

RECONNAISSANCE GEOLOGICAL REPORT OF SHRI TREPAN SINGH S/o SHRI SURAT SINGH FOR THE PROPOSED CONSTRUCTION OF OWNER DRIVEN CONSTRUCTION HOUSING (ODCH) VILLAGE-MAHARGAWAN, TEHSIL- PUROLA, DIST.- UTTARKASHI KHASRA No.-3447,3449&AREA-0.024 ha.

Date of Inspection: 28-12-2013

In a 'World Bank' funded programme, Government of Uttarakhand has teams for geological studies in sites proposed for Owner Driven Construction House (ODCH) in disaster affected districts of Uttarakhand.

Director, Geology and Mining Unit, Directorate of Industries, Uttarakhand has issued an office order No. 1612 Aa. Pra./Bhu.Ni./Bhu.Khani.E./2013-14 dated 10th December 2013 regarding geological studies in disaster affected five districts of Uttarakhand, Uttarkashi is one of them. Thus, undersigned have taken geological observation during traverses and collected field geological data under the management of cosignatory departmental 'Assistant Geologist'.

In the above mentioned questioned area, the reconnaissance geological investigation was carried out in the presence and co-operation of Shri Kamleshwar Prasad Nautiyal, Revenue Inspector Purola. The proposed construction site is located 10km away from Tehsil headquarter Purola and on road head of Mahargaun motor road. It falls on coordinate –N 30°53'16.1" E 78°07'20.5" and El.1664m from msl.

The proposed site situated on the overburden which is manmade flat hill terrace by old debris material. At 200m horizontal distance in the south direction on the flank of Dudigad, about 1-2m approximate thickness of overburden, in overburden quartz & phyllite fragments 1-5cm in size with fine grain blackish-brown soil matrix. Bedrock has not been found surrounding of the proposed site. The proposed site is cultivated and low vegetated.

General slope of the proposed site is 10°-15°, uphill slope trending 20°-25° and downhill slope is trending 15°-20° in south direction. At proposed site construction is taking place foundation and walls of house have been completed.



Close view of the propose site

The proposed site is on colluvial deposited ridge on the southward sloping hill on the right bank of Dudigad.

RECOMMENDATIONS:

Based on above surface geological observations, the proposed area seems geologically suitable for the proposed building construction. The following remedial measures are recommended for safety:

1. A inclined retaining wall at the uphill and downhill side; with provisions of weep holes and sufficient gap of about 0.5-1.0m in between the backside retaining wall and the proposed construction should be constructed. And also, proper drainage system between the retaining wall and the wall of house should be developed.
2. The foundation depth of the house must be as per the compactness of the overburden material in the proposed site.
3. The backside retaining must be provided with screening material to keep the weep-holes passage clear for discharge of subsurface water to maintain stability of foundation of the house.
4. The soakpits and toilet foundations must be quiet away from the house so that the foundations are not directly affected from subsidence due to excessive seepage.
5. A minimum distance of 1.0-1.20m should be kept between the backside inclined retaining and the back wall of the house to avoid seepage into the house.
6. As the area falls in Lesser Himalayan earthquake zone IV, light weight roof, deep column, framed structure, and single or double storied house construction is preferable.

CONCLUSION:

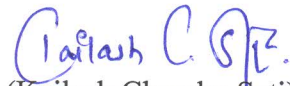
Prima-facie, presently, the proposed site of Shri Trepan Singh S/o Shri Surat Singh is geologically feasible for the proposed construction, only if, the above mentioned recommendations will be followed strictly, otherwise, in their contravention the geological suitability will be deemed void.



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