

REPORT ON  
**GEOTECHNICAL INVESTIGATIONS**

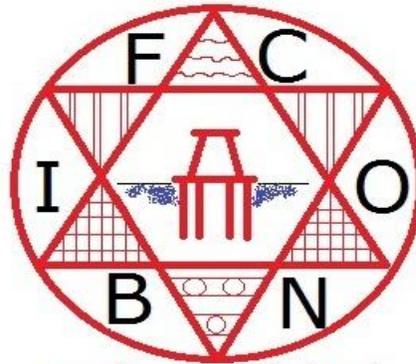
FOR THE PROPOSED

**N. S. Bose Residential Hostel for  
Secondary School, Jethua Daha,  
Block Mohanpur, Dist. Gaya**

Your Letter No.- BSEIDC/Tech/1960 (P)/2018-7919 Dated – 22.11.2021  
[SL. No. – 4]

Submitted to  
The Chief Engineer  
BSEIDC, Patna

December, 2021



तमसो मा ज्योतिर्गमय

**BIHAR FOUNDATION CONSULTANTS**

[A unit of Baidyanath Foundation Consultants Pvt. Ltd.]

Having an

**NABL Accredited / ISO 9001: 2015 Certified Laboratory**

Ganga Darshan Apartment, Flat No. 403.

**Patna – 10**

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**N. S. Bose Residential Hostel for Secondary School,  
Jethua Daha, Block Mohanpur, Dist. Gaya**



Bihar Foundation Consultants  
403, Ganga Darshan Apartment, Patna-10  
[A Unit : Baidyanath Foundation Consultants Pvt. Ltd.]

**PN - 211219**

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## 1. INTRODUCTION

The subsoil investigations reported herein were taken up (vide W.O. No. [BSEIDC/Tech/1960\(P\)/2018-7919 Dated – 22.11.2020 \[SL. No. 4\]](#) to find out the nature of subsoil at the site of the proposed construction and to recommend the capacity and type of its foundation. After certain tests on the soil, as detailed below, the desired recommendations have been made on **page 3-4** of this Report.

## 2. FIELD WORK

The fieldwork could not be started in June 2020 as the site was waterlogged. This was reported by us to the clients, who asked us to wait for further orders. We were telephonically informed by them in Nov. 2021 to start the work at a new site selected by them. We did accordingly.

The fieldwork consisted of sinking bore holes, collecting soil samples and conducting the necessary field tests.

### 2.1. Boring

Taking guidance from IS: 1892, 150 mm diameter bore holes were sunk at locations shown in the bore hole location map.

### 2.2 Sampling

#### 2.2.1 Undisturbed Soil Samples

Open drive samplers of 100-mm diameter and about 450-mm length were used for obtaining undisturbed samples of cohesive soils. The collection, sealing, labeling and transportation of the samples to the laboratory were done as per the IS guide-lines.

#### 2.2.2 Disturbed Soil Samples

Disturbed soil samples were collected at suitable intervals of depth (not more than 2.5 m) and at all depths of change in the nature of the subsoil. These samples were sealed in polythene bags with proper identification labels.

### 2.3 Field Tests

#### 2.3.1 Standard Penetration Tests (SPT)

These tests were conducted as per IS: 2131 – 1963. The depth interval between two consecutive tests was 1 to 1.5 m. The tests were located in between the levels at which undisturbed soil samples were collected.

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### 3. LABORATORY TESTS

Some or all of the following laboratory tests, as necessary, were done on the collected soil samples. Representative soil samples were selected for this from the different soil strata encountered during boring. The tests were performed as per the relevant Indian Standard Codes of Practice.

- (a) Natural moisture content
- (b) Bulk density
- (c) Grain size analysis (using sieves and / or hydrometer)
- (d) Specific gravity of soil solids
- (e) Atterberg's limit tests (liquid, plastic and shrinkage limits)
- (f) Shear Tests :
  - [I] Triaxial compression test (unconsolidated – undrained), generally for fine- grained soils
  - [II] Unconfined compression tests, only on cohesive soils
  - [III] Direct shear tests, generally for coarse-grained soils
- (g) Other tests as and when required.

### 4. PRESENTATION OF TEST RESULTS

The field and laboratory test are given in the **Appendix B**.

### 5. SOIL STRATIFICATION

The results of field tests in five bore holes sunk at the site [vide Location Sketch in App. A] and the results of laboratory tests conducted on the collected soil samples indicate that the soil stratification at the site is as describe below.

The sub soil in all 5 BH's is gravelly clayey silty sand (weathered rock) [type SC-SM] up to the investigated depth of 6.0 m bgl beyond which the subsoil was so hard that it was not feasible to continue boring with manual auguring.

*Ground water table was struck at about 5.00 m to 5.20 m depth below GL in December, 2021. It is subject to seasonal variations.*

### 6. FOUNDATION ANALYSIS

The safe capacity of foundation of any type and size may be determined on the basis of the soil data given in this Report by using the standard methods of foundation design and following the relevant Indian Standard Codes.

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## 7. RECOMMENDATIONS

The design of the foundation for the proposed structure depends on the nature of both [a] the subsoil and [b] the structure.

The sub soil in all 5 BH's is gravelly clayey silty sand (weathered rock) [type SC-SM] up to the investigated depth of 6.0 m bgl beyond which the subsoil was so hard that it was not feasible to continue boring with manual auguring.

*Ground water table was struck at about 5.00 m to 5.20 m depth below GL in December, 2021. It is subject to seasonal variations.*

Considering the above facts,

1. The proposed structure may be provided with shallow foundation at a depth of 1.5 m or more.
2. The subsoil is very hard in which placement of bored cast in situ pile or U/r piles may not be feasible. Hence they are not being recommended in the present case. Driven piles may be uneconomical.

The values of net allowable bearing pressures of foundations of certain sizes have been calculated [vide sample of Calculation in Appendix - F] and are tabulated below.

**Table 1: Allowable Net Bearing Pressures [  $q_{na}$  ] and Settlements Expected [s]**

Depth (m)	Width (m)	Net allowable bearing pressure (t/m <sup>2</sup> ) for			Maximum expected settlement (mm)
		Strip footing	Square footing	Raft footing	
1.5	2.0	10.1	10.1	...	50
	3.0	7.9	7.9	...	50
	10.0	...	...	9.6	75
2.0	2.0	13.9	13.9	...	50
	3.0	10.6	10.6	...	50
	10.0	...	...	10.0	75
2.5	2.0	16.2	16.2	...	50
	3.0	13.6	13.6	...	50
	10.0	...	...	10.4	75
3.0	2.0	16.2	16.2	...	50
	3.0	14.8	14.8	...	50
	10.0	...	...	10.9	75
3.5	2.0	18.5	18.5	...	50
	3.0	16.9	16.9	...	50
	10.0	...	...	13.2	75

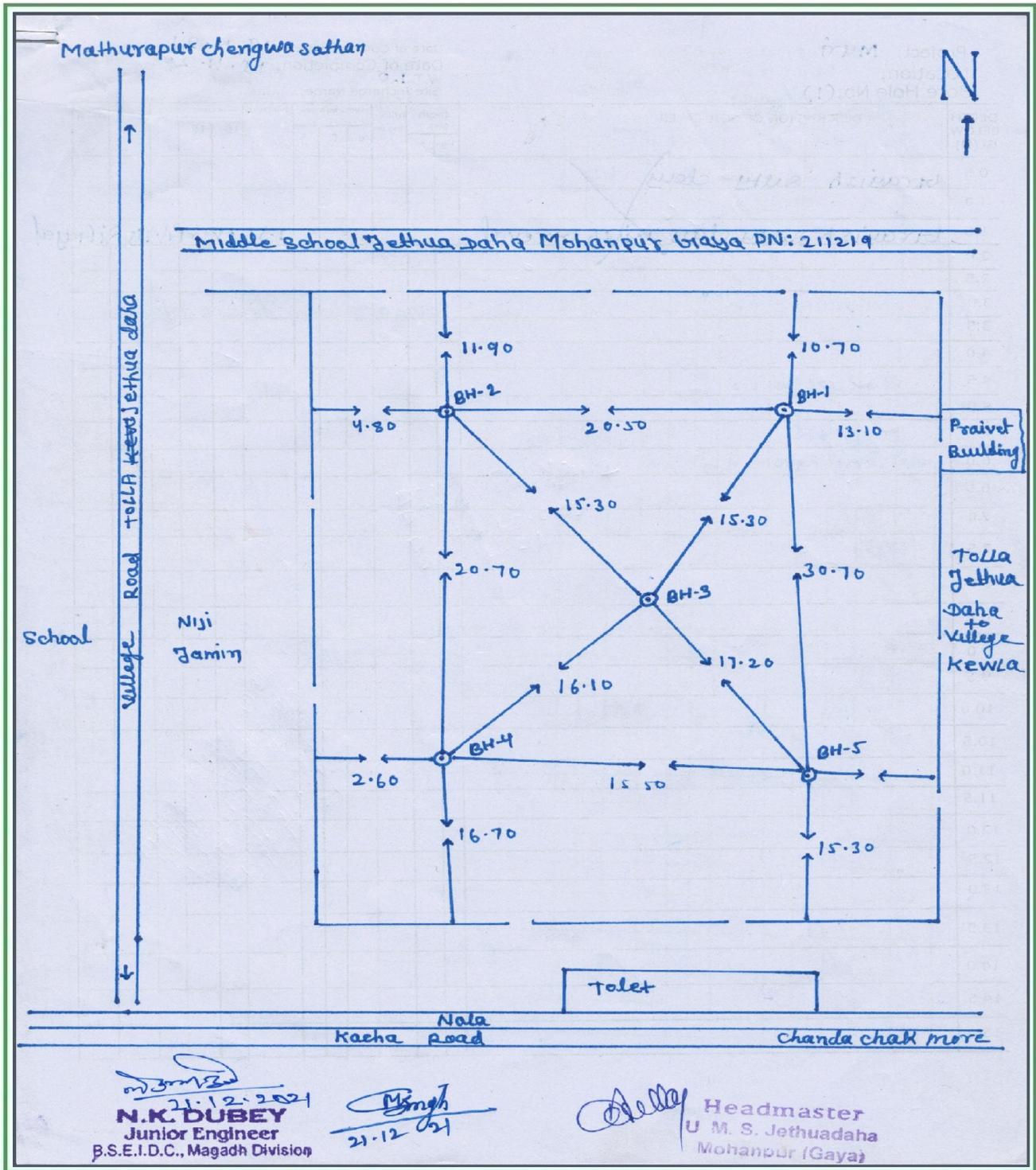
**Note:**

If a soil condition much different from those reported herein is met with during foundation trenching, suitable steps should be taken.

For Bihar Foundation Consultants

(Prof. C.N. Sinha, Dr.-Ing., FIE)  
Chief Consultant.

# N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya



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**PN - 211219**

**Appendix - A**

NAME OF WORK : Sub soil Investigation for C/O						BORING FINISH DATE : 20.12.2021		WATER TABLE : 5.00 m bgl.										
<b>N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya</b>						BORING METHOD : Rotary												
BORE HOLE NO. : 1		Site Incharge - Mukesh Singh				TERMINATION DEPTH : 6.0 m		RECORD ON : 20.12.2021										
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Index,%	Bulk Density (gm/cm <sup>3</sup> )	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C <sub>c</sub> )		
		Obsr.		from	to								Type of Test	Cohesion, c ( kg/cm <sup>2</sup> )	Friction Angle, φ °			
1.0			Greyish gravelly clayey silty sand, SC-SM	0.0		1.5												
1.5	S1	13			1.5						1.89	31.1	2.62		0.00	28.3		
2.5			Reddish gravelly clayey silty sand, SC-SM	1.5		1.5												
3.0	S2	14			3.0						1.89	31.2	2.62		0.00	28.4		
4.0			Greyish reddish gravelly clayey silty sand, SC-SM (weathered rock)	3.0		3.0												
4.5	S3	65									1.84	35.9	2.64		0.00	31.4		
5.5																		
6.0	S4	50+			6.0						1.84	35.8	2.64		0.00	32.7		

NAME OF WORK : Sub soil Investigation for C/O						BORING FINISH DATE : 20.12.2021		WATER TABLE : 5.10 m bgl.											
<b>N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya</b>						BORING METHOD : Rotary													
BORE HOLE NO. : 2		Site Incharge - Mukesh Singh				TERMINATION DEPTH : 6.0 m		RECORD ON : 20.12.2021											
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Index,%	Bulk Density (gm/cm <sup>3</sup> )	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C <sub>c</sub> )			
		Obsr.		from	to								Type of Test	Cohesion, c ( kg/cm <sup>2</sup> )	Friction Angle, φ °				
1.0			Greyish gravelly clayey silty sand, SC-SM	0.0		1.5													
1.5	S1	12			1.5						1.90	30.8	2.63		0.00	28.2			
2.5			Reddish gravelly clayey silty sand, SC-SM	1.5		1.5													
3.0	S2	13			3.0						1.89	31.1	2.62		0.00	28.3			
4.0			Greyish reddish gravelly clayey silty sand, SC-SM (weathered rock)	3.0		3.0													
4.5	S3	45									1.84	35.6	2.63		0.00	31.7			
5.5																			
6.0	S4	50+			6.0						1.84	35.8	2.64		0.00	32.7			

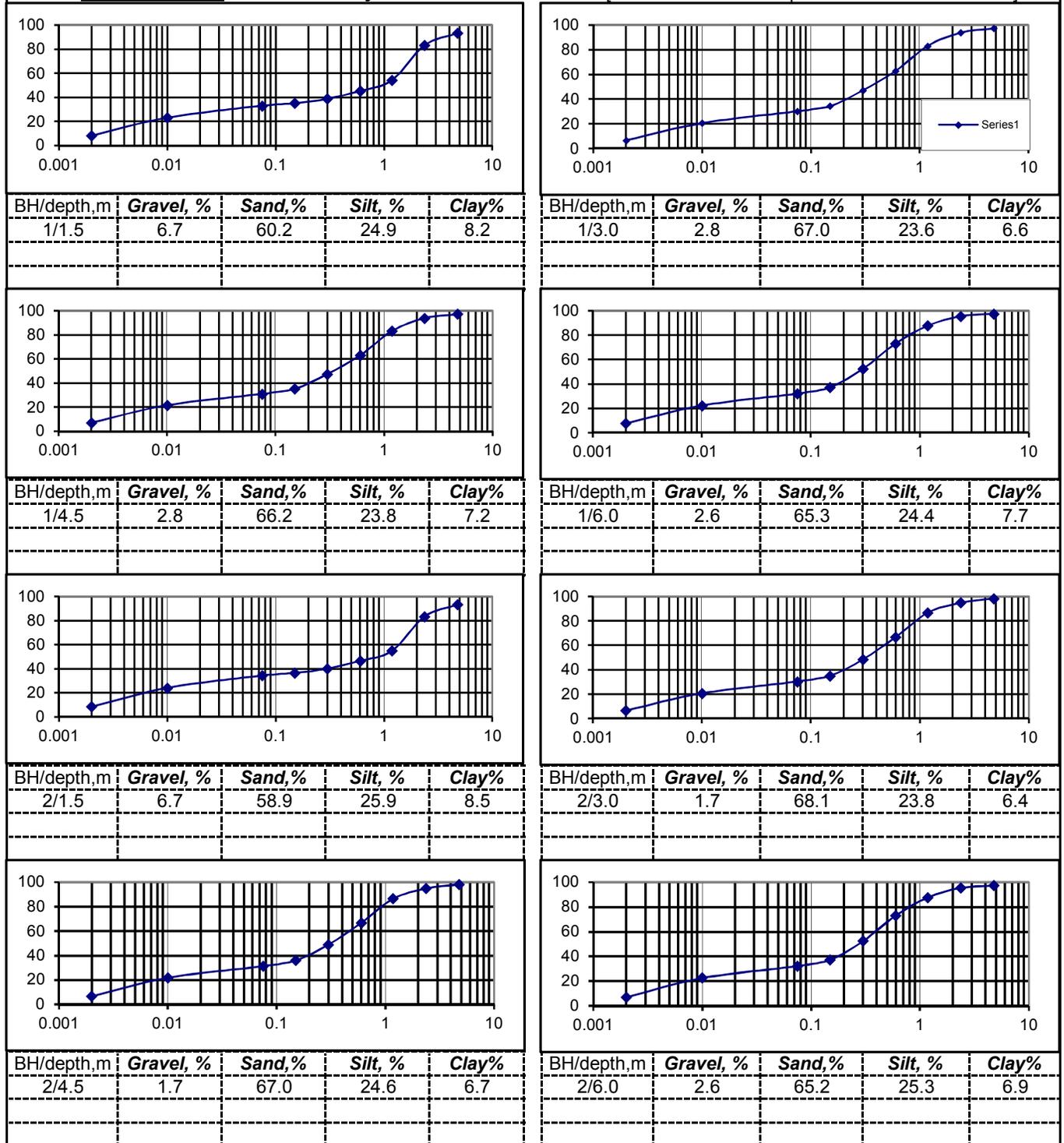
NAME OF WORK : Sub soil Investigation for C/O						BORING FINISH DATE : 20.12.2021		WATER TABLE : 5.10 m bgl.										
<b>N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya</b>						BORING METHOD : Rotary												
BORE HOLE NO. : 3		Site Incharge - Mukesh Singh				TERMINATION DEPTH : 6.0 m		RECORD ON : 20.12.2021										
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Index,%	Bulk Density (gm/cm <sup>3</sup> )	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C <sub>c</sub> )		
		Obsr.		from	to								Type of Test	Cohesion, c ( kg/cm <sup>2</sup> )	Friction Angle, φ °			
1.0			Greyish gravelly clayey silty sand, SC-SM	0.0		1.5												
1.5	S1	11			1.5						1.91	30.7	2.63		0.00	28.0		
2.5			Reddish gravelly clayey silty sand, SC-SM	1.5		1.5												
3.0	S2	12			3.0						1.91	30.8	2.63		0.00	28.2		
4.0			Greyish reddish gravelly clayey silty sand, SC-SM (weathered rock)	3.0		3.0												
4.5	S3	48									1.84	35.7	2.63		0.00	31.9		
5.5																		
6.0	S4	50+			6.0						1.84	35.8	2.64		0.00	32.7		

NAME OF WORK : Sub soil Investigation for C/O						BORING FINISH DATE : 21.12.2021		WATER TABLE : 5.20 m bgl.									
<b>N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya</b>						BORING METHOD : Rotary											
BORE HOLE NO. : 4		Site Incharge - Mukesh Singh				TERMINATION DEPTH : 6.0 m		RECORD ON : 21.12.2021									
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Index,%	Bulk Density (gm/cm <sup>3</sup> )	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C <sub>c</sub> )	
		Obsr.		from	to								Type of Test	Cohesion, c (kg/cm <sup>2</sup> )	Friction Angle, φ°		
1.0			Greyish gravelly clayey silty sand, SC-SM	0.0		1.5											
1.5	S1	12			1.5						1.91	30.8	2.63		0.00	28.2	
2.5			Reddish gravelly clayey silty sand, SC-SM	1.5		1.5											
3.0	S2	14			3.0						1.89	31.2	2.62		0.00	28.4	
4.0			Greyish reddish gravelly clayey silty sand, SC-SM (weathered rock)	3.0		3.0											
4.5	S3	55									1.84	35.7	2.64		0.00	31.9	
5.5																	
6.0	S4	50+			6.0						1.84	35.9	2.64		0.00	32.8	

NAME OF WORK : Sub soil Investigation for C/O						BORING FINISH DATE : 21.12.2021		WATER TABLE : 5.10 m bgl.										
<b>N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya</b>						BORING METHOD : Rotary												
BORE HOLE NO. : 5		Site Incharge - Mukesh Singh				TERMINATION DEPTH : 6.0 m		RECORD ON : 21.12.2021										
Depth Below GL (m)	Sample No.	SPT 'N' Value observation	Visual Description of Soil with IS Classification	Depth(m)		Thickness (m)	Liquid Limit	Plastic Limit	Plasticity Index,%	Bulk Density (gm/cm <sup>3</sup> )	Natural Moisture Content (%)	Specific Gravity	Shear Test			Compression Index (C <sub>c</sub> )		
		Obsr.		from	to								Type of Test	Cohesion, c ( kg/cm <sup>2</sup> )	Friction Angle, φ °			
1.0			Greyish gravelly clayey silty sand, SC-SM	0.0		1.5												
1.5	S1	12			1.5						1.90	30.8	2.63		0.00	28.2		
2.5			Reddish gravelly clayey silty sand, SC-SM	1.5		1.5												
3.0	S2	14			3.0						1.89	31.2	2.62		0.00	28.4		
4.0			Greyish reddish gravelly clayey silty sand, SC-SM (weathered rock)	3.0		3.0												
4.5	S3	57									1.84	35.7	2.62		0.00	32.0		
5.5																		
6.0	S4	50+			6.0						1.84	35.8	2.64		0.00	32.7		

**Table 2 [part B]: Grain Size Analysis Results**

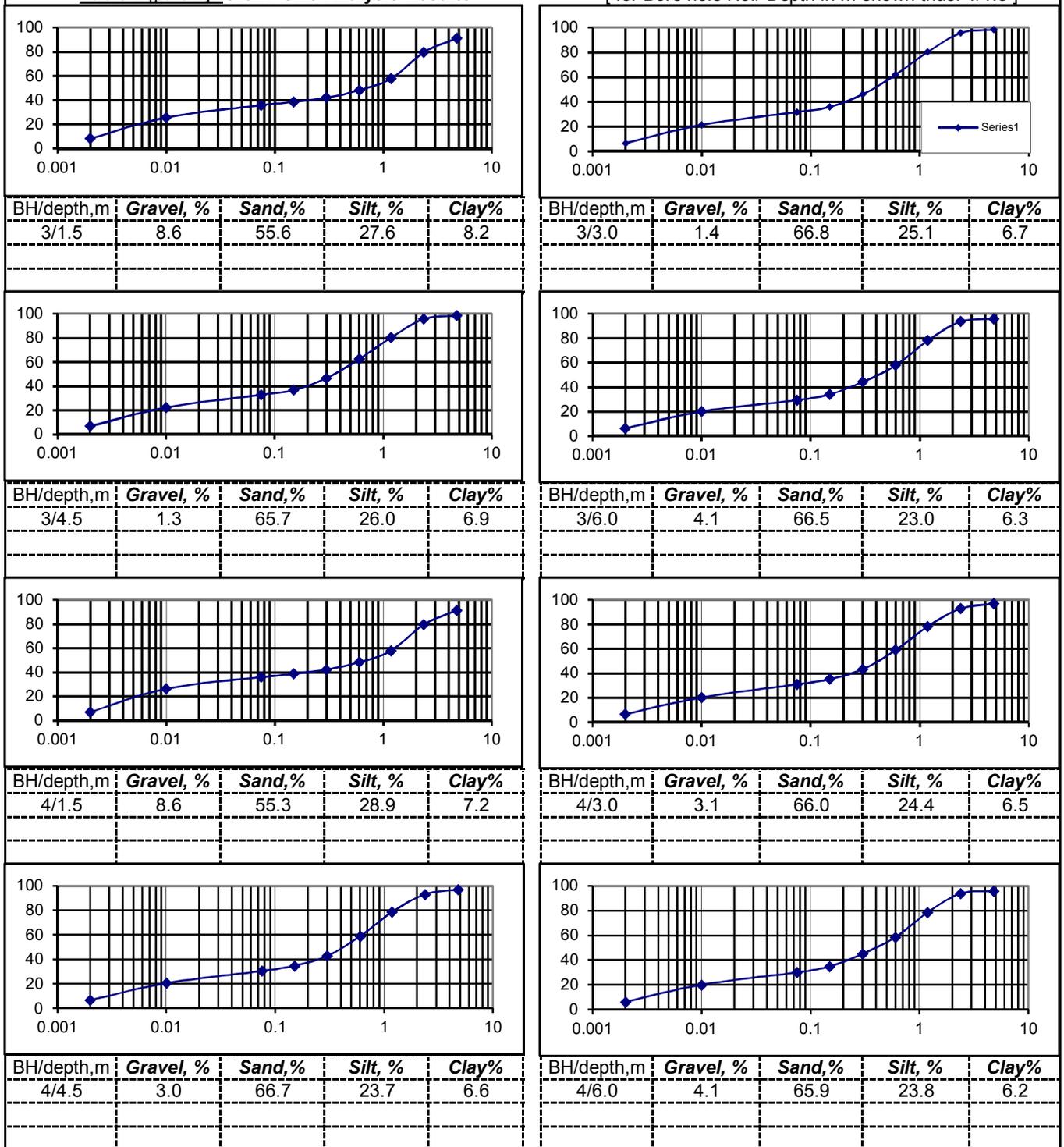
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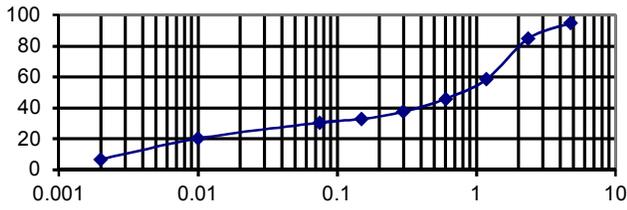
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**Table 2 [part B]: Grain Size Analysis Results**

[ for Bore hole No./ Depth in m shown thus: 1/1.5 ]

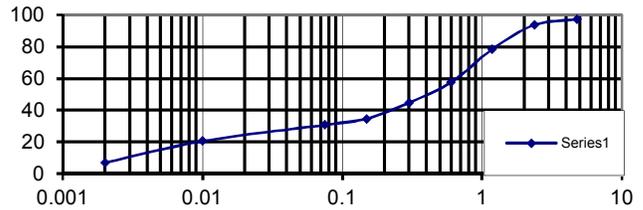


**Table 2 [part B]: Grain Size Analysis Results**

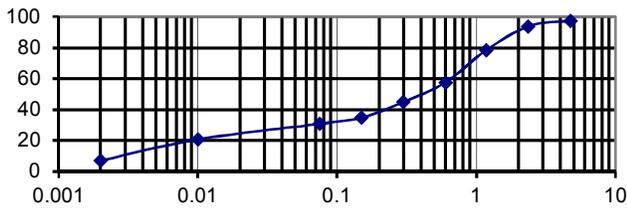


BH/depth,m	Gravel, %	Sand,%	Silt, %	Clay%
5/1.5	5.0	64.5	23.7	6.8

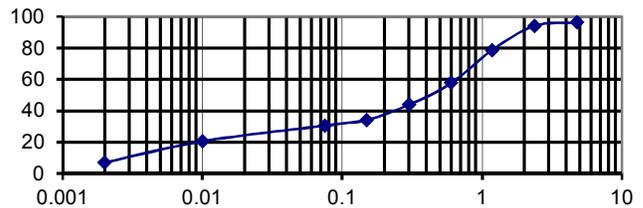
[ for Bore hole No./ Depth in m shown thus: 1/1.5 ]



BH/depth,m	Gravel, %	Sand,%	Silt, %	Clay%
5/3.0	2.6	66.7	23.9	6.9

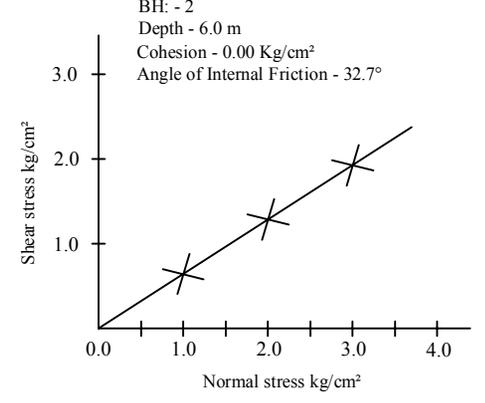
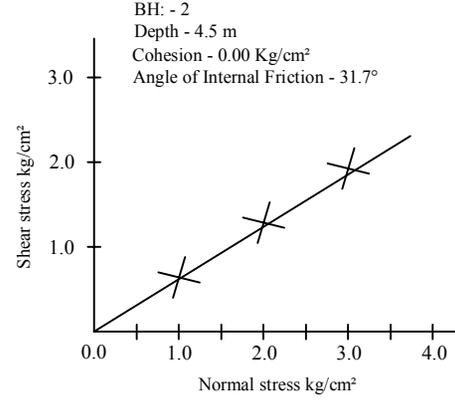
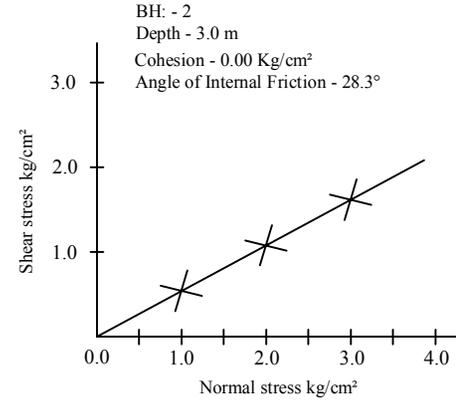
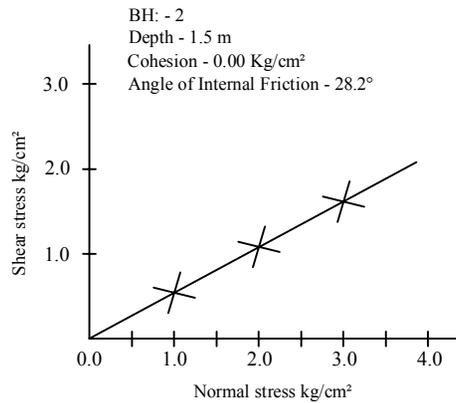
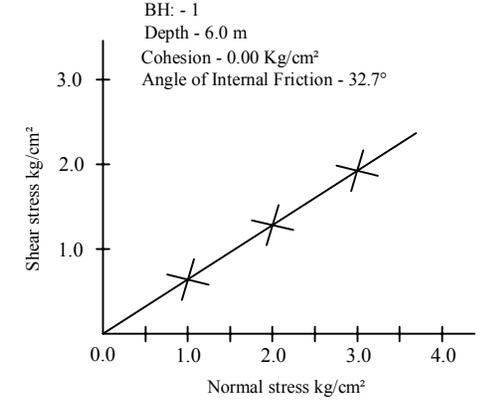
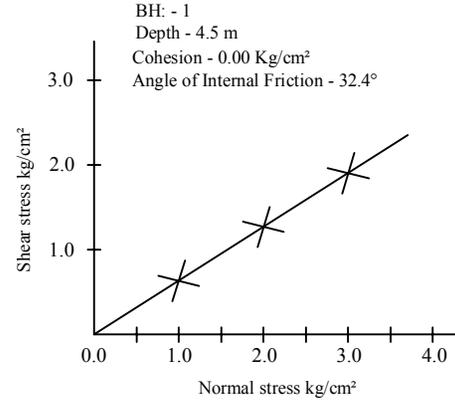
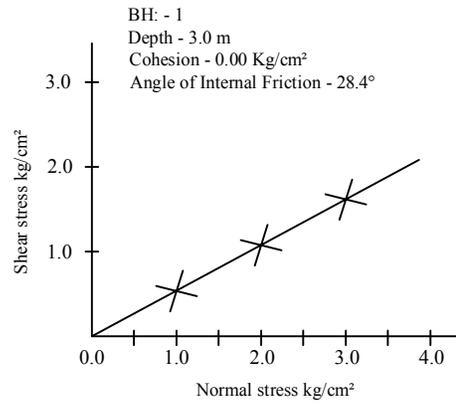
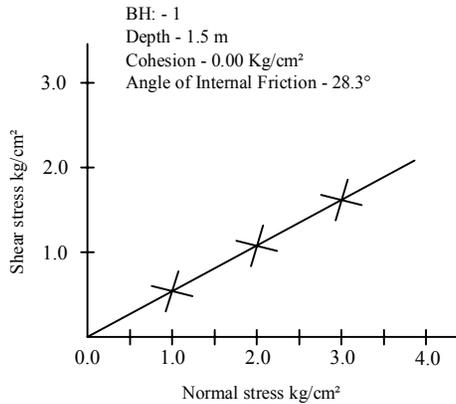


BH/depth,m	Gravel, %	Sand,%	Silt, %	Clay%
5/4.5	2.5	66.7	23.8	7.1



BH/depth,m	Gravel, %	Sand,%	Silt, %	Clay%
5/6.0	3.6	65.9	23.5	7.0

# TRIAXIAL / DIRECT SHEAR TEST PLOTS



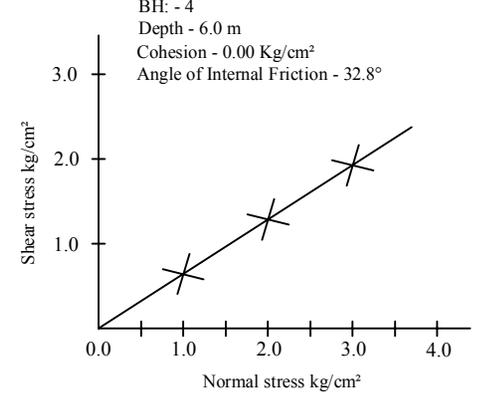
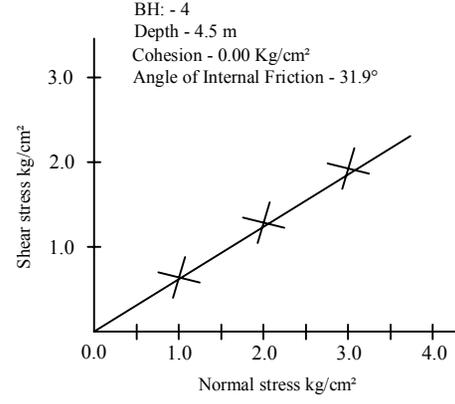
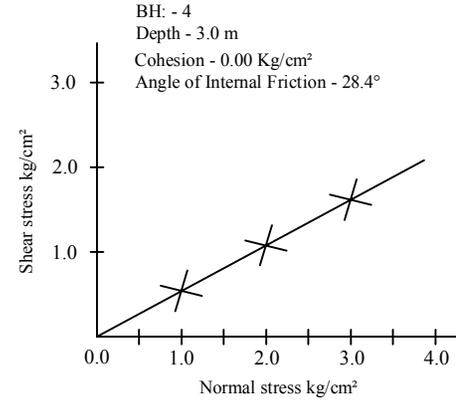
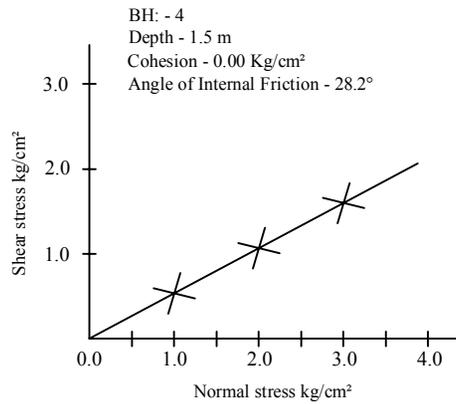
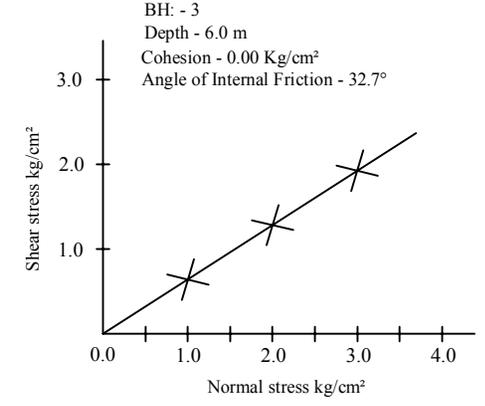
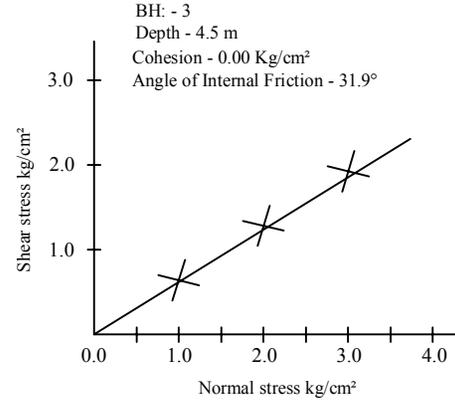
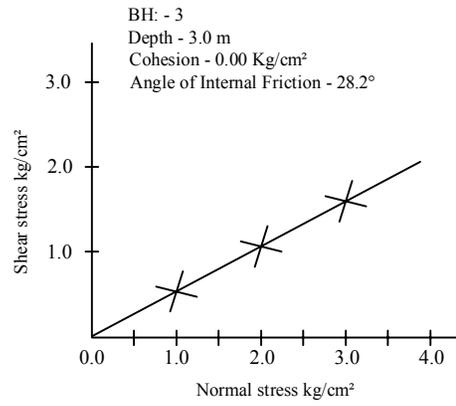
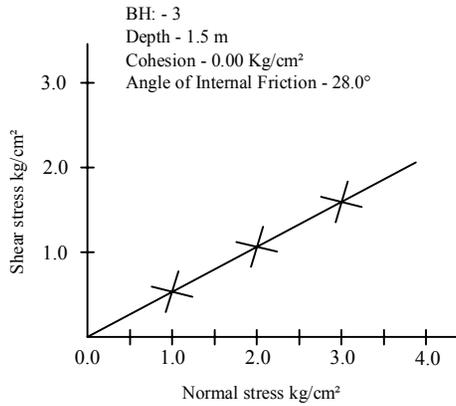
Appendix - D1

**Bihar Foundation Consultants,  
[A unit of Baidyanath Foundation Consultants Pvt. Ltd.]**

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# TRIAXIAL / DIRECT SHEAR TEST PLOTS

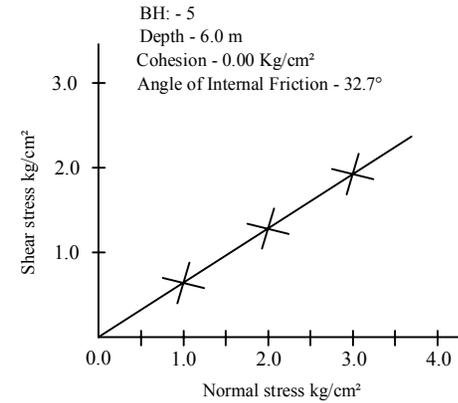
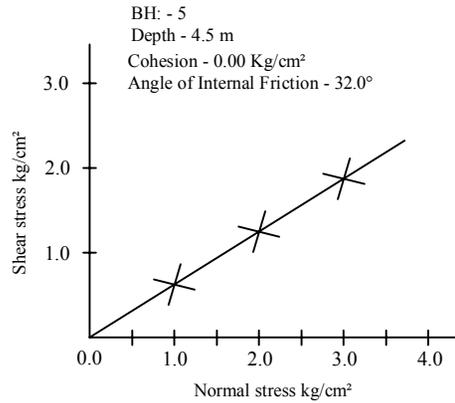
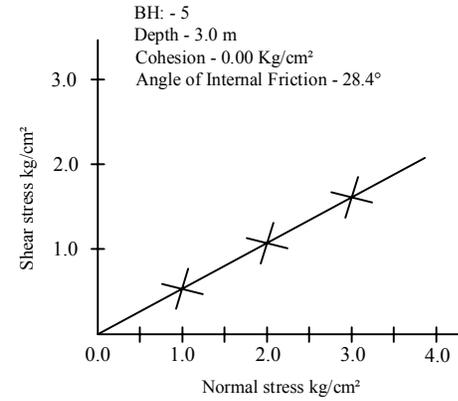
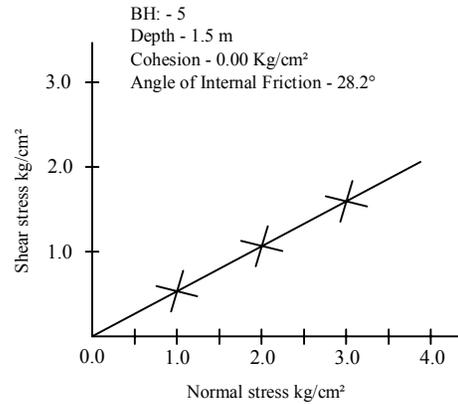


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# TRIAXIAL / DIRECT SHEAR TEST PLOTS



Appendix - D3

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# Report on Sub Soil Investigation for the proposed Construction of

N. S. Bose Residential Hostel for Secondary School, Jethua Daha,  
Block Mohanpur, Dist. Gaya

## SAMPLE CALCULATION OF BEARING CAPACITY OF SHALLOW FOUNDATION

The determination of the **net safe bearing capacity,  $q_{ns}$** , is done first on the basis of the shear failure criterion after dividing the value of the **net ultimate bearing capacity  $q_{nf}$** , calculated as described below, by a suitable factor of safety. The **net soil pressure,  $q_s$** , for a given permissible settlement is then calculated as explained in the next section. The lower of the two values,  **$q_{ns}$**  and  **$q_s$** , thus determined is taken as the **allowable bearing capacity** of the soil.

**1. Shear Failure Criterion.** The **net ultimate bearing capacity  $q_{nf}$**  ( $t/m^2$ ) of a shallow foundation of breadth  $B$  (m) and depth  $D$  (m) is given as per IS:6403-1981 (Sec.5.1.2) by the following equation :

$$q_{nf} = c N_c s_c d_c I_c + q (N_q - 1) s_q d_q I_q + 0.5 \gamma B N_\gamma s_\gamma d_\gamma I_\gamma w$$

where  $c$  = cohesion ( $t/m^2$ )

$q$  = effective surcharge ( $t/m^2$ )

$\gamma$  = unit weight of subsoil ( $t/m^3$ )

$N_c, N_\gamma, N_q$  = bearing capacity factors, which are functions of  $\phi$ , the angle of internal friction of the soil

$s_c, s_q, s_\gamma$  = shape factors

$d_c, d_q, d_\gamma$  = depth factors

$I_c, I_q, I_\gamma$  = inclination factors

$w$  = water table factor (= 0.5 to 1.0) depending on the depth,  $D_w$  of water table- vide Table below.

The bearing capacity factors ( $N$ 's) are functions of  $\phi$ , the angle of internal friction of the soil. Their values are found for general shear failure by referring to standard tables. If subsoil conditions are such as to lead to local shear failure, the values of these factors are found for a reduced value of angle of internal friction ( $\phi'$ ) given by the equation :  $\tan \phi' = 0.67 \tan \phi$ . The value of cohesion is also reduced to  $c' = 0.67 c$ .

The values of the other factors for usual conditions are as tabulated below :

$s_c =$	1.3	$1+0.2B/L$	1	$d_c =$	$1+0.2(N\phi)^{0.5} D/B$	$D_w$ at	G.L.	Fou'dn.Level
$s_q =$	1.2	$1+0.2B/L$	1	$d_q = d_\gamma =$	1	$w =$	0.5	1
$s_\gamma =$	$0.8/0.6$	$1-0.4B/L$	1	$d_q = d_\gamma =$	$1+0.1(N\phi)^{0.5} D/B$	Interpolation between		
FOR	$s_q // O$	Rect.	STRIP	$I_c, I_q, I_\gamma = 1$ for vertical load		these values is linear.		

In the present case, the representative values of cohesion  $c$  and angle of internal friction ( $\phi$ ) of the soil may be obtained from the soil data given earlier.

One example of calculation for a certain depth and width of a strip or square footing is given in the **Table A** on the next page. Full submergence of the soil has been assumed. The **safe bearing capacity,  $q_{ns}$**  has been obtained by dividing  **$q_{nf}$**  by a **safety factor, 3**. The net safe bearing capacity for a footing of the selected size and depth of footing is to be seen in its last column. Calculations of safe bearing capacities for other depths and widths of footings are done similarly.

## 2 Calculation of allowable bearing capacity based on settlement criterion

The **net soil pressure,  $q_s$**  ( $t/m^2$ ) for a permissible settlement of 25 mm is give by Teng's formula:

$$q_s = 3.5 [N'' - 3] \left[ \frac{(B + 0.3)}{2B} \right]^2 w' F_d \quad t/m^2$$

where  $N''$  = corrected value of  $N$  from SPT

$$F_d = [1 + D/B] < \text{or} = 2$$

$D, B$  and  $w'$  are as defined before.

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For a permissible settlement of  $S$  mm, the allowable bearing capacity

$$q'_s = S q_s / 25$$

The corrected SPT  $N''$  values used in the calculations based on the above formula for different depths below G.L. may be found from the recorded data.

The  $N''$  value used in any case is to be for the influence zone below the footing, which depends on its width. A sample of calculation of the allowable soil pressure for the chosen size and depth of footing and for the permissible settlement is given in **Table B** in the next section.

The net allowable bearing pressure will be the lower of the values of bearing pressures found in the two Tables A and B.

**Table A**

**Calculation of Net Safe Bearing Pressure** [ based on **shear failure** criterion]

Shape of Foundation:			F.S.=	$\gamma, t/m^3=$		$c =$	$\phi =$	$N_c =$	$N_q =$	$N_r =$
STRIP			3	1.9		0	28.0	25.80	14.72	16.72
D [m]	B [m]	dc	dq = dg	c	q	I Term	II Term	III Term	qnf	qnf /F
1.5	2	1.25	1.125	0	1.425	0.00	22.00	17.85	39.84	13.28

**Table B**

**Calculation of Net Allowable Bearing Pressure** [ based on **settlement** criterion]

D	B	Fd =	N''	w'	$q_{s=25}$	S	$q_{s=S}$
m	m				$t/m^2$	mm	$t/m^2$
1.5	2.0	1.75	8	0.5	5.0627	50	10.125

The adjoining Table and the comments  
below it are for a footing of depth, **D = 1.5 m, and width, B [m] = 2.0**

The value of allowable bearing pressure from the above Table for  $s = 50$  mm is =  $10.1 t/m^2$   
 The value of safe bearing capacity from shear criterion as found from Table A =  $13.3 t/m^2$   
 = mm will be **10.1  $t/m^2$**   
**Hence the allowable bearing pressure for settlement,  $s =$  or  $< 50 = 10.1 t/m^2$**

The calculations for other depths and widths of footing are similar.

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विषय:- निर्माण स्थल के मिट्टी जाँच हेतु।

प्रसंग:- भवन निर्माण विभाग का पत्र संख्या-2030, दिनांक-21.04.2006

महाशय,

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अतः अनुरोध है कि उपरोक्त स्थल का तीन बिन्दुओं पर 10.5 मीटर गहराई तक प्रत्येक 1.5 मीटर गहराई में मिट्टी का नमूना संग्रह कर प्रतिवेदन समर्पित करें। साथ ही विहित प्रपत्र में मिट्टी के भार वहन क्षमता की गणना (Isolated एवं Pile Foundation के लिए अलग-अलग) भी Hard Copy एवं Soft Copy में समर्पित करें।

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विश्वासभाजन

  
मुख्य अभियंता

Bihar Foundation Consultants  
403, Ganga Darshan Apartment, Patna-10  
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PN - 211219

Appendix - G1

# N. S. Bose Residential Hostel for Secondary School, Jethua Daha, Block Mohanpur, Dist. Gaya

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नेताजी सुभाष चन्द्र बोस आवासीय छात्रावास निर्माण हेतु प्रस्तावित विद्यालयों के नाम एवं भूमि की विवरणी:

क्रमांक	जिला का नाम	प्रखंड का नाम	आवासीय छात्रावास से संबंधित विद्यालय का नाम	उपलब्ध भूमि की विवरणी (खाता सं०, खेसरा एवं रकबा सहित)
1	औरंगाबाद	नवीनगर	उच्च माध्यमिक विद्यालय, बेला	खाता सं०- 71, 132 प्लॉट न० 370, 369, 366, 1028 एराजी - 01 एकड़ 80 डिसमिल धाना सं०- 192, तौजी- 2802
2	मुजफ्फरपुर	साहेबगंज	राजकीयकृत उच्चतर म० वि० साहेबगंज	खाता सं०- पुराना- 56 खेसरा - पुराना- 1333, 1334 खाता सं०- नया- 494 खेसरा सं०- नया - 1520, 1521 रकबा - 06 एकड़ 50 डिसमिल लगभग।
3	बांका	बांका	प्र० म० वि० चक्काडीह	खाता- 153, 449 खेसरा - 508, 614 रकबा - 01 एकड़ 11 डिसमिल
4	गया	मोहनपुर	म० वि० जेठुआ डाहा	रकबा - 3 एकड़ 64 डिसमिल
5	नवादा	रजौली	म० वि० चिरैला	खाता (नया) - 58 प्लॉट- 651, 652 पुराना- 98, प्लॉट- 725, 726, 732, 733 एवं 734 रकबा- 3 एकड़ 36 डिसमिल

*Account  
21/09/2021  
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