

RECONNAISSANCE GEOLOGICAL REPORT OF SHRI JITENDRA SINGHS/O
SHRIVIJAY SINGH FOR THE PROPOSED CONSTRUCTION OF OWNER DRIVEN
CONSTRUCTION HOUSING (ODCH)
VILLAGE-MOLTADI, TEHSIL- PUROLA, DIST.- UTTARKASHI
KHASRA NO.-66, 179 & AREA -0.015 ha.

Date of Inspection: 28-12-2013

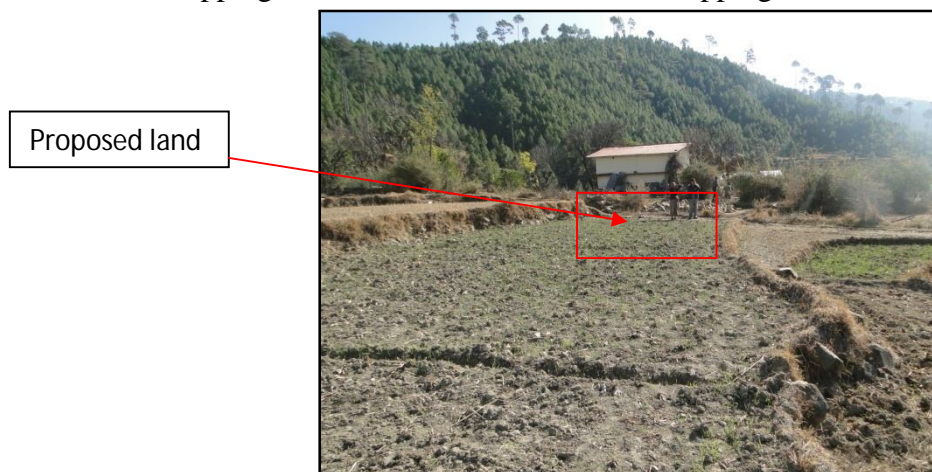
In a 'World Bank' funded programme, Government of Uttarakhand has teams for geological studies in sites proposed for Owner Driven Construction House (ODCH) in disaster affected districts of Uttarakhand.

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 7km away from Tehsil headquarter Purola and 300m upstream from Dhampur-Kumakot motor road. It falls on coordinate – N 30°54'5.9" E 78°05'57" and El.1448m from msl.

The proposed site situated on the overburden which is manmade flat colluvial terrace by old debris material. At 200m horizontal distance in the west direction on the left bank of Kamal river, at 100m in east direction Bangrakhad perennial Nala is present about 1-2m approximate thickness of overburden, in overburden schistose gneiss fragments 1-5cm in size with fine grain blackish-brown clayey soil matrix. Bedrock has been found surrounding of the proposed site. The proposed site is cultivated and low vegetated.

General slope of the proposed site is 5°-10°, towards W direction. The proposed site is on flat cultivated manmade terrace. Around the proposed site bedrock quartzite with alternate bands of very fragile phyllite has been found, the dipping of bed 25° in S10°W direction and Joints are J1 is dipping 70° in N 60° W direction, J2 is dipping 75° in N40° E direction.



Close view of the propose site


RECOMMENDATIONS:

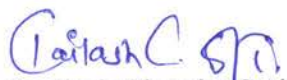
Based on above surface geological observations, the proposed area seems geologically suitable for the proposed building construction. The following remedial measures are recommended for safety:

1. Inclined retaining wall at the uphill side with depth of foundation more than the foundation depth of the house, 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 surface drainage should be properly planned through lined drain/pipe, so both, rainwater from uphill side as well as waste water from the existing houses to be release safe place at down-hill along a channel with more dimensions than that of maximum possible volume of water.
3. The foundation depth of the houses must be as per the compactness of the overburden material in the proposed site.
4. Inclined retaining wall at the toe of the proposed site with provision of weep holes at specific distance should be constructed.
5. Massive plantation of trees, bushes and grasses which can hold the soil mass and retained the debris with dense and long rooted, wide/broad leafed flora must be done to protect the soil erosion and minimize the surface erosion of the subsurface rocks.
6. 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.
7. The premises of house must be made 'pukka' to prevent excessive subsurface seepage and downward percolation of water and differential settlement.
8. Framed structure must be used and light roof should be constructed, as the area falls in the earthquake zone IV, so it is essential that the house must be constructed with latest earthquake resistive techniques, scientific and technically sound craftsmanship with logical and favorable principles of soil mechanics.


CONCLUSION:

Prima-facie, presently, the proposed site of Shri Jitendra Singh S/o Shri Vijay 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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Associate Consultant
Geologist


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Consultant Geologist

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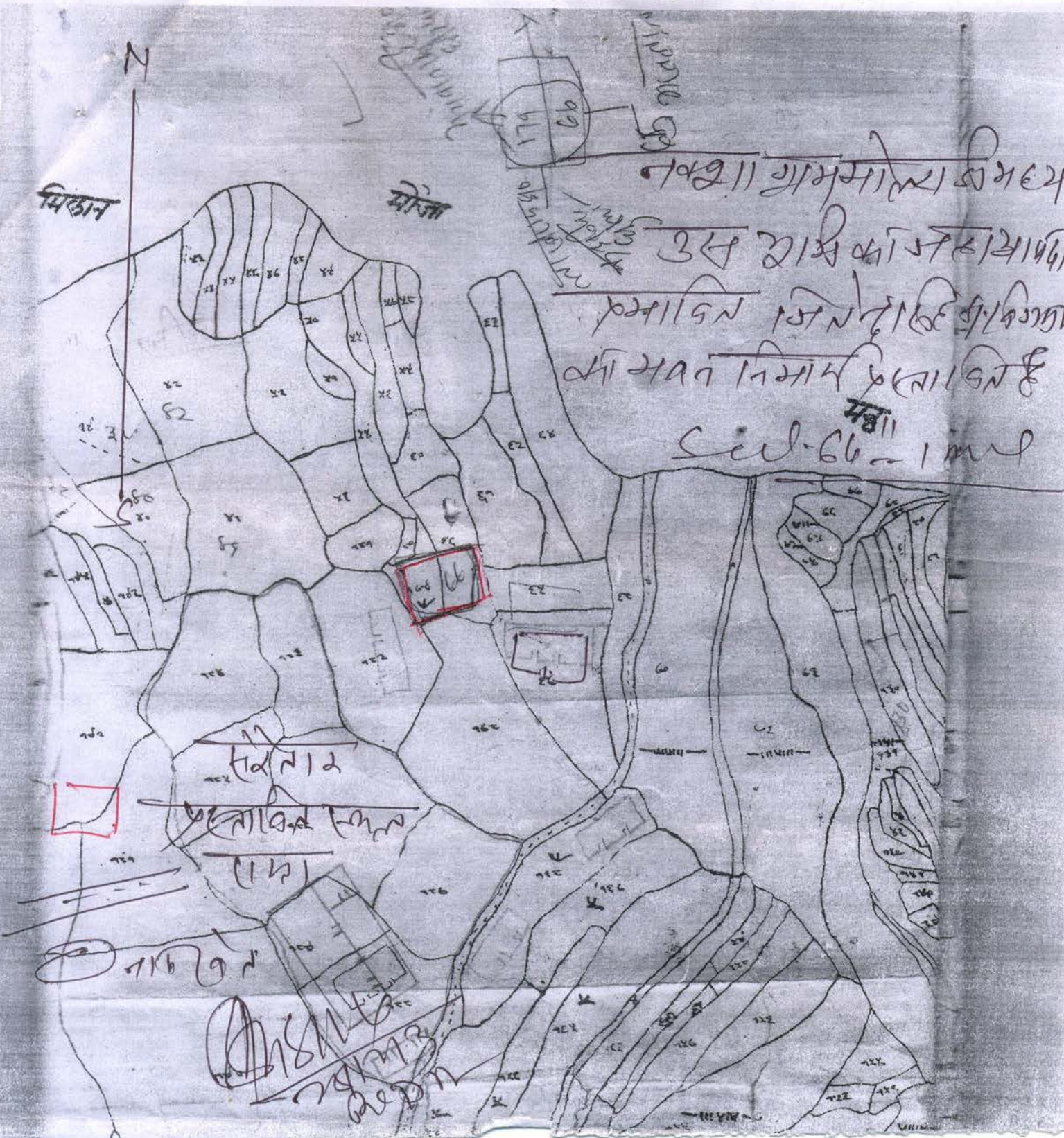
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