



Geo Technologies

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Expert Geo Consultants for Soil / Rock / Ground Water Investigations

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REPORT OF SOIL INVESTIGATION FOR THE PROPOSED VILLAS PROJECT IN Sy. No. 786 AT MIRYALAGUDA (V & M), NALGONDA DISTRICT

1. INTRODUCTION

Smt. Vasudha Reddy W/o Late Sri Veera Reddy and Sri Sujay Reddy & Sri Ajay Reddy S/o Late Sri Veera Reddy are proposing to construct Villas Project in Sy. No.786, situated at Miryalaguda Village & Mandal, Nalgonda District, Telangana.

Total site Area is Ac. 8.0 gts. The proposed project comprises independent villas of G+1 floor and one amenities block of S+4 upper floors.

The aim of this Report is to evaluate the nature and depth of soils at the site, and to determine the safe bearing capacity of the foundations accordingly.

2. FIELD INVESTIGATIONS

One (1) soil sample collected from 2.0 m depth was sent to the Lab for testing. It consists of hard morum, (silty gravel – GM). No water is reported in the pit.

3. LABORATORY TESTING

The soil sample was tested in the Soil Mechanics Laboratory at Hyderabad. The following tests were conducted:

Specific gravity	Bulk Density
Grain size distribution	Direct Shear test

All the tests were conducted in accordance with IS: 2720 (Code of Practice for Testing of Soils).

4. RESULTS

Table 1 gives the results of physical and engineering tests on soil sample. Open foundations are recommended. Appendix gives the calculations for SBC.

5. RECOMMENDATIONS

Based on Lab testing of one sample, the following Recommendations are given:

- The soil sample consists of silty gravel (GM).
- No water correction is applied.
- SBC is tentatively recommended as 25 tonnes per sq m for foundations resting at 2 m depth. This is based on the assumption of footings of width 2 m. The actual size would be based on the loads from the super structure.
- This report is based on a single trial pit and is not adequate. Detailed investigation is recommended for finalization of SBC.


(Dr. N. VENKAT RAO)



Principal Geotechnical Consultant
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Former Professor & Head of Civil Engineering, Osmania University, Hyderabad
MCH Panelist No. 2490/TP/2000-2

PROPOSED PROPOSED VILLAS PROJECT IN Sy. No. 786 AT MIRYALAGUDA,
NALGONDA DISTRICT

TABLE-1: SUMMARY OF SOIL PROPERTIES

Property	Location
	TP 1
Density, KN / cu m	18.6
Cohesion, KN / sq m	10
Angle of internal friction, deg	33

APPENDIX: CALCULATION OF BEARING CAPACITY

Assumed width of foundation... 2.0 m

Assumed depth of foundation... 2.0 m

Unit wt. = 18.6 KN / cu m

Cohesion = 10 KN / sq m (Neglected) Angle of internal friction = 33 deg.

No correction is needed for water table.

Using IS Code 6403 – 1981 formula:

$N_c = 29.37$ $N_q = 18.39$ $N_r = 23.55$

Net, Ult B.C. = $1.3 c N_c + r D (N_q - 1) + 0.4 r B N_r$

= 986 KN per sq m

With a F.S. of 3.0, SBC = 332 KN per sq m

Recommended Safe Bearing Capacity is 25 tonnes per sq m.

SBC will be finalized after detailed investigations.

A handwritten signature in blue ink is positioned above a circular blue stamp. The stamp contains the word "GEOTECHNOLOGIES" around its perimeter and a small star in the center.

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Groundwater Feasibility Report

Name of work: Proposed Villas Project in Sy. No.786, Miryalaguda (V & M), Nalgonda District, Telangana

Owners: Smt. Vasudha Reddy W/o Late Veera Reddy &
Sri Sujay Reddy & Sri Ajay Reddy S/o Late Sri Veera Reddy

1. Geology:

- (a) Rock Type: Granite,
- (b) Texture : Medium to Fine grained
- (c) Soil Type: Silty gravel
- (d) Recharge Conditions: Moderate

2. Geophysical Data:

- (a) No. of Vertical Electrical Soundings (VES): 1
- (b) Configuration: Schlumberger
- (c) Generalised Sequence based on VES:

0 – 20 m ... Top soil
20 – 40 m ... Weathered zone
40– 70 m ... Rock with intermittent fractures
70 – 145 m ... Hard Rock with minor fractures
Below 145 m ... Hard rock with no fractures

3. Recommendations:

1. The site has moderate potential for groundwater. One point is tentatively suggested for drilling.
2. Type of well: Bore well
3. Size: 6 ½ "
4. Depth: 145 m
5. Casing: 15-20 m
6. Expected yield: Moderate (1 ½ " – 2 ")
7. Detailed investigation is recommended.

(Dr. N. Venkat Rao)



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