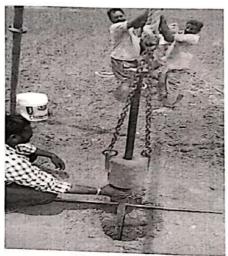
GEO-TECHNICAL INVESTIGATION REPORT



Project

Construction of MURALI TOWNSHIP

Location

Sy.No.532, 533, 534 & 539, Ongole-Inkollu road, NAGULUPPALAPADU(V&M), Prakasam Dt.

May - 2025

MNR Developers M/D-Sri Manne Narasimha Rao s/o Rangaiah ONGOLE

CONSULTANT

SRI MASTER'S

Sri Master's Geo-Tech Consultants

(An ISO 9001-2015 Certified Unit) #20-6-67, Pandaripuram 2nd Line, Anjaiah Road, ONGOLE, Ph.9963195255, e-mail: vundavalliogl@gmail.com

BRIEF GEOTECHNICAL INVESTIGATION REPORT

S. N.	DESCRIPTION	RESULTS				
1.	Name of Project	Construction of MURALI TOWNSHIP				
2.	Location	Ongole-Inkollu road, NAGULUPPALAPADU(V&M), Prakasam Dt.				
3.	Area of plot					
4.	No. of Boreholes	3				

Findings of the investigation

5. 5.1 - Sub soil Strata

Burn		581 585-265	Shear Par	rameters	
BH No.	Subsoil Layers	Soil Type	Cohesion 'c' in t/m ²	Angle of Friction '\p'	
BH-1 @	Layer – 1 (0.0m to 2.5m)	Medium Clay (CI)	4.5 - 5.0	- 0-5°	
Sy.No 539	Layer – 2 (2.5m to 6.0m)	Clayey Gravel(GC)	3.0 – 4.0	25-280	
B	Layer - 1 (0.0m to 2.5m)	Medium Clay (CI)	2.0 - 3.0	0-50	
BH-2 @	Layer – 2 (2.5m to 3.5m)	Clayey Gravel(GC)	3.0 – 4.0	26-280	
Sy.No 534	Layer – 3 (3.5m to 4.5m)	Clayey Sand (SC)	1.0 – 1.5	25-280	
	Layer – 4 (4.5m to 6.0m)	Stiff Clay (CI)	8.0 - 10.0	10-120	
BH-3 @	Layer – 1 (0.0m to 2.5m)	Medium Clay (CI)	4.0 - 5.0	4-60	
Sy.No	Layer - 2 (2.5m to 3.5m)	Stiff Clay with Pebbles (CI)	9.0 – 11.0	_ 10-120	
532,533	Layer – 3 (3.5m to 6.0m)	Clayey Gravel(GC)	2.5 – 4.0	22-250	

5.2 - SPT values at different depths

Depth Below	BH-1	BH-2	BH-3
EGL	Nr	Nr	Nr
1.50 m	8	5	6
3.00 m	30	45	30
4.50 m	50	32	35
6.00 m	78	38	54

5.3 - Water Table:

6. Water table was observed at 3.0m depth below the existing ground level in all the bore holes.
Recommendations:

6.1 Type of Foundation : ISOLATED FOUNDATION

Founding Level Below EGL	Size of Footing	Type of Foundation	q net safe (t/m²)
1.5m	1.5mx1.5m	Isolated Square	6.0
2.0m	1.5mx1.5m	Isolated Square	10.0
<u>2.5m</u>	1.5mx1.5m	Isolated Square	1500000
3.0m	1.5mx1.5m		<u>15.0</u>
OLIDI E LINDED DE	ווופיו אווופיו	Isolated Square	25.0

6.2 DOUBLE UNDER REAMED PILES

Dia. of Pile	Length of Pile Below EGL	Safe Axial Load Carrying Capacity (t)
380 mm	5.0 m	20 Tonnes
450 mm	5.0 m	32 Tonnes
600 mm	5.0 m	55 Tonnes

1.0 INTRODUCTION

1.1 **Project Description**

Sri Manne Narasimha Rao s/o Rangaiah, requested M/S Sri Master's Geo-tech Consultants, Ongole to conduct the necessary sub-soil investigation and to recommend suitable foundation for their proposed work "Construction of MURALI TOWN SHIP at NAGULUPPALAPADU (V&M) in Prakasam Dt.".

We have carried out the investigations and testing accordingly and our report for this project is submitted below.

1.2 Object of Investigations

To establish the parameters for the foundation design of the structure, various properties and parameters regarding the subsoil at site are required. These parameters are achieved through geo-technical investigations viz. soil profile, engineering properties & physical characteristics of the soil strata, variation in strength of soil strata etc. and can be elaborated as below:

- Sub-surface conditions which will reflect the thickness of the different soil
- Depth of ground water table
- Safe bearing capacity of the soil which will need the determination of various engineering properties of the soil strata at different levels
- Depth of the foundations
- Suitable type of foundations
- Requirement of any treatment needed to enhance the engineering properties of the soil beneath the footing

1.3 Scope of Investigations

For achieving the aforesaid objectives, the scope of work, as finalized by the consultant includes:

- 1. Excavating THREE bore holes up to 6.0m depth below existing ground surface in subsoil or refusal whichever is encountered earlier on the site at locations specified by the consultant.
- 2. Conducting Standard Penetration Tests (S. P. T.) at 1.5 m depth interval.
- 3. Extracting disturbed & undisturbed soil sample at different depth interval.
- 4. Observing ground water table after a stabilization period of 24 hours.
- 5. Conducting laboratory tests on disturbed and undisturbed soil samples collected during the subsurface exploration.
- 6. Compiling and submitting report in TWO copies, containing field and laboratory tests results and suggestion & recommendations regarding type & depth of foundations and allowable load bearing capacity of soil and other desired parameters at various depths.

1.4 Organization of Report

This report has been primarily designed to explain the whole study in a systematic way, keeping in view the various demands of designers as well as the client. Each investigation is backed by its theoretical base and the results obtained either during the field tests or in laboratory are presented herein this report in self-explanatory tabular and/or graphical form. Calculations are shown wherever necessary before incorporating any parameter in the recommendations.

The chapter 'Introduction' describes the details of the project and various contents of this study. 'Site Reconnaissance' provides the general information regarding the site conditions, weather of the region, topography and the geology of the area. Details of various field and laboratory tests are given in the following two chapters. Findings obtained during these tests are summarized in the next chapter. 'Foundation Analysis' is an important chapter dealing with all design calculations required for the foundation selection and design. Recommendations are finalized in the concluding chapter.

Various table, figures and graphs are given in the annexure in quite an explanatory mode.

A list of Indian Standard (IS) Codes, which are referred throughout the study, is also attached at the end of this report.

2.0 SITE RECONNAISSANCE

2.1 General Geology of the Area

The present site is located at <u>NAGULUPPALAPADU(V&M)</u> in Prakasam Dt.. The strata of this area comprise of <u>Clayey soll up to 2.5m depth and Clayey</u> <u>Gravel beyond 2.5m depth.</u>

2.2 General Weather

The available data about the weather and average rainfall and location of the site indicate that there may be variation in the ground water to affect the proposed structure and its foundation system. Hence, submerged condition is considered for foundation analysis.

2.3 Site Description

The proposed project is going to have structures with founding level at 2.5m depth below EGL.

Hence In this report, foundation proposal has been made at founding level of 2.5m depth below EGL.

4(A)=

3.0 FIELD INVESTIGATION

3.1 Introduction

For achieving various soil parameters, Field Investigations are carried out at site. Field Investigation comprises site reconnaissance, detailed exploration including extensive boring program and conducting specified field tests viz. Standard Penetration Test.

3.2 Subsurface Exploration

Subsurface Exploration was carried on 7th May 2025 by using suitable boring method. Three boreholes were excavated in the site as per location specified by the client. Soil strata are same in all the bore holes.

3.3 Standard Penetration Test

Standard Penetration Test conducted by means of the split spoon sampler furnishes data about resistance of the soils to penetration, which can be used to evaluate standard strength data, such as N values (number of blows per 30 cm of penetration using standard split spoon) of the soil.

Standard Penetration Tests were conducted in the boreholes at 1.5 m interval as per the provisions of IS 2131:1981. The tests were conducted by means of the split spoon sampler conforming to IS 9640:1980. If N values exceed 50 for 15cm penetration at any depth, it is taken as refusal depth and the bore-hole shall be terminated.

3.4 Ground Water Conditions

Ground water table was observed at 3.0m depth in all the bore holes. (may be seepage)

4.0 LABORATORY INVESTIGATIONS

The laboratory tests to determine the physical properties, the engineering properties and the engineering characteristics of the soil were conducted in accordance with IS 2720. The tests performed are as follows.

4.1 Bulk Density and Natural Moisture Content

Undisturbed samples were collected from the boreholes in thin wall steel sample tubes by taking the dimensions and weight of these sample tubes, the bulk density of the soil is determined. Moisture content of the soil has been calculated by Oven Drying Method.

4.2 Grain Size Analysis

Grain size distribution of the soil is determined by sieving the soil sample in a set of IS sieves: 4.75 mm, 2 mm, 1 mm, 0.5 mm, 0.25 mm, 0.125 mm, 0.075 mm size. Grain Size Analysis curve has been plotted and attached in the appendices of this report for the soil samples collected from various depths of bore-holes.

4.3 Atterberg Limits

Atterberg Limits in the form of liquid limit, plastic limit and shrinkage limit are determined for the soil to establish its consistency. In the case of cohesionless soil, plastic limit is first determined and if it cannot be determined the soil sample is reported to be non-plastic.

4.4 Specific Gravity

Specific Gravity of the soil has been determined by Specific Gravity Bottle.

4.5 Direct Shear Test

Direct Shear Test is a strength test, which is performed on the soil sample to determine the value of angle of internal friction.

The direct shear test is generally conducted on cohesion less soil as consolidated drained (CD) test. In the present case the soil samples were prepared for various depths and were tested in the Direct Shear Apparatus under CD- condition.

4.6 Triaxial Shear Test

Triaxial Shear Test is a strength test, which is performed on the soil sample to determine the value of cohesion and angle of internal friction. Test samples are prepared from undisturbed samples and are tested in the Triaxial Apparatus.

Summary of Laboratory Tests results for all boreholes is shown in tabular form and the same is presented in the appendices of this report.

5.0 FINDINGS OF INVESTIGATIONS

Based on various field and laboratory tests, following findings are observed:

1. The general grain size distribution pattern in the bore-hole has been observed as following:

DUNA	0.1. 11.	MONEY YAMSTAD	Shear Parameters		
BH No.			Cohesion 'c' in t/m²	Angle of Friction '\phi'	
BH-1 @	Layer – 1 (0.0m to 2.5m)	Medium Clay (CI)	4.5 - 5.0	0-50	
Sy.No 539	Layer - 2 (2.5m to 6.0m)	Clayey Gravel(GC)	3.0 – 4.0	25-280	
	Layer - 1 (0.0m to 2.5m)	Medium Clay (CI)	2.0 - 3.0	0-50	
BH-2@	Layer - 2 (2.5m to 3.5m)	Clayey Gravel(GC)	3.0 – 4.0	26-280	
Sy.No 534	Layer - 3 (3.5m to 4.5m)	Clayey Sand (SC)	1.0 – 1.5	25-280	
	Layer - 4 (4.5m to 6.0m)	Stiff Clay (CI)	8.0 – 10.0	10-120	
BH-3 @	Layer - 1 (0.0m to 2.5m)	Medium Clay (CI)	4.0 - 5.0	4-60	
Sy.No	Layer - 2 (2.5m to 3.5m)	Stiff Clay with Pebbles (CI)	9.0 – 11.0	10-120	
532,533	Layer – 3 (3.5m to 6.0m)	Clayey Gravel(GC)	2.5 – 4.0	22-250	

2. Standard Penetration Test (SPT) results show the following pattern in bore hole in different depth range:

Depth Below	BH-1	BH-2	BH-3
EGL	Nr	Nr	Nr
1.50 m	8	5	6
3.00 m	30	45	30
4.50 m	50	32	35
6.00 m	78	38	54

- 3. Ground water table was observed at 3.0m depth below the e.g.l (may be seepage)
- 4. The variation of bulk density, natural moisture content and dry density for various depth ranges is found to follow the following pattern:

BH No.	Bulk Density gm/cc	Natural Moisture Content (%)	Dry Density gm/cc
BH-1	1.70-1.85	12-24 %	, many gillion
	1.70-1.00	12-24 %	1.40 - 1.65

6.0 FOUNDATION ANALYSIS

6.1 Foundation Type

A Foundation is required for distributing the loads of the superstructure on a larger ground area. The dead and live load of the proposed structure are to be transferred to the underlying supporting soil through suitable foundation.

Foundation may be broadly classified into two categories: i) Shallow Foundation and ii) Deep Foundation.

6.2 Shallow Foundation

Shallow foundation transmits the loads to the strata at shallow depth. A shallow foundation is one the width of which is greater than its depth. Shallow Foundations are located just below the lowest part of the wall or a column, which they support.

6.3 Deep Foundation

When the soil at or near the ground surface is not capable of supporting a structure, deep foundations are required to transfer the loads to deeper strata. Deep foundations are, therefore, used when surface soil is unsuitable for shallow foundation, and a firm stratum is so deep that it cannot be reached economically by shallow foundations. The most common types of deep foundations are piles, wells and caissons.

6.4 Selection of Foundation

Selection of suitable type of foundation for the proposed structure depends upon the (i) intensity & type of loading to be transferred from the superstructure and (ii) the properties & behavior of sub soil.

In the present case, the proposed residential building is likely to transfer normal load on the subsoil. The bearing capacity of the natural subsoil herein at required depth is adequate enough to bear the expected moderate load of the proposed structures. Hence, **shallow foundation** can be considered as the right solution for this project.

6.5 Determination of Bearing Capacity for the Shallow Foundations

Bearing capacity of soil for foundation has been calculated in accordance with IS: 6403 –1981. Here Allowable bearing pressure has been evaluated by: (a) Shear Failure criterion and (b) Settlement criterion taking SPT values.

(a) Shear Failure criterion

$$\begin{array}{lll} q_a = & \frac{1}{F} \left[c \; N_c \, S_c \, d_c \, I_c + \gamma \; D_I \, (Nq-1) Sq \; dq \; Iq + 0.5 \; \gamma B N_\gamma S_\gamma d_\gamma I_\gamma W' \right] \\ F & = & \text{Allowable Bearing Capacity} \\ F & = & \text{Factor of safety, taken equal to 3.0 as per IS: 1904} \\ c & = & \text{Cohesion} \\ \gamma & = & \text{Unit weight of soil} \\ W' & = & \text{Water table correction factor} \\ D_f & = & \text{Depth of foundation} \\ B & = & \text{Width of foundation} \\ N_c, Nq, N_\gamma & = & \text{Bearing Capacity factors} \\ S_c, Sq, S_\gamma & = & \text{Shape Factors} \\ d_c, dq, d_\gamma & = & \text{Depth Factor} \\ i_c, iq, i_\gamma & = & \text{Inclination Factor} \\ \end{array}$$

For various values of Df & B, calculations are done and the values for net safe bearing capacity have been obtained.

7.0 RECOMMENDATIONS

In view of these findings & results obtained during the field and laboratory investigations and the analysis carried out thereafter, following general recommendations are being made for the foundation design of building.

The type of foundation depends upon the configuration of loading & loading 1. intensity as well as characteristics & behavior of subsoil. Considering the type of loading and based on various findings of the subsoil, in the present case, the type of foundation can be adopted as **SHALLOW FOUNDATION**.

Allowable Bearing Capacity shall be adopted corresponding to various 2.

parameters as following.

Founding Level Below EGL	Type of Foundation	Size of Footing	q net safe (t/m²)
1.5m	Isolated Square	1.5mx1.5m	6.0
2.0m	Isolated Square	1.5mx1.5m	~40.0
<u>2.5m</u>	Isolated Square	1.5mx1.5m	15.0
3.0m	Isolated Square	1.5mx1.5m	25.0

The safe load carrying capacity of the piles have been calculated and 3. Recommended values are as following.

Diameter of Pile (mm)	Length of Pile Below EGL	Safe Axial Load Carrying Capacity (t)
380 mm	5.0 m	20 Tonnes
450 mm	5.0 m	32 Tonnes
450 mm	5.0 m	55 Tonnes

The diameter of bulb (Du) should be 2.5 times the diameter of pile. The 4. spacing of bulbs should be 1.5 times the diameter of bulb. The first bulb must be located at 2D_u minimum or 1.75m below the ground level.

For Sri Master's Geo-Tech Consultants

Date: 14-05-2025

Place: Ongole

Authorized Signatory Sri Master's Geotech Consultants Anjaiah Road, ONGOLE-523 002.

Annexure- A **Bearing Capacity Calculations**

ANNEXURE-A Bearing Capacity calculations (as per IS:6403-1981)

Shear Failure Criterion :

Founding le	evel below EGL	= 2.5m	
Average Bul	k density [t/m³]	=1.82	
Average Dry	density [t/m³]	=1.48	
C [t/m²]		= 4.0	
φ[in degree]		= 250	
	dth of foundation	= 1.5m	
W'		=0.5	
$\phi = 25^{\circ}$	\Rightarrow Nc =14.83	Nq =6.40	Ny =5.39

Founding Level below EGL	Depth of Foundation	Type of Foundation	Sc	Sq	Sy	dc		q net safe in t/m²
2.5m	2.5m	Isolated Square	1.3	1.2	0.8	1.200	1.100	15.54

The values of bearing capacity factors Nc, Nq and Ny have been arrived at from table 1 of IS: 6403-1981.

The depth factors dc, dq and d γ have been calculated as per clause 5.1.2.2 of IS:6403-

The Shape factors Sc, Sq, Sy have taken from clause 5.1.2.1 of IS: 6403-1981.

ANNEXURE-A Bearing Capacity calculations (as per IS:6403-1981)

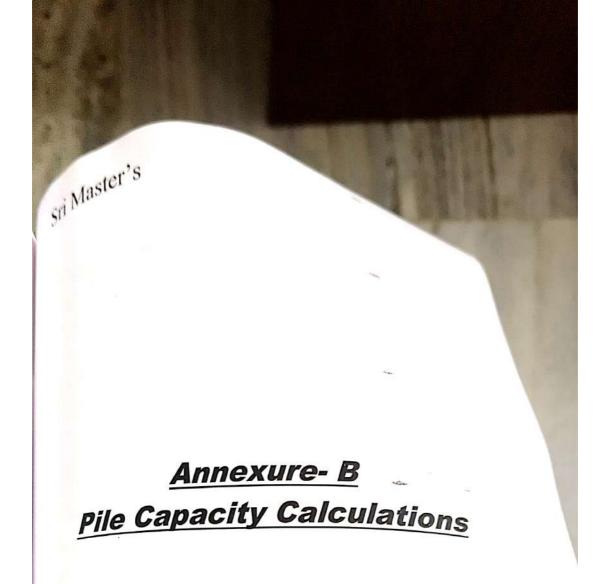
Shear Failure Criterion :

Founding level below EGL Founding level below EGL Average Bulk density [t/m³] Average Dry density [t/m³] C [t/m²]	=1 =1 = 4 = 2						coreo.
φ[in degree] Assumed width of foundation	=0. Ng	5 =6.40)	Ny	=5.39		•
$W' \Rightarrow Nc = 14.83$ $\phi = 25^{\circ}$	Type of	Sc	Sq	Sy	dc	dq = dy	q net safe in t/m ²
Founding Level Foundation	Foundation Isolated	1.3	1.2	0.8	1.200	1.100	15.54

The values of bearing capacity factors Nc, Nq and Nγ have been arrived at from table 1

The depth factors dc, dq and d γ have been calculated as per clause 5.1.2.2 of IS:6403-

The Shape factors Sc, Sq, Sy have taken from clause 5.1.2.1 of IS: 6403-1981.





ANNEXURE-B

 $= A_p, \ N_c.Cp + A_nN_c\,C_a^{l} + C_n^{l}A_s^{l} + \alpha C_aA_s$ Q_{u}

Where Qu= Ultimate bearing capacity of pile

Cross sectional area of pile toe =

Bearing capacity factor usually taken as 9 Ap Nc

Average cohesion at pile tip = 3.0 T/m² =

 $\pi/4$ (D_u^2 - D^2), where D_u and D are bulb and stem diameters respectively Cp = A_a

average cohesion of soil around the under reamed bulbs = 4.0 T/m² =

Reduction factor (usually taken as 0.5 for clays) C_{a}^{I} = α

Average cohesion of soil along the pile stem = 4.0 T/m² = Ca

= A_s

Surface area of the cylinder circumscribing the under reamed bulbs

The safe load carrying capacity of the piles has been calculated as above-and the recommended values are as following:

Are soulou bet	as jollowing.	· · ·
mmended values are Diameter of Pile	Length of Pile Below EGL	Safe Axial Load Carrying Capacity (t)
(mm)		20 Tonnes
380 mm	5.0 m	32 Tonnes
450 mm	5.0 m	55 Tonnes
600 mm	5.0 m	ncludes end bearing

Note: The above pile capacities includes end bearing resistance also.





Annexure-C List of Referred IS Codes



ANNEXURE-C LIST OF REFERRED IS CODES

Field Investigation

- Classification and identification of soils for general 1. IS: 1948-1970 engineering purposes (first revision) Amendment 2
- Code of practice for sub surface investigations for 2. IS: 1892-1979 foundations
- Method of standard penetration tests for solls 3. IS : 2131-1981
- Code of practice for thin walled tube sampling of soils 4. IS: 2132-1986

Laboratory tests

- Methods of tests for soils: Preparation of IS: 2720-1983 (Part 1) 1. dry soil samples for various tests (second revision)
- Methods of test for soils: Determination of 2720-1980 (Part-2) 2. water content (second revision) Amendment 1
- Method of test for soil : Determination of 2720-1980 (Part-3/Sec 1) 3. specific gravity: Fine grained soils
- Method of test for soil: Determination of specific gravity : Fine , medium & coarse grained soils.(First revision) 2720-1980 (Part-3/Sec 2) 4.
- Methods of test for soils: Grain size 2720-1985 (Part-4) IS: 5. analysis (Second revision)
- Methods of test for soils: Determination of 2720-1985 (Part-6) IS: 6. liquid and plastic limit (Second revision)

Foundation construction

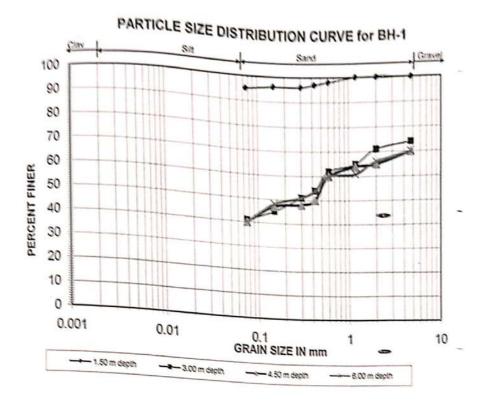
- Code of practice for design and construction of 1904-1986 foundation in soils : General requirements (Third revision) 1.
- Code of practice for determination of bearing capacity of 6403-1981 2. shallow foundations
- 8009-1976 (Part-1) Code of practice for calculation of settlements of foundations: Shallow foundations subjected to symmetrical static vertical 3. loads (Amendment 2) 1110



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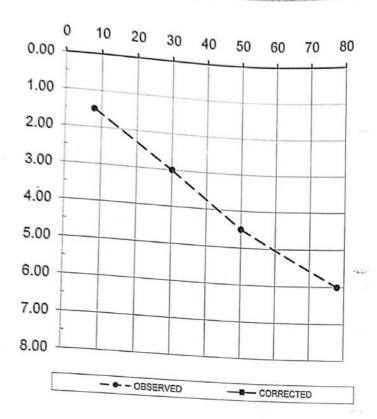
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SRI MASTER'S



SRI MASTER'S

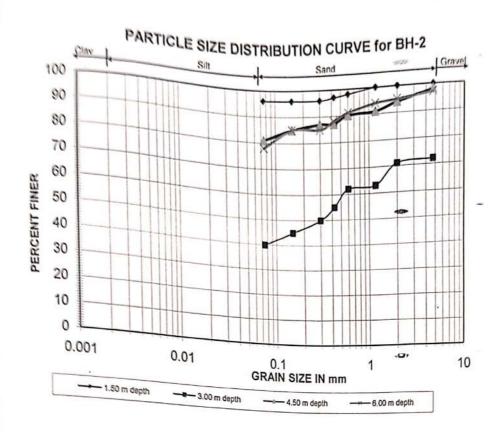
VARIATION OF SPT 'N' WITH DEPTH for B.H.No.- 1



Details of BH-2

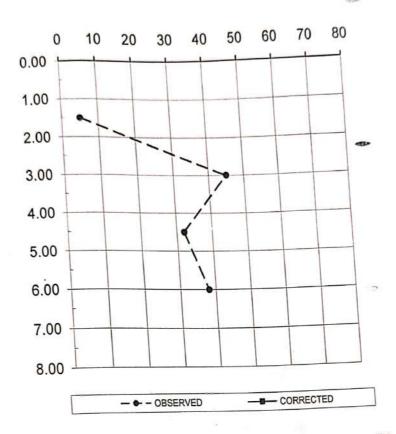
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E TEST HTGAG	TEST HTP30	TEST HTGEO	TE3T HT730	123T HT430	1831 HT930			-	-	2		n	Gr.	,	,
							25 M	gs	1.0 M		1.0 M	dS	1.5 M	d.	;
: HAND AUGER : NIL : 50 m b.g.! : 50 m b.g.!	SOIL CLASS.				***************************************		ō		9		S		5		VIIIIIIIII
APTION SOIL	SOIL SATA	ISCRIPTION OF SOIL STRATA	ISCRIPTION OF SOIL STRATA	DISCRIPTION OF SOIL STRATA	STRATA		MEDIUM CLAY		CLAYEY		CLAYEY SAND		STIFF CLAY		
METHOD OF BORING CASING TYPE & DEPTH WATER TABLE DEPTH OF BORING E DISCI E TH OF BORING OF STI	CASING TYPE & L WATER TABLE DEPTH OF BORIN E E E E E E E E E E E E E E E E E E E	WATER TABLE DEPTH OF BORIN E.	DEPTH OF BORIN	(m)HT430	DEF		1.0	2.0	3.0	,	0.4	5.0	6.0		

	RENIMBRS			_			_				
Table Mo.4	SHEAR	ANGLE of FRICTION			0		88		10	4-00	
12	drd	COHESION ,C. IN P.M.			3.00		250		8.00		
_	YIIVW	SPECIFIC GR			270		267		2.69		
	ITENT (%)	MOISTURE CON			24.10		14.80		22.40	, SERVICE	
	EmV ni Y	ORY DENSITY			1.43		1.59		1.49		
	^c m∖y ni Y	BULK DENSIT			1.78	35	1.83		1.82		
	CD	X30NI YTIDIT2AJ9			1 22		19 1		21 1		
	ATTERBERG LIMITS	(%) TIMIJ DIT&AJ9			23		20		25		: *
H-2		LIQUID LIMIT (%)			45		39		46		91
SOFB		SILT + CLAY (%)		8	96		40		81		82
RESUL.	GRAIN SIZE ANALYSIS	(%) GNAS			4		32 4		17 8	2	. 61
LABORATORY TEST RESULTS OF BH-2	0 1	GRAVEL (%)			0		28 3		2 1		
RATOR	a	regel		(**************************************						
LABOR	ION OF	TAIRORED TARTS		MEDIUM CLAY			GRAVEL	SANDY CLAY		STIFF CLAY	
	.UE 'N'	CORRECTED		2				75		is .	П
	SPT VALUE 'N'	OBSEBAED			5		45		32	0.20	38
	∃J4MAS	DEPTH OF			1.50-1.95		3.00-3.45		4.50-4.95		6.00-6.45
	PLE NO.	MA&\ 39YT			SPT		SPT 3		SPT 4.		SPT 6.0
	TOM GF	38 HT930	1.00		2.00	3.00		4.00	5.00	000	



RI MASTER'S

VARIATION OF SPT 'N' WITH DEPTH for B.H.No.- 2



RI MASTER'S

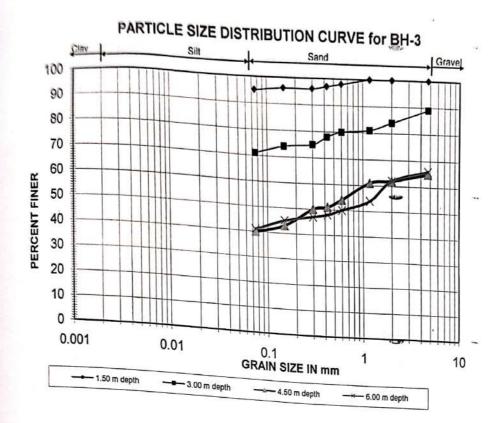
Details of BH-3

an 1

			FIELD B(FIELD BORELOG						Tab	Table No 5
METHOD OF BORING	: HAND AUGER	5200			BORE HOLE NO.		.3				
CASING TYPE & DEPTH	: NIL				LOCATION		Sy.No.532,533				
WATER TABLE	: 3.0m b.g.l				DATE OF START		: 07-05-2025				
DEPTH OF BORING	: 6.0 m b.g.l				DATE OF COMPLETION		: 07-05-2025				
	.ss.		VOIDT ATACTO		SAMPLES DETAILS	S		SPT BLOWS COUNTS	COUNIS		икг
DISCRIPTION OF SOIL	POIR CEN	13937	(m)	TYPE	'ON	TEST 0EPTH (m)	15	30	45	×	вем
0,1			n e n								
MEDIUM CLAY	5		E 67	SPT	-	1.50-1.95	2	ю	8	ω	
25											
3.0 STIFF CLAY WITH PEBBLES	ō		1.0 M	SPT	2	3.00-3.45	10	12	18	30	
4.0											
				SPT	8	4.50-4.95	12	15	20	35	_
S.U CLAYEY GRAVEL	9	٠٠٠	2.5 M	524		52-		•		d16+-	
. 0.0	12		1	SPT	4	6.00-6.45	14	22	. 32	3	

1	RENMAKS						_	,	_		
90	2.83	ANGLE OF FRICTION		e	,		10		53		
Table No.6	SHEAR PAPAMETERS	COHESION .C. IV AM,		15.5	3		3.00		4.00	ates	
	AIM	SPECIFIC GR		23			269		268		
1	(%)	MOISTURE COM		23	200		16.60		15.80		
	Errit ni Y	DRY DENSITY		143	?		22.		1.59		
	^c my ni Y	BNFK DENSIL		171			1.79		1.84	•	
	g	X30NI YTIDIT&AJ9		2	;		20		17		
	ATTERBERG LIMITS	(%) TIMI OTT SAJ9		23			20		21		ÿ
L		רופטום נואוד (%)		4			42		88	780	
	2 E	SILT + CLAY (%)		92			7		9		. 14
	GRAIN SIZE ANALYSIS	(%) GNAS		20			18		25		25
		GRAVEL (%)		0			11		35	20.	8
_	GN	393T									$\stackrel{L}{=}$
	∃O NO∏ AT.	DESCRIP STRA		MEDIUM CLAY		STIFF CLAY			CIAVEY	GRAVEL	9
	SPT VALUE 'N'	CORRECTED								15.541	
	SPT	03VR3280		9			30		35		54
	SAMPLE	90 HT430		1.50-1.95			3.00-3.45		4.50-4.95		6.00-6.45
-	NPLE NO.	(A2139YT		SPT			SPT 3		SPT 4.	42%:-	SPT 6.00
	FLOW GL	38 HT430	1.00	2.00	-	3.00		4.00	2.00		0.00 S

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MASTER'S

VARIATION OF SPT 'N' WITH DEPTH for B.H.No.- 3

