

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SHRI
SHER SINGH S/O SHRI FINCHAR SINGH FOR THE CONSTRUCTION OF
OWNER DRIVEN CONSTRUCTION HOUSING (ODCH)
TOK-MANERA,VILLAGE- DILSAUR, TEHSIL- BHATWARI, DISTT-
UTTARKASHI
KHASARA NO.-626 & AREA- 0.078 ha**

Date of Inspection: 12-12-2013

INTRDUCTION:

In a 'World Bank' funded programme, Government of Uttarakhand has consummate teams of undersigned 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 10thDecember 2013 regarding geological studies in disaster affected five districts of Uttarakhand.

In the above mentioned questioned area, the reconnaissance geological investigation was carried out in the presence and co-operation of Shri Ranbeer Singh Panwar, Revenue Sub-Inspector, Joshiyara the land of Shri Sher Singh Khasra No. 626 and the area of the land is 0.078 ha.

The proposed site for building construction falls in colluvial terrace left bank, about 200m hillsides from river bed of Bhagirathi River. The site is located 5km from District headquarter Uttarkashi, nearby Badethi-Tekhala bypass motor way. The boundary of the area in North direction house foundation of Shri Bachan Singh, East direction House of Shri Padam Singh, South side house about 150m hillside from proposed land of Sri Baisakh Singh and West side house of Shri Ater Singh around proposed site. That proposed site falls on co-ordinate - N 30° 43' 52.9" E 78° 24' 32.5" and El. 1115m from msl.

GEOMORPHOLOGY OF THE PROPOSE AREA:

The proposed site situated on colluvial terrace, cultivated land about 200m hillside from river bed of Bhagirathi. About 2-5m thickness of overburden, phyllite and quartzite fragment varying 1-5cm with fine to coarse grain brownish soil matrix. Generally flat land, uphill slope about 150m hillside from proposed land is of the 15°-20° in 150m area, slope increase 60°-65° after previous slope and downhill slope is 35°-40° about 25m valley side from the proposed land towards N-W Direction.

REGIONAL GEOLOGY OF THE AREA:

Uttarkashi valley exhibits characteristic rugged topography of the Lesser Himalayan terrain. The ground elevations generally vary between 1150 to 2000meters above msl. The hill slopes in the area are generally observed to comprise of rocky outcrops, rocky cliffs and mantle of colluviums. The hill slopes in the area is generally moderately steep (25°- 35°) to steep (36°- 45°) while few escarpments or cliffs (> 50°) are also present.

Uttarkashi town is located in the Lesser Himalayan geotectonic block and it is bound by two major Thrust fault i.e. Main Centre Thrust (MCT) and Srinagar Thrust (ST). The MCT can be traced to the northeast of Uttarkashi while the Srinagar Thrust lies in the southwest. Phyllite, metabasic and quartzite of Garhwal Group are exposed around the area.

Geologically, the area falls in the region of rocks of Netala Formation of Lesser Himalayan terrain. Quartzite with bands of limestone, phyllite and slate is fine grained, compact, massive in general, but jointed and fractured at places. The slope of the hill ranges between 25°-30° towards eastern direction. At few places insitu rocks are exposed in the plot whereas maximum plot area is covered with overburden. This overburden material comprising soil, hillwash and debris of varying size consisting of brown colored, fine to medium grained silty to gravely matrix with angular fragments of dolomitic limestone and a few brown fine grained shale etc., in which percentage of the angular fragments is more than the matrix. The major joint trends 240°/30° NW (Oblique to foliation plane) whereas minor joint trends 265°/40° NW.

GEOTECHNICAL OBSERVATION OF THE AREA:

The proposed area is on old colluvial/alluvial deposit on terrace. The overburden depth in terrace 2-5m thick, in overburden angular and sub-angular fragment of phyllite and quartzite varying 1-5cm with brown sandy soil matrix made up of colluvial/alluvial terrace. The site is toe of the dance vegetated hill. The perennial nala 'Bindu Khala' is found about 1.5km from in proposed site towards South direction. Fractured and crushed blackish grey phyllite outcrop found in river bed about 200m from proposed land. General trend of phyllite outcrop 60° towards S 40° W, J1 trend is 82° towards N 40° W and J2 is 55° towards S. The rock is fractured, crushed and moderately folded.

This site is surrounded by houses in valley side north and south direction, this settlement extends 100-150m, and flat agriculture land also present in hill side east and south direction, this land extends 100-200m. So that proposed site is based on engineering and geological aspects suitable for building construction.



A view of proposed SE direction

RECOMMENDATIONS:

Based on above surface geological observations of the proposed area, geologically suitable for building construction and the following remedial measures are recommended:

1. The surface drainage should be properly planned through lined drain/pipe, both rain water flows from higher elevation as well as waste water from existing building and release safe place at down-hill along a sewage channel.
2. Framed structure of building must be designed as per seismic coefficient in earthquake zone 4 of this region.
3. Light weight and slanting roof, framed structure, deep column, tabular structure and single storied house for construction is immensely recommended.
4. As the area falls in Lesser Himalayan earthquake zone IV so the houses must be erected with latest earthquake resistive techniques, and scientific and technically sound craftsmanship with logical and favourable principles of soil mechanics or the foundation of the houses must be kept in the fresh in-situ outcrops.

CONCLUSION:

Prima-facie, the proposed site of Shri. Sher Singh S/o Shri Finchar Singh is geological feasible for construction work, only if, the above mentioned recommendations will be followed strictly, otherwise, in its contravention, geological suitability will be deemed voided.

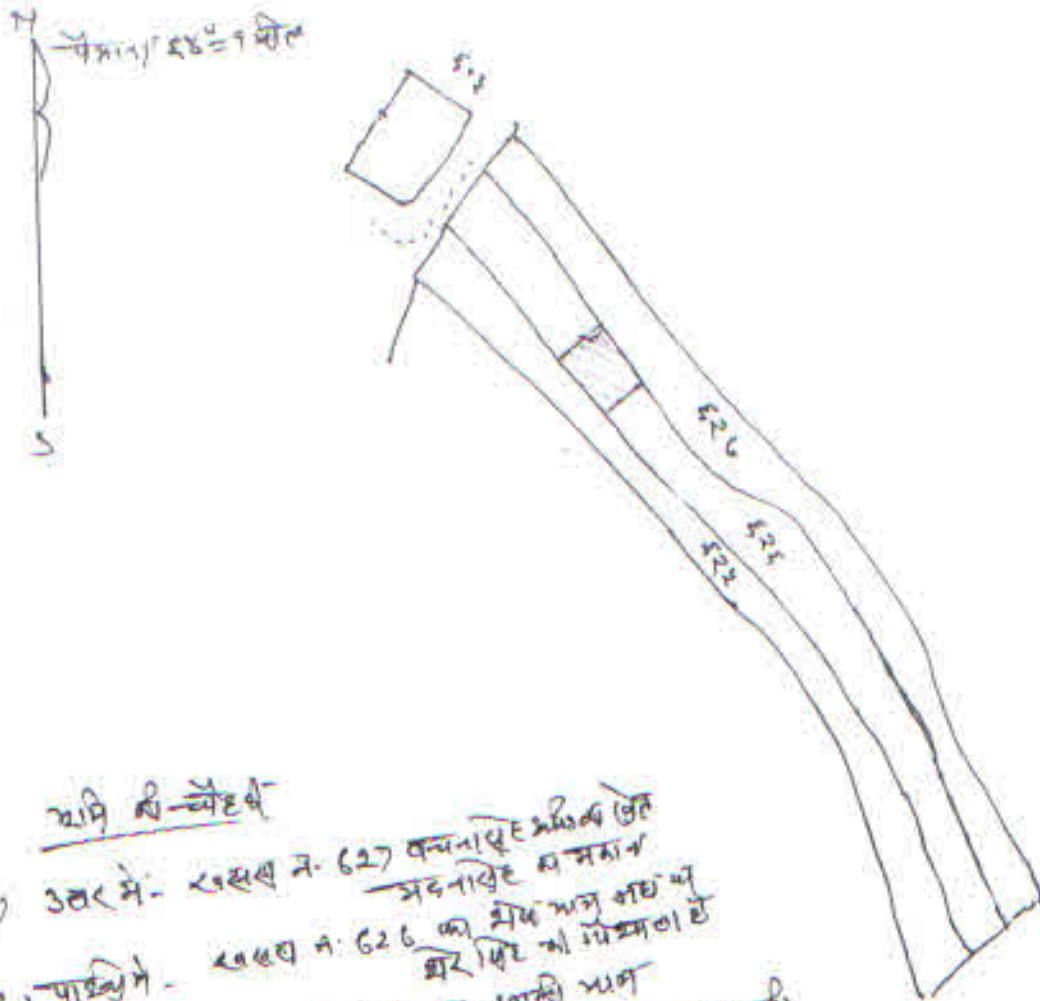

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Date:
Place: Uttarkashi


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नमस्कार सत्य प्रतिलिपि परीक्षा के तहत मध्य प्रदेश जिला उत्तर अक्षांश की उत्तरी सीमा पर श्री गंगापुर की ग्रामिण क्षेत्र पर वे परम्परागत रूप से भवन बनाना चाहते हैं।






ग्रामिण क्षेत्र

- (1) उत्तर में - खसरा नं. 627 कच्चापट्टा शक्ति क्षेत्र में बनाये गए भवन
- (2) पश्चिम में - खसरा नं. 626 का क्षेत्र भवन बनाने की शक्ति नहीं है
- (3) पूर्व में - खसरा नं. 626 का खसरा भवन
- (4) दक्षिण में - खसरा नं. 625 जिला पर भवन बनाया जा सकता है


नमस्कार सत्य प्रतिलिपि

[Signature]
 राजस्थान उपनिवेश
 जयपुर

संकेत	व्यवस्थापक
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सदरनाम नकदवाग्राम दिनांक १५ एप्रिल २०१८ तालुका अहमदाबाद जिल्हा अहमदाबाद या उच्च न्यायालयाने जोडी नोंदविलेले को नोंदविलेले प्रत्येक नोंदविलेले नोंदविलेले नोंदविलेले

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