

**REPORT OF SOIL INVESTIGATIONS FOR
THE PROPOSED RESIDENTIAL APARTMENTS AT
CHERLAPALLY (V), GHMC KAPRA CIRCLE
HYDERABAD**

Prepared by

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APARTMENTS AT CHERLAPALLY (V), GHMC KAPRA CIRCLE
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1. INTRODUCTION

M/s Mehta and Modi Homes are proposing to construct residential apartments in Sy. Nos. 11, 12, 14 to 18 & 294, situated at Cherlapally Village, GHMC Kapra Circle, Hyderabad.

Total area of the site is 15 acres 05 guntas.

The project comprises six blocks, A to F. A Block consists of Stilt + 5 upper floors, while the other Blocks (B to F) consist of 2 cellars + G + 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) trial pit was excavated at the site.

The generalized subsoil profile in the site consists of filling in the top 1.5 m, followed by hard morum. No water is seen in the pit.

Soil sample was collected from the bottom of 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. At 2 m depth below ground level, the soil is hard morum. It is designated as silty gravel (GM) as per IS: 1498.

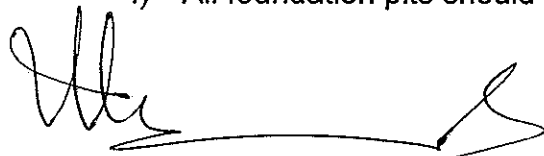
Isolated foundations are recommended. No correction is needed for water table.

Appendix gives the calculations for SBC.

5. RECOMMENDATIONS

Based on Field investigations, the following Recommendations are given:

- a) The subsoil profile in the site consists of filling in the top 1.5 m, followed by hard morum.
- b) No Correction is applied for water table.
- c) SBC is recommended as 35 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.
- d) SBC will be finalized later after detailed investigations.
- e) All foundations should be carried to hard strata.
- f) All foundation pits should be filled back with well-compacted morum.



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TABLE 1

SUMMARY OF SOIL PROPERTIES

PROPOSED RESIDENTIAL APARTMENTS AT
CHERLAPALLY (V), GHMC KAPRA CIRCLE
HYDERABAD

Property	Location
	TP 1
Specific gravity	2.62
Density, KN / cu m	18.6
Grain size distribution	
Gravel > 4.75 mm	24
Coarse sand, 4.75-2 mm	16
Medium sand, 2-0.425 mm	18
Fine sand, 0.425-0.075 mm	20
Silt, 0.075-0.002 mm	14
Clay, < 0.002 mm	8
Shear Parameters	
Cohesion	7
Angle of internal friction, deg	34



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APPENDIX

CALCULATION OF BEARING CAPACITY

PROPOSED RESIDENTIAL APARTMENTS AT CHERLAPALLY (V), GHMC KAPRA CIRCLE HYDERABAD

Assumed width of foundation... 2 m

Assumed depth of foundation... 2 m

Unit wt. = 18.6 KN / cu m

Cohesion = 7 KN / sq m (Neglected) Angle of internal friction = 34 deg.

No correction is needed for water table.

Using IS Code 6403 – 1981 formula:

$N_c = 31.45$ $N_q = 20.36$ $N_r = 26.57$

Net, Ult B.C. = $1.3 c N_c + r D (N_q - 1) + 0.4 r B N_r$
= 1115.5 KN per sq m

With a F.S. of 3.0, SBC = 371 KN per sq m

Recommended Safe Bearing Capacity is 35 tonnes per sq m.

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Groundwater Feasibility Report

Client: M/s Mehta and Modi Homes

Address: Sy. Nos. 11, 12, 14 to 18, & 294, Cherlapally (V), GHMC Kapra Circle,
Hyderabad

Area: 15 acres 05 guntas

1. Geology:

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

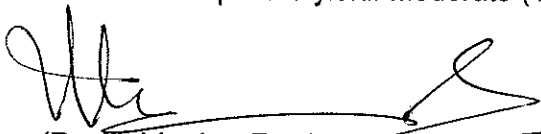
2. Geophysical Data:

- (a) No. of Vertical Electrical Soundings (VES): 15
- (b) Configuration: Schlumberger
- (c) Generalised Sequence based on VES:

0 – 10 m ... Top soil / morum
10 – 26 m ... Weathered zone
26 – 90 m ... Rock with intermittent fractures
90 – 170 m ... Hard Rock with minor fractures
Below 170 m ... Hard rock with no fractures

3. Recommendations:

- 1. The site has moderate potential for groundwater. One point is suggested for drilling in N-E Corner.
- 2. Type of well: Bore well
- 3. Size: 6 ½ "
- 4. Depth: 170 m
- 5. Casing: 15-20 m
- 6. Expected yield: Moderate (1 ½ " – 2 ")



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