

**RECONNAISSANCE GEOLOGICAL REPORT OF PROPOSED SITE OF SMT NARAYANI DEVI W/o SHRI SABBAL SINGH FOR THE CONSTRUCTION OF OWNER DRIVEN CONSTRUCTION FOR HOUSING (ODCH) VILLAGE NANAI, TEHSIL- MORI- DISTRICT UTTARKASHI, UTTARAKHAND**  
**KHASARA No. – 1356 & AREA – 0.020 ha.**

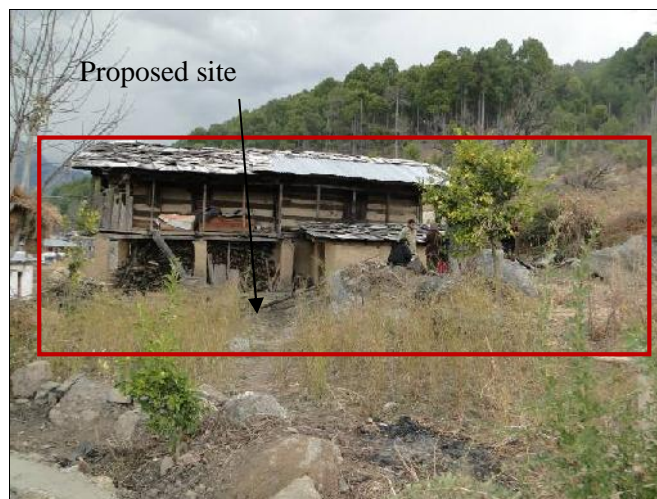
**Date of Inspection: 13/01/14**

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 Prem lal, Homeguard. It is 8Km approx from Tehsil Headquarter Mori, Uttarkashi, Uttarakhand and the site is 200m approx from Mori-Nanai motarmarg through Nanai village bridle path.. It falls on coordinate – N 31<sup>o</sup> 00 55.5 E 78<sup>o</sup> 04 11.2 El. 1612m. The site is in village Nanai, which is moderately populated. A seasonal nala is passing from the eastward side of the site flowing north to south.

The proposed site is on mix colluvial overburden material varying in thickness range from 2-3m approx at places, man-made cultivated terraces are present. The area is a flat land having general slope of 15<sup>o</sup>-20<sup>o</sup> and the downhill slope is 10<sup>o</sup>-15<sup>o</sup> sloping in west direction. Around the proposed site location dense pine vegetation is present at about 150-200m approx in uphill side and around the site moderate vegetation is present.



**Close view of the proposed site**

As the site is on overburden material thus no in-situ rocks are found but few boulders of gneiss varying in size range from 0.5m to 2.5m approx are found embedded in the reddish brown silty clayey soil with gneiss and quartz fragments. The soil is consolidated; the rate of

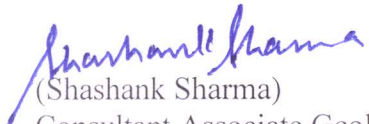
infiltration is low making the soil water saturation low. At the proposed site location the water seepage is low. According to villagers, previously in 1978 a landslide occurred in the area in north direction from the site at about 150-200mm approx distance since then no slide has occurred.


### RECOMMENDATIONS:

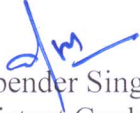
1. Inclined retaining wall of 3-4m approx at the eastern uphill side boundary and in the western downhill side boundary of the site with depth of foundation of the backside retaining more than that of the foundation depth of the house, with provisions of weep holes and sufficient gap of about 2-3feet 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 west 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. The soak pits and toilet foundations must be quiet away in west side from the house so that the foundations are not directly affected from subsidence due to excessive seepage.
6. The premises of house must be made 'pukka' in order to avoid excessive seepage of the surface water.

### CONCLUSION:

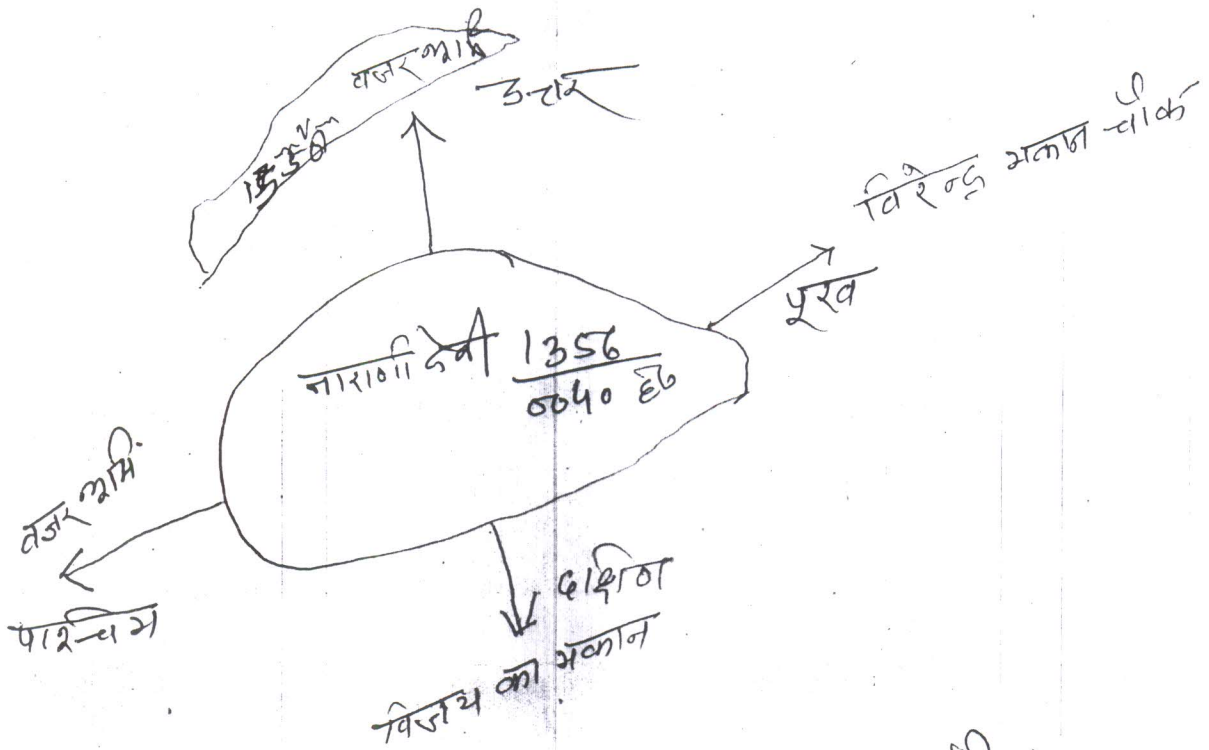
Prima-facie, presently, the proposed site of Smt. Narayani Devi W/o Shri Sabbal Singh is geologically feasible for the proposed construction, only if, the above mentioned recommendations will be followed strictly, otherwise, in their contravention; geologically suitability will be deemed annulled.

  
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माल मोरी के ग्राम नानडी में देवी आपदा के कारण पूर्ण  
 से क्षतिग्रस्त <sup>कच्चा भवन</sup> के कारण आपने निर्जी भूमि पर वना में  
 वाले प्रभक्ति व्यक्ति नारायणी देवी का स्वामी सिंह के भवन का नजदी  
 गा व खसरा नारायणी देवी का भूमि नन्द खसरा नं० 1356 रकबा 0040 हे



खसरा नं० 1356 की चौखड़ी निम्न प्रकार है।

- ① पूरव में विरेंद्र का भवन चौक
- ② पश्चिम वज्र भूमि उत्तराखण्ड सरकार
- ③ उत्तर में खसरा 1358 वज्र भूमि उत्तराखण्ड सरकार
- ④ दक्षिण में विजय का भवन चौक।

विवरण

*(Signature)*  
 Di (M)  
 21/2/03

ख. का कुल रकबा उत्तराखण्ड सरकार  
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