REPORT OF SOIL INVESTIGATIONS FOR THE PROPOSED BUILDINGS AT RAMPALLY (V), KEESARA (M), R. R. DISTRICT

Prepared by

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1. INTRODUCTION

M/s Modi & Modi Constructions & M/s Nilgiri Estates, both rep. by their Managing Partner Sri Soham Modi S/o Sri Satish Modi, are proposing to construct Duplex Row Houses in Sy. Nos. 75, 77, 78, 79, 96 & 100/2, situated at Rampally Village, Keesara Mandal, R. R. District.

The buildings comprise RCC framed structures with G + 2 upper floors. Total extent of the site is 10 acres 06 Guntas.

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 soil sample collected from 1.5 m depth by the client was brought to the Lab for testing.

The soil is classified as silty morum.

No water is reported in the Trial 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 the soil is silty gravel. It is designated as GM as per IS: 1498.

Isolated foundations are recommended. Correction is not needed for WT.

Appendix gives the calculations for SBC.

5. RECOMMENDATIONS

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

a) The soil sample tested consists of silty morum.

b) No water is reported in the trial pit.

c) SBC is tentatively recommended as 25 tonnes per sq m for foundations resting on morum. This is based on the assumption of isolated footings of width 2 m at 2 m depth. The actual size would be based on the loads from the super structure.

d) This recommendation is valid only for the sample tested. Detailed investigation is recommended.

e) SBC will be finalized later after detailed investigation.

f) All foundations should be carried to hard strata.

g) All foundation pits should be filled back with well-compacted morum.

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PROPOSED BUILDINGSAT RAMPALLY (V), KEESARA (M), R. R. DISTRICT

TABLE-1: SUMMARY OF SOIL PROPERTIES

Property	Location
	TP 1
Specific gravity	2.66
Density, KN / cu m	18.7
Grain size distribution	
Gravel > 4.75 mm	16
Coarse sand, 4.75-2 mm	21
Medium sand, 2-0.425 mm	18
Fine sand, 0.425-0.075 mm	24
Silt, 0.075-0.002 mm + Clay, < 0.002 mm	21
Shear Parameters	
Cohesion	15
Angle of internal friction, deg	32

APPENDIX: CALCULATION OF BEARING CAPACITY

Assumed width of foundation... 2 m

Assumed depth of foundation... 2 m

Unit wt. = 18.7 KN / cu m

Cohesion = 15 KN / sq m (Neglected) Angle of internal friction = 32 deg.

No correction is needed for water table.

Using IS Code 6403 – 1981 formula:

Nc = 27.30 Nq = 16.55 Nr = 20.54

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

= 888.85 KN per sq m

With a F.S. of 3.0, SBC = 296 KN per sq m

Recommended Safe Bearing Capacity is 25 tonnes per sq m.

SBC will be finalized after detailed investigations.

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(Expert Geotechnical Consultants for Soil / Rock / Water Investigations)

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Groundwater Feasibility Report

Client: M/s Modi & Modi Constructions & M/s Nilgiri Estates, rep. by Sri Soham Modi
Address: Sy. Nos. 75, 77, 78, 79, 96 & 100/2, Rampally (V), Keesara Mandal, R. R. District
Total Area: 10 ac. 06 gts.

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: Schluemberger
(c) Generalised Sequence based on VES:

0 – 5.0 m ... Top soil
5.0 – 20 m ... Weathered zone
20 – 70 m ... Rock with intermittent fractures
70 – 160 m ... Hard Rock with minor fractures
Below 160 m ... Hard rock with no fractures

3. Recommendations:

1. The site has moderate potential for groundwater. One point is tentatively suggested for drilling in N-E Corner.
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.

(Dr. N. Venkat Rao)

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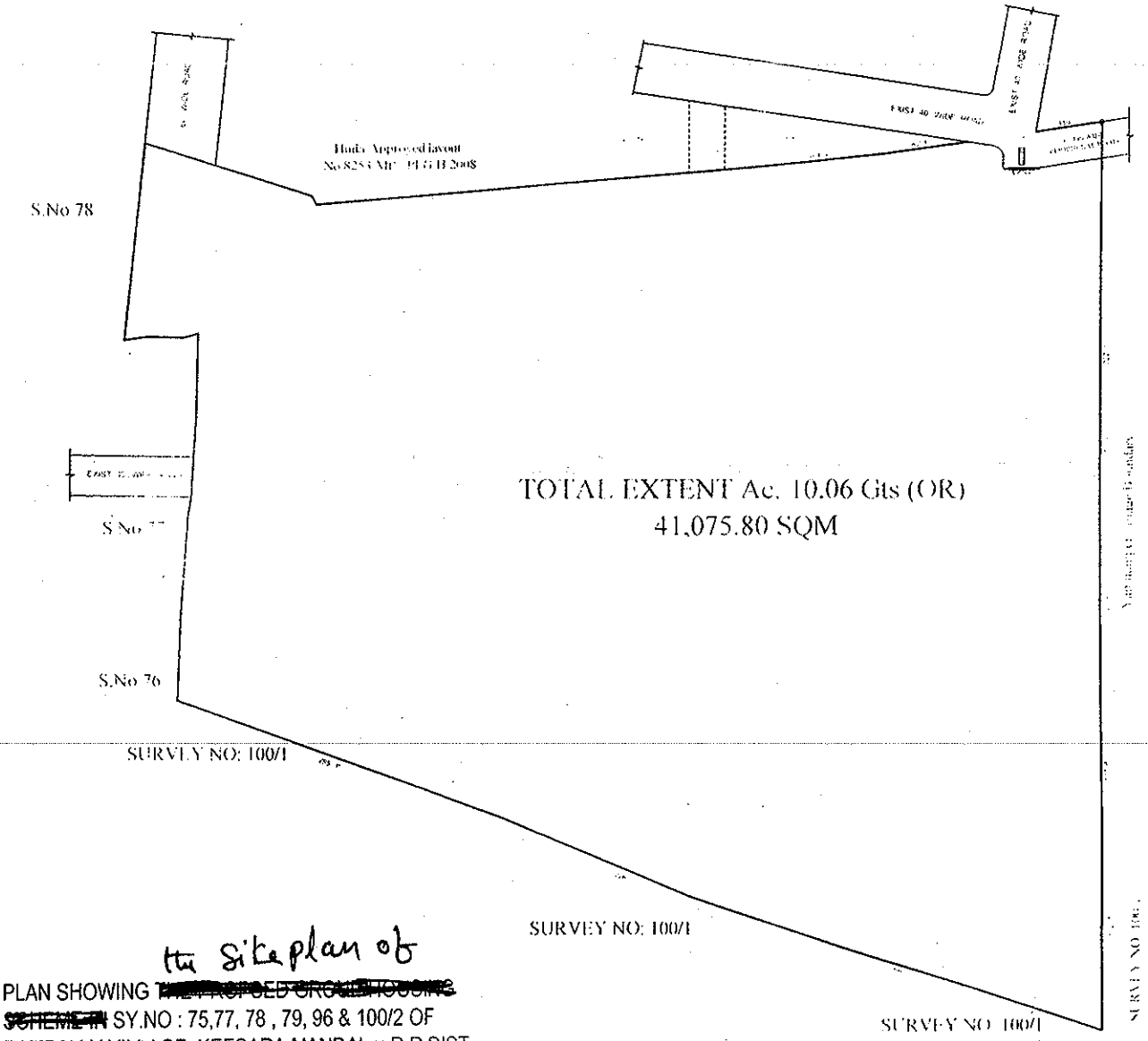

For Soil Testing Report

the Site plan of

PLAN SHOWING ~~THE PROPOSED CRICKET TOURNAMENT~~
~~SCHEME IN~~ SY.NO : 75,77, 78 , 79, 96 & 100/2 OF
RAMPALLY VILLAGE, KEESARA MANDAL , R.R DIST.
BELONGING TO
M/s. MODI & MODI CONSTRUCTIONS &
M/s. NILGIRI ESTATES.
BOTH REPRESENTED BY ITS MANAGING PARTNER :
SRI. SOHAM MODI S/O SRI. SATISH MODI

Ext. Ac. 10-06 gts

vitro labs

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Phone : 040-27421389, Fax: 040-27423532, E-mail: labsvitro@yahoo.com,
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(Recognized by the Ministry of Environment & Forest, GOI)

AN ISO 9001-2000 CERTIFIED COMPANY

TEST CERTIFICATE

Our Ref:	**VL/A2609-001/11**	**Issued To:**
Reporting Date:	**27.09.2011**	**M/S. MODI & MODI CONSTRUCTIONS & NILGIRI ESTATES.,**
Collected On:	**26.09.2011**	**S.Y No:75,77,78,79,96 & 100/2,**
Sample Particulars:	**Bore Water**	**Rampally Village,**
		Kasara Mandal,
		R.R Dist.

TEST RESULTS

S.No	Physical Parameters	Units	Result	Desirable Portable Limits as per IS: 10500
01	pH	--	**7.17**	6.50-8.50
02	Electrical Conductivity	µ. Mhos/cm	**1839**	--
	Chemical Parameters			
03	Dissolved Solids	mg/l	**1140**	<500
04	Total Hardness as $CaCO_3$	mg/l	**320**	<300
05	Alkalinity to Phenolphthalein as $CaCO_3$	mg/l	**Nil**	Not Specified
06	Alkalinity to methyl orange as $CaCO_3$	mg/l	**500**	<200
07	Non-Carbonate hardness as $CaCO_3$	mg/l	**Nil**	Not Specified
08	Calcium as $CaCO_3$	mg/l	**144**	<187
09	Magnesium as $CaCO_3$	mg/l	**176**	<123
10	Sodium as $CaCO_3$	mg/l	**596**	Not Specified
11	Potassium as $CaCO_3$	mg/l	**03**	Not Specified
12	Chloride as $CaCO_3$	mg/l	**305**	<352
13	Sulphate as $CaCO_3$	mg/l	**113**	<208
14	Nitrate as $CaCO_3$	mg/l	**02**	<36
15	Fluoride as F	mg/l	**0.85**	<1.00
16	Total Silica as SiO_2	mg/l	**16.48**	Not Specified
17	Iron as Fe	mg/l	**0.0125**	<0.3
18	Colour	(Hazen)	**Colorless**	<5.0/Colourless
19	Turbidity	(NTU)	**1.40**	<5.0

Note: The limits are applicable for Drinking Water Only.

Authorised Signatory