



Geo Technologies

(ISO 9001 : 2008 Certified)

Expert Geo Consultants for Soil / Rock / Ground Water Investigations

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REPORT OF SOIL INVESTIGATION FOR PROPOSED RESIDENTIAL APARTMENT IN Sy. No. 31 (P) AT MURAHARAPALLY (V.), YADARAM (GP), SHAMIRPET (M), MEDCHAL (D), T.S.

1. INTRODUCTION

M/s. Modi Realty Genome Valley LLP, rep. by Mr. Soham Modi, are proposing to construct Residential Apartments in Sy. No. 31 (P) situated at Muraharapally (V), Yadaram (GP), Shamirpet (M), Medchal (Dist), T.S.

Total Site Area is 3945.69 sq. mts.. The proposed building comprises RCC structure of S+5 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 1.5 m depth was sent to the Lab for testing. It consists of Silty Gravel. 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:

Bulk Density

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 Silt Gravel (GM).
- No Water correction is applied.
- SBC is tentatively recommended as 30 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)



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PROPOSED RESIDENTIAL APARTMENT IN Sy. No. 31 (P) AT MURAHARAPALLY (V.),
YADARAM (GP), SHAMIRPET (M), MEDCHAL (D), T.S.

TABLE-1: SUMMARY OF SOIL PROPERTIES

Property	Location
	TP 1
Density, KN / cu m	18.7
Cohesion, KN / sq m	5
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. = 18.7 KN / cu m

Cohesion = 5 KN / sq m (Neglected)

Angle of internal friction = 33 deg.

Using IS Code 6403 – 1981 formula:

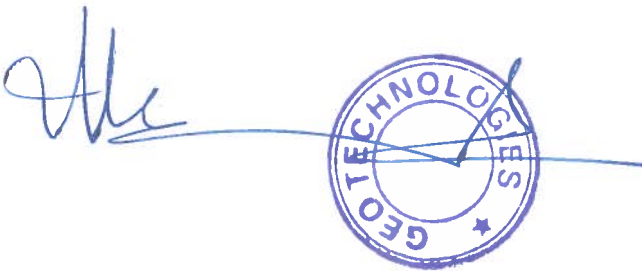
$N_c = 29.37$ $N_q = 18.39$ $N_r = 23.55$

Net, Ult B.C. = $1.3 \ c \ N_c + r \ D \ (N_q - 1) + 0.4 \ r \ B \ N_r$
= 1002 KN per sq m

With a F.S. of 3.0, SBC = 334 KN per sq m

Recommended Safe Bearing Capacity is 30 tonnes per sq m.

SBC will be finalized after detailed investigations.



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Groundwater Feasibility Report

Name of work: Proposed Construction of Residential Apartment in Sy. No. 31 (P) at Muraharapally (V),,
Yadaram (GP), Shamirpet (M), Medchal (D), T.S.

Owner: M/s. Modi Realty Genome Valley LLP, rep. by Mr. Soham Modi

Geology:

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

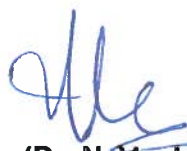
2. Geophysical Data:

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

0 – 25 m ... Top soil
25 – 45 m ... Weathered zone
45 – 75 m ... Rock with intermittent fractures
75 – 150 m ... Hard Rock with minor fractures
Below 150 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: 150 m
5. Casing: 15-20 m
6. Expected yield: Moderate (1 ½ " – 2 ")
7. Detailed investigation is recommended.


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