-surface and the use of restraining structures.

➤ Excavation

It was observed that the ground surface below this portion is covered with a thick mantle of unconsolidated loose material, which is resting on the rock surface. Based on the field studies, it is observed that the rock mass is not available over the shallow depth for laying the foundation, Hence it is recommended that the foundation should be laid deep over the stable rock mass, however, if the rock mass is not available at desired depth the foundation and building structure should be designed properly as per the topography and soil stability of the area.

➤ Retaining Structures:

As already mentioned a perennial water channel i.e. Jibhi Khad flowing downhill side of the said chunk of land has a large catchment area. During the rainy season there is always a chance of flash floods in the said Kahd hence the down hillside area of the said land needs to be protected in a suitable manner. A suitable protection work in the shape of Reinforce cement concrete retaining (RCC) from the upstream side should be erected along the water channel. The retaining walls constructed along the river channel must have deep foundations in order to minimize the chance of toe erosion. Weep holes should be provided along the retaining wall in order to allow the free drainage of underground water.

➤ Building Structures:

As mentioned earlier the proposed building will be constructed in the Hill Slope area, hence it is further recommended that high-rise structures should be avoided and the foundation and building should be properly designed in consultation with the structural design experts.



➤ **Afforestation**

Afforestation involves the planting of low-height deep-rooted plantations along the slope should be adopted to reduce surface runoff. It also prevents mass wasting or surface soil erosion.



Submitted By:-

Gaurav Sharma (Geologist)

Geological Wing, Deptt. Of Industries,

Himachal Pradesh, Shimla - 171001

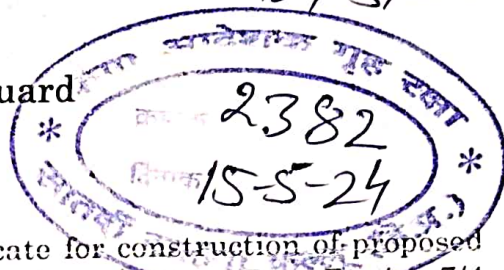
Himachal Pradesh
Public Works Department

No.PW/BD/CB/WA-II/N.O.C/2024:-
To

938-39

Dated:- 13/05/2024

The Commandant Home Guard
7th Battalion Kullu HP.



Subject:-

Regarding No Objection Certificate for construction of proposed building of Commandant Home Guard of Fire Post Banjar 7/4 Company Banjar Tehsil Banjar Distt Kullu.

As per the report received from the Assistant Engineer, Banjar Sub Division HP PWD Banjar vide his office letter No.PW-BSD/R-7/2024:- 196 dated 27.04.2024. This office has no objection for the construction of proposed building of Commandant Home Guard of Fire Post Banjar 7/4 Company Banjar Tehsil Banjar Distt Kullu, subject to fulfillment of following conditions:-

1. That all the construction work should be carried out 3 Meter away from the edge of acquired land/width of road.
2. That applicants shall not stack any construction material on beams /road and in acquired width.
3. There shall be no traffic hindrance for the smooth flow of traffic by way of any constructional activities by the applicants.
4. The applicants may ensure that no debris should be thrown on the PWD land/ road, and all the excavated material should be dumped in the dumping side only and the same should not be dumped in the Nallah, River etc.
5. The applicants will be entirely responsible for any type of damage to the PWD land/road. If any damage is caused to the PWD road, drain or road furniture, it shall have to be restored to the original position by all the applicants at their own cost.
6. No waste/ sewerage shall be discharged into the road, side drain/ PWD road/land/ during the construction and after the construction and any damage to road shall have to be restored in the original position.

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In case of any violation of H.P. Road Side Land Control Act, 1968, The H.P. Public Premises land (eviction and rent recovery) Act-1971 and H.P. Road infrastructure Protection Act. 2002, the NOC shall be withdrawn immediately.

Executive Engineer
Banjar Division
HP PWD Banjar

- Copy to Assistant Engineer Banjar Sub Division HP PWD Banjar for information with reference to his letter no referred above.

Executive Engineer
Banjar Division
HP PWD Banjar