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REPORT OF SOIL INVESTIGATION FOR THE PROPOSED BUILDINGS AT Sy.No. 82/1, MALLAPUR, UPPAL (M), GHMC KAPRA CIRCLE, MEDCHAL-MALKAJGIRI DIST.

1. INTRODUCTION

Sri Bhavesh V. Mehta and Mehul V. Mehta are proposing to construct residential buildings (3 blocks) in Sy. No. 82/1 situated at Mallapur, Uppal Mandal, GHMC Kapra Circle, Medchal-Malkajgiri Dist.

The proposed buildings comprise RCC structures with two basements, Ground floor plus nine 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 3.0 m depth was sent to the Lab for testing. It consists of hard 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:

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:

a) The soil sample consists of hard gravel (GP).

b) No water correction is applied.

c) SBC is tentatively recommended as 35 tonnes per sq m for foundations resting at 2.0 m depth below the bottom basement floor level. 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.

d) This report is based on a single trial pit and is not adequate. Detailed investigations by core drilling as per IS: 1892 is recommended for finalization of SBC.

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PROPOSED BUILDINGS AT Sy.No. 82/1, MALLAPUR, UPPAL (M), GHMC KAPRA CIRCLE, MEDCHAL-MALKAJGIRI DIST.

TABLE-1: SUMMARY OF SOIL PROPERTIES

Property	Location TP 1
Density, KN / cu m	18.8
Cohesion, KN / sq m	10
Angle of internal friction, deg	35

APPENDIX: CALCULATION OF BEARING CAPACITY

Assumed width of foundation... 2.0 m

Assumed depth of foundation... 2.0 m

Unit wt.= 18.8 KN / cu m

Cohesion = 10 KN / sq m (Neglected) Angle of internal friction = 35 deg.

No correction is needed for water table.

Using IS Code 6403 – 1981 formula:

Nc = 33.53 Nq = 22.07 Nr = 29.50

Net, Ult B.C. = 1.3 c Nc + r D (Nq – 1) + 0.4 r B Nr

= 1235 KN persq m

With a F.S. of 3.0, SBC = 411 KN per sq m

Recommended Safe Bearing Capacity is 35 tonnes per sq m.

SBC will be finalized after detailed investigations.

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