Guru Nanak Dev University, Amritsar.

(Established by the State Legislature Act No. 21 of 1969 and University with Potential for Excellence recognized by UGC)

(CONSTRUCTION DEPARTMENT)

Registered Post

No...525-39/SS
Dated 23/1/26

QUOTATION NOTICE

Structural design consultancy for **Construction of Entrepreneurship and Innovation Training Centre within Guru Nanak Dev University Campus, Amritsar** with an approximate area of 35000 sft. The quotations are invited from the firms/ Engineers dealing with the design of such structure design. The offer/quotations should reach office of undersigned on or before 04-02-2026 upto 4:00 pm. **The offer/quotations will be sent by registered post/ speed post or by courier post.**

SCOPE OF WORK :-

1. The firm is desired to design the building for gravity load as well as for earthquake forces.
2. The firm will supply six sets of drawings, one set of calculations (DBR) and send soft copy in CAD drawing and PDF at xengndu@gndu.ac.in.
3. Firm is supposed to visit the site atleast two times during construction work.
4. Time frame for design shall be of 20 days.
5. 30% payment shall be made on receipt of preliminary drawings, 55% on submission of detailed working drawings and 15% on completion of project.

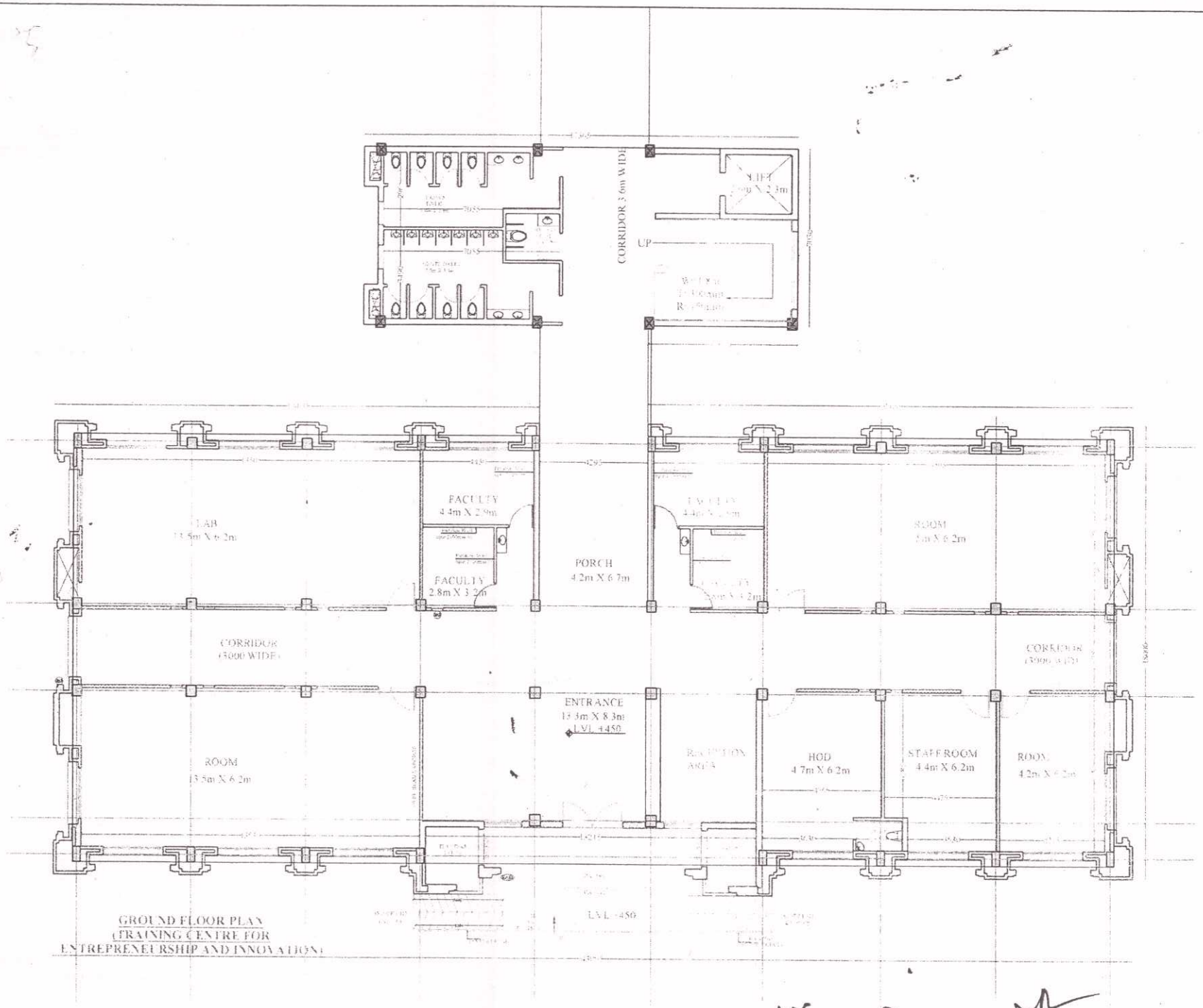
Term and conditions:-

1. The firm should also present the documents of their profession, office, company with full biographical information of its engineers and staff, including their experience, the number and names of similar buildings they have design, the acceptable fee, any terms and conditions, and the offer.
2. **Words "offer/quotations due on 04-02-2026 for Structural design consultancy for Construction of Entrepreneurship and Innovation Training Centre within Guru Nanak Dev University Campus, Amritsar" may be noted on the top of the envelop.**
3. If the due date falls on a holiday, then the quotation will be received on the next working day.
4. Incharge Construction Department reserves the right to reject or accept any quotation or all quotations.
5. **CONDITIONAL QUOTATIONS SHALL NOT BE ENTERTAINED.**
6. The bidder/supplier/Firm must submit the self attested copy of GST registration number, PAN number and bank details with IFSC.

D.A. :- Copies of Drawings

23/1/26

Incharge,
Construction Department
Guru Nanak Dev University
Amritsar



GROUND FLOOR PLAN
(TRAINING CENTRE FOR
ENTREPRENEURSHIP AND INNOVATION)

PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

NOTES:

Revision		
Rev.no 1/26-11-25	Requirements Revise as per Prof. (Dr.) Balwinder singh	
Rev.no /Date	Description	

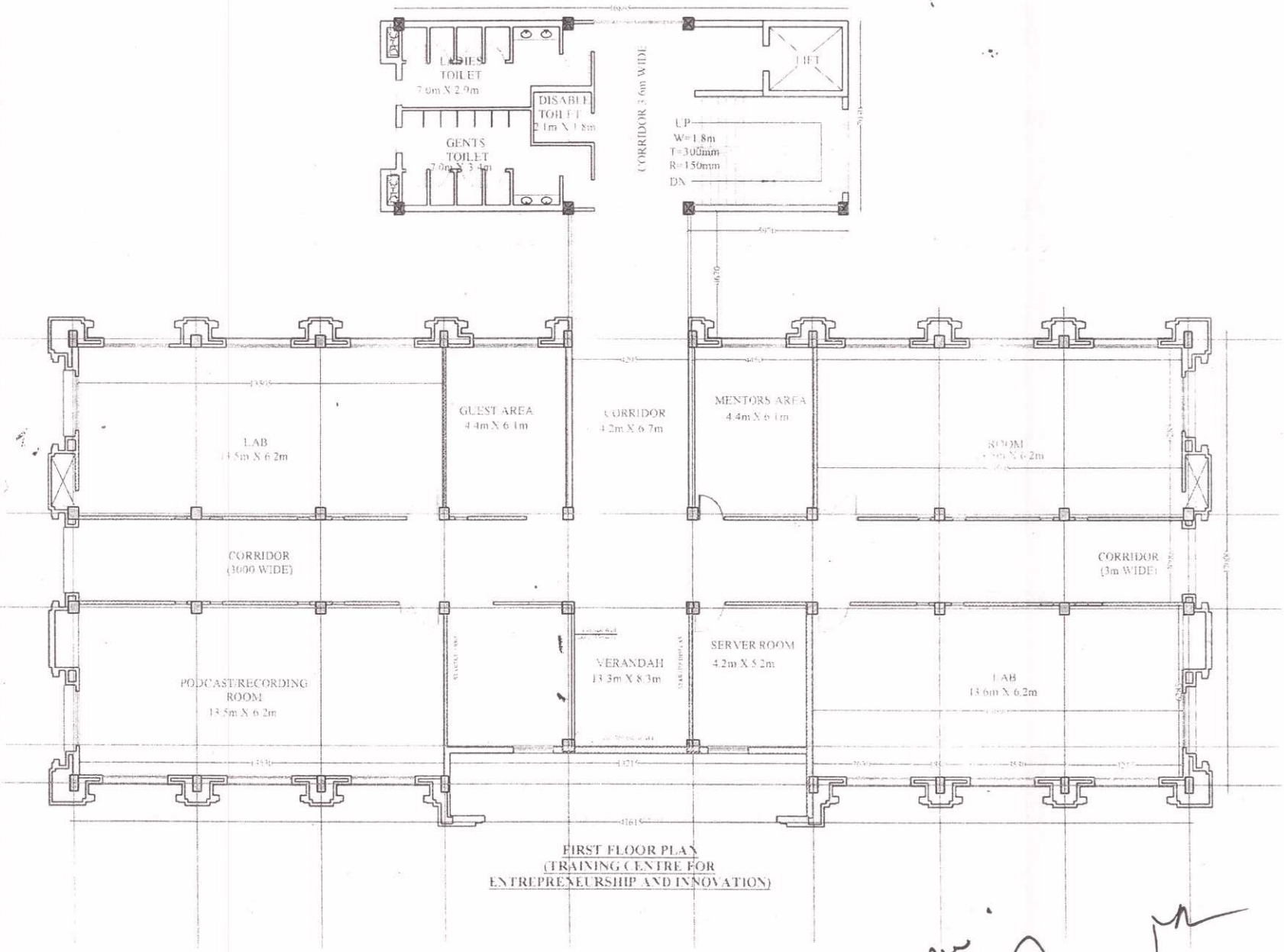
SHEET TITLE :

GROUND FLOOR PLAN

Drawing No:

Released for	Date 26-11-2025	North
☒ Tender	☒ Information	
☐ Proposal	☐ Construction	
Scale	Drawn By ABHISHEK	Checked By ROHIN KAUSHIK

Construction Department
Guru Nanak Dev University, Amritsar
PHONE : 0183-5008942
E.Mail : Xengndu@gmail.com



FIRST FLOOR PLAN
(TRAINING CENTRE FOR
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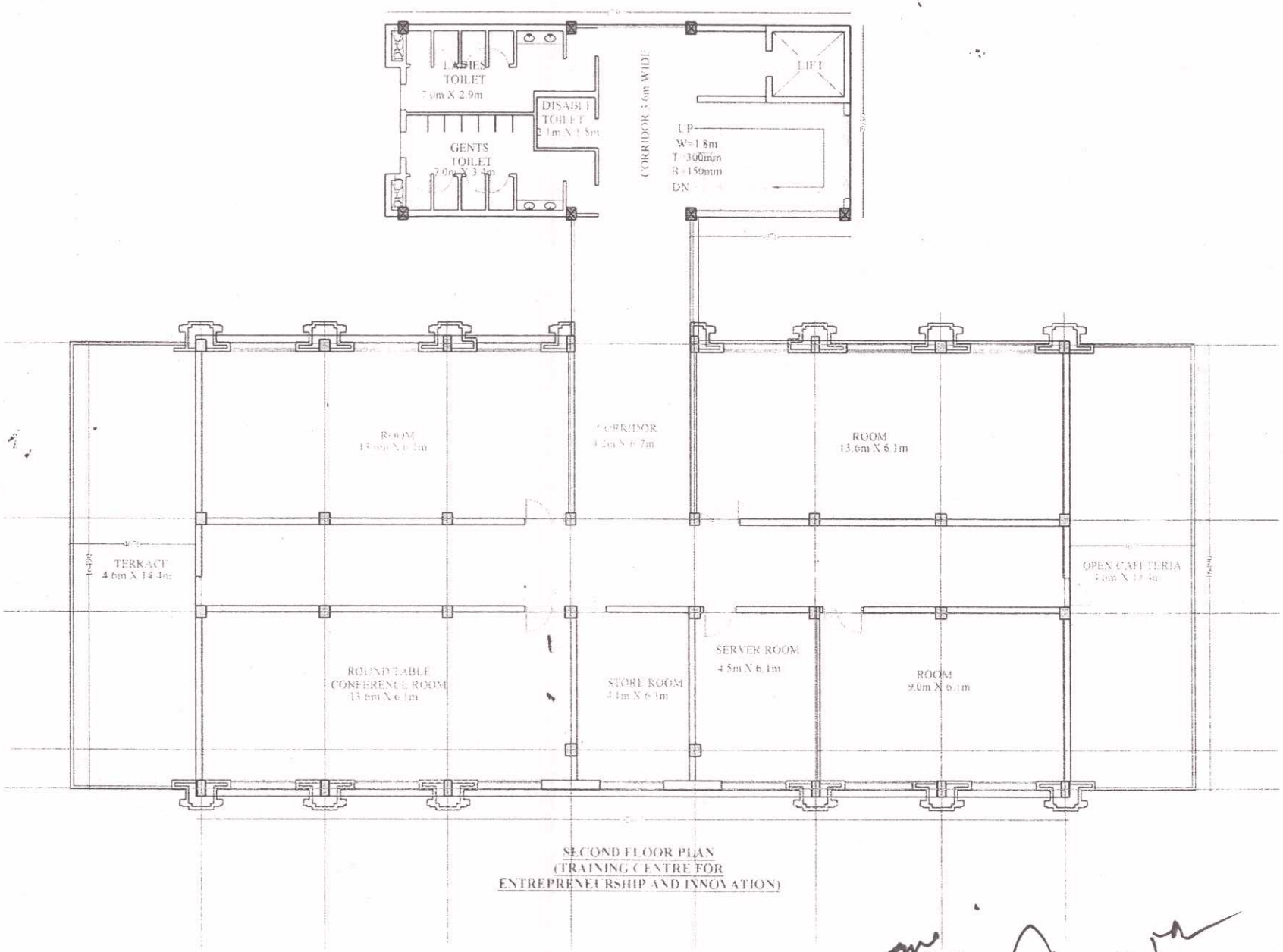

SECOND FLOOR PLAN
(TRAINING CENTRE FOR
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PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

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Revision

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SECOND FLOOR PLAN

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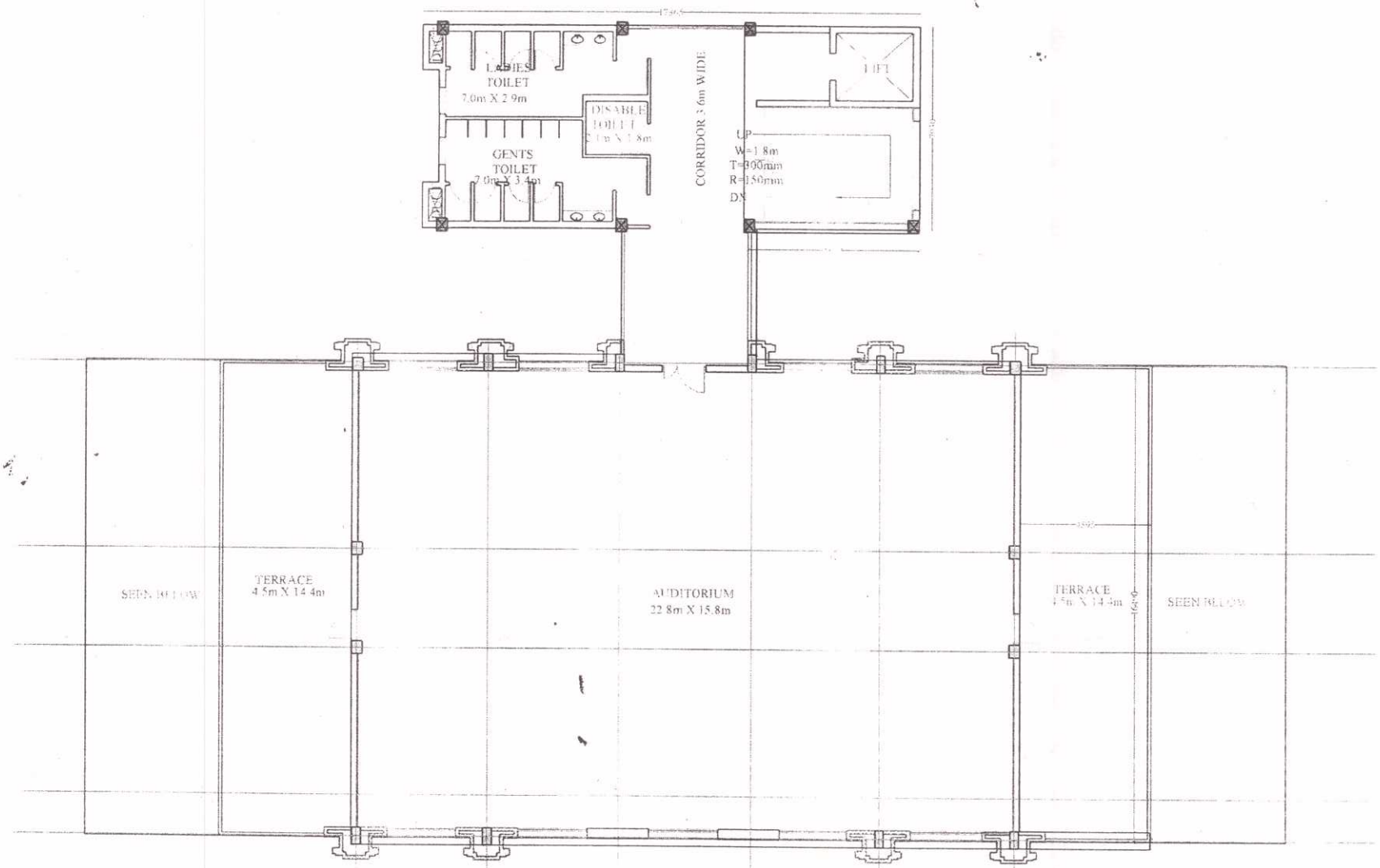

THIRD FLOOR PLAN
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NOTES:

Rev.no./Date	Description
Rev.no.1/26-11-25	Requirements Revise as per Prof. (Dr.) Balwinder singh

Revision

SHEET TITLE :

THIRD FLOOR PLAN

Drawing No.

Released for	Date	North
■ Tender	26-11-2025 ■ Information	
□ Proposal	□ Construction	
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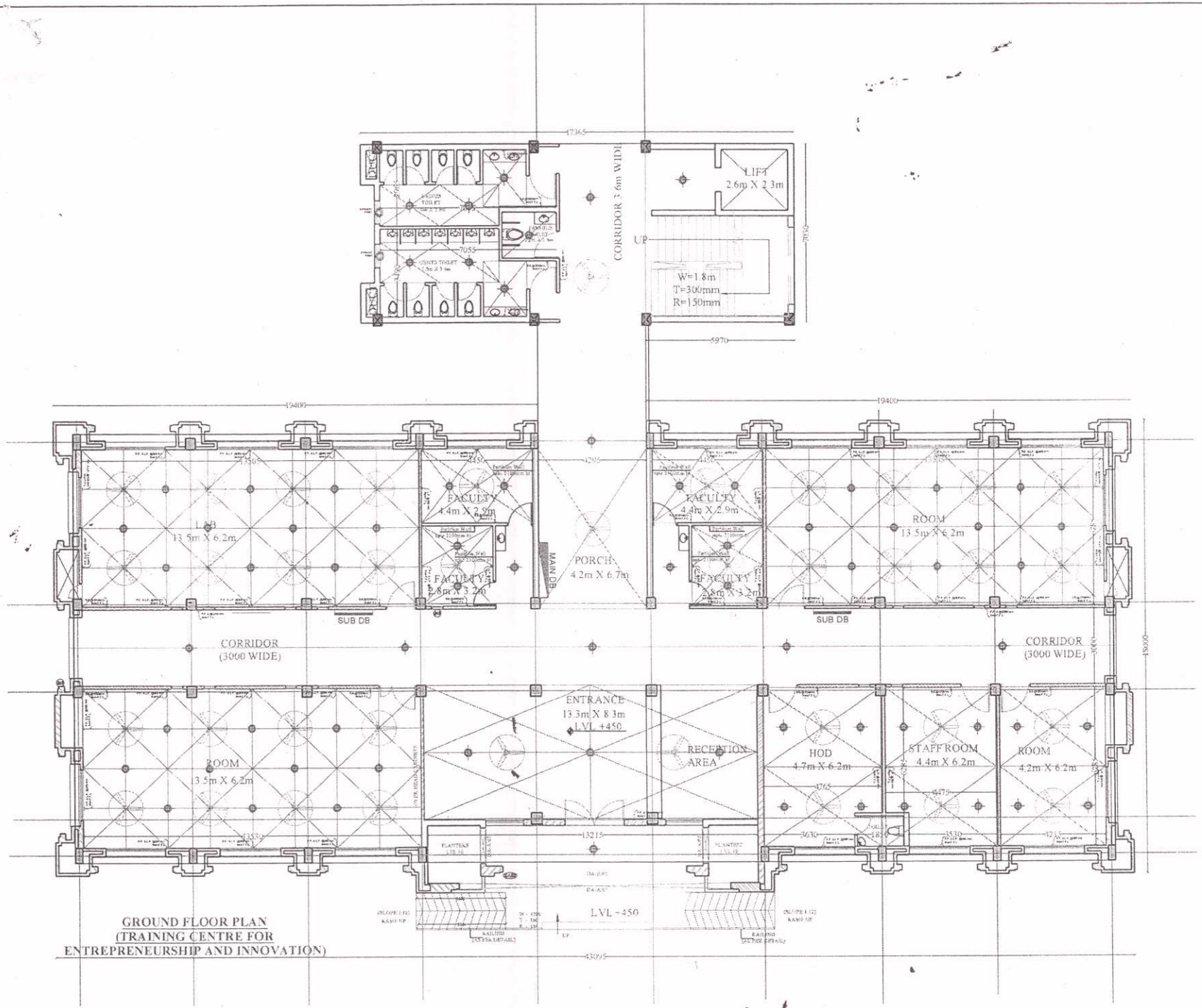

GROUND FLOOR PLAN
(TRAINING CENTRE FOR
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ELECTRICAL PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

NOTES:

LEGEND

	FAN POINT
	CEILING LIGHT POINT
	MAIN D.B.
	SUB D.B.
$	SWITCH BOARD
	LIGHT POINT
	EXHAUST FAN

Revision		
Rev.no./Date	Description	

SHEET TITLE :

GROUND FLOOR PLAN

Drawing No:

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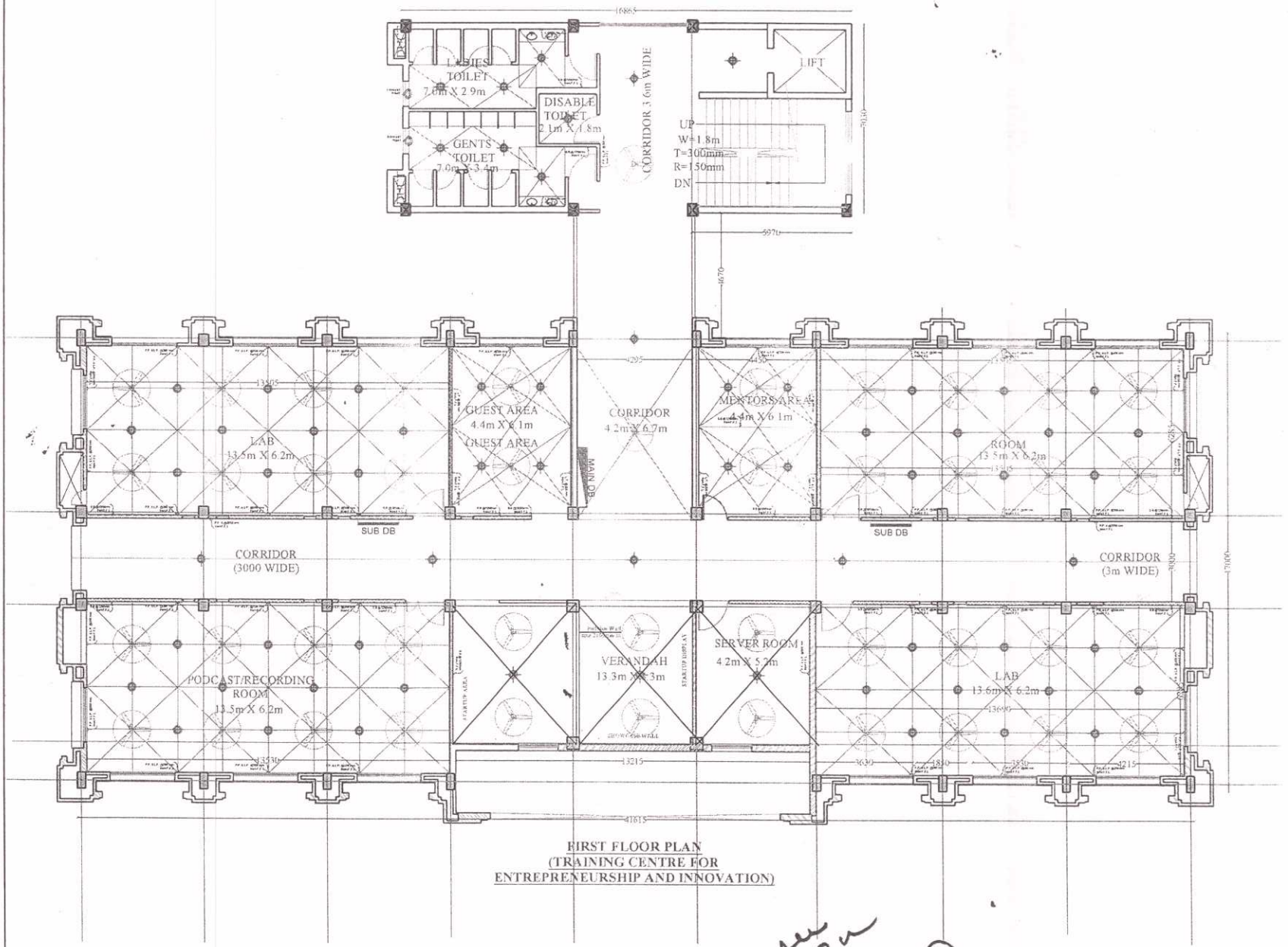
ELECTRICAL PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.



FIRST FLOOR PLAN
(TRAINING CENTRE FOR
ENTREPRENEURSHIP AND INNOVATION)

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LEGEND

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	CEILING LIGHT POINT
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$	SWITCH BOARD
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Rev.no./Date	Description

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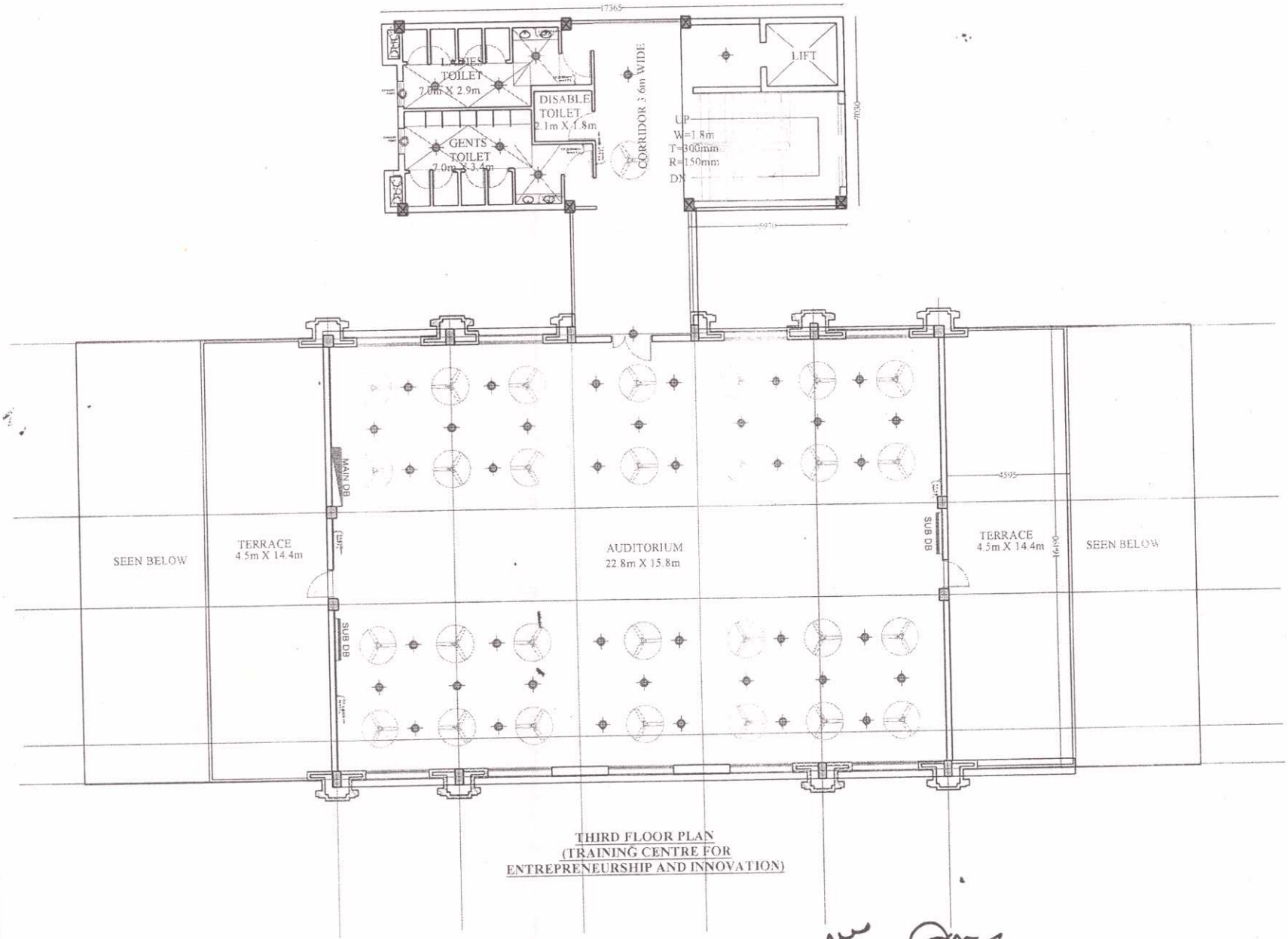

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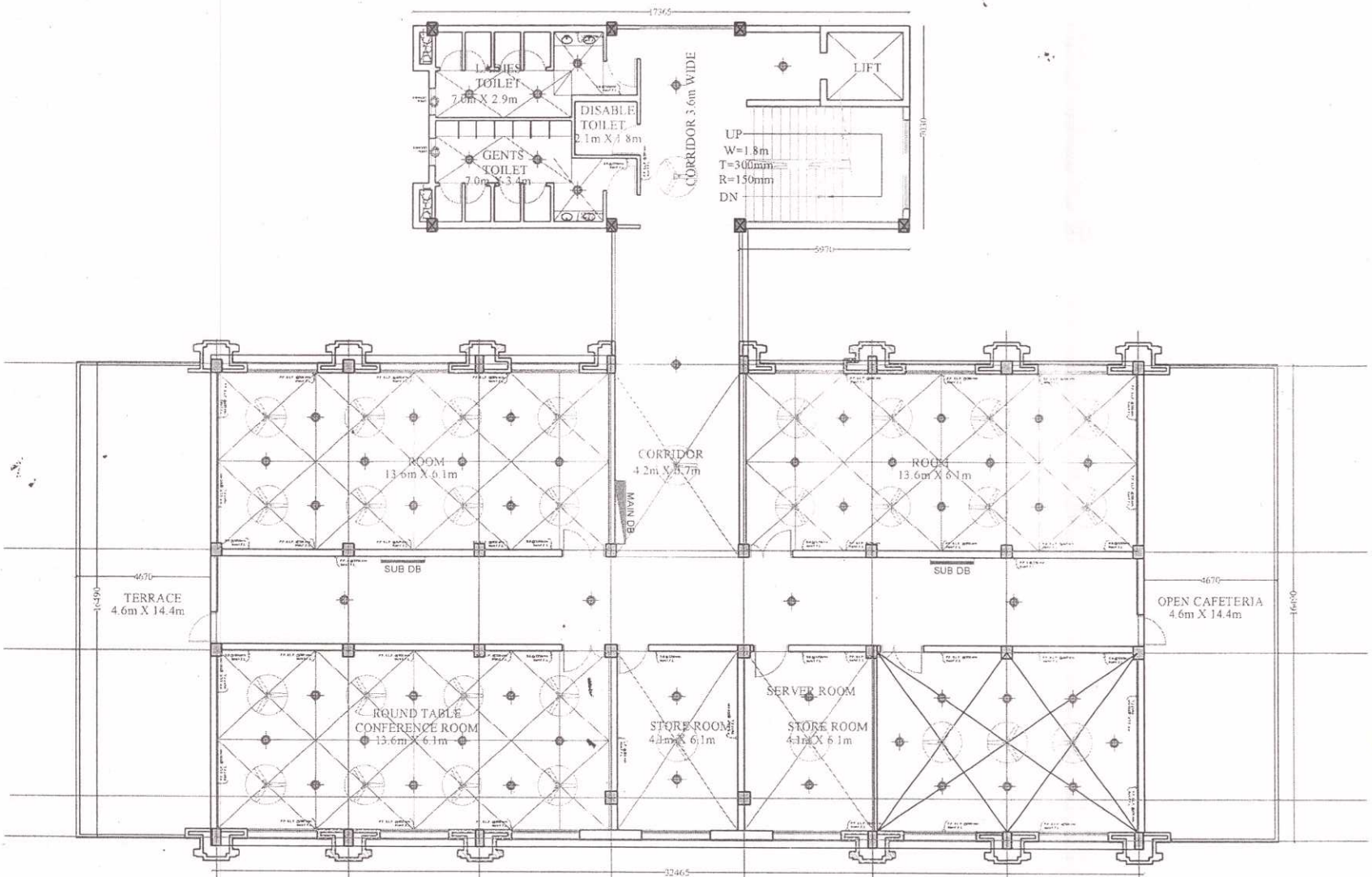

SECOND FLOOR PLAN
(TRAINING CENTRE FOR
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ELECTRICAL PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

NOTES:

LEGEND	
	FAN POINT
	CEILING LIGHT POINT
	MAIN D.B.
	SUB D.B.
$	SWITCH BOARD
	LIGHT POINT
	EXHAUST FAN

Rev.no./Date	Description

Revision

SHEET TITLE :

SECOND FLOOR PLAN

Drawing No:

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■ Tender	15-09-2025 ■ Information	
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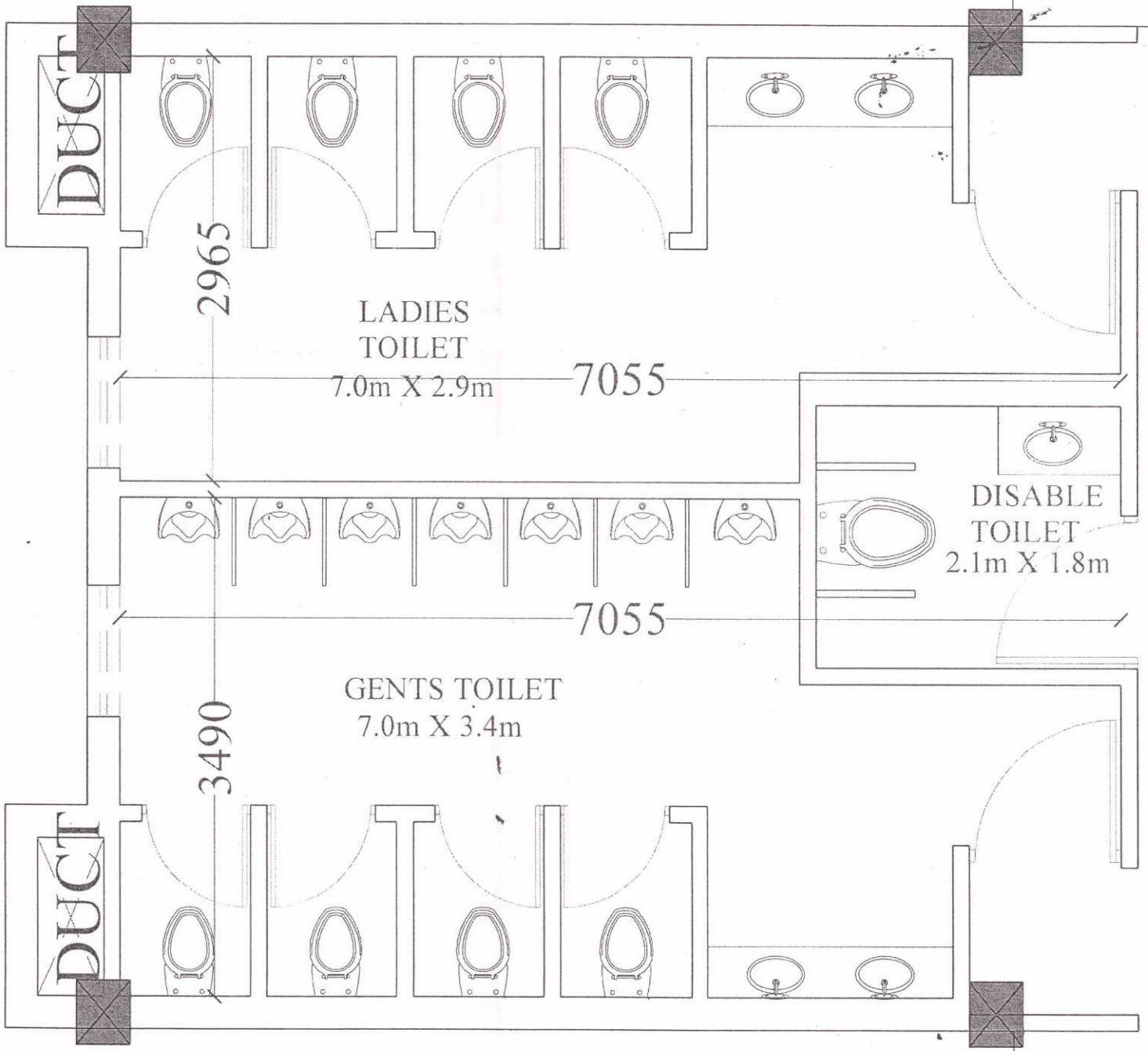

PH PLANS FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

NOTES:

Rev.no./Date	Description

Revision

SHEET TITLE :

TYPICAL FLOOR PLAN

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■ Tender	15-09-2025 ■ Information	
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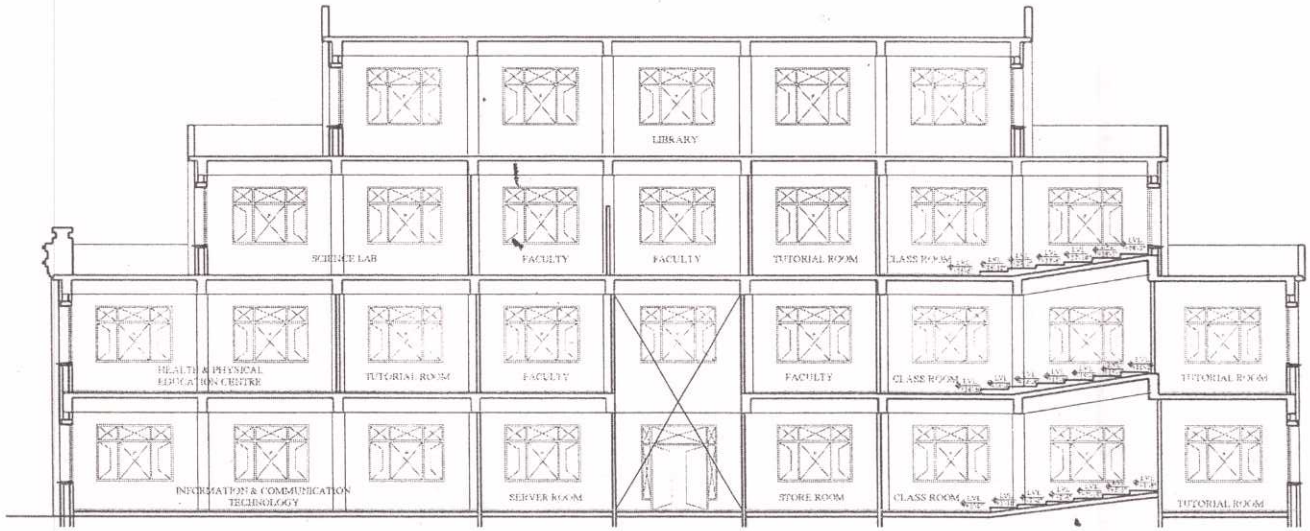
ELEVATION



SECTION A-A'

ELEVATION AND SECTION FOR ENTREPRENEURSHIP AND INNOVATION - TRAINING CENTRE WITHIN GURU NANAK DEV UNIVERSITY CAMPUS AMRITSAR.

NOTES:

Rev.no./Date	Description

Revision

SHEET TITLE :

FRONT ELEVATION AND SECTION

Drawing No:

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■ Tender	15-09-2025 ■ Information	
☐ Proposal	☐ Construction	
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CONTENT

GEOTECHNICAL INVESTIGATIONS FOR THE CONSTRUCTION OF GIRLS HOSTEL WITHIN GURU NANAK DEV UNIVERSITY CAMPUS, AMRITSAR.

1. INTRODUCTION

1.1 General

The work was carried out at the behest of Executive Engineer, Engineering Department, Guru Nanak Dev University, Amritsar vide letter No.6743/EE dated : 11.11.2011.

1.2 Object

The object was to obtain sequence and extent of sub-soil and to ascertain the characteristics of sub-soil so as to arrive at design parameters for the foundations of proposed structures.

1.3 Borehole Locations

Three boreholes, each carried out upto a depth of 10.0 m were used so as to carry out the desired investigations. Borehole locations are shown in figure 1.

1.4 Sub-soil Water Conditions

Sub-soil water was not met in any of the boreholes upto the explored depths. Field investigations were carried out in the month of November, 2011.

1.5 Notations

The various notations of soil parameters as recommended by BIS are given in Appendix-1.

2. FIELD INVESTIGATIONS

These were done as per Appendix-2, under the following heads:

2.1 Boring Operation and Sampling

2.2 Disturbed/undisturbed samples

2.3 Standard Penetration Tests and related corrections

3. LABORATORY INVESTIGATIONS

These were done as per Appendix-3, under the following heads.

3.1 Index properties

3.2 Engineering Properties

4. BOREHOLE LOG DETAILS

Through field and laboratory investigations, all the relevant parameters pertaining to various strata met in three boreholes, were determined. Based upon these, borehole log charts and data sheets have been prepared and are reported in figures 2.1 to 2.3.

The data of these sheets form the basis of evaluation of allowable bearing capacity of the proposed foundations.

5. CORRECTED SPT VALUES

Using the methodology as given in Appendix-2, Observed and Corrected SPT values are reported in Table 1.

Table 1: Observed and Corrected SPT Values (BH-1 to BH-3)

Depth (m)	σ ó kg/cm²	C_N	N			N"		
			BH-1	BH-2	BH-3	BH-1	BH-2	BH-3
4.5	0.72	1.06	40	42	42	42	44.5	44.5
6.0	1.08	0.97	46	46	44	45	45	43
7.5	1.35	0.90	42	46	46	38	41	41
9.0	1.62	0.84	44	48	44	37	40	37

6. CORRECTED LEAST SPT VALUES

Corrected least SPT values based on Table 1 and pertaining to different depths are reported in Table 2.

Table 2 : Corrected Least SPT Values

Depth (m)	4.5	6.0	7.5	9.0
N"	42	43	38	37

7. NATURE OF STRATA MET IN VARIOUS BOREHOLES

Nature of strata met at different depths in various boreholes is described here under:-

BH-1

Depth Range	Nature of Strata
ESL to 0.3 m	Fill
0.3 to 4.3 m	ML-CL (Firm to very stiff strata)
4.3 to 10.0 m	SM (Dense sand)

BH-2

Depth Range	Nature of Strata
ESL to 0.3 m	Fill
0.3 to 4.4 m	ML-CL (Firm to very stiff strata)
4.4 to 10.0 m	SM (Dense sand)

BH-3

Depth Range	Nature of Strata
ESL to 4.3 m	CL (Stiff to very stiff clay)
4.3 to 10.0 m	SM (Compact sand)

8. FOUNDATION PARAMETERS

It is a case of multistoreyed structure having basement (B+G+5FL). To cover the likely range of footing sizes, allowable bearing capacity values are based on the following parameters.

Depth of footings w.r.t. GL = 3.6 m

Depth of Basement Floor Level w.r.t. GL = 2.4 m

Depth of footings w.r.t. BFL (D) = 1.2 m

i) Strip Footings

Width of Strip footings (B) = 2.0 m; 2.5 m

ii) Individual Footings

Size of footings (B x L) = 2.5 m x 3.0 m
3.0 m x 3.5 m

9. ALLOWABLE BEARING CAPACITY CRITERIA

This is given as Appendix-4 and is used to arrive at desired values of bearing capacity.

10. COMPUTATION OF ALLOWABLE BEARING CAPACITY VALUES

Perusal of the borehole data shows that supporting strata is of compressible nature at all locations. The overstated values of SPT observed in this strata indicate that the supporting strata is having very stiff consistency. When such a dessicated/and over consolidated clayey strata get saturated through ingress of water, there is a significant decrease in shear strength and increase in compressibility characteristics. As such relevant characteristics of these strata have been determined under saturated conditions.

10.1 Shear Failure Analysis

The value of 'q_{ns}' is governed by the shear strength characteristics of the supporting strata. Borehole wise the nature of supporting strata and the corresponding governing shear strength parameters are given here under:

Borehole	Nature of Strata	Governing Shear Strength Parameters
BH-1	ML-CL	C_u = 0.58 Kg/cm^2
BH-2	ML-CL	C_u = 0.61 Kg/cm^2
BH-3	CL	C_u = 0.66 Kg/cm^2

It is justifiable to base the analysis on the data representing the least favourable conditions. In other words, C_u = 0.58 Kg/cm^2 leads to conservative values of bearing capacity.

Now,

$$q_{nf} = C_u \times N_c \times S_c \times d_c$$

N_c = Bearing Capacity factor

= 5.14 (undrained conditions)

S_c = Shape factor

d_c = Depth factor = 1 + 0.2 x D/B

Using FOS = 2.5,

q_{ns} = 11.9248 x S_c x d_c

i) Strip Footings

S_c = 1 (Strip footings)

Width of footings (B)	d_c	q_{ns} t/m^2
2.0 m	1.12	13.4
2.5 m	1.096	13.0

ii) Individual Footings

S_c = 1 + 0.2 x B/L (Rectangular footings)

Size of footings (B x L)	S_c	d_c	q_{ns} t/m^2
2.5 m x 3.0 m	1.167	1.096	15.3
3.0 m x 3.5 m	1.171	1.08	15.1

10.2 Settlement Analysis

The value of 'q_n' is governed by the physical and compressibility characteristics of the strata falling within the significant depth of the proposed footings. Results of shear failure analysis lead to the conclusion that if following parameters satisfy settlement criteria, then the rest of the parameters being analysed also satisfy settlement criteria.

i) Strip Footings

$q_n = q_{ns} = 13.0\ t/m^2$

$B = 2.5\ m$

ii) Individual Footings

$q_n = q_{ns} = 15.1\ t/m^2$

$B \times L = 3.0\ m \times 3.5\ m$

Combining the data of the boreholes, figures 3.1 and 3.2 present the most critical foundation-soil systems for settlement analysis.

Figure 4 presents the results of consolidation test.

Following expressions are used to compute settlement.

a) Cohesive Layer

$$\text{Sett.} = \frac{H \times C_c}{1 + e_o} \text{ Log } \frac{\sigma ó + \Delta\sigma}{\sigma ó} \times D_f \times \lambda \qquad \text{.....(1)}$$

b) Cohesionless Layer

$$\text{Sett.} = S_o \times \Delta\sigma_t \qquad \text{.....(2)}$$

Maximum permissible settlement for the system undergoing settlement can be adopted as 3.0 cms so as to be on the conservative side.

Using equations (1) and (2) and the data of figures 3.1 and 3.2, settlements work out to be as under:

i) Strip Footings

$q_n = q_{ns} = 13.0\ t/m^2$

S_1 = Sett. due to Layer I = 1.86 cms

S_2 = Sett. due to Layer II = 0.74 cms

S_t = Total Sett. = 2.60 cms < 3.0 cms, O'k

ii) Individual Footings

$q_n = q_{ns} = 15.1\ t/m^2$

S_1 = Sett. due to Layer I = 1.90 cms

S_2 = Sett. due to Layer II = 0.87 cms

S_t = Total Sett. = 2.77 cms < 3.0 cms, O'k

11. RECOMMEDATIONS

Following values of allowable bearing capacity are valid for RCC footings at the proposed site.

Depth of footings w.r.t. GL = 3.6 m

Depth of Basement Floor Level w.r.t. GL = 2.4 m

Depth of footings w.r.t. Basement Floor Level = 1.2 m

i) Strip Footings

Width of footings	$(q_a)_{NET}$ t/m^2	$(q_a)_{GROSS}$ t/m^2
2.0 m	13.4	15.4
2.5 m	13.0	15.0

An average value of $(q_a)_{NET} = 13.2\ t/m^2$ may be adopted in footing design.

ii) **Individual Footings**

Size of footing (B x L)	$(q_a)_{NET}$ t/m^2	$(q_a)_{GROSS}$ t/m^2
2.5 m x 3.0 m	15.3	17.3
3.0 m x 3.5 m	15.1	17.1

An average value of $(q_a)_{NET}$ = 15.2 t/m^2 may be adopted in footing design.

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