

RECONNAISSANCE GEOLOGICAL REPORT OF SHRI SURAJAMNI S/O SHRI PULANAND FOR THE PROPOSED CONSTRUCTION OF OWNER DRIVEN CONSTRUCTION HOUSING (ODCH)
TOK- MAHARGAUN, VILLAGE- NAGAL, TEHSIL- DUNDA, DIST.- UTTARKASHI
KHASRA NO.-1146&AREA-0.010 ha.

Date of Inspection: 20-12-2013

In a 'World Bank' funded programme, Government of Uttarakhand has teams for geological studies in proposed site 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 Suresh Uniyal, Revenue Sub-Inspector, Nagal. The site is located 55km far from District headquarter Uttarkashi, below NH-94 Barkot-Dundamotor way. That proposed site situated on the coordinates N 30° 43'51.7" E 78°16'41.5" and El. 1449m from msl. The proposed site is in Mehargaun Tok of village Nagal which is moderately populated.

The proposed site situated on alluvial hill slope, about 100m hill side from Khurmala Gad, the tributary of Bhagirathi. About 2-3m thickness of overburden, in overburden quartzite and phyllite fragments varying 1-5cm with fine grain brownish soil matrix. Generally proposed land is situated on moderately slope. The valley side slope is 25°-25° and uphill slope is 30°-35° towards SW direction. The proposed site is low vegetated cultivated land in slightly steep slope. The exposed rock phyllite is found on the road, about 20m hillside towards SE direction.



under construction house on the propose site



Back side view of the site

The proposed site is situated on old colluvial deposited in moderately sloppy hill. The proposed site is below the Dharashu-Barkot motor road. On the proposed site, house construction is already in progress before geological investigation. The house constructed without sufficient distance from hill side wall for proper drainage system and for the safety reason, no retaining wall constructed on uphill and downhill side.

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 and downhill 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. 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 at the uphill side and in southern side must be done to protect the soil erosion and minimize the surface erosion of the subsurface rocks.
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. The premises of house must be made 'pukka' to prevent excessive subsurface seepage and downward percolation of water and differential settlement.
6. 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. Surajmani S/o Shri Pulnanand 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.



(Vivek Sahu)
Consultant Associate
Geologist

Date:

Place: Uttarkashi



(Kailash Chandra Sati)
Consultant Geologist



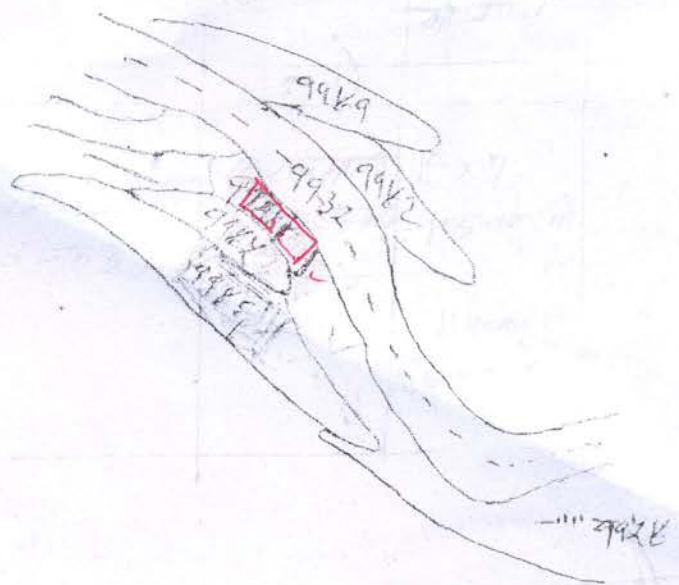
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ग्राम नगर पंचायत गंगाराम चौक जिला 3 तहसील
 जमीन शिवाजी नगर का मकान इतिहास क्षेत्र के पश्चात
 सिपा जा रहा है
 64' = 1 मील



- संकेत
- ① - - - - - धरद्वारकोट मोकाम
 - ② - - - - - 75 दिवारी कृषि
 - ③ - - - - - मिर्चानि-बनवा नमा 9988, 9989, 9982
 - ④ - - - - - सुजमागा आ इतिहास
 - ⑤ - - - - - मकान आ इतिहास क्षेत्र
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- जो 17/12 नमा

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 शरद 30/12
 सुजमागा

शरद सुजमागा शिवाजी चौक क्षेत्र

शरद
 19/12/13
 P. S. Narayan

मकल ग्रामनगल पही गणरस्य वरु डका विरल डका
 रजनी शकुवतन्य के द्वारा अपनी निजी अचिरी अडि डका विरल के गहे वरु

क्रमांक	खाल नम्बर	नाम अचिरी	काबिलपति का नाम	फलपित खाल नम्बर को माप	विपण
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 2 वरु गल
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जोड निशुवा 2/1/12

शुभमन्य विरल वरु अचिरी

19/11/12
 P. N. N. N.