

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI  
RAJKUMAR S/o SHRI VIKRAM SINGH FOR THE CONSTRUCTION OF OWNER  
DRIVEN CONSTRUCTION FOR HOUSING (ODCH)  
TOK JAKHURI, VILLAGE GHAINCHUWAN, TEHSIL- MORI- DISTRICT  
UTTARKASHI, UTTARAKHAND  
KHASARA No. – 3198(d) & AREA – 0.020 ha.**

**Date of Inspection: 04/02/14**

In a 'World Bank' funded programme, Government of Uttarakhand has provided teams of Consultant Geologists and Consultant Associate Geologists to Director, Geology and Mining Unit, Uttarakhand for geological studies in proposed sites for Owner Driven Construction For Housing (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 10<sup>th</sup>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 Raj kumar Pandey, S.D.M., Purola, Uttarkashi. It is 15Km approx from Tehsil Headquarter Mori, Uttarkashi, Uttarakhand and the site is 250m approx on Devra-Ghainchuwan motar marg through bridle path. It falls on coordinate – N 31<sup>o</sup> 03 29.3 E 78<sup>o</sup> 06 17.6 El. 1541m. The site is in Tok Jakhuri of village Ghainchuwan, which is least populated.

The proposed site is on colluvial overburden material varying in thickness range from >3m approx at places, man-made cultivated terraces are present. The uphill slope is 20<sup>o</sup>-25<sup>o</sup> and the downhill slope is 15<sup>o</sup>-20<sup>o</sup> sloping in west direction. Around the proposed site location least mix vegetation of Banjh, Chulu, etc., is present at about 60-70m approx in uphill side. A seasonal flow is passing from NE side at about 40-45m approx flowing in NW direction.



**Close view of the proposed site**

The proposed site is on colluvial overburden material thus no insitu rock is found but a few boulders varying in size range from 0.5m to 2m approx are found embedded in the

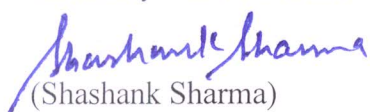
brownish soil with fragments of quartz and gneiss of 2cm-7cm approx size. The soil is consolidated; the rate of infiltration is low making the soil water saturation low. At the proposed site location the water seepage is low. The trees at the uphill slopes are standing straight.

### RECOMMENDATIONS:

1. Inclined retaining wall of 2m approx height and 3m approx length at the SE backside boundary and also in the NW toe boundary of the site of 3m approx length with depth of foundation of the backside retaining more than that of the foundation depth of the house, with provisions of weep holes and sufficient gap of about 2-3feet 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 rain water as well as waste water from the existing houses to be release safe place in NE direction along a channel.
3. The foundation depth of the houses must be as per the compactness of the overburden material at the proposed site.
4. Framed structure with deep column and light roof must 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.
5. Massive plantation of trees, bushes and grasses which can hold the soil mass and retain the debris with dense and long rooted, wide leafed flora must be done in the SE uphill side to protect the soil erosion and minimize the surface erosion of sub-surface rock.
6. The soak pits and toilet foundations must be quiet away in NE side 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' in order to avoid excessive seepage of the surface water.

### CONCLUSION:

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

  
(Shashank Sharma)

Consultant Associate Geologist

Place: Camp Uttarkashi



(Vijai Kr. Sen)

Consultant Geologist



(Dipender Singh Chand)

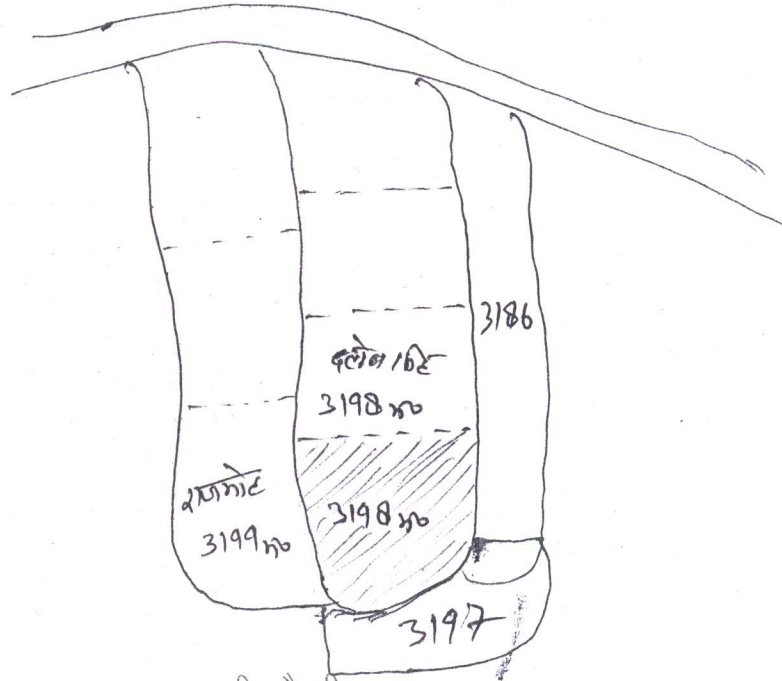
Assistant Geologist

Mob: 8192802331

Email id: [agddn-dgm-uk@nic.in](mailto:agddn-dgm-uk@nic.in)

तहसील मोरी के ग्राम कलाप में माह जून 2013 कीद्वी आपदा में पूर्णरूप से क्षतिग्रस्त भवन के कारण अपनी निजी भूमि पर बनाये जाने वाले प्रभावित व्यक्ति श्री राजकुमार पुत्र/पत्नी विक्रम सिंह

ग्राम कलाप के भूमि का नजरी नक्शा व खसरा




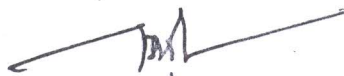
प्रस्तावित खसरा नम्बर


की चौहदी

1. पूरब में ~~खसरा~~ नम्बर 3186 नत्पी सिंह आदि
2. पश्चिम में खसरा नम्बर 3199 राजकुमार का खेत
3. दक्षिण में खसरा नम्बर 3197 नत्पी सिंह आदि
4. उत्तर में खसरा नम्बर 3198 इलेक्ट्रिक के खेत

खसरा नम्बर 3198 कुल खम्बा 0.135 हे० मध्ये प्रस्तावित खम्बा 0.020 हे०

  
उप-जिलाधिकारी  
उदेलाल

  
तहसीलदार  
मोरी

  
र० न० म० टी