

Report on
The Geotechnical Investigation for the Proposed Construction of
Residential Building in T.S. No: 58/3PT, Block No: 82 at Ward Al-
Singanallur, Coimbatore South Taluk, Coimbatore District.

CLIENT:

Mrs. Bhavani Muppalmanni,
Lakshmi Garden,
Chandragandhi Nagar,
Coimbatore.

Project Code: 032529
25 March 2025



GEOCARE ENGINEERING CONSULTANCY

(An ISO 9001:2015 Certified Company)

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**GEOTECHNICAL INVESTIGATION BY STANDARD PENETRATION
TEST (SPT)**

Client Name	Mrs. Bhavani Muppalmanni
Client Address	Ground Floor - B, Lakshmi Garden, Chandragandhi Nagar, Sowripalayam Post, Coimbatore South, Coimbatore – 641 028.
Project	Proposed Construction of Residential Building
Site Address	T.S. No: 58/3PT, Block No: 82, Ward AI-Singanallur, Coimbatore South Taluk, Coimbatore District – 641 005.
Date of field test	22 nd March 2025

Field test conducted by	S. Mani, B.E
Report Prepared by	R. Suresh, B.E
Report Verified by	R. Sathishkumar, M.E (Geotech) / S. Prabhavathi, M.E (Geotech)
Report Approved by	R. Sathishkumar, M.E (Geotech)

**GEOTECHNICAL INVESTIGATION FOR THE PROPOSED CONSTRUCTION OF
RESIDENTIAL BUILDING IN T.S. NO: 58/3PT, BLOCK NO: 82 AT WARD AI-
SINGANALLUR, COIMBATORE SOUTH TALUK, COIMBATORE DISTRICT.****INTRODUCTION**

Mrs. Bhavani Muppalmanni, proposes to a Residential Building in T.S. No: 58/3PT, Block No: 82 at Ward AI-Singanallur, Coimbatore South Taluk, Coimbatore District. In order to enable an adequate and economic design the Geotechnical Investigation was assigned to M/s. GEOCARE Engineering Consultancy, Coimbatore in view to furnish the detailed technical information of the nature of subsoil strata for detail analysis and foundation designs.

SAMPLING METHODOLOGY

To study the subsoil strata at the proposed location 01 no. of 5' x 5' (approx.) size pit were excavated at specified location based on client's suggestion to carry out the Standard Penetration Test (SPT).

STANDARD PENETRATION TEST

Standard Penetration Test (SPT), which is done to determine penetration resistance was conducted in the trial pit using the procedure as described in IS: 2131. In this method, split spoon sampler (50.8mm OD and 35mm ID) is driven by dropping 63.5kg weight with a free fall of 75cm. The length of the sampler is 60cm. The sampler is first driven through 15cm as a "seating drive ". It is further driven through 30cm. The number of blows required for drilling the sampler for next 30 cm beyond seating drive is termed as "penetration resistance," N".

The samples thus recovered were transported to the laboratory for further investigation if necessary.

SOIL PROFILE AND STRATA

Based on the visual inspection carried out at the site, the subsoil strata at TP1 consists of Clay up to a depth of about 0.80m below existing ground level (EGL), followed by Clayey Gravel up to a depth of about 1.30m, Sandy Gravel up to a depth of about 1.50m and underlain by Very Soft Rock (VSR) at explored depth.

Stratum I	:	Clay
Stratum II	:	Clayey Gravel
Stratum III	:	Sandy Gravel
Stratum IV	:	Very Soft Rock (VSR)

Trial Pit No.	Strata depth in m			
	Stratum I	Stratum II	Stratum III	Stratum IV
TP1	0.0 – 0.80	0.80 – 1.30	1.30 – 1.50	1.50m and above

NET SAFE BEARING CAPACITY/ALLOWABLE BEARING PRESSURES

The N Values from SPT at respective depths are given below. Bearing capacity has been determined based on N Value. Recommendations are provided at depth of **1.50m**.

Table-1 Allowable Safe Bearing Capacity				
Trial Pit No.	Depth Below EGL (m)	Type of Strata	N Value	SBC (kN/m ²)
				B=1.5m
TP1	1.50	VSR	>50	305

CONCLUSION & RECOMMENDATION

- The subsoil consists of Clay followed by Clayey Gravel, Sandy Gravel and underlain by VSR at explored depth.
- Based on the investigation on the subsoil profile, open foundation of **isolated / combined footing** with tie beam is recommended.
- The recommended depth of foundation is **1.50m** below EGL with an SBC of **305kN/m²** for a footing width of **1.50m**.
- Over-excavation and loosening of strata at the founding level shall be avoided. Same if done shall be replaced by lean concrete.
- Prior to laying PCC, all loose soil in the foundation shall be removed and the base should be thoroughly compacted.

- It is recommended that the back filling in the foundation should be carried out with proper compaction.
- If there is any profile variation or to get the subsoil profile up to the desired depth rotary drilling method may be adopted.
- Recommendations given are based on the assumption that same strata or harder strata extends below the explored depth.
- Interpretations are provided based on factual field results & shall be applicable for investigated locations. There is a possibility that strata variations could occur. If any variations indicate significant deviation from the findings of this report, same shall be brought to our notice.

For

GEOCARE ENGINEERING CONSULTANCY

Authorized Signatory

11°00'25.7"N 77°03'10.2"E

A satellite map showing a dense residential area with numerous small buildings and houses. A red dot is placed on a road or open space in the center of the map. The map includes street names and various landmarks. The coordinates 11°00'25.7"N 77°03'10.2"E are displayed at the top.

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PHOTOGRAPHS SHOWING FIELD INVESTIGATION



Trial Pit - 01