

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI
NAGENDRA LAL S/o SHRI SURJANU FOR THE CONSTRUCTION OF OWNER
DRIVEN CONSTRUCTION FOR HOUSING (ODCH)
VILLAGE KHAND, TEHSIL- BARKOT- DISTRICT UTTARKASHI,
UTTARAKHAND
KHASARA No. – 2273(b) & AREA – 0.005 ha**

Date of Inspection: 28/12/13

In a 'World Bank' funded programme, Government of Uttarakhand has provided teams of Consultant Geologists and Consultant Associate Geologist to Director, Geology and Mining Unit, Uttarakhand for geological studies in proposed site 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 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 Dharam Singh Rana, Revenue Sub-Inspector, Gangtadi/Chaptadi. The proposed site is 31Km approx from Tehsil Headquarter Barkot, District Uttarkashi, Uttarakhand. It falls on coordinate – N 30^o 52.772 E 78^o 14.543 El. 5204feet. The site is 18Km approx from NH-123 (Delhi-Yamunotri National Highway) on Rajgari-Sarnaul motar marg through 2.6Km approx Khand-Ghatal gaon bridle path on the left bank of river Badiyar and is 2Km approx horizontal distance and ±250m approx vertical distance from the Badiyar river which is flowing in N 160^o direction. The area is moderately populated and at the proposed site old damaged structure is present.

The site is located on consolidated colluvial deposit and man-made cultivated step terraces are present. The thickness of overburden is varying in size at places in between 70-80m approx The uphill slope at the proposed site is 30^o-32^o and the downhill slope is 25^o-27^o sloping in N 60^o direction. The proposed site location is covered with thin soil cover. At the proposed site location low vegetation is present but at about 200m approx in the uphill direction dense Pine tree forest is present. At about 30-35m approx in the NE direction from the proposed site, a small perennial nala is passing through, flowing in SW direction.



Close view of the proposed site



Downhill side view of the proposed site

At the proposed site, there was no in-situ rocks exposed but, rock fragment of varying size are found embedded in the soil matrix.


At the proposed site, thin and consolidated soil cover with rock fragments of phyllite and quartzite varying in size from 1-4cm, with fined grained greyish brown clayey soil matrix are found. The soil water saturation is low as the soil is consolidated but moderate seepage is observed near the proposed site in the NE side which is due to perennial nala which is passing nearby. The trees around and in the uphill side are standing straight which shows there is no active movement in the area. The proposed area receives high rainfall during the monsoon season. Around the proposed site habitation is already present, a new construction is under progress at the northern backside of the proposed site. The Khand-Ghatal gaon bridle path is passing close to the proposed site thus in its support a retaining wall at the toe of the proposed site is already present.

RECOMMENDATIONS:

1. Inclined retaining wall at the northern backside with depth of foundation more than 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 premises of house must be made 'pukka' to prevent excessive subsurface seepage and downward percolation of water and differential settlement.
3. 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.
4. 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 to protect the soil erosion and minimize the surface erosion of sub-surface rock.
5. 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.
6. The foundation depth of the houses must be as per the compactness of the overburden material in the proposed site.
7. 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 favourable principles of soil mechanics.

CONCLUSION:

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


(Shashank Sharma)

Consultant Associate Geologist

Date:

Place: Camp Uttarkashi



(Vijai Kr. Sen)

Consultant Geologist



(Dipender Singh Chand)


Assistant Geologist

Mob: 8192802331

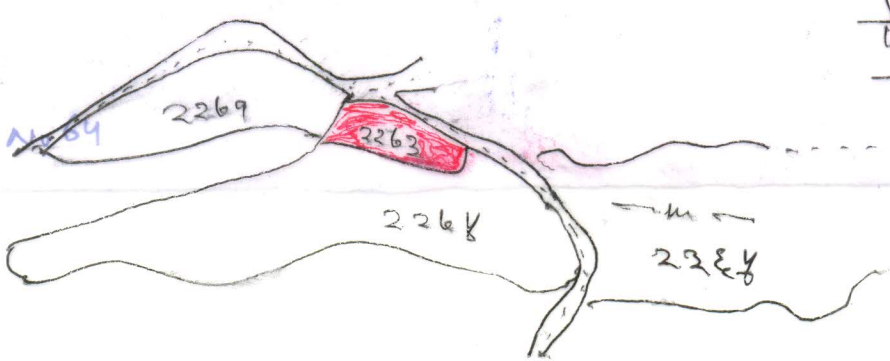
Email id: agddn-dgm-uk@nic.in

लसरा ग्राम लोड पट्टी स्थित 180 वर्ग मीटर का
 प्रस्तावित भूमि लजा धरालगांव

क्र. नं०	रकत	लॉट नं०	नाम भूमिधर	विवरण
1	2	3	4	5
2263	0.005	50	नागेश भाई साठे कोण	


 नागेश भाई साठे
 28/12/2023

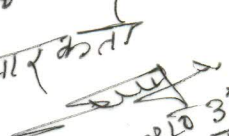
लसरा ग्राम लोड पट्टी स्थित 180 वर्ग मीटर का धरालगांव में नशीब भूमि पर 180
 मीटर का लजा धरालगांव प्रस्तावित भूमि नागेश भाई साठे



प्रमाण - 64" = 1 मील

आलाप

- 1- पूर्व दिशा बस भूमि - 180 -
- 2- पश्चिम दिशा 2269
- 3- उत्तर दिशा 2263 प्रस्तावित लजा
- 4- दक्षिण दिशा 2264

प्रमाणकर्ता

 नागेश भाई साठे
 28/12/2023

प्रस्तावित भूमि
 0.005
