GOVERNMENT OF NEPAL

MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY

CENTER FOR EDUCATION AND HUMAN RESOURCE DEVELOPMENT

SANOTHIMI, BHAKTAPUR, NEPAL

***

ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND SANITARY DRAWING

TYPE DESIGN FOR HILLY REGION,

[Contract ID: CEHRD/SESP/SQ/Consultancy/03/2079/080]

FEBRUARY 2023

Government of Nepal
Ministry of Education, Science & Technology
Center for Education and Human Resource Development
Sanothimi, Bhaktapur, Nepal

PREPARE SCHOOL BUILDING TYPE DESIGN FOR HILLY REGION

Contract ID: CEHRD/SESP/SQ/Consultancy/03/2079/080

DETAIL DESIGN AND DRAWING

3 STORY@6 ROOM WITH

(TOILET, WASH ROOM, CHANGING ROOM & BOOK CORNER)

SUBMITTED BY:
OPTIMUM STRUCTURES (P.) LTD.

FEBRUARY, 2023

ARCHITECTURE

DRAWING

NOTES:

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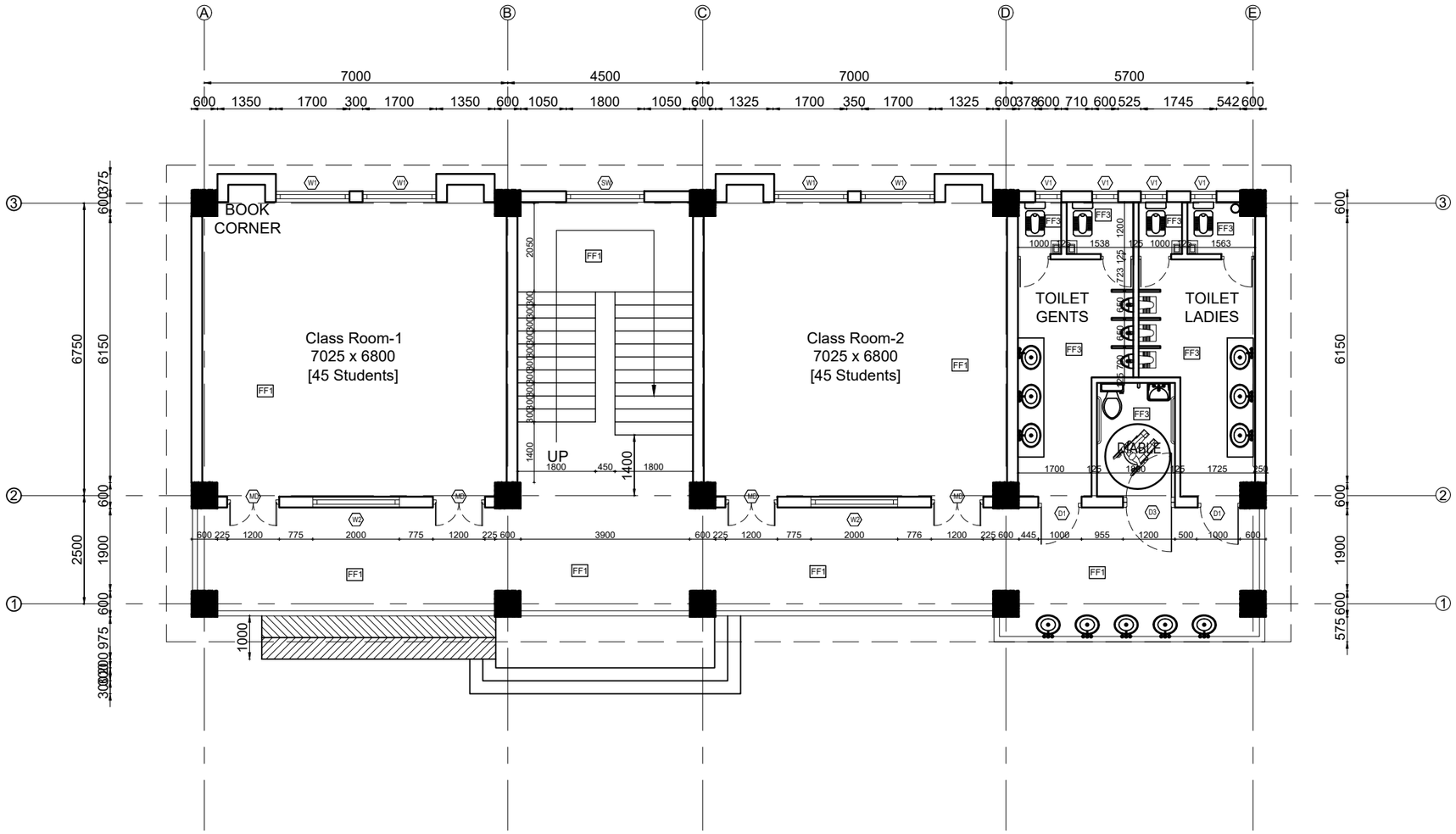
3. Site Engineer to notify the consultant if any discrepancy in dimensions found in drawings as per the site condition.
4. Sill and Lintel dimensions are measured from the Slab Lvl.
5. Dimensions are excluding the plaster/POP thickness.



GROUND FLOOR PLAN

SCALE 1:100

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
FF3	6 mm thick porcelain non-glaze tile with 20 mm cement sand mortar (1:4)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**GROUND FLOOR PLAN**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 01	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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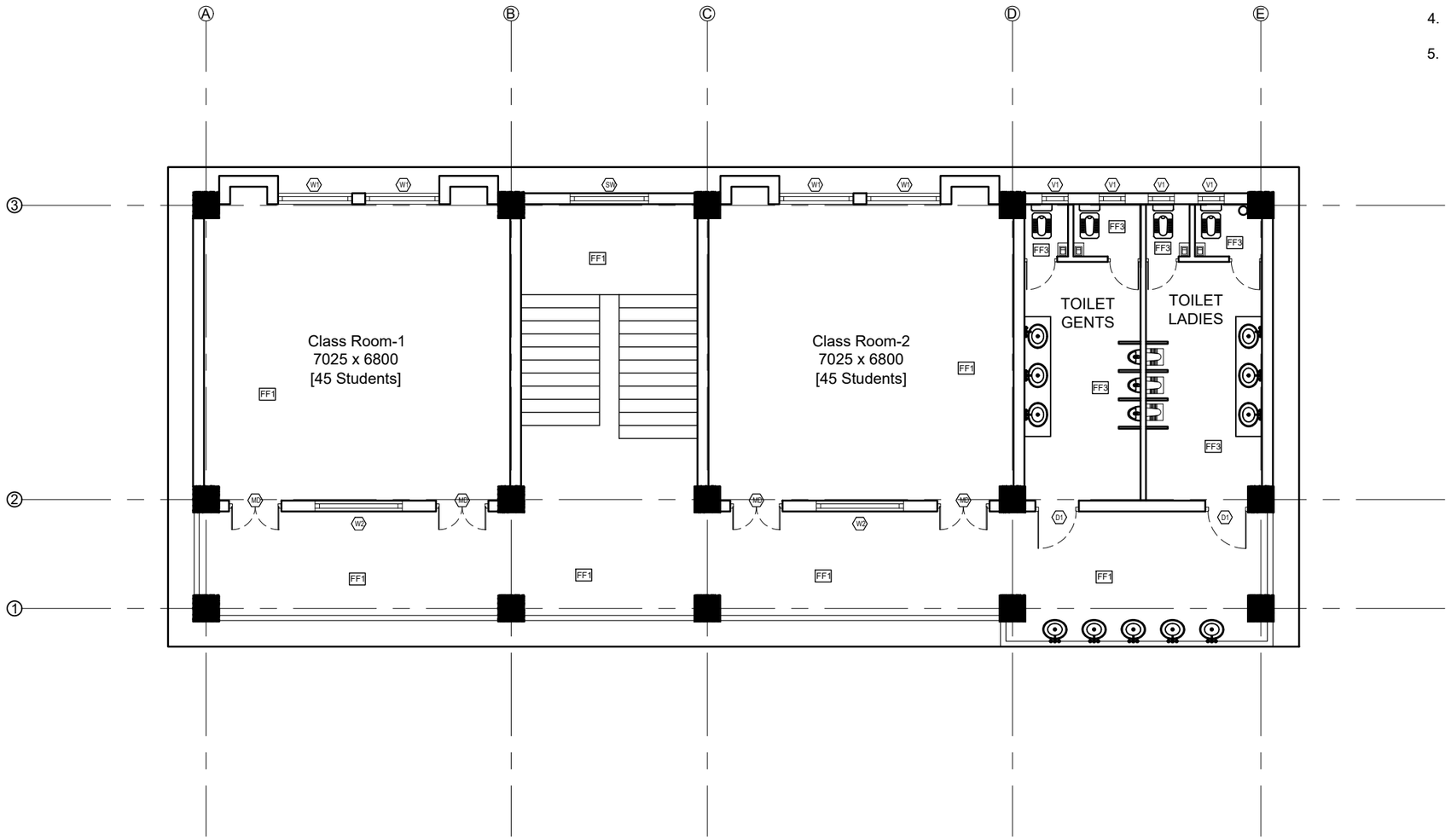

FIRST AND SECOND FLOOR PLAN

SCALE 1:100

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**FIRST AND SECOND FLOOR PLAN**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 02	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
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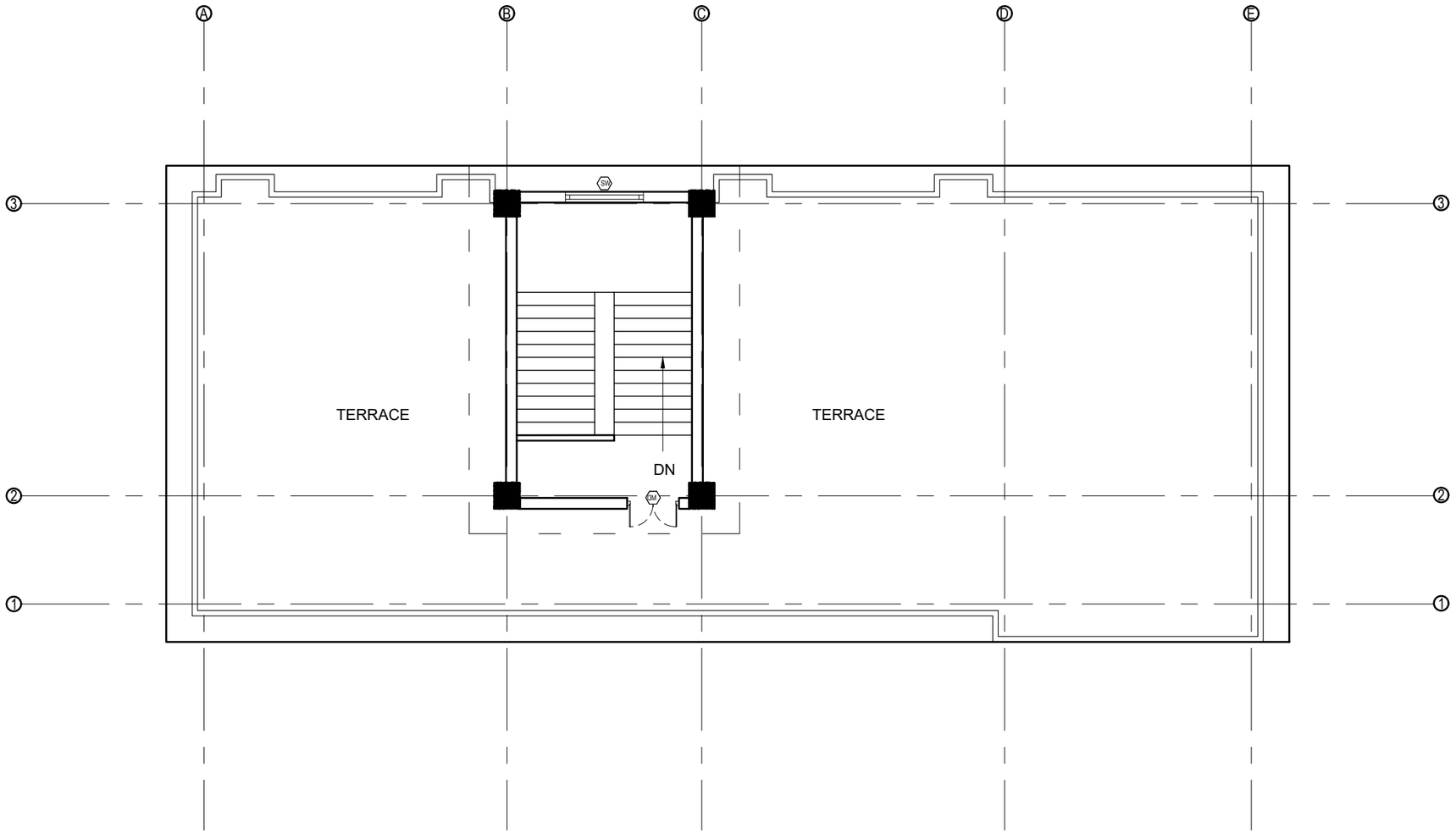

ROOF PLAN

SCALE 1:100

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ROOF PLAN**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 03	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
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FRONT ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 04	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
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BACK ELEVATION

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 05	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
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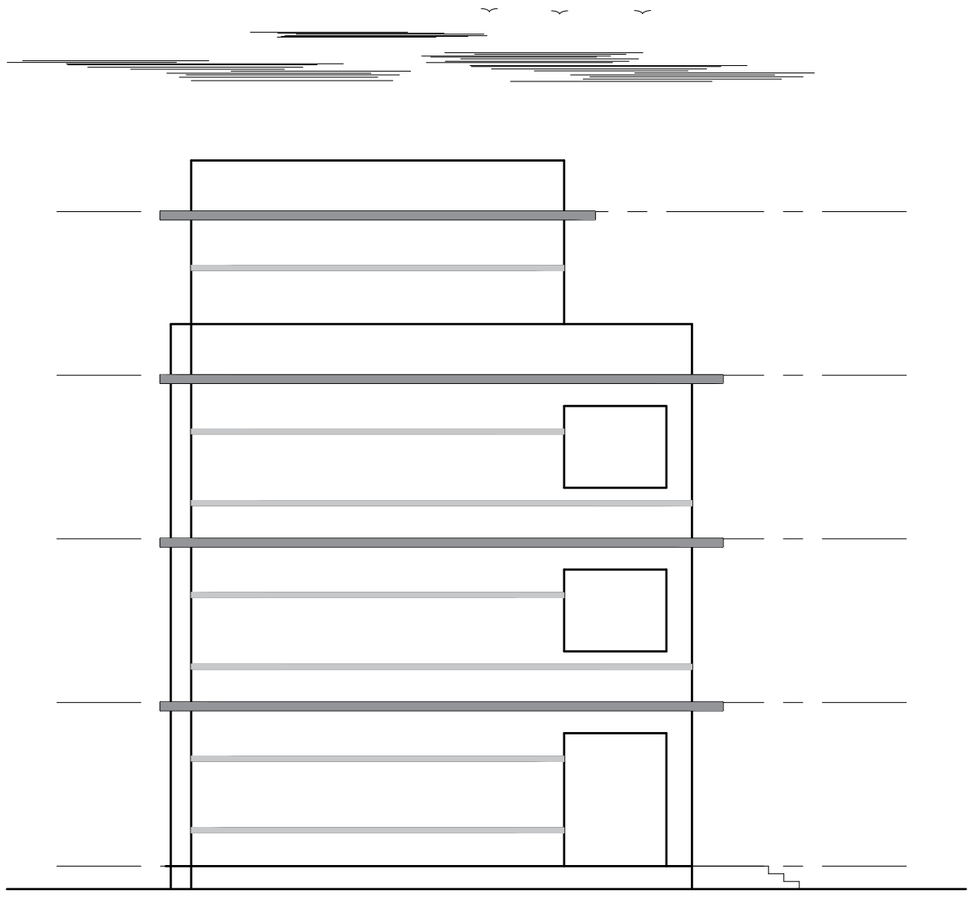
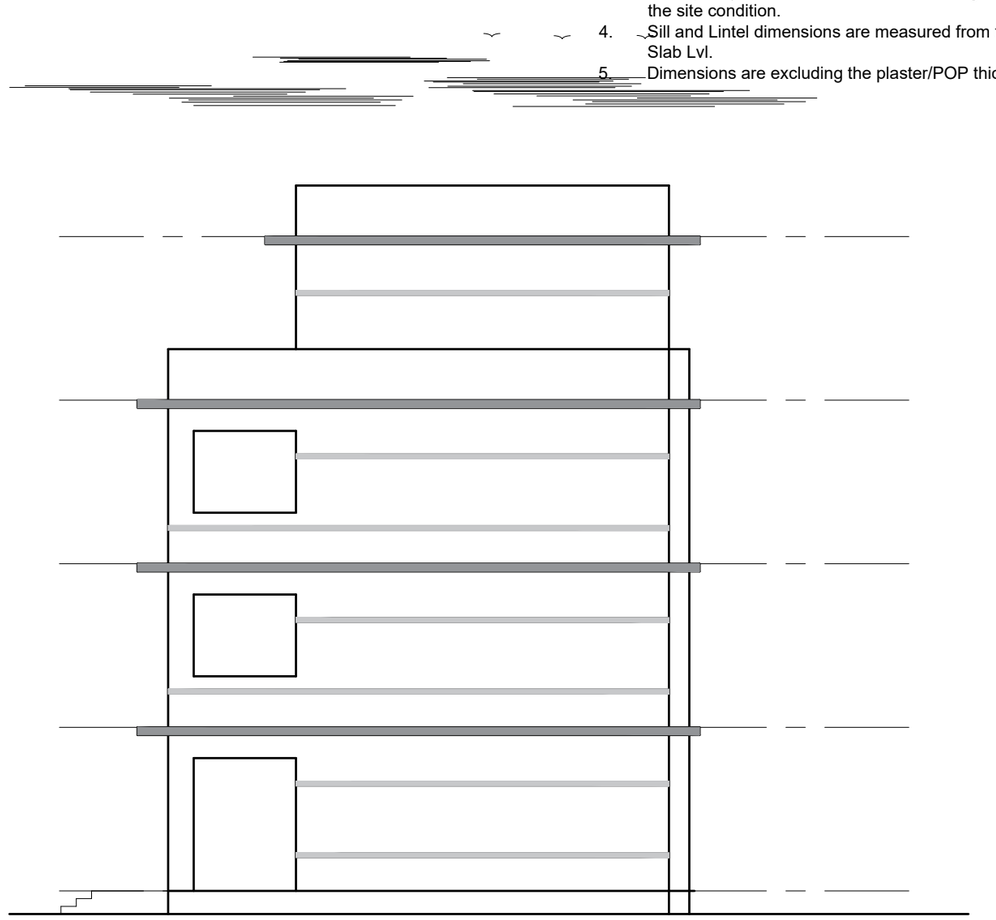


SIDE-2 ELEVATION



SIDE-1 ELEVATION

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 06	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
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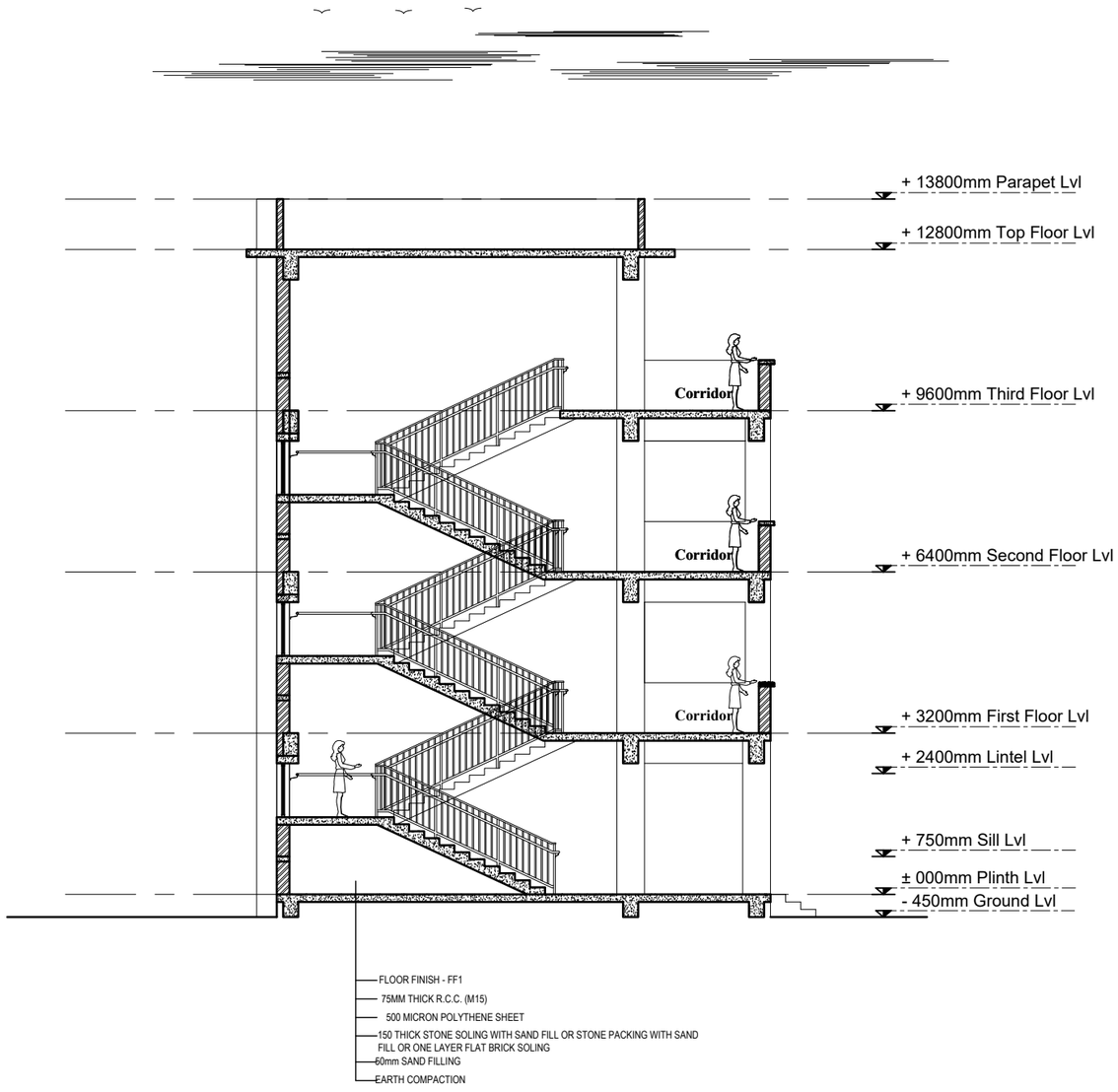

SECTION THOUGH STAIRCASE

OPENING SCHEDULE

S.N.	SYMBOL	SIZES	G.F.	F.F.	S.F.	TOTAL	SILL HT.	REMARKS
1.	MD	1200 x 2400	4	4	4	12	-	
2.	D1	1000 x 2400	2	2	2	6	-	
3.	D2	750 x 2100	4	4	4	12	-	
4.	D3	1200 x 2400	1			1	-	
5.	W1	1700 x 1650	4	4	4	12	750 MM	
6.	W2	2000 x 1650	2	2	2	6	750 MM	
7.	SW	1800 x 1070	1	1		2	1530 MM	
8.	V1	600 x 600	4	4	4	12	1800 MM	

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**SECTION AND OPENING SCHEDULE**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 07 / R-00
				ARCHITECT:	CHECKED:	
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S6R-HILLY
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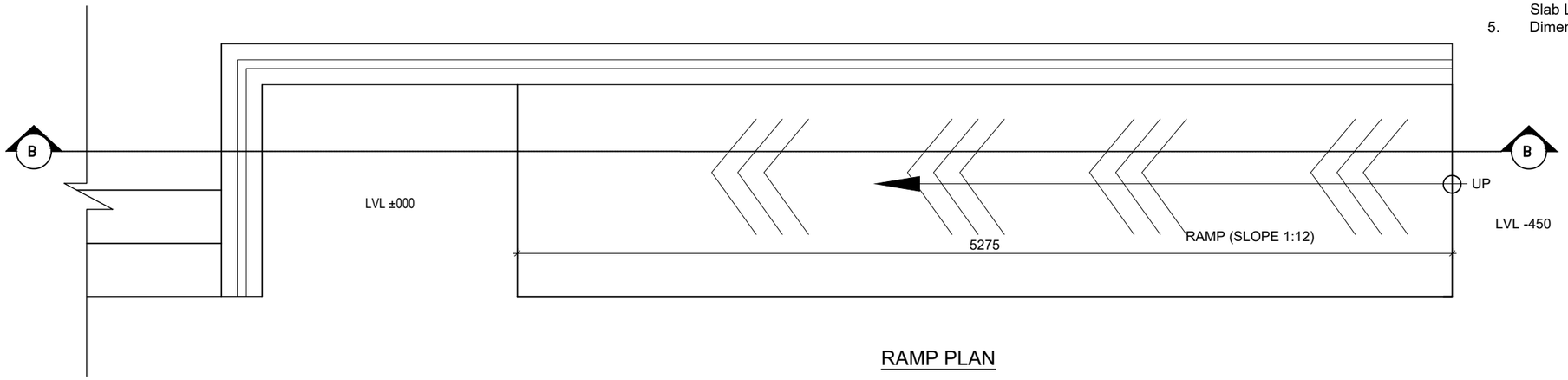
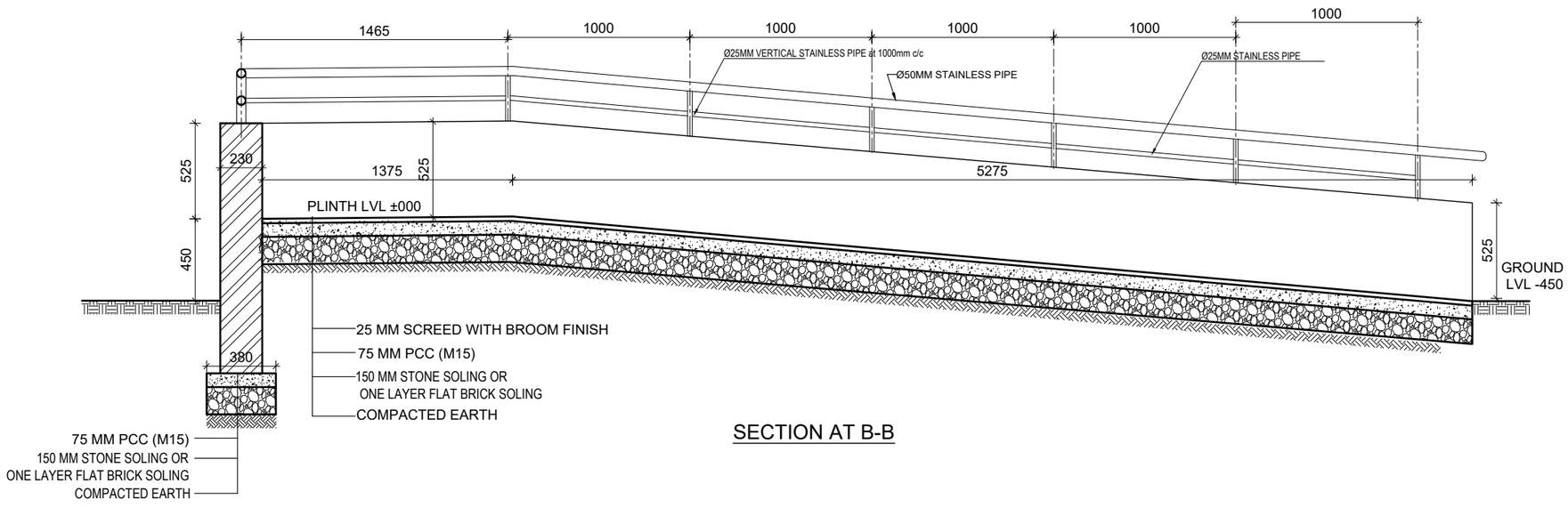


RAMP PLAN



SECTION AT B-B

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**RAMP DETAILS**	Optimum Structures (P.) Ltd. Neapl	ENGINEER:	STRUCTURE ER. :	AR - 08	R-00
				ARCHITECT:	CHECKED:		
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				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023	3S6R-HILLY	

STRUCTURE

DRAWING

SN.	DRAWING LIST
1.	GENERAL NOTES
3.	FOOTING DETAIL FOR 100kN/m2
4.	TYPICAL FLOORING DETAIL
5.	SITE SPECIFIC DRAWING
6.	TYPICAL DETAILS OF FOUNDATION WALL
7.	COLUMN DETAIL
8.	BEAM PLAN
9.	BEAM DETAIL
10.	SLAB DETAIL
11.	STAIRCASE DETAIL
12.	BAND DETAIL
13.	RAILING DETAIL

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TABLE OF CONTENTS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :		R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
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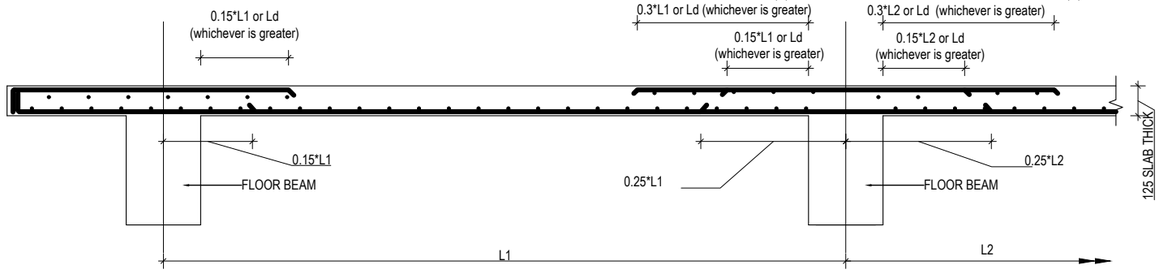
GENERAL NOTES:

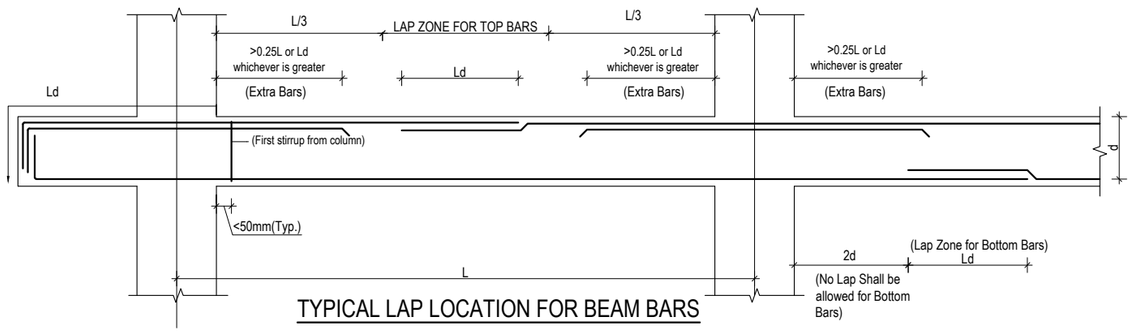
1. USE M25 GRADE CONCRETE FOR SLAB, BEAM, COLUMN, FOUNDATION, SILL & LINTEL BANDS (ALL RCC WORKS)
2. USE Fe500 GRADE STEEL (fy=500N/mm^2)
3. CLEAR COVER TO BARS
   a. FOR CONCRETE MEMBERS IN CONTACT WITH SOIL = MIN 50mm
   b. FOR COLUMN (FROM FACE TO LATERAL TIES) = 40mm
   c. FOR BEAMS (FROM FACE TO LATERAL STIRRUPS) = 25mm
   d. FOR OUTER BARS IN SLAB = 15mm
   e. FOR STAIRCASE = 20mm
4. BARS IN COLUMNS SHALL BE SPLICED ONLY AT MID HEIGHT OF COLUMN.
5. BARS SPLICING IN BEAM SHALL BE AVOIDED IN THE SPAN WHERE INTERMEDIATE BEAM IS CONNECTED AND SHALL BE ONLY AS SHOWN IN DWG.
6. DEVELOPMENT / LAP LENGTH (Ld.) FOR BARS.

BAR DIA-(mm)	8	10	12	16	20	25
FOR M25 Ld	400	490	590	790	980	1230

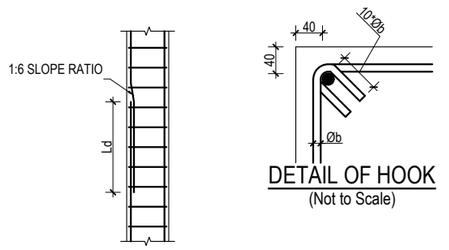
7. TEMP./DISTRIBUTION REINFORCEMENT FOR SLAB - TMT 8Ø @ 200 C/C
8. CLEAR VERTICAL DISTANCE BETWEEN TWO ROWS (LAYERS) OF BARS=25mm OR MAXIMUM SIZE OF REBAR
9. PROVIDE STIRRUPS OR TIES AT MIN 150 C/C AT LAP LOCATIONS IN BEAM AND AT MIN 100 C/C AT LAP LOCATION IN COLUMNS.
10. FOUNDATION
    10.1 FOUNDATION DESIGN HAVE BEEN PROVIDED FOR SAFE BEARING CAPACITY OF 150KN/m2. THIS S.B.C. SHALL BE CONFIRMED FROM GEO TECHNICAL INVESTIGATION AND CONSULTED TO DESIGNER.
    10.2 IF SAFE BEARING CAPACITY OF SOIL IS FOUND LESS THAN 100KN/m2, SPECIAL STUDY FOR FOUNDATION DESIGN IS REQUIRED.
11. H = CLEAR SPAN OF FLOOR.
12. D=DEPTH OF BEAM
13. d=EFFECTIVE DEPTH OF BEAM
14. Ld=DEVELOPMENT LENGHT
15. The seismic gap shall be as per codal requirement.



TYPICAL DETAIL FOR SLAB BARS

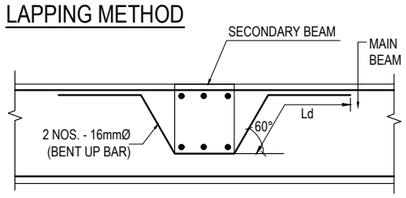


TYPICAL LAP LOCATION FOR BEAM BARS
(STIRRUPS NOT SHOWN FOR CLARITY)

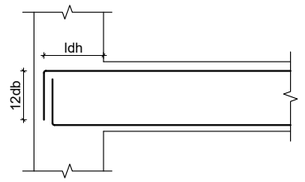


LAPPING METHOD

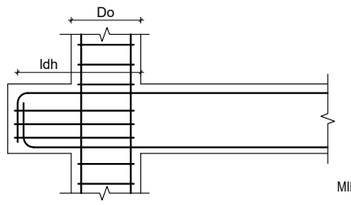
DETAIL OF HOOK
(Not to Scale)



CONNECTION DETAIL BETWEEN MAIN & SECONDARY BEAM



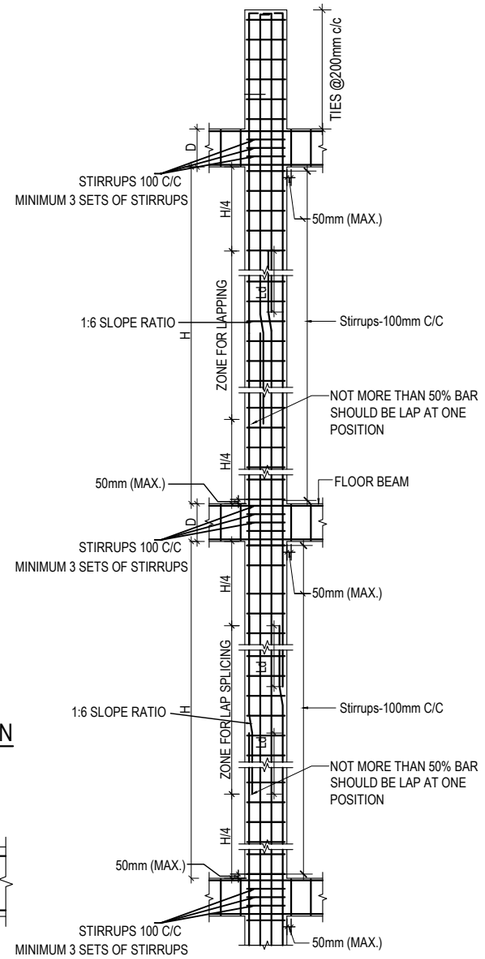
ANCHORAGE OF BEAM LONGITUDINAL BAR IN COLUMN



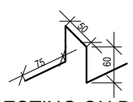
PPROVISION OF BEAM STUB

fy	fck	db	Ldh	12db
N/mm2	N/mm2	mm	mm	mm
500	20	12	277	144
500	25	12	248	144
500	20	16	369	192
500	25	16	330	192
500	20	20	462	240
500	25	20	413	240
500	20	25	577	300
500	25	25	516	300

fy= yield strength of steel
fck= Characteristic Compressive strength of concrete
db= diameter of largest longitudinalbar in beam in mm



TYP. COLUMN SHEAR REINFORCEMENT DETAIL



CHAIR RESTING ON BOTTOM BARS @600 - 900 mm staggered position

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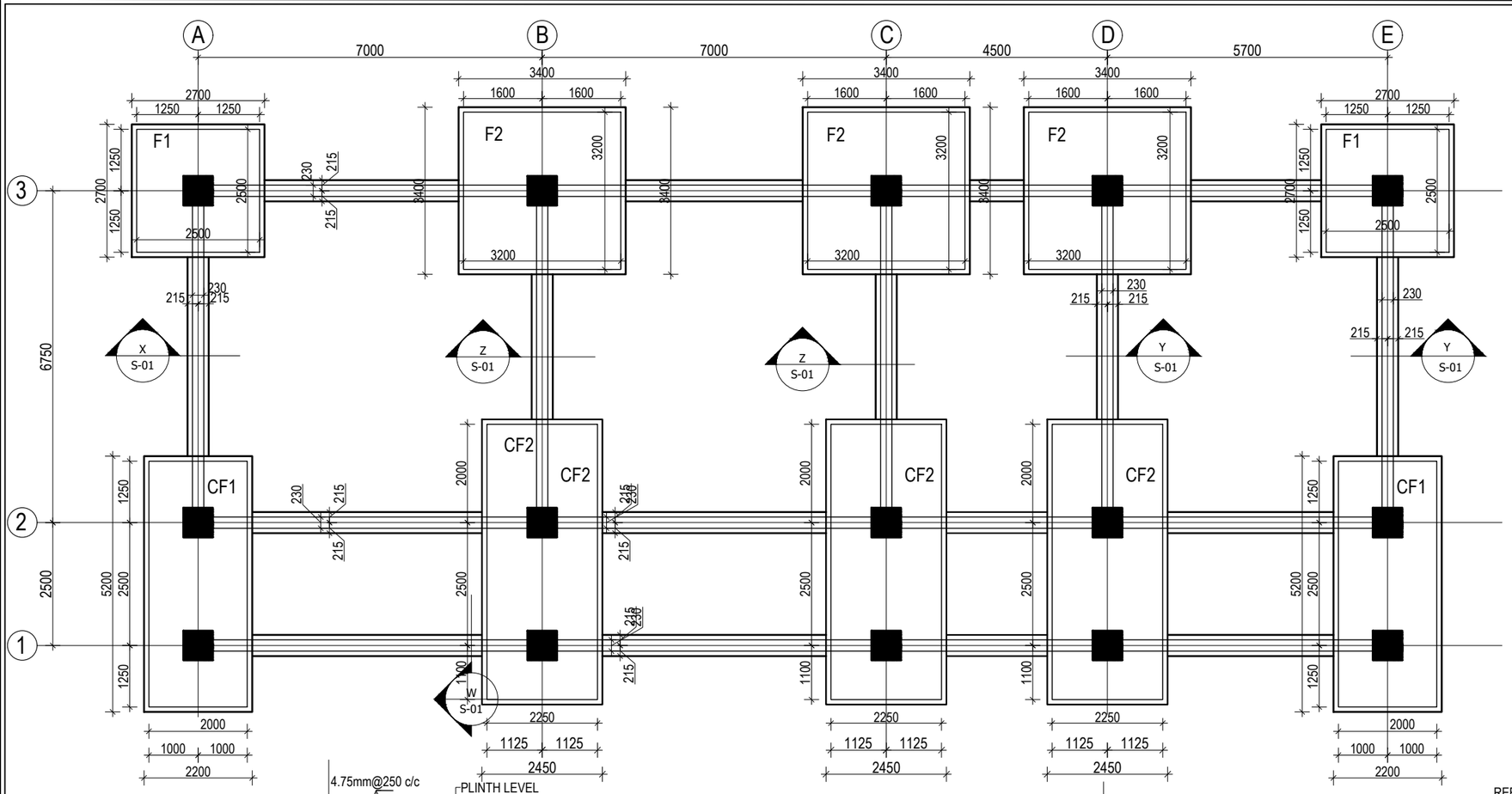
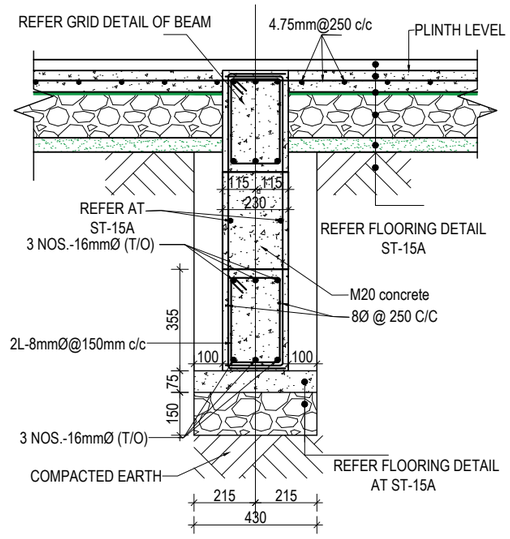
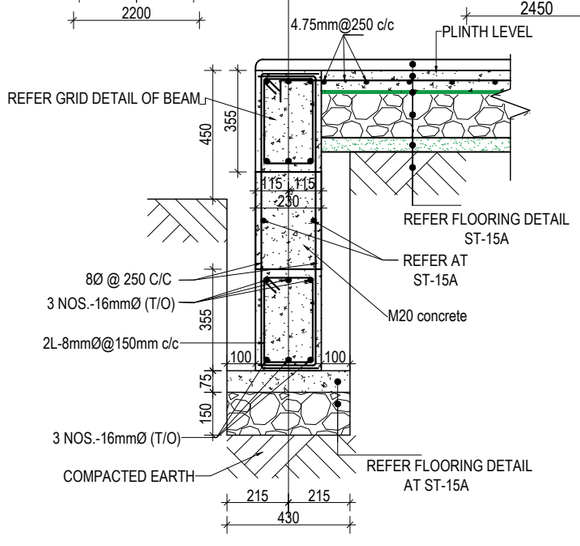




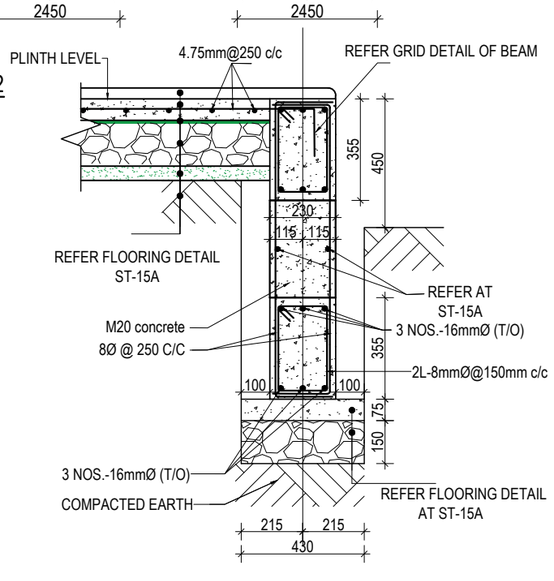
SECTION AT Z-Z

(Scale= 1:20)



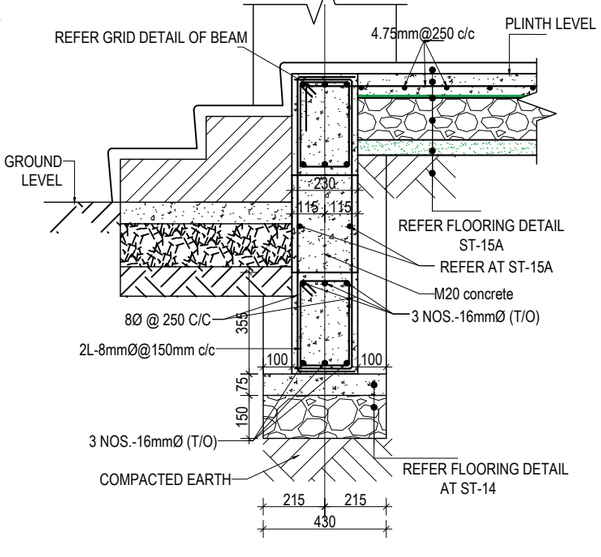
SECTION AT X-X

(Scale= 1:20)



SECTION AT Y-Y

(Scale= 1:20)



SECTION AT W-W

(Scale= 1:20)

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-01	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
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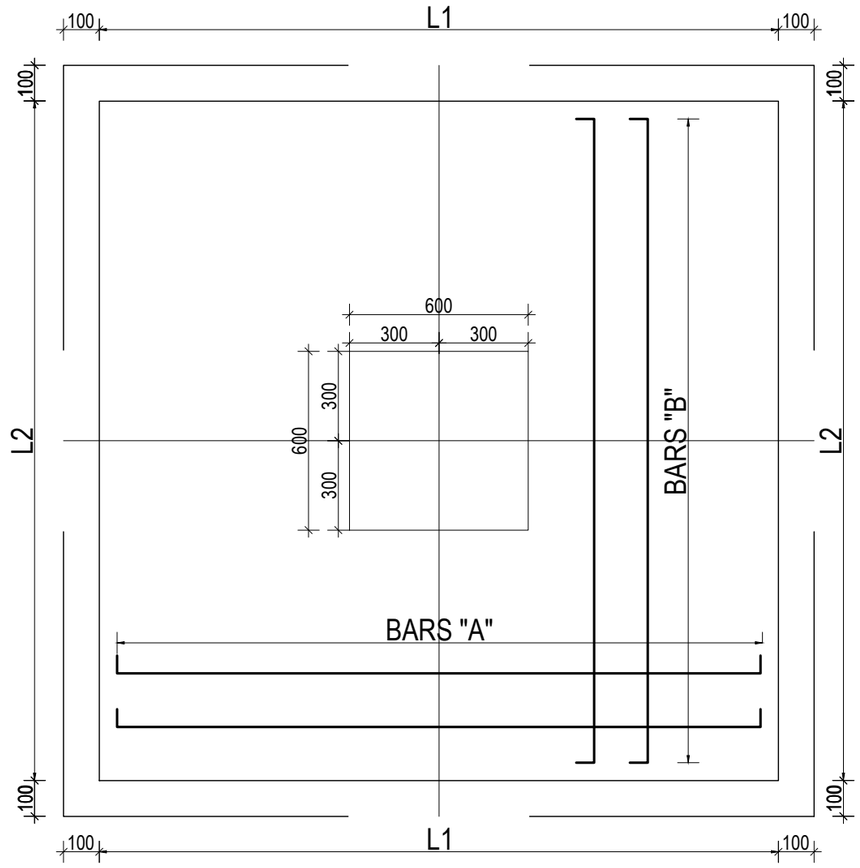
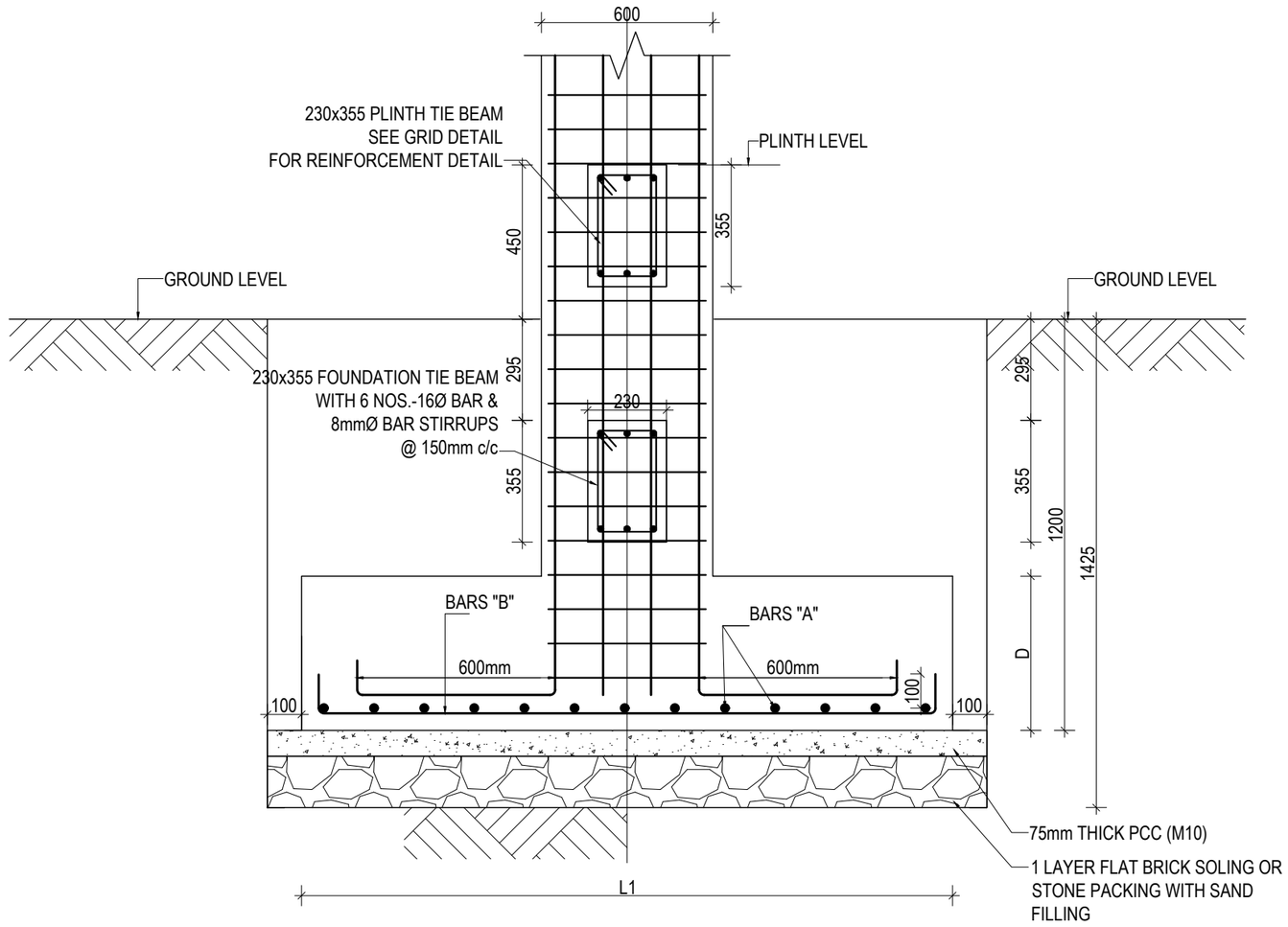


TYPICAL ISOLATED FOOTING PLAN

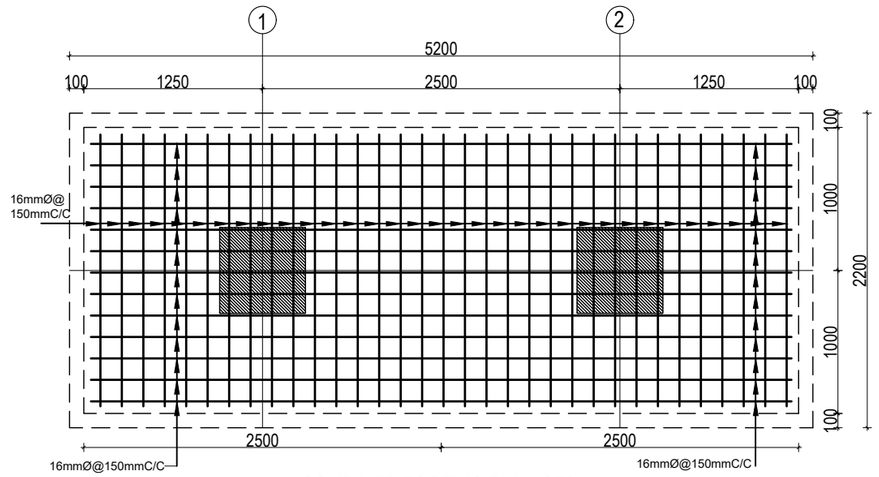


TYPICAL ISOLATED FOOTING SECTION

ISOLATED FOOTING SCHEDULE FOR S.B.C 150 kN/m2

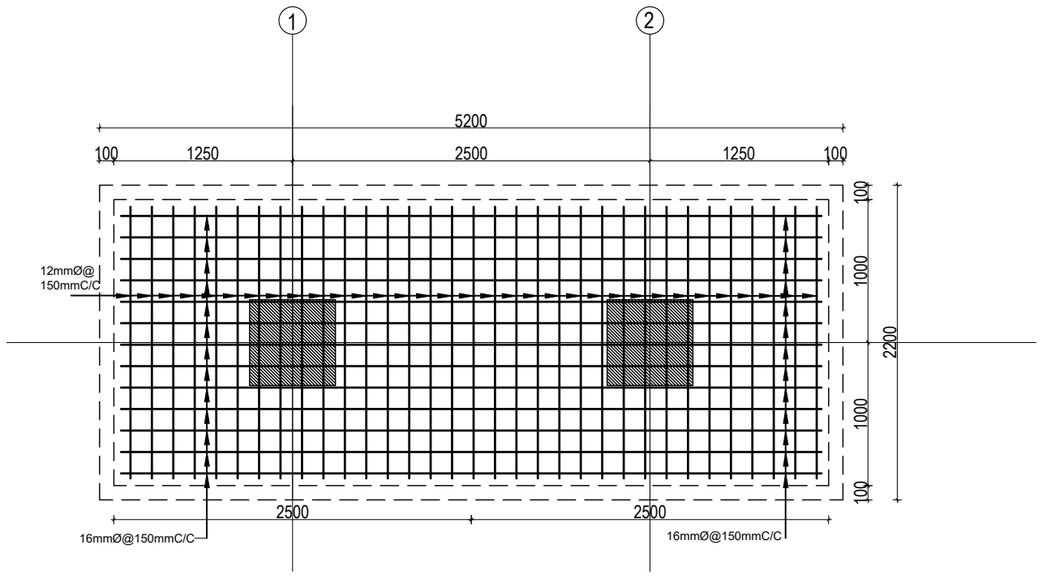
FOOTING ID	L1	L2	DEPTH (D)	REINFORCEMENT DETAILS	
				BARS "A"	BARS "B"
F1	2500	2500	600	16Ø @ 150 C/C	16Ø @ 150 C/C
F2	3200	3200	750	16Ø @ 150 C/C	16Ø @ 150 C/C

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-02	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



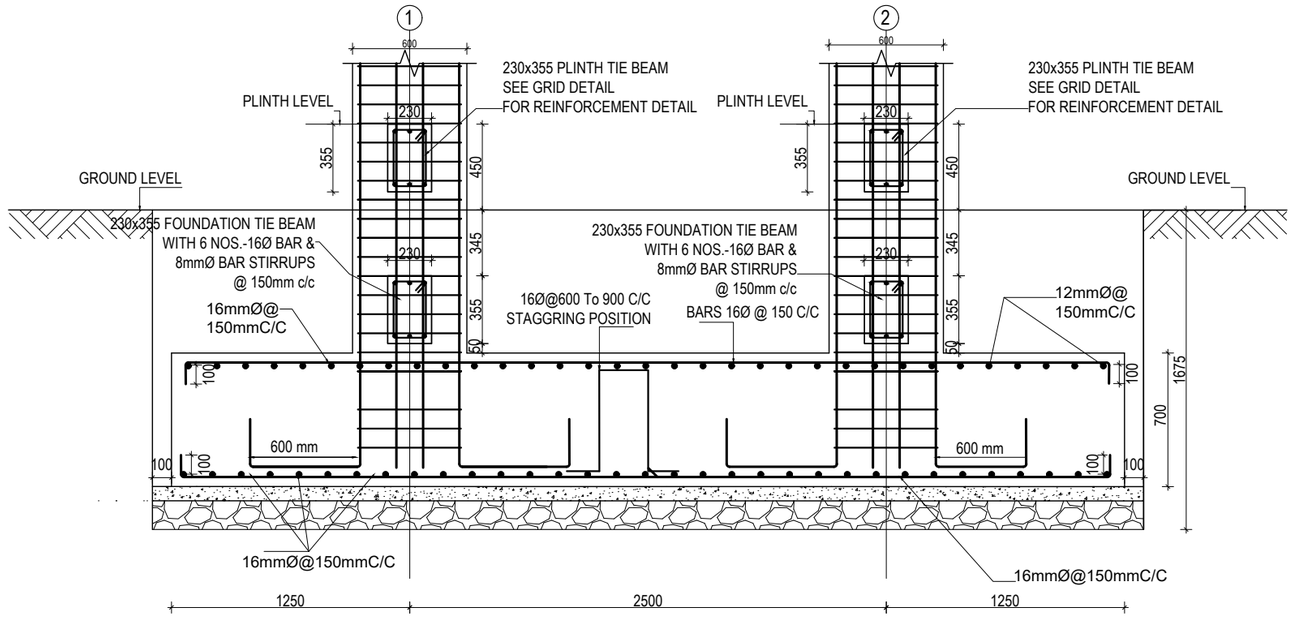
COMBINED FOOTING PLAN CF1

BOTTOM REINFORCEMENT



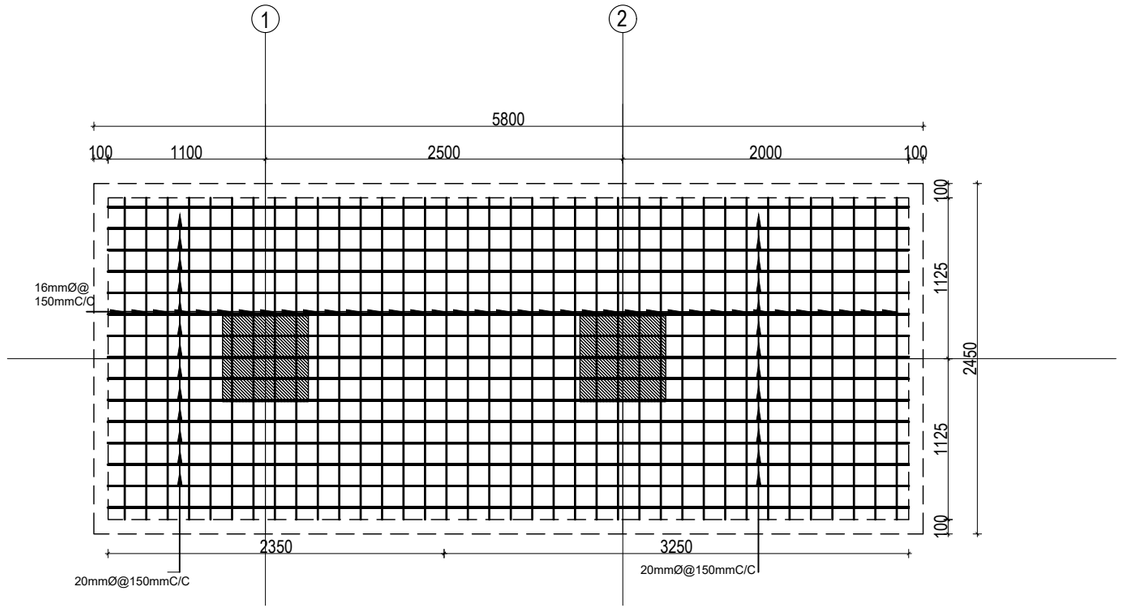
COMBINED FOOTING PLAN CF1

TOP REINFORCEMENT



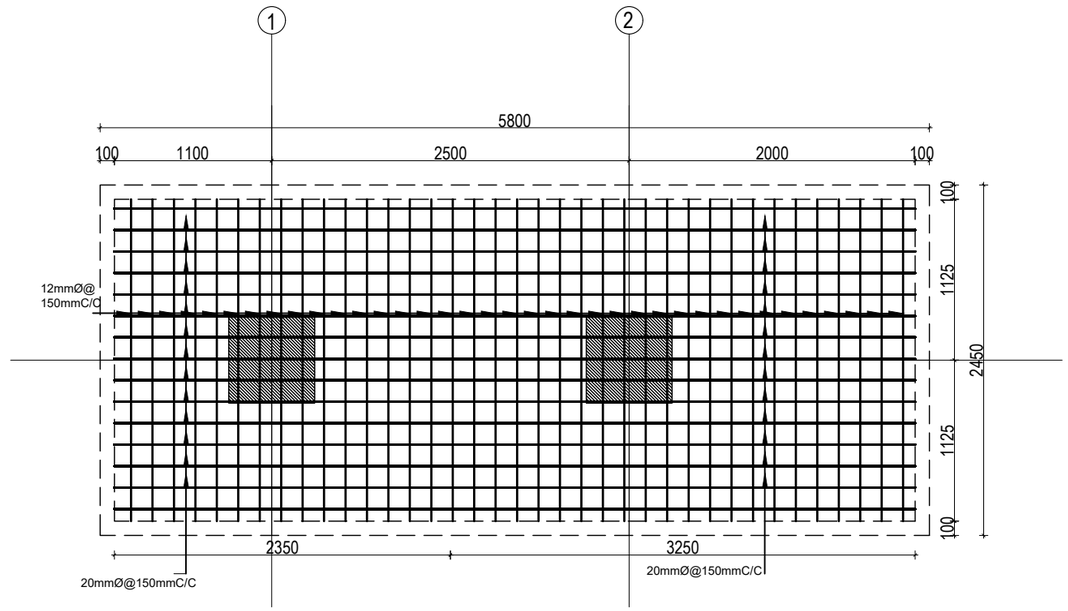
COMBINED FOOTING SECTION CF1

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-03	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



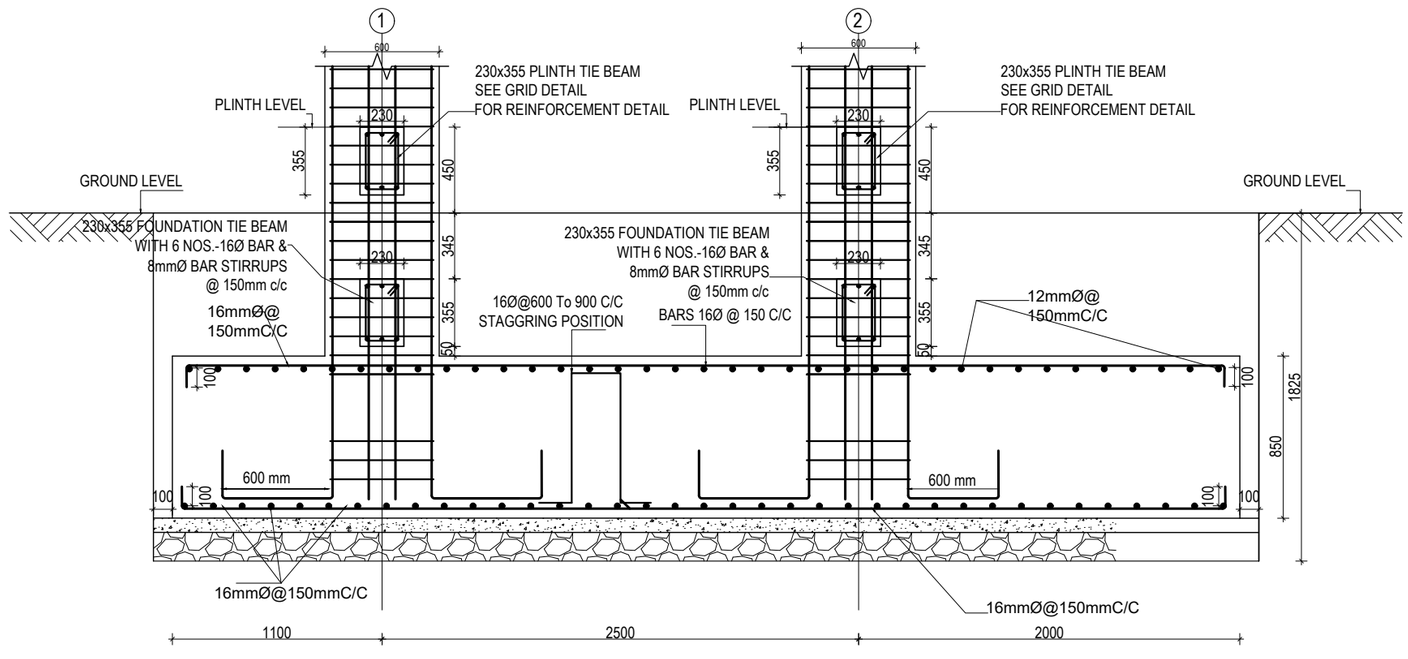
COMBINED FOOTING PLAN CF2

BOTTOM REINFORCEMENT



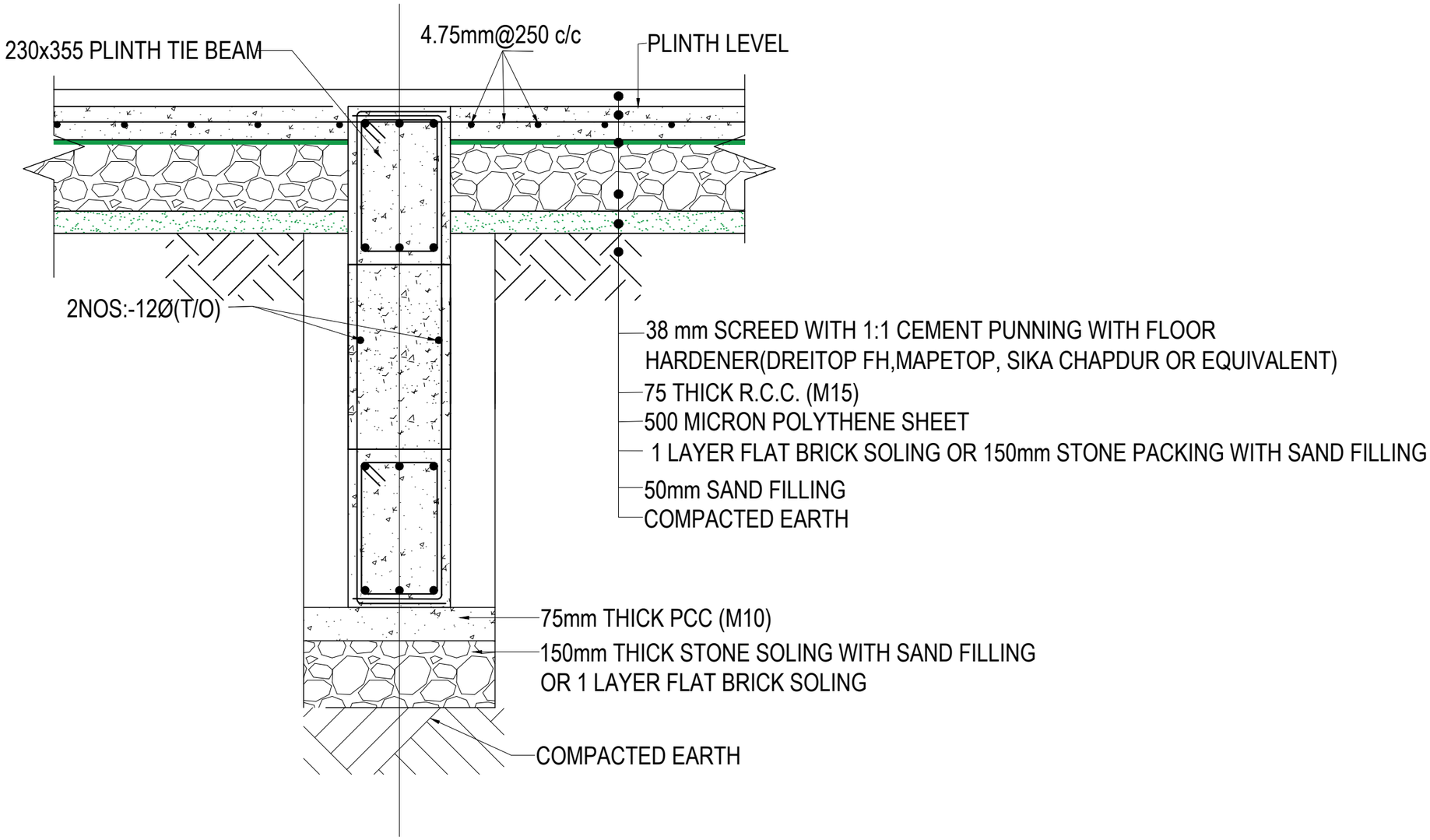
COMBINED FOOTING PLAN CF2

TOP REINFORCEMENT



COMBINED FOOTING SECTION CF2

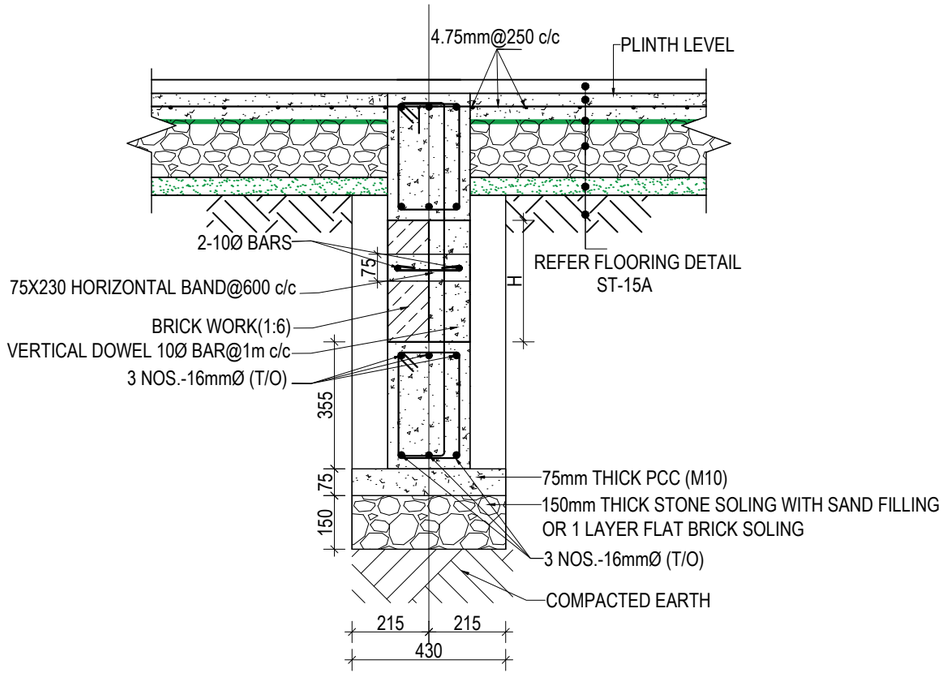
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-04	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL FLOORING DETAIL FF1

(Scale= 1:10)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL FLOORING DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-05 / R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S6R-HILLY
				DRAWN : NEETA BHANDARI	APPROVED:	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023	



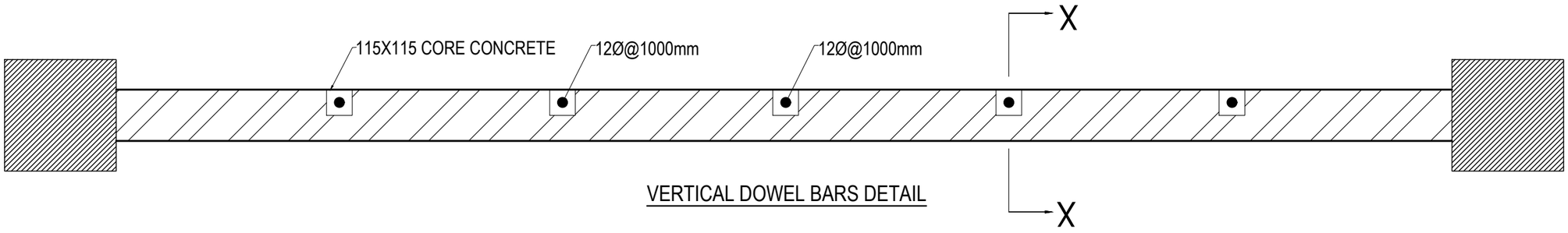
WALL DETAIL FOR DEPTH OF FOOTING MORE THAN 1500 mm

SECTION AT X-X

NOTES:-

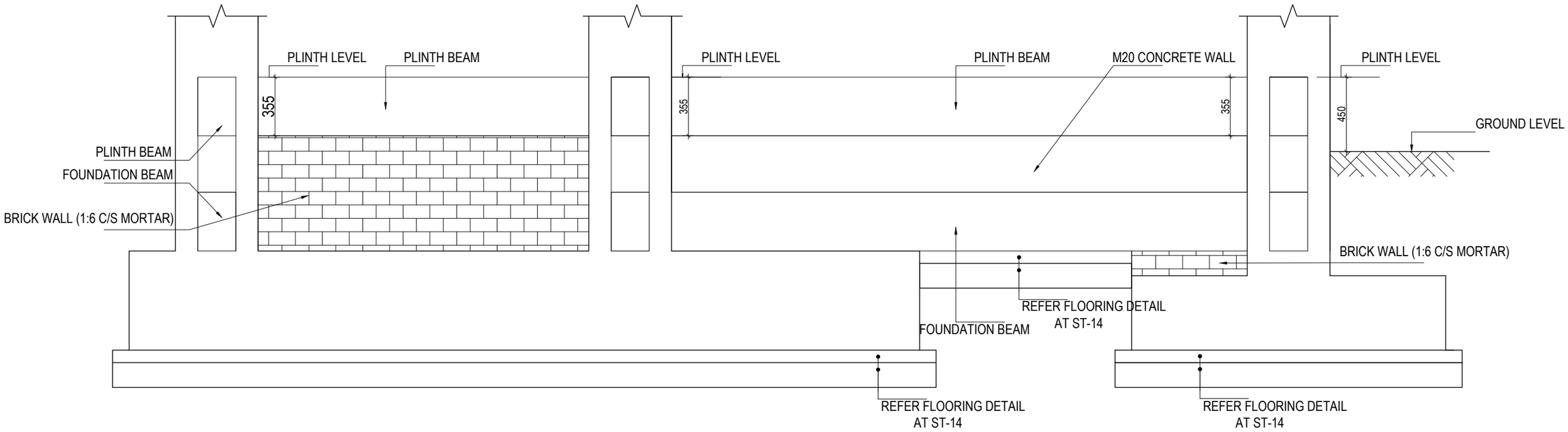
1) BRICK WALL IS USED IF WALL IS CONFINED BY SOIL ON BOTH SIDES

2)IF THE HEIGHT OF THE BRICKWALL EXCEEDS 1800 mm ADDITIONAL BEAM SHALL BE PROVIDED OF SAME SIZE OF FOUNDATION BEAM(SAME REINFORCEMENT TO BE USED)



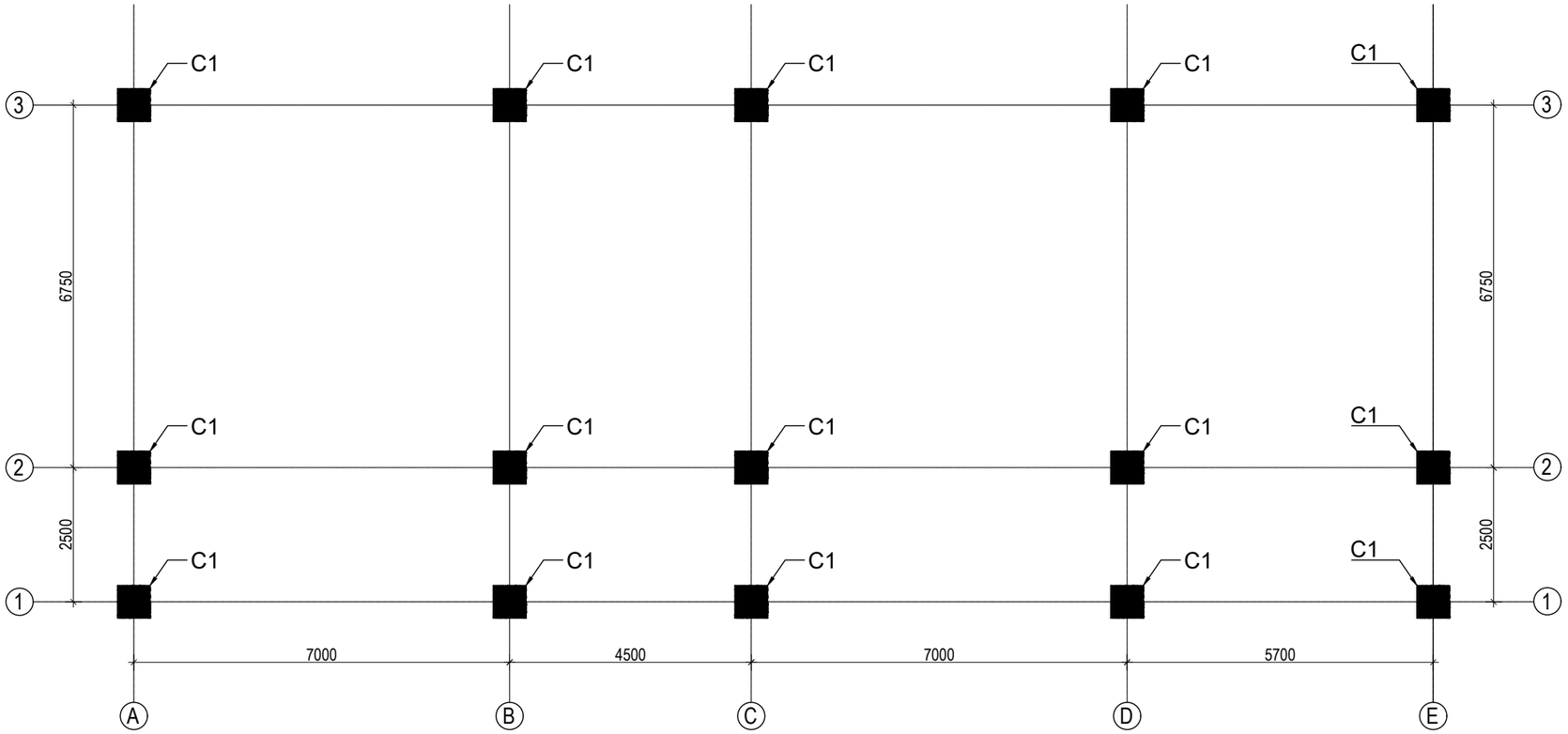
VERTICAL DOWEL BARS DETAIL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SITE SPECIFIC DRAWING	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-06	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL DETAIL OF FOUNDATION WALL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL DETAIL OF FOUNDATION WALL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-07	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



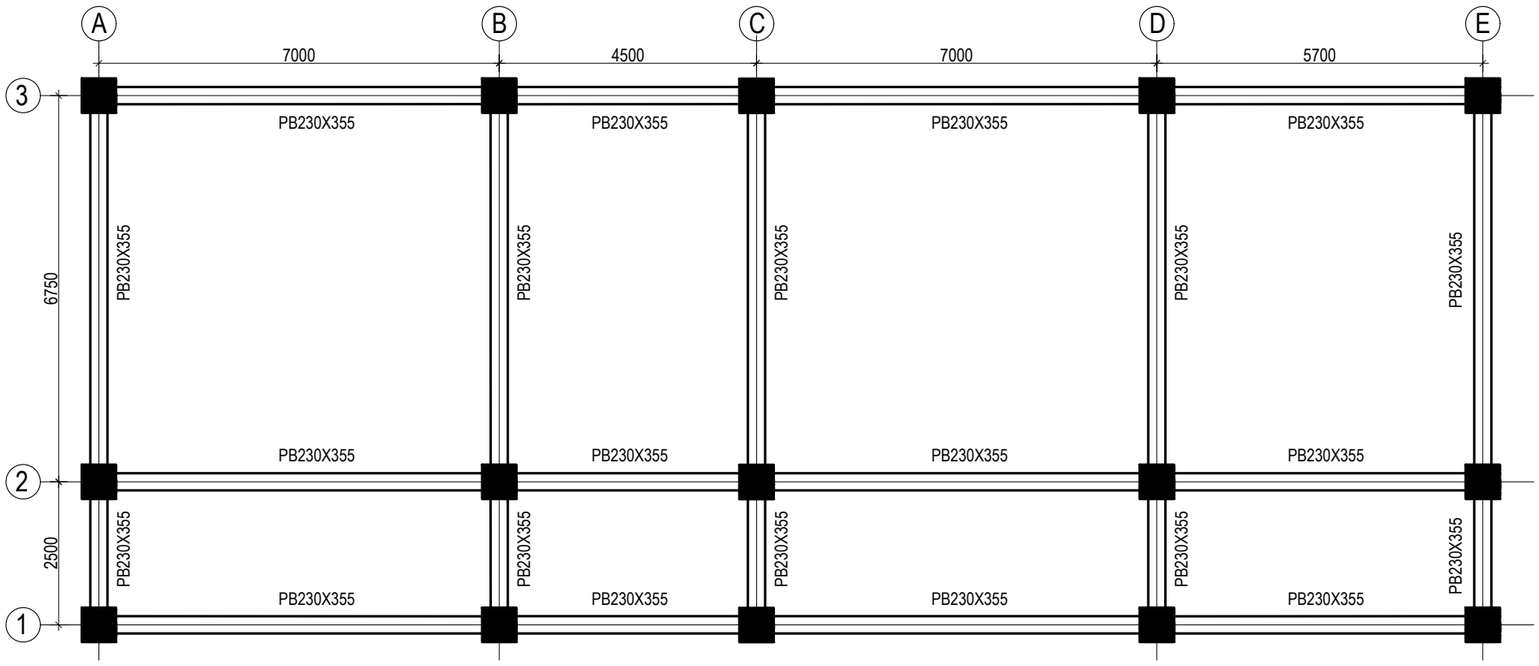
GROUND FLOOR COLUMN LAYOUT PLAN

(SCALE 1:100)

COLUMN REINFORCEMENT DETAILS

S. NO.	COLUMN	COLUMN SIZE	FLOOR					TIE BAR ORIENTATION
			GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	TOP FLOOR	
1	C1	600X600	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ		A B A: 10Ø100c/c & B:8Ø100c/c

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	COLUMN DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-08	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S6R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		

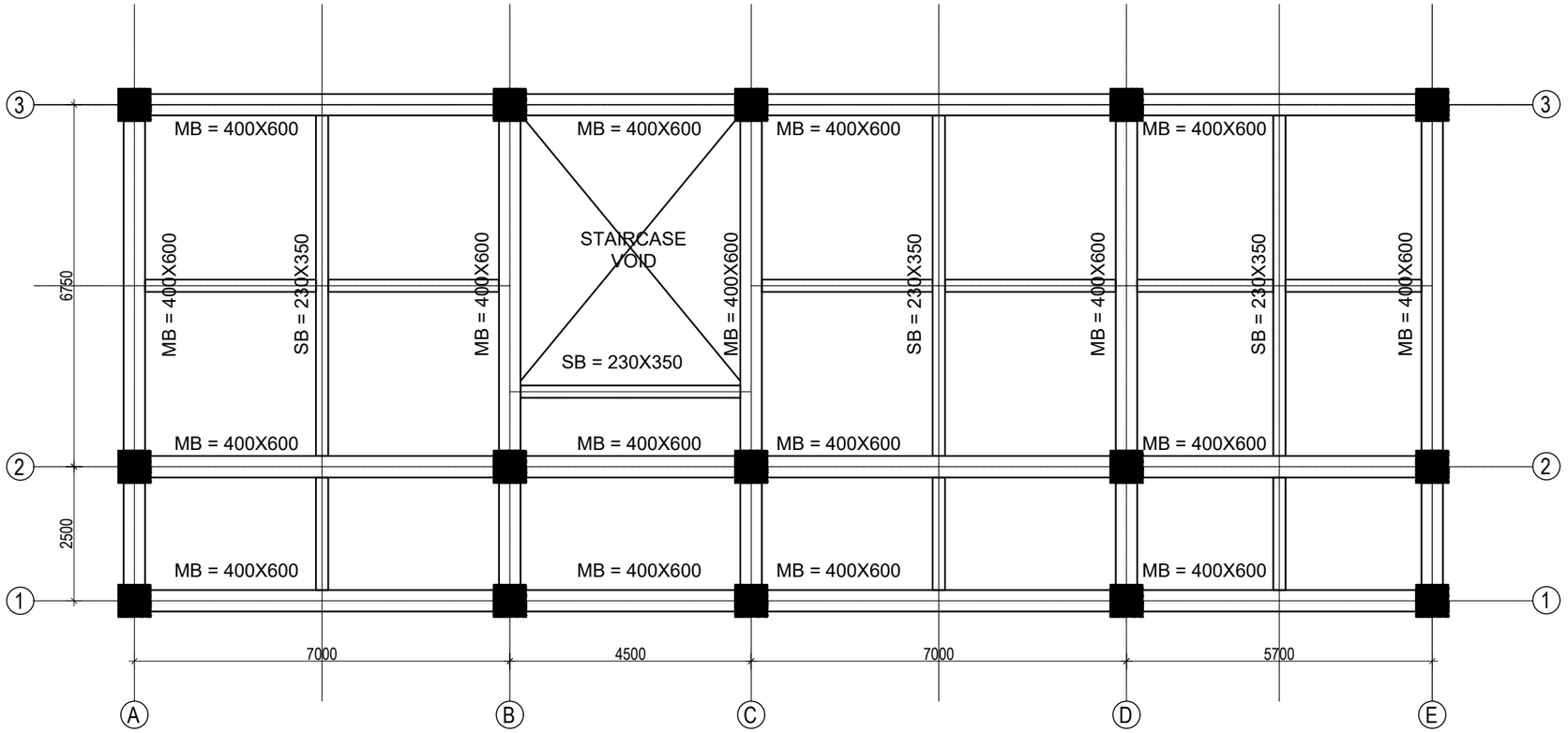


PLINTH BEAM LAYOUT PLAN

(Scale= 1:100)

LVL:- PL+0000

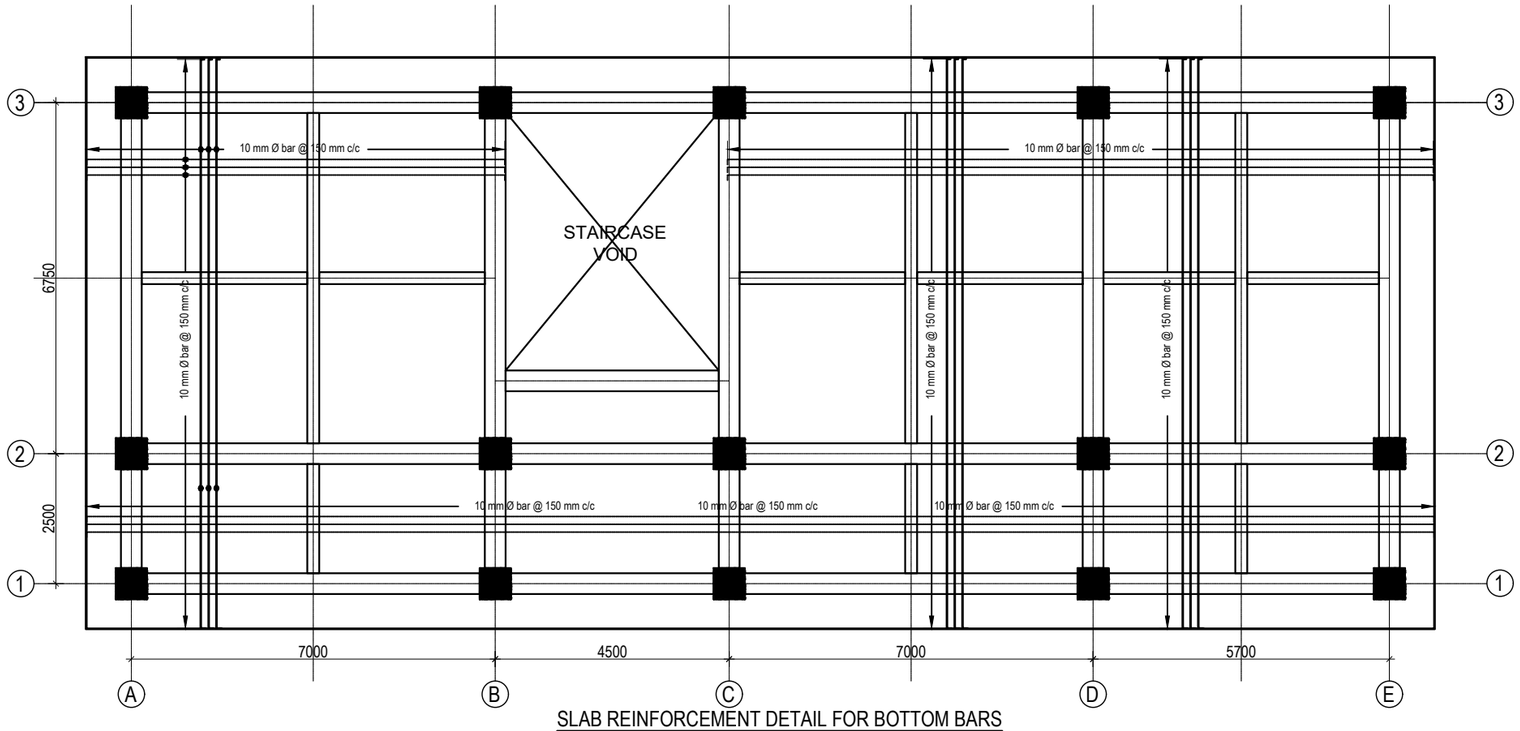
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-09	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



BEAM LAYOUT PLAN (FIRST, SECOND AND THIRD FLOOR)

(Scale= 1:100)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-10	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



SLAB REINFORCEMENT DETAIL FOR BOTTOM BARS

(GROUND,FIRST, SECOND AND THIRD FLOOR)

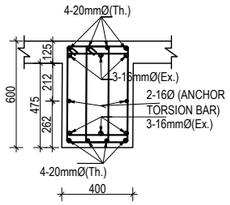
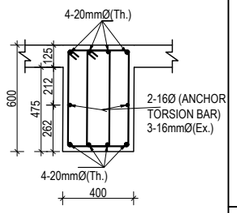
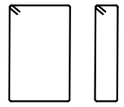
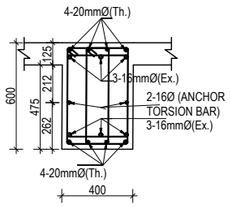
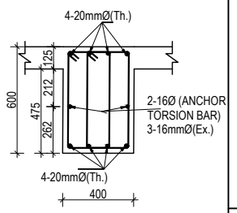
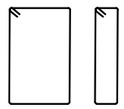
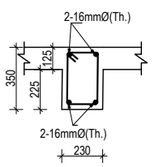
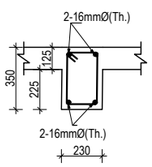
BOTTOM REINFORCEMENT: 8Ø@150 mm c/c

(Scale= 1:120)

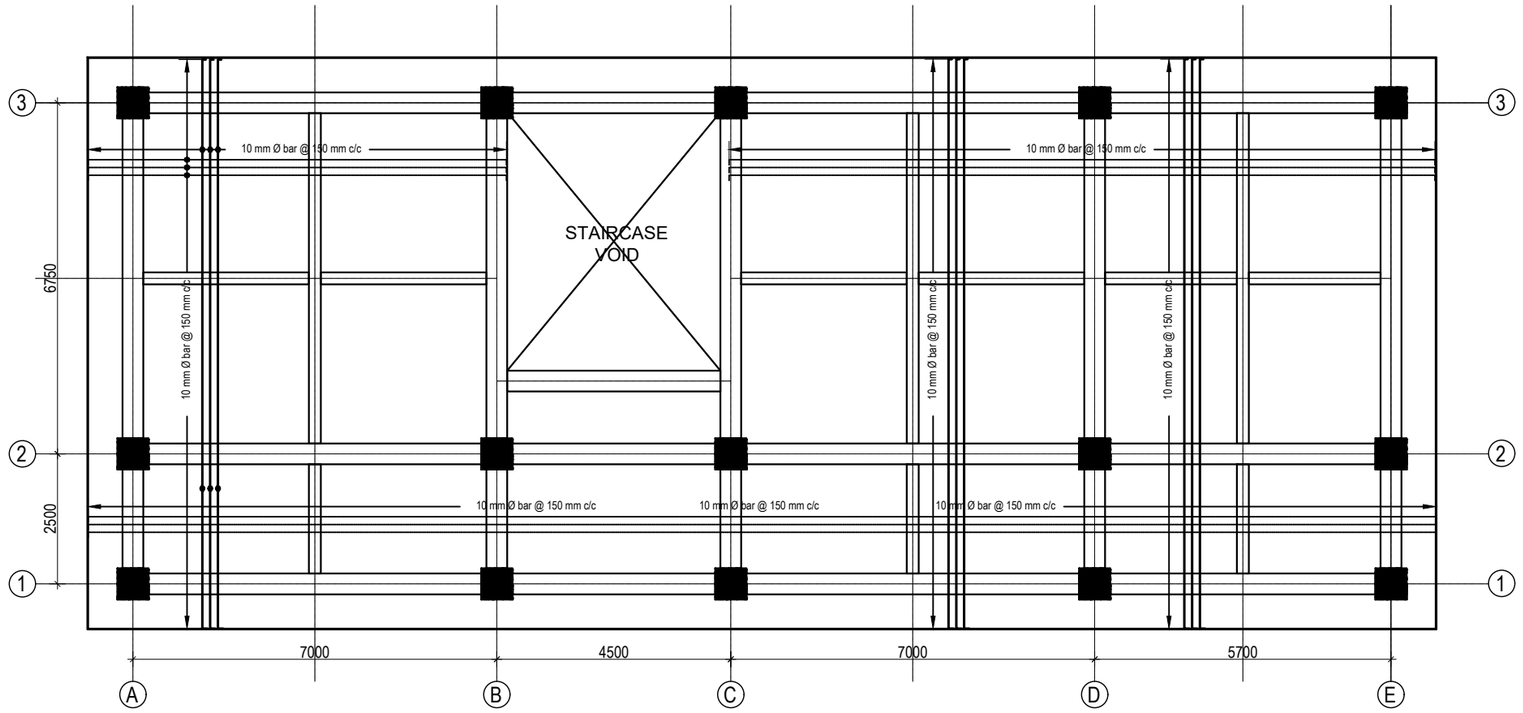
125 mm SLAB THICKNESS

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-11	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		

COLUMN REINFORCEMENT DETAILS

S. NO.	GRID	BEAM SIZE	AT SUPPORT	AT MID	STIRRUPS BAR ORIENTATION	FLOOR LVL
1	1-1 2-2 3-3	400X600				FIRST FLOOR BEAMS SECOND FLOOR BEAMS
					4- Legged, 10Ø100c/c & 150 c/c	
2	A-A B-B C-C D-D E-E	400X600				REMAINING FLOOR BEAMS
					4- Legged, 10Ø100c/c & 150 c/c	
3	Sec. beam	230X350				ALL FLOOR BEAMS
					2- Legged, 10Ø100c/c & 150 c/c	

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-12	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S6R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



SLAB REINFORCEMENT DETAIL FOR TOP BARS

(GROUND,FIRST, SECOND AND THIRD FLOOR)

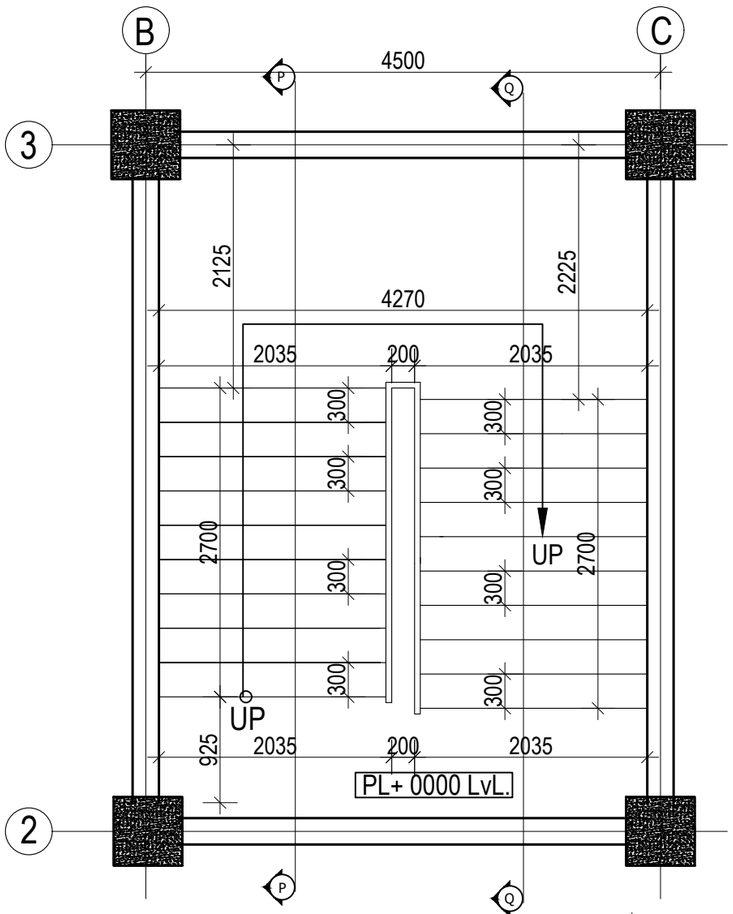
TOP REINFORCEMENT: a. FOR MAIN BEAM :10Ø@150 mm c/c

b. FOR SECONDARY BEAM :10Ø@200 mm c/c

(Scale= 1:120)

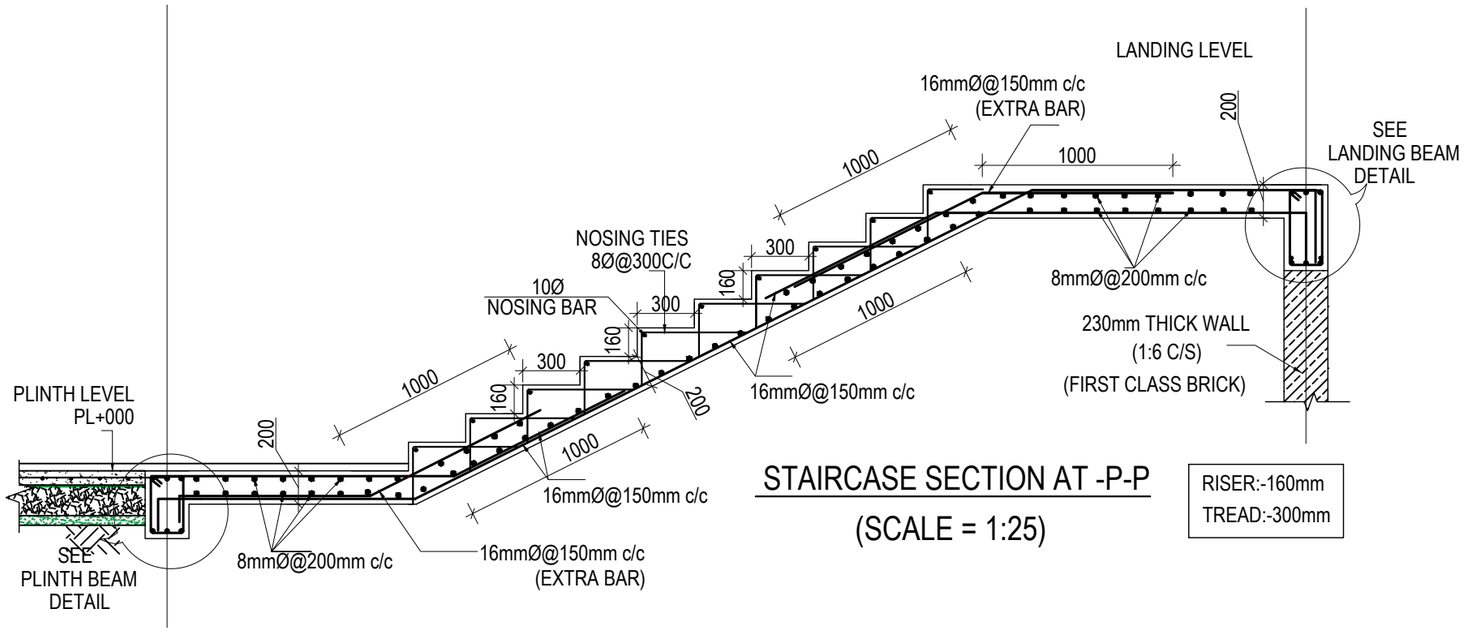
125 mm SLAB THICKNESS

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-13	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



GROUND FLOOR STAIRCASE PLAN

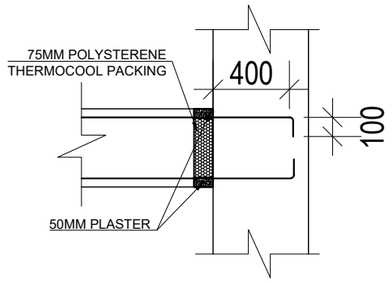
(Scale= 1:50)



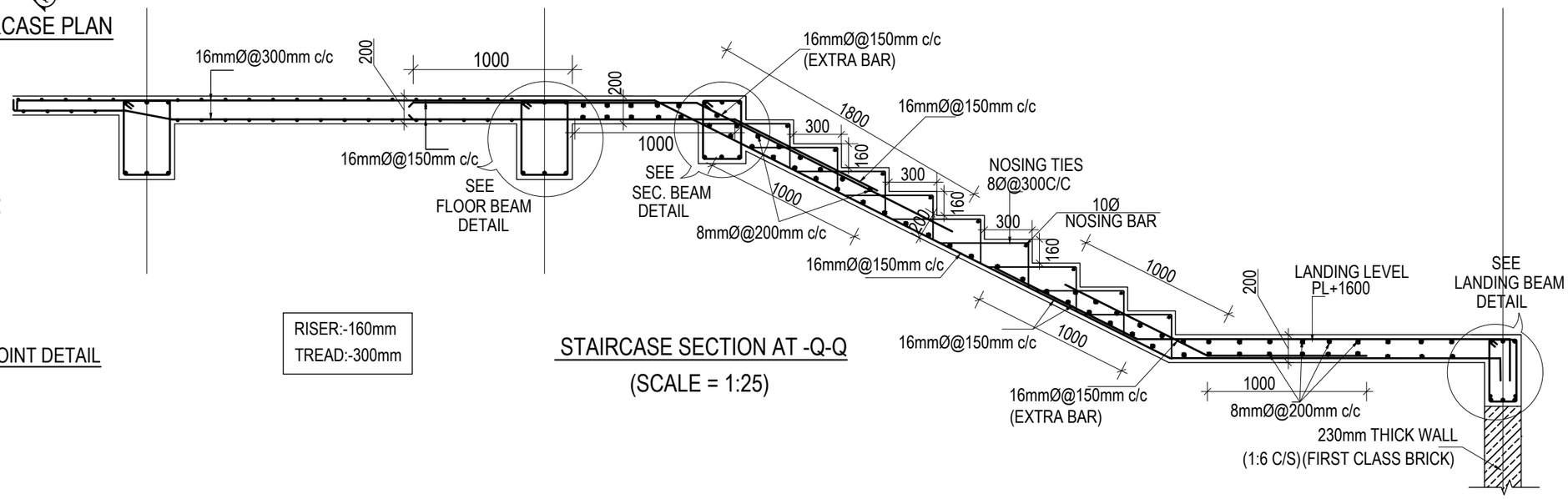
STAIRCASE SECTION AT -P-P

(SCALE = 1:25)

RISER:-160mm
TREAD:-300mm



TYPICAL LANDING BEAM AND COLUMN JOINT DETAIL

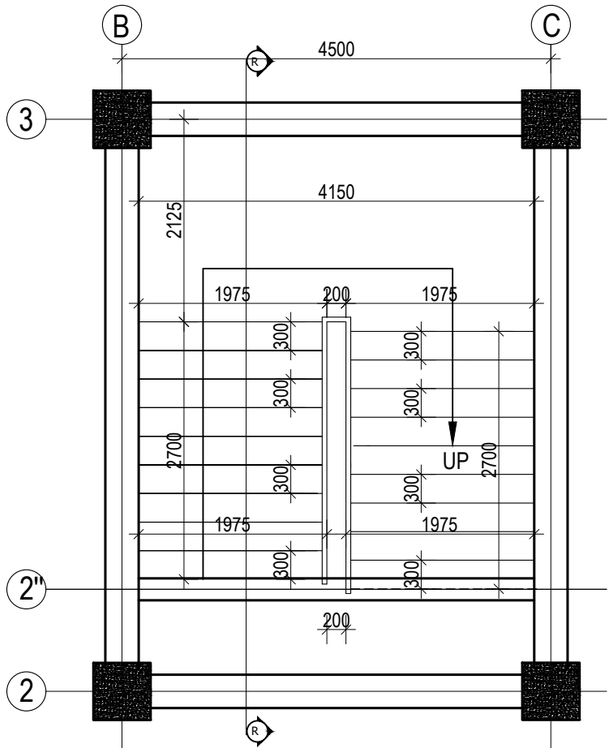


RISER:-160mm
TREAD:-300mm

STAIRCASE SECTION AT -Q-Q

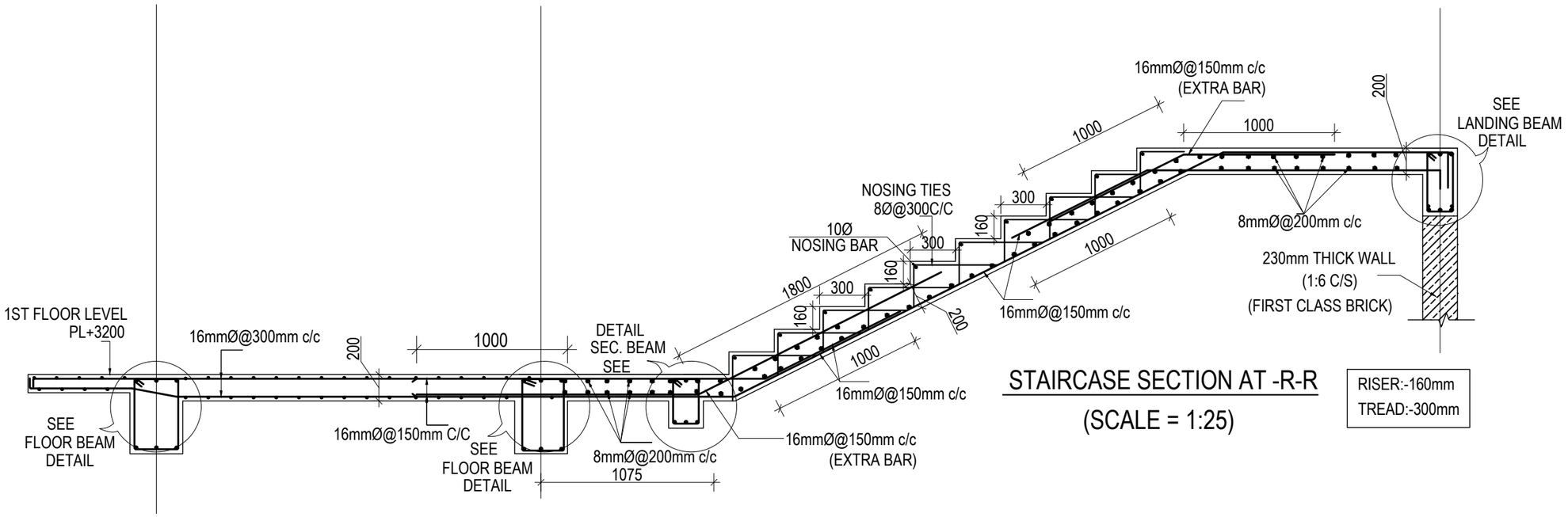
(SCALE = 1:25)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-14 / R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S6R-HILLY
				DRAWN : NEETA BHANDARI	APPROVED:	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023	



TYPICAL FLOOR STAIRCASE PLAN

(Scale= 1:50)

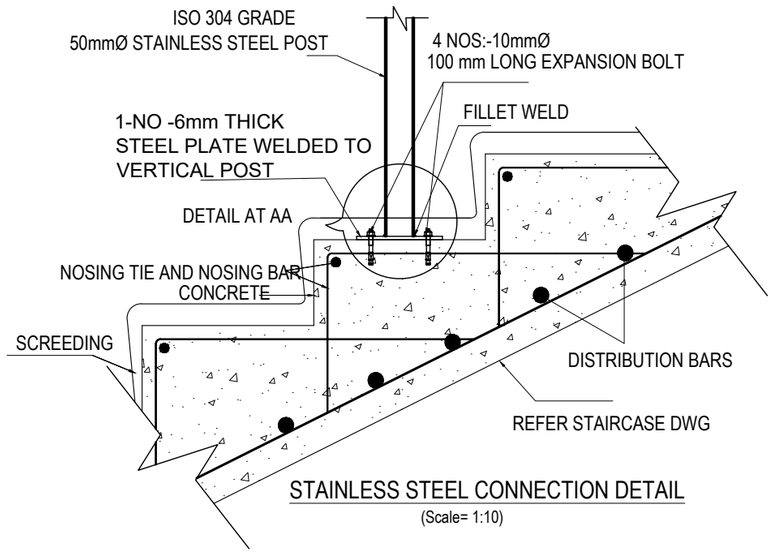


STAIRCASE SECTION AT -R-R

(SCALE = 1:25)

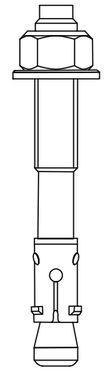
RISER:-160mm
TREAD:-300mm

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-15	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



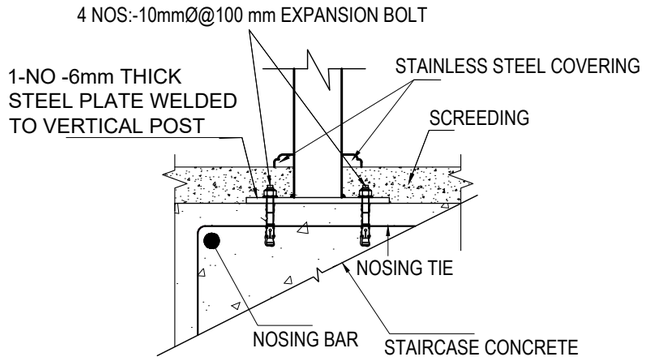
STAINLESS STEEL CONNECTION DETAIL

(Scale= 1:10)



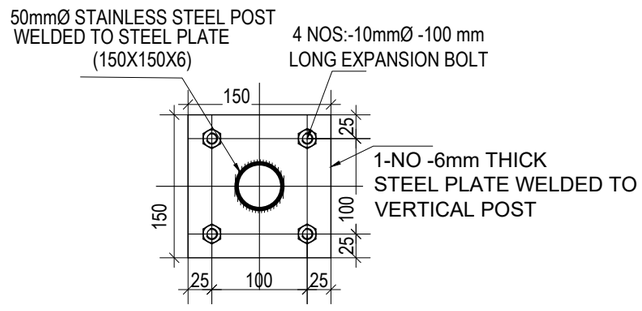
10mmØ-50 mm LONG EXPANSION BOLT

(Scale= 1:1)



DETAIL AT AA

(Scale= 1:5)



PLAN VIEW OF STEEL PLATE

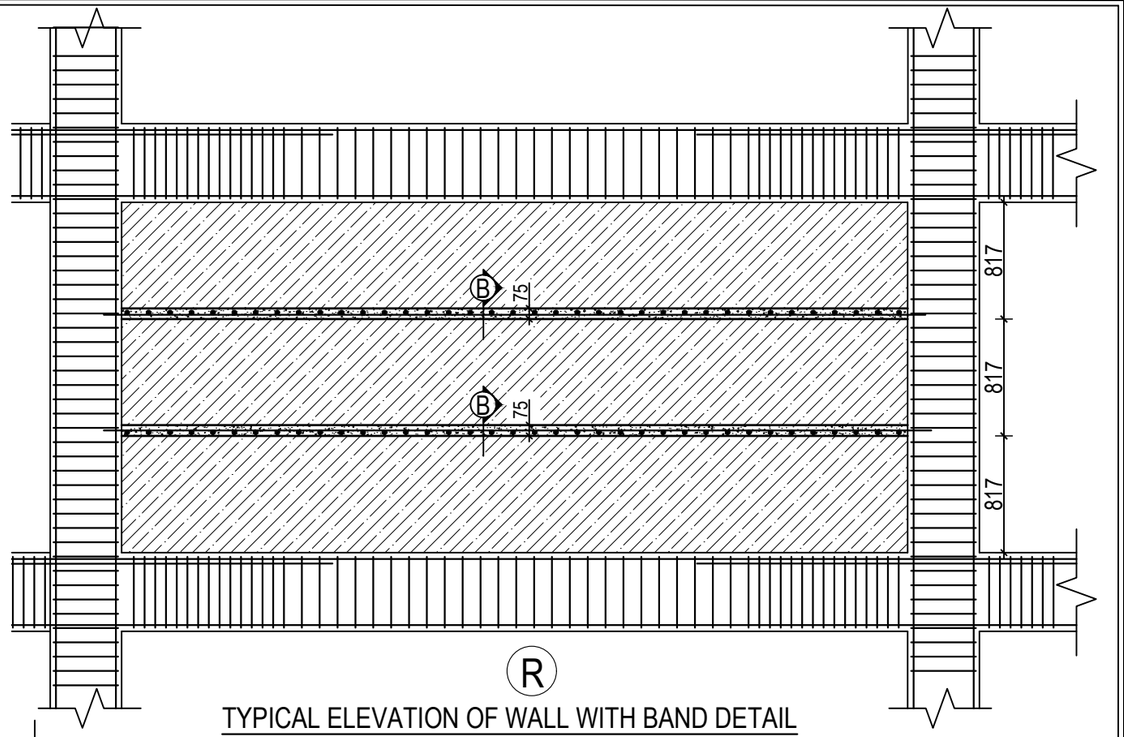
(Scale= 1:5)

NOTE:

1) STAINLESS STEEL SHALL BE IN COMPLIANCE WITH ISO 304 GRADE

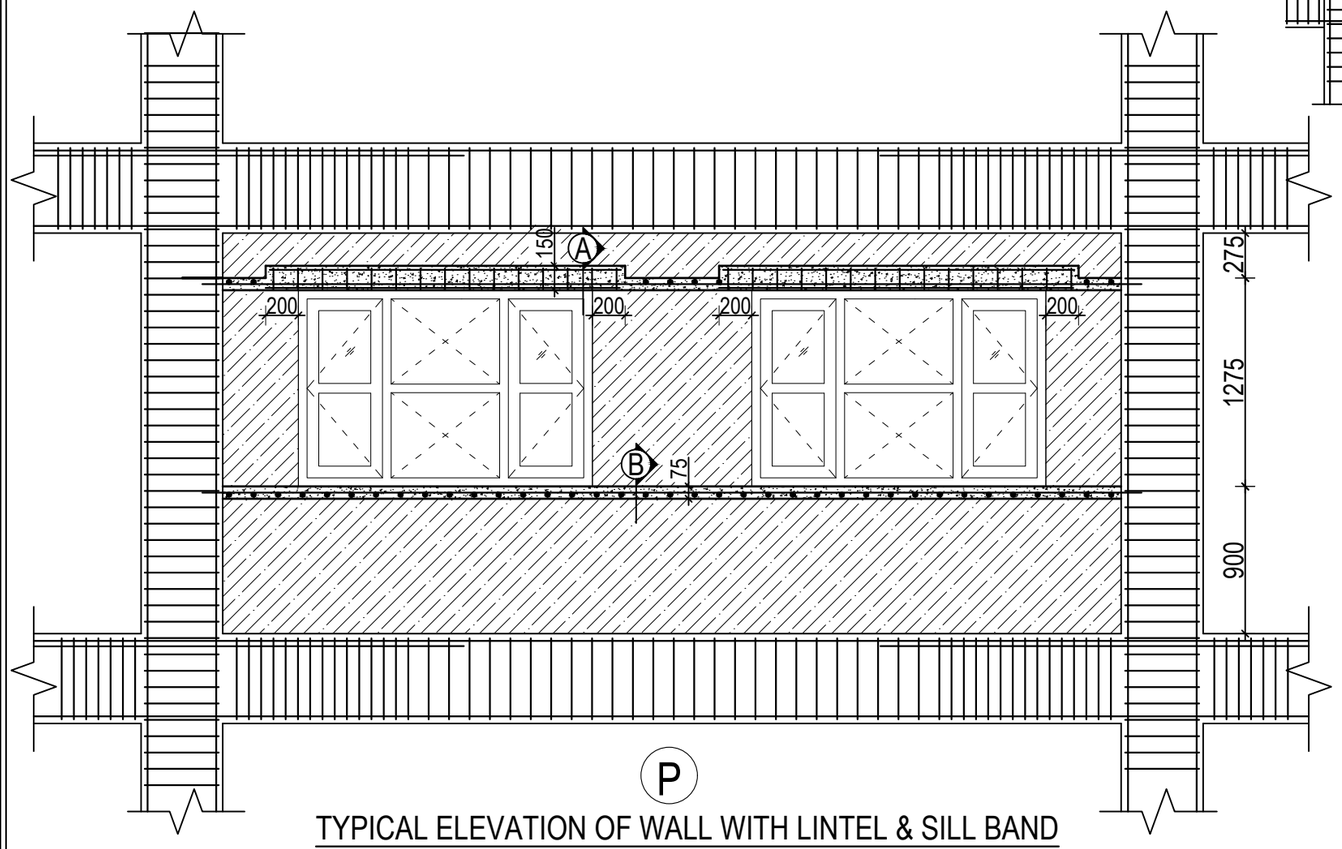
2) DRILLED HOLE SHALL BE PROPERLY CLEANED BEFORE EMBEDMENT OF BOLT

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-16	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		



R

TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITHOUT OPENINGS
(Scale= 1:40)

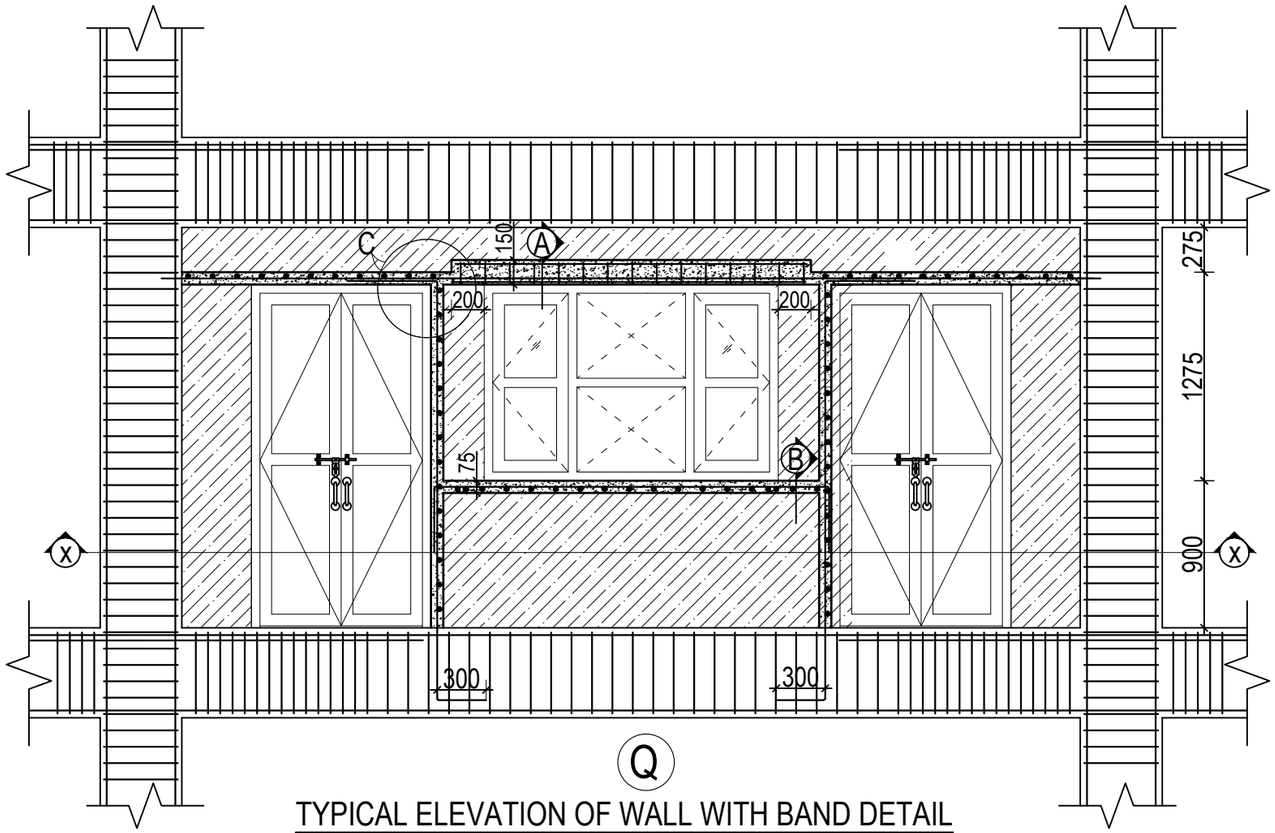


P

TYPICAL ELEVATION OF WALL WITH LINTEL & SILL BAND
WITH WINDOWS
(Scale= 1:35)

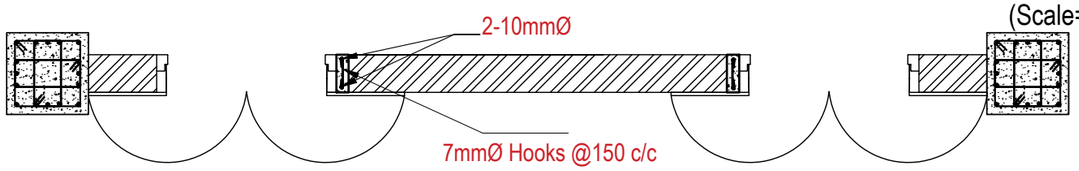
SN.	FLOOR	SECTION AT A-A	SECTION AT B-B
1.	GROUND,FIRST & SECOND FLOOR	230 4NOS.-10Ø 150 8mmØ TIES @150mm c/c 2NOS.-10Ø	230 2NOS.-10Ø 75 7mmØ TIES @150mm c/c
2.	THIRD FLOOR	230 4NOS.-10Ø 150 8mmØ TIES @150mm c/c 2NOS.-12Ø	230 2NOS.-12Ø 75 7mmØ TIES @150mm c/c

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : / PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-17 / R-00 DWG CODE. 3S6R-HILLY

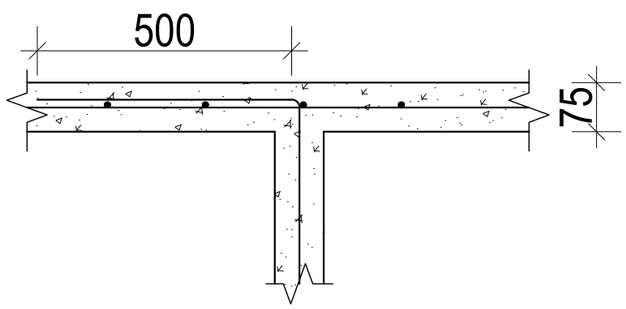


Q

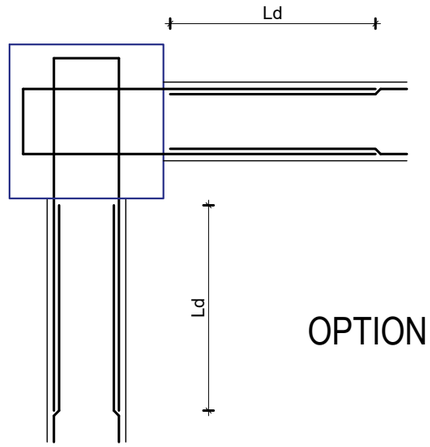
TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITH DOORS AND WINDOWS
(Scale= 1:35)



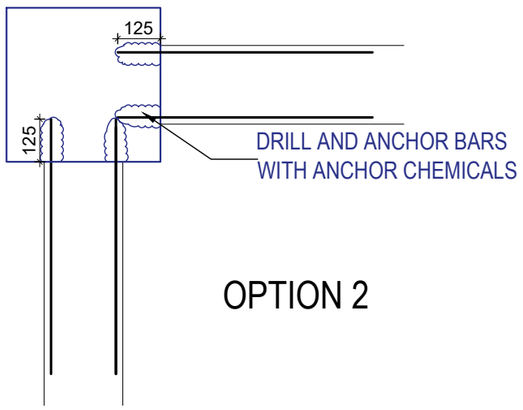
SECTION AT X-X



DETAIL AT C



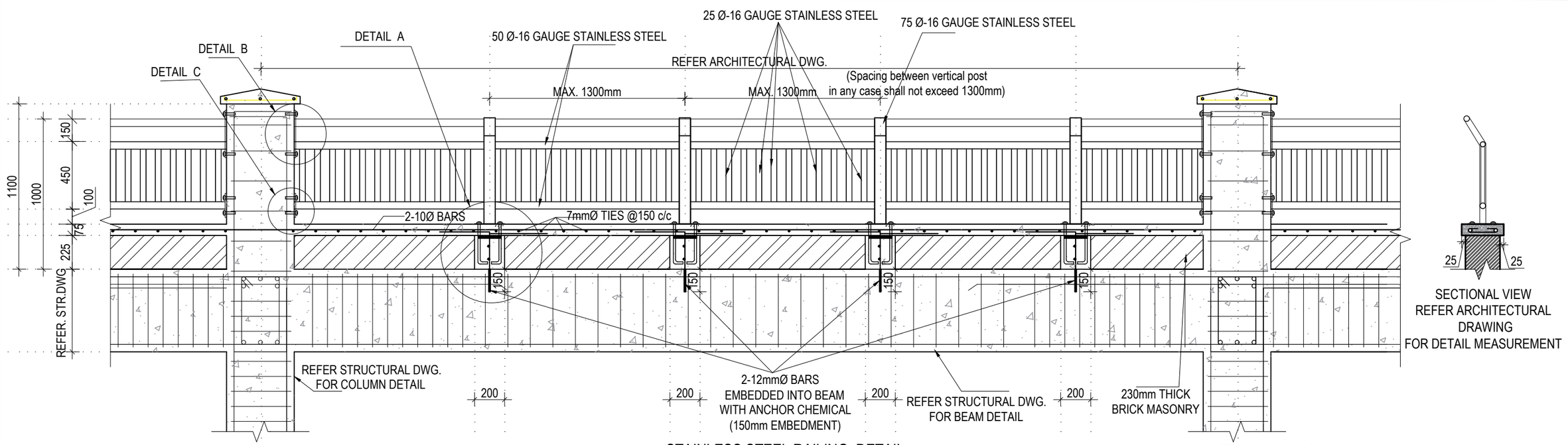
OPTION 1



OPTION 2

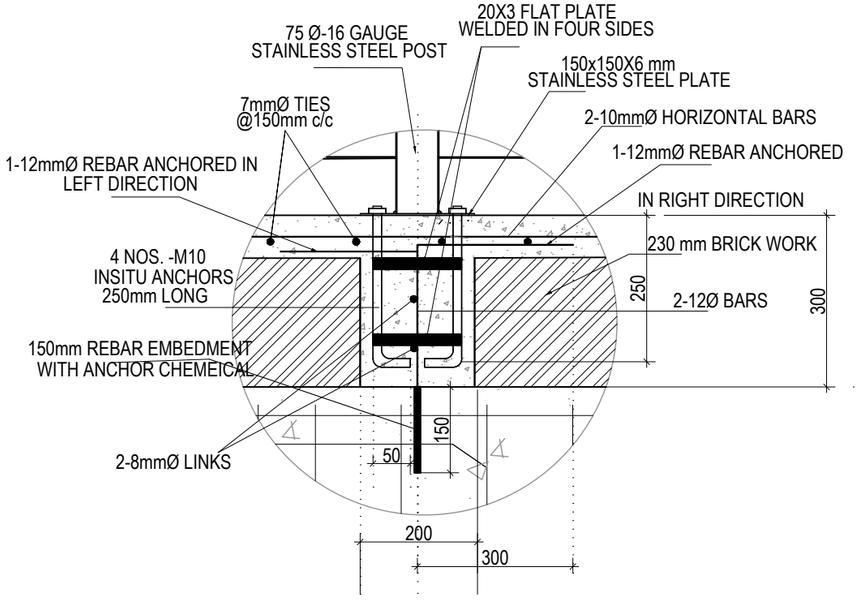
CONNECTION OF BAND REBARS AND COLUMN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-18	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		

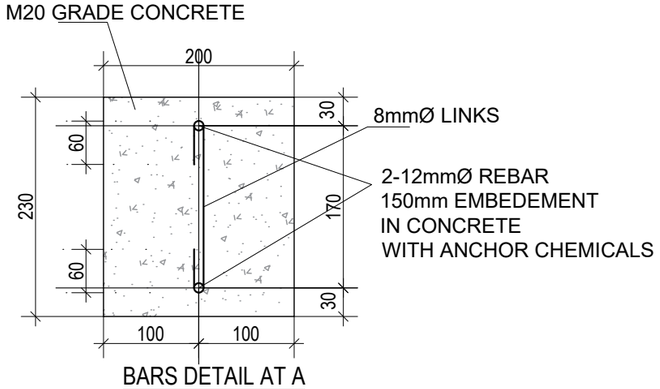


STAINLESS STEEL RAILING DETAIL

(Scale= 1:25)

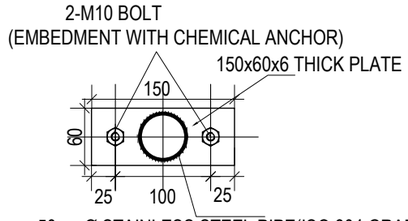


DETAIL AT A



BARS DETAIL AT A

PLAN VIEW

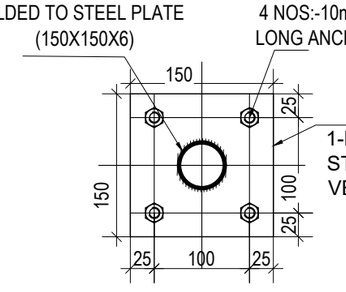


50mmØ STAINLESS STEEL PIPE(ISO 304 GRADE)
16 GAUGE WELDED TO 150X60X6 STAINLESS
PLATE

PLATE DETAIL AT C

PLAN VIEW

75mmØ -16 GAUGE
STAINLESS STEEL POST (ISO 304 GRADE)
WELDED TO STEEL PLATE
(150X150X6)
4 NOS:-10mmØ -250 mm
LONG ANCHOR BOLT



PLAN VIEW OF STEEL PLATE

PLATE DETAIL AT A

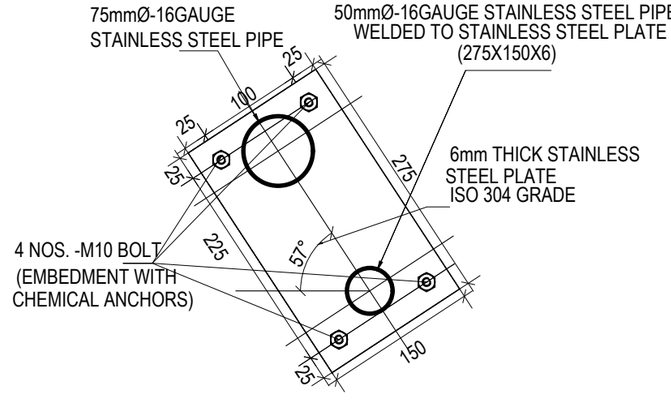


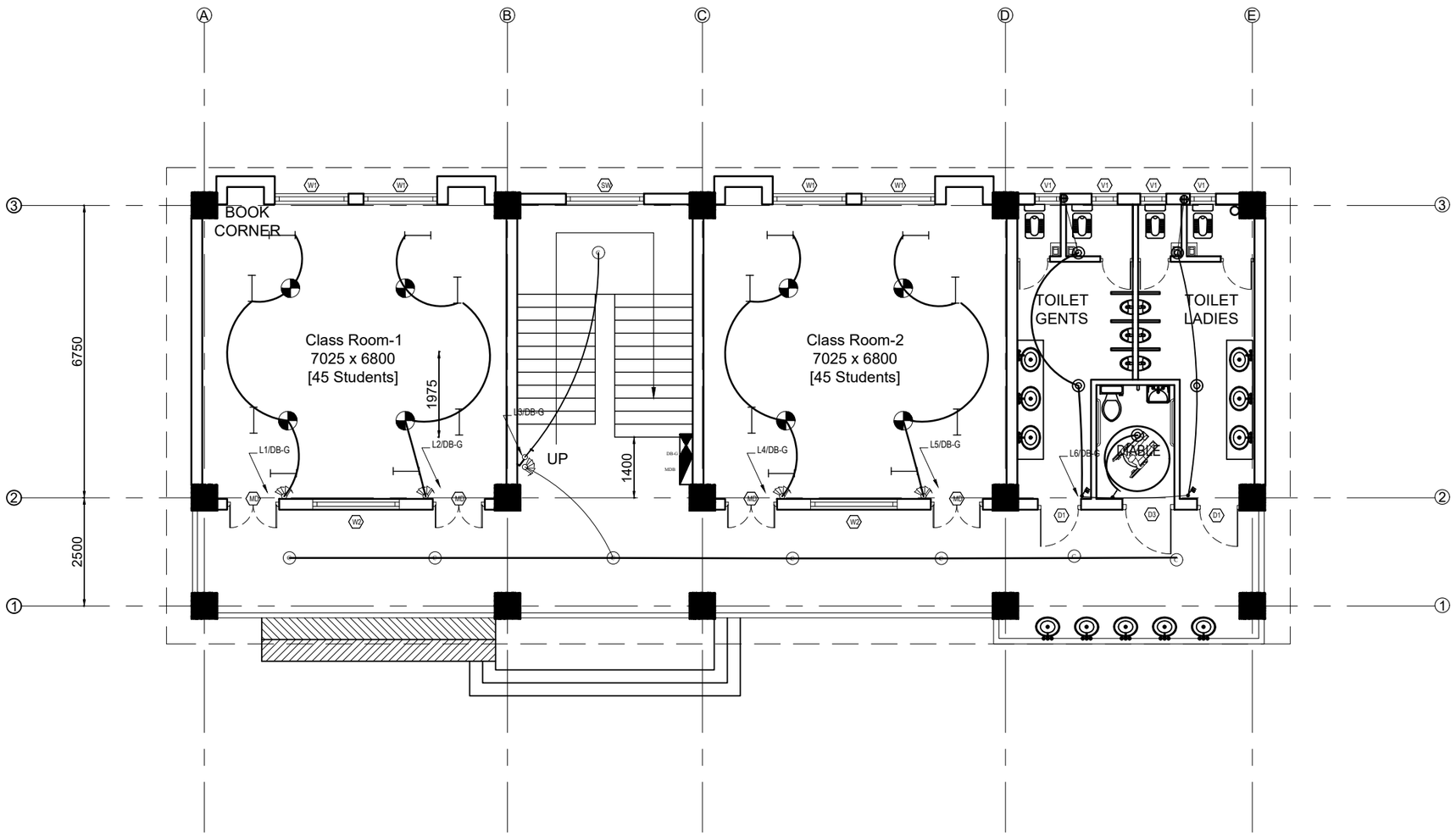
PLATE DETAIL AT B

NOTE:- STAINLESS STEEL SHALL BE ISO304 GRADE

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL RAILING DETAILS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-19	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R-HILLY	
				SCALE : PAPER SIZE : A3	DATE: FEBRUARY, 2023		

ELECTRICAL

DRAWING



GROUND FLOOR PLAN

SCALE 1:100

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-01**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R- HILLY	
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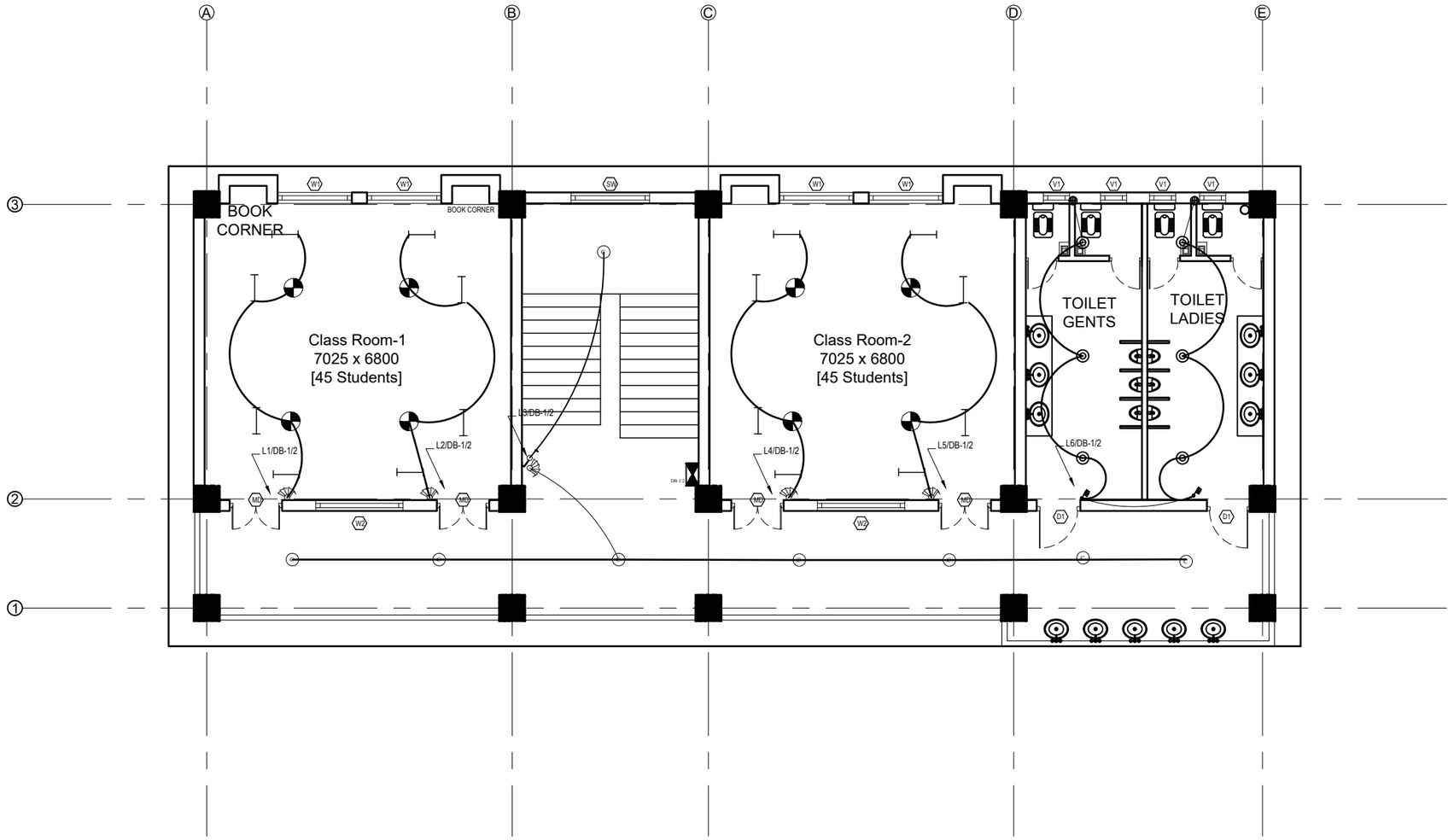

FIRST AND SECOND FLOOR PLAN

SCALE 1:100

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
C	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
M	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-02**	R-00
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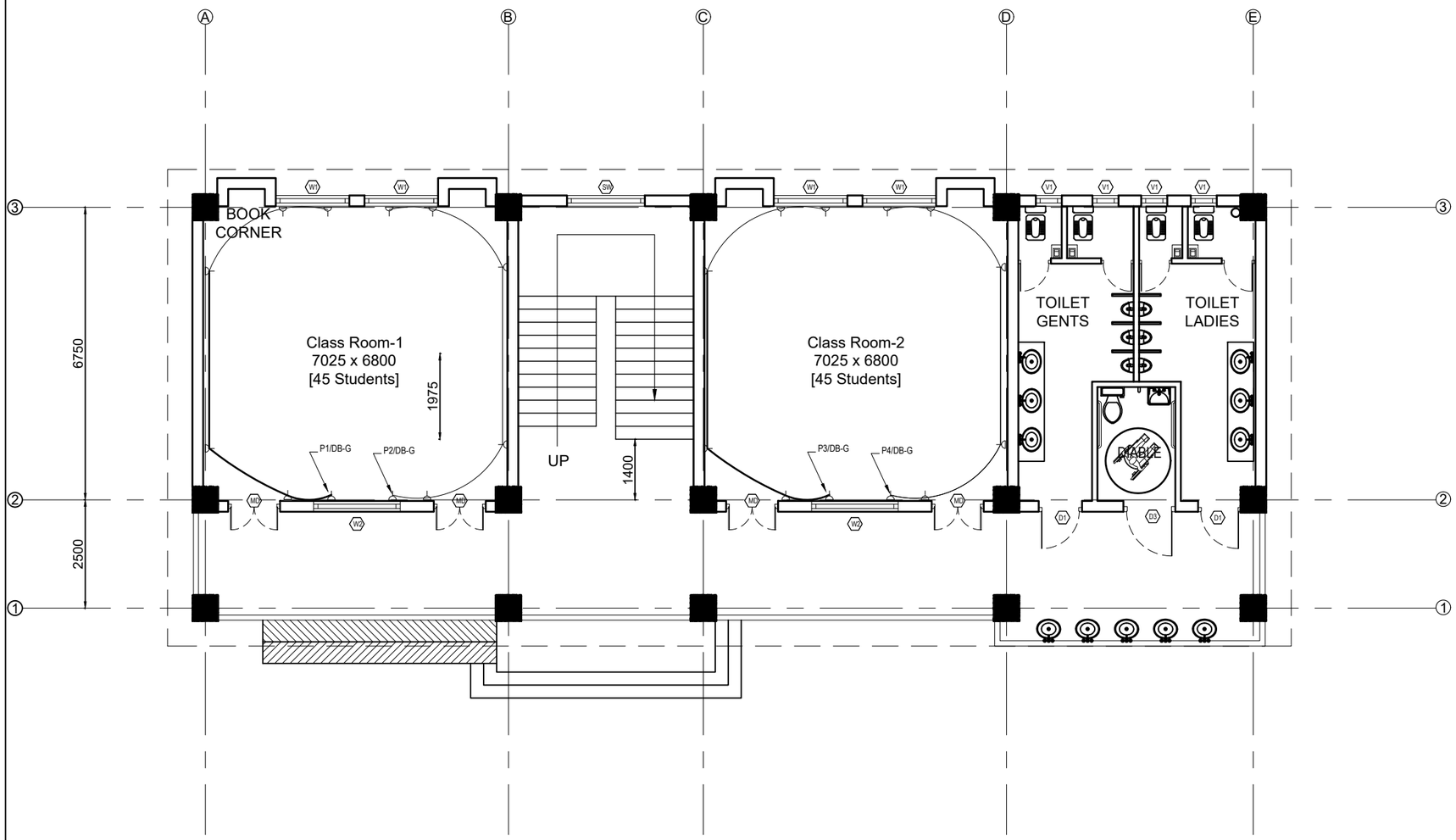

GROUND FLOOR PLAN

SCALE 1:100

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-03**	R-00
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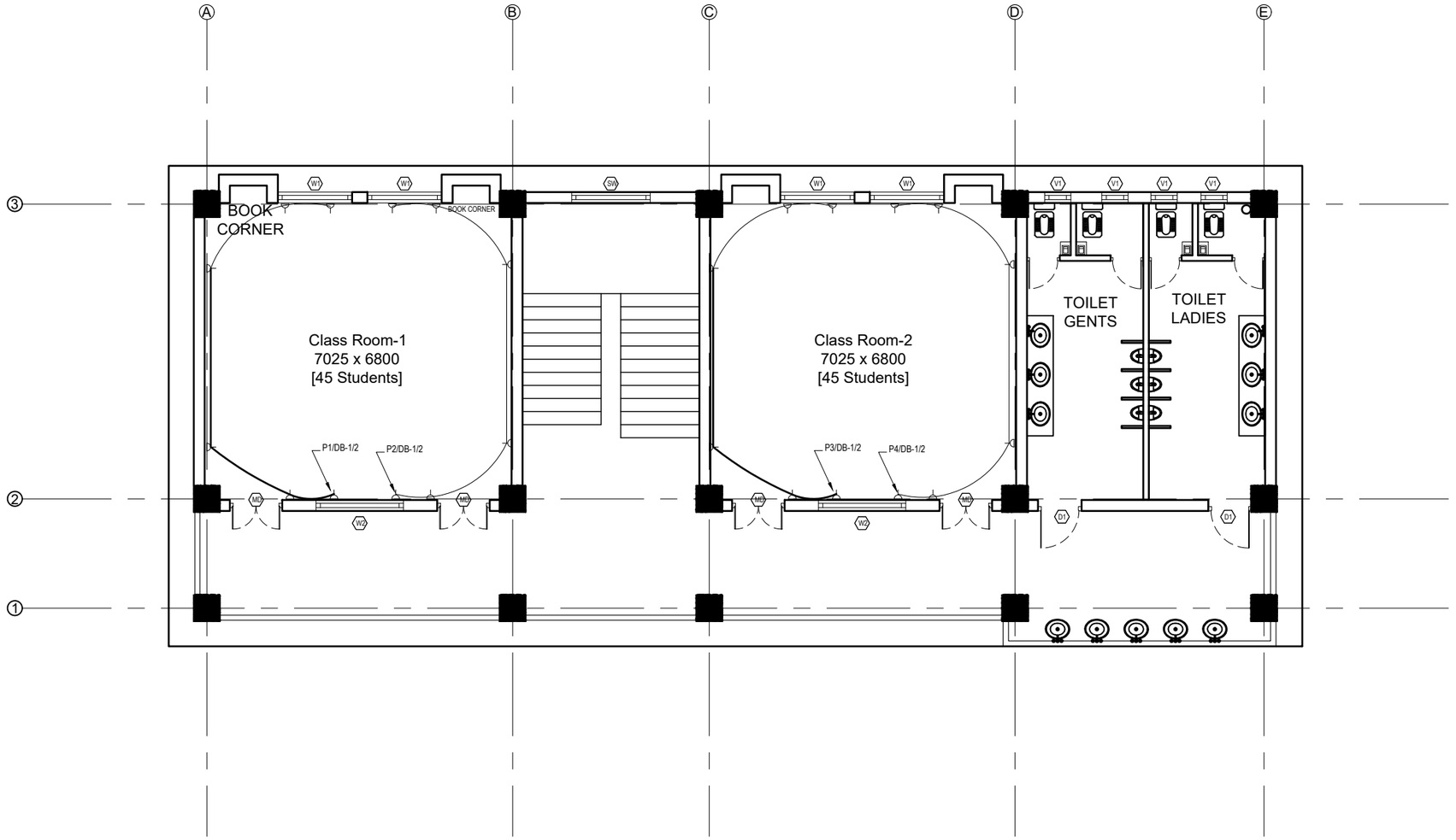

FIRST AND SECOND FLOOR PLAN

SCALE 1:100

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-04**	R-00
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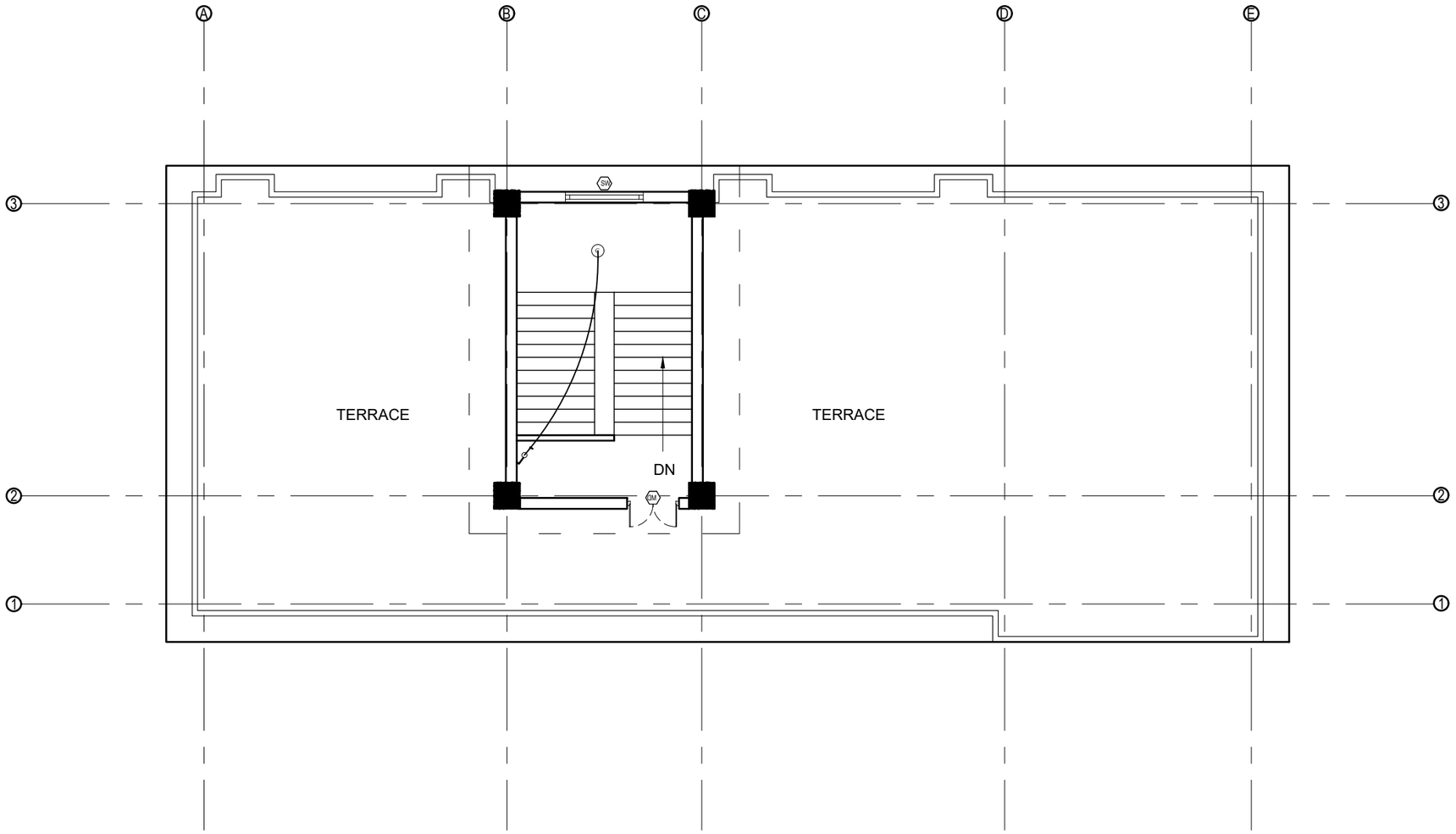


LEGEND

SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
C	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	**1m above finished floor level**
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM

SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

ROOF PLAN

SCALE 1:100

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE -05**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S6R- HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

1:120 FOR A3 PAPER

INSTALLATION CONSIDERATION

* The switch box should be at 200mm from the door and 1250mm above floor.
* General room socket height should be at 150mm above skirting wall.
* Kitchen socket height should be at 450mm above kitchen top.
* Toilet socket/switch should be at 1250mm above floor level and mirror light at 50 mm above mirror as per mirror size.
* Exhaust fan should be at 600mm below slab.
* Wall Light should be at 2100mm from floor level.

CONDUIT SCHEDULE

PVC CON. DIA. / CABLE SIZES	NO OF MAXIMUM CABLE AND PVC FRLS CONDUIT SIZES					
	16 mm Dia.	20 mm Dia.	25 mm Dia.	32 mm Dia.	40 mm Dia.	50 mm Dia.
1.5 SQ. MM/Equivalent	5	7	10	14	--	--
2.5 SQ. MM/Equivalent	3	5	8	12	--	--
4.0 SQ. MM/Equivalent	--	3	6	10	12	--
6.0 SQ. MM/Equivalent	--	2	4	8	9	--
10 SQ. MM/Equivalent	--	--	3	6	8	--
16 SQ. MM/Equivalent	--	--	2	3	4	8

CONVERSION TABLE

INCHES	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
mm	16	20	25	32	40	50	65	80	90	100	130	150

* Unless and otherwise stated, all final circuits shall be wired with multistranded CU wires in PVC Conduit and shall confirm to the following schedule:

WIRING SYSTEM	CABLE/CONDUCTOR SIZE
Air Conditioner/Heater/Range/Appliances	2x4.0 + 1x2.5 sq. mm copper wire
RJ - 45 Data / TV Point	CAT 6 4 pairs Data cable
RJ -11 Telecommunication point	CAT 6 4 pairs Data cable
Telephone Point	0.5mm dia PVC Insulated Tinned Cu Cable
Outdoor Gate/ Post Top/Street Lights/Flood Lights	3 x 2.5 sq. mm copper M/S wire
6 Amp switched outlet sockets	2x2.5 + 1x1.5 sq. mm copper M/S wire
16 Amp Power Sockets Points	2x4.0 + 1x2.5 sq. mm copper M/S wire
General Light Points (From DB to Switch Board)	2x2.5 + 1x1.5 sq. mm copper M/S wire
Looping of Light Points	2x1.5 + 1x1.0 sq. mm copper M/S wire

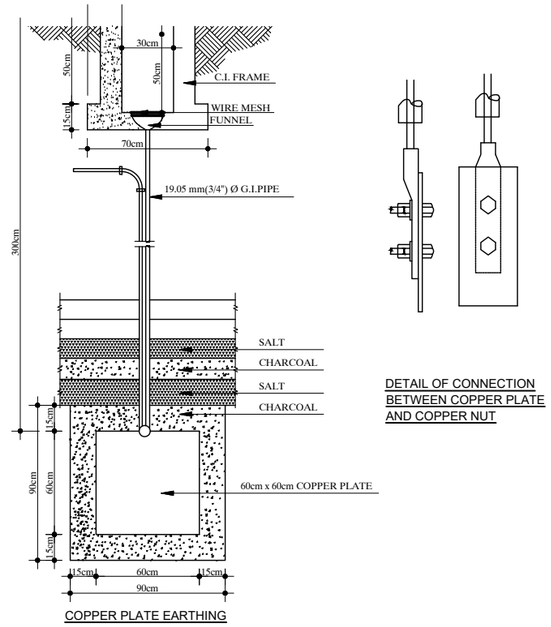
NOTE

* Conduit Colors for Light/Power Circuit shall be Black, Security Wiring shall be Blue, Fire Alarm Wiring shall be Red, Low Voltage Circuits shall be Brown and UPS Circuits sahll be Green.
* L-N stands for Lighting Circuit, P-N for Power Circuit, AC-N for Air Condition, M/PC-N for Pump/Motor & Lp-N Light Outlet Circuit no.-N (Where N=1,2,3...)
* For Circuit no., see Distribution Details
* Unless and otherwise stated, all final circuits shall be wired up by PVC CU M/S Wire in PVC Conduit and shall confirm to the following schedule:

Rating (Amp)	6	10	20	32	40	63
Wire (sq. mm)	1.5	2.5	4.0	6.0	10	16

* Unless and otherwise stated, maximum of 8 light points shall be wired in a final single lighting circuit where as maximum of 3 power socket outlet shall be wired in single power circuit.
* Unless and otherwise stated, all 16 A outlets with the same circuit no. shall be wired in ring circuit.
* Electrical drawings are schematical only, scale: NTS, use as shown purpose, do not mesaure directly.
* Contractor should coordinate with interior for exact location of fixtures
* Run seperate conduit for TV, TEL and PS wherever they are in matching places
* All the Kitchen/Bathroom Power Circuits should be feed by RCCB with 100 mA sensitivity - see schematic details
* All the cables and conductors shall be PVC insulated CU and shall confirm to the following color codes:

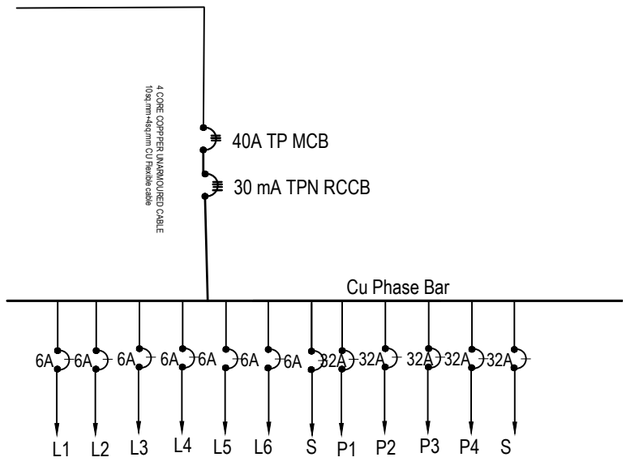
Neutral of AC 1/3 Phase	Black
Grounding/ Bounding/Earthing	Green
loop/common wire for 2 way switch	White
Live Phase A of 3 Phase	Red
Live Phase B of 3 Phase	Yellow
Live Phase C of 3 Phase	Blue



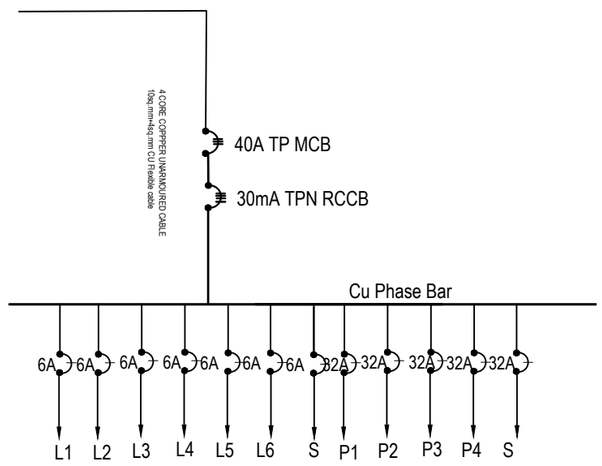
COPPER PLATE EARTHING

DETAIL OF CONNECTION BETWEEN COPPER PLATE AND COPPER NUT

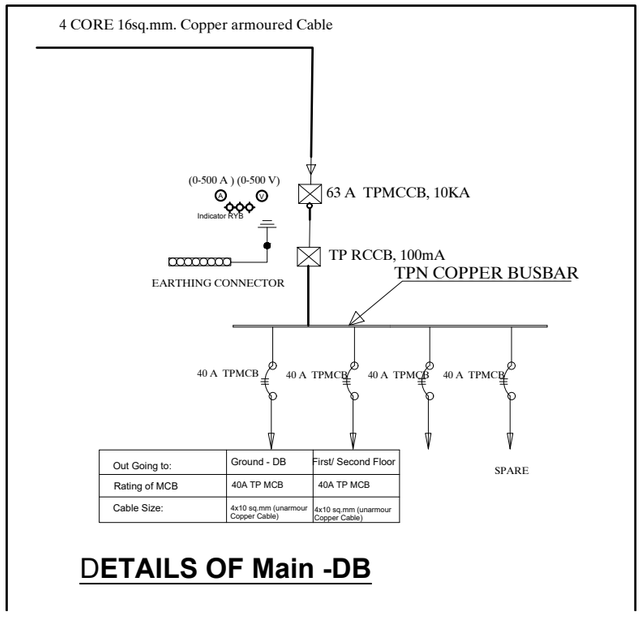
EARTHING DETAILS



GROUND FLOOR L/P DISTRIBUTION SYSTEM (DB-G)



FIRST/SECOND FLOOR L/P DISTRIBUTION SYSTEM (DB-1/2)



DETAILS OF Main -DB

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-06**	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S6R- HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

Government of Nepal
Ministry of Education, Science & Technology
Center for Education and Human Resource Development
Sanothimi, Bhaktapur, Nepal

PREPARE SCHOOL BUILDING TYPE DESIGN FOR HILLY REGION

CONTRACT ID: CEHRD/SESP/SQ/Consultancy/03/2079/080

DETAIL DESIGN AND DRAWING

3 STORY@12 ROOM WITH

(TOILET, WASH ROOM, CHANGING ROOM & BOOK CORNER)

SUBMITTED BY:
OPTIMUM STRUCTURES (P.) LTD.

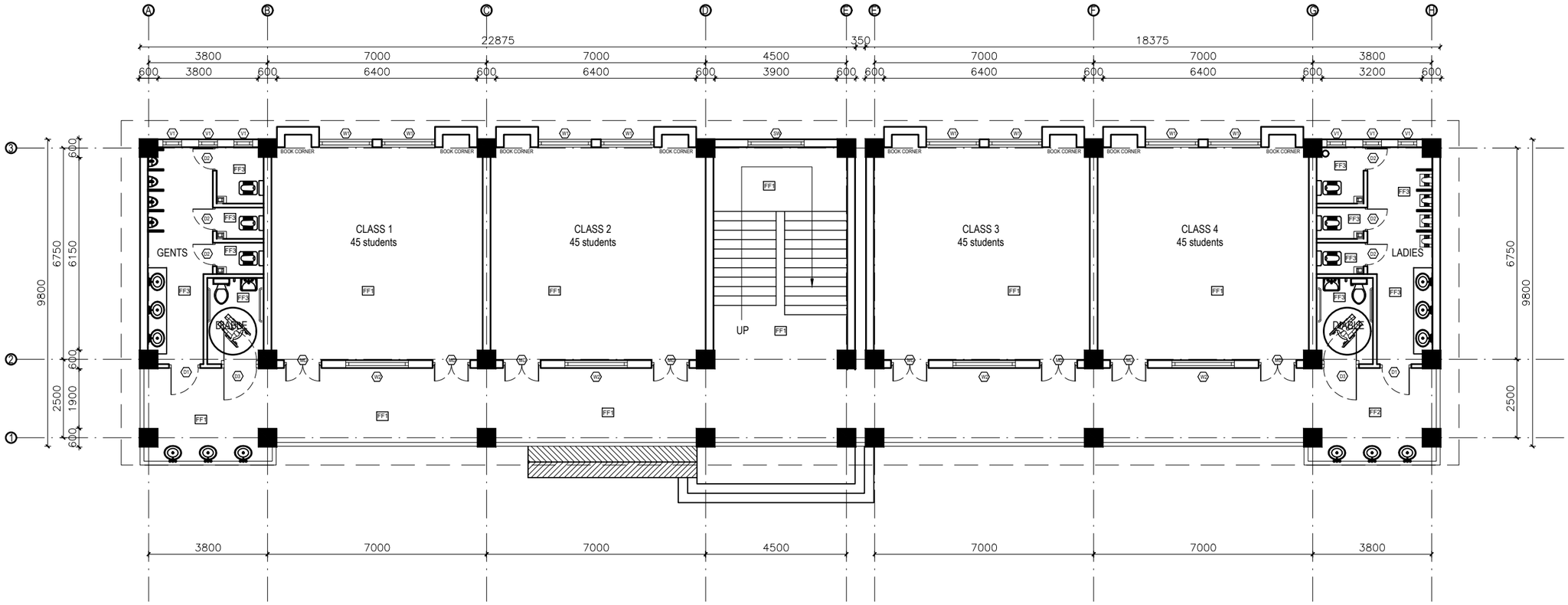
FEBRUARY, 2023

ARCHITECTURE

DRAWING

NOTES:

1. All measurements are in mm unless otherwise noted.
2. Architectural drawing should be read in conjunction with Structural, Sanitary and Electrical drawings.
3. Site Engineer to notify the consultant if any discrepancy in dimensions found in drawings as per the site condition.
4. Sill and Lintel dimensions are measured from the Slab Lvl.
5. Dimensions are excluding the plaster/POP thickness.



GROUND FLOOR PLAN

FLOOR AREA: 410.22 sq.m

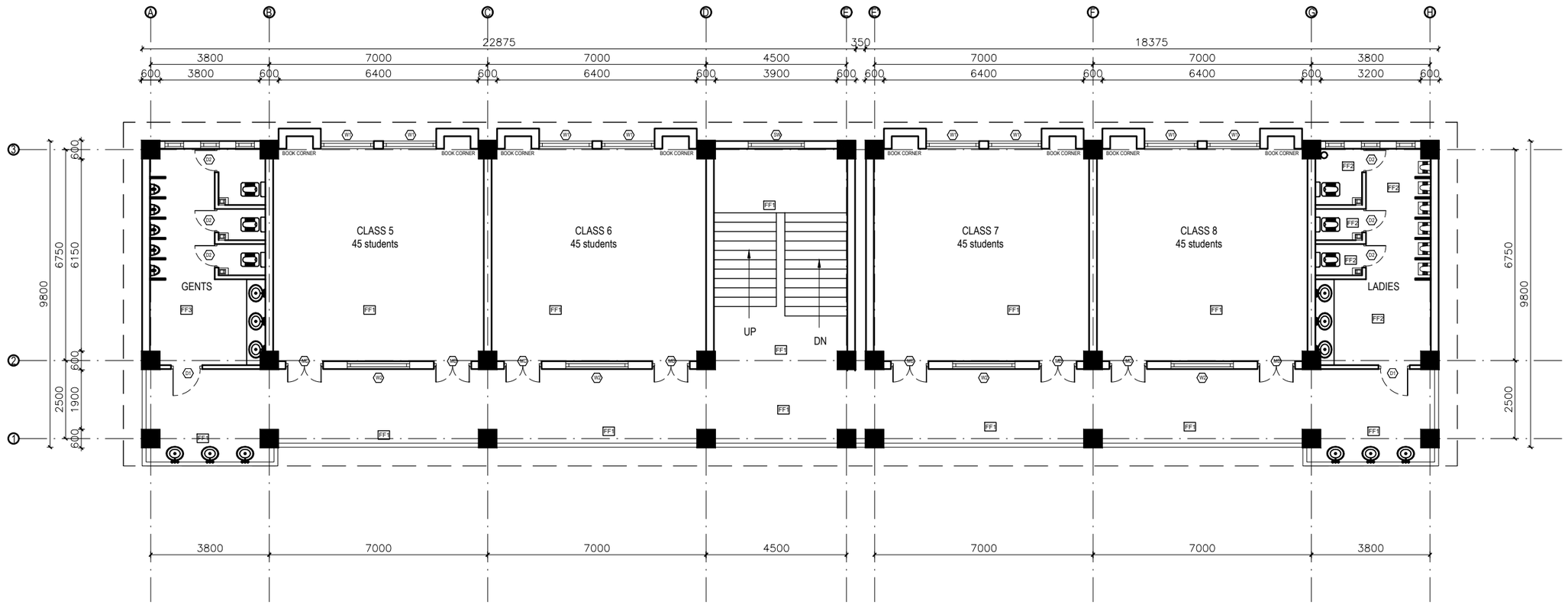
FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
FF3	6 mm thick porcelain non-glaze tile with 20 mm cement sand mortar (1:4)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**GROUND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 01	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE.	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023	3S12R-HILLY	

NOTES:

1. All measurements are in mm unless otherwise noted.
2. Architectural drawing should be read in conjunction with Structural, Sanitary and Electrical drawings.
3. Site Engineer to notify the consultant if any discrepancy in dimensions found in drawings as per the site condition.
4. Sill and Lintel dimensions are measured from the Slab Lvl.
5. Dimensions are excluding the plaster/POP thickness.



FIRST & SECOND FLOOR PLAN

FLOOR AREA: 410.22 sq.m

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
FF3	6 mm thick porcelain non-glaze tile with 20 mm cement sand mortar (1:4)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**FIRST AND SECOND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 02	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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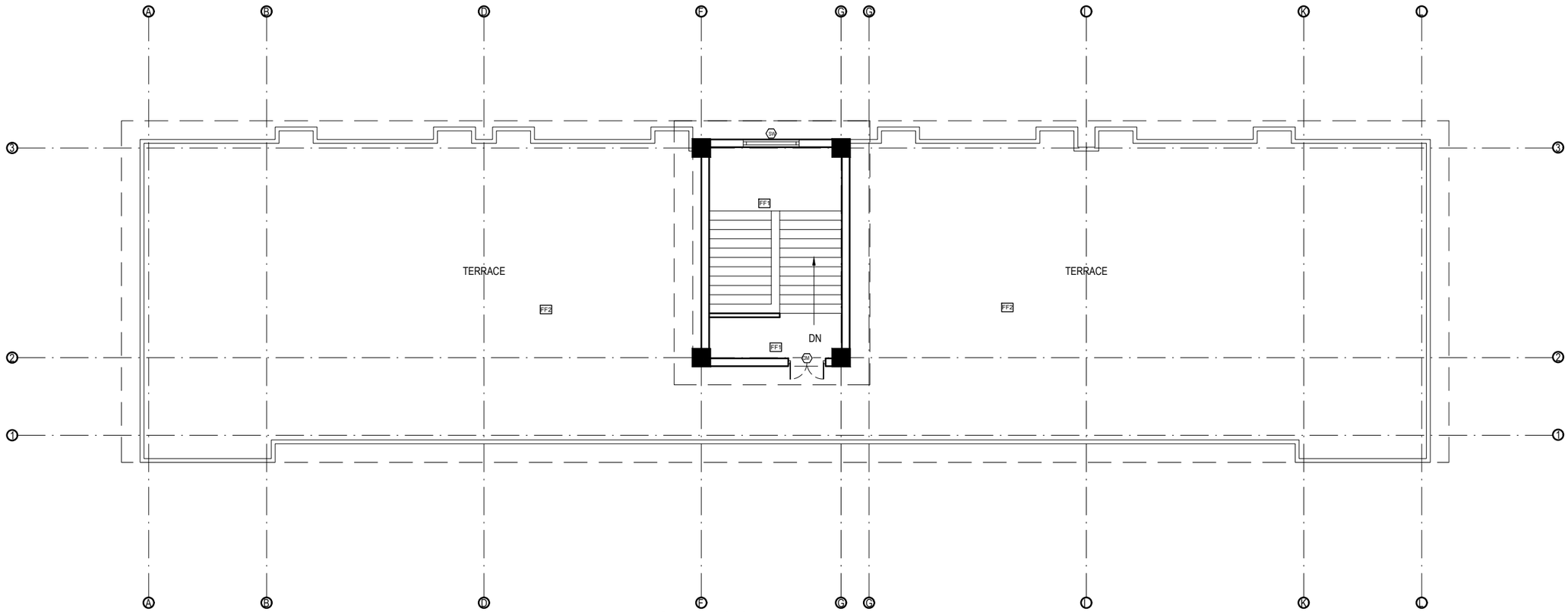

TOP FLOOR PLAN

FLOOR AREA: 36.86 sq.m

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
FF3	6 mm thick porcelain non-glaze tile with 20 mm cement sand mortar (1:4)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ROOF PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 03	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

NOTES:

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4. Sill and Lintel dimensions are measured from the Slab Lvl.
5. Dimensions are excluding the plaster/POP thickness.

FRONT ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 04	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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5. Dimensions are excluding the plaster/POP thickness.

BACK ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 05	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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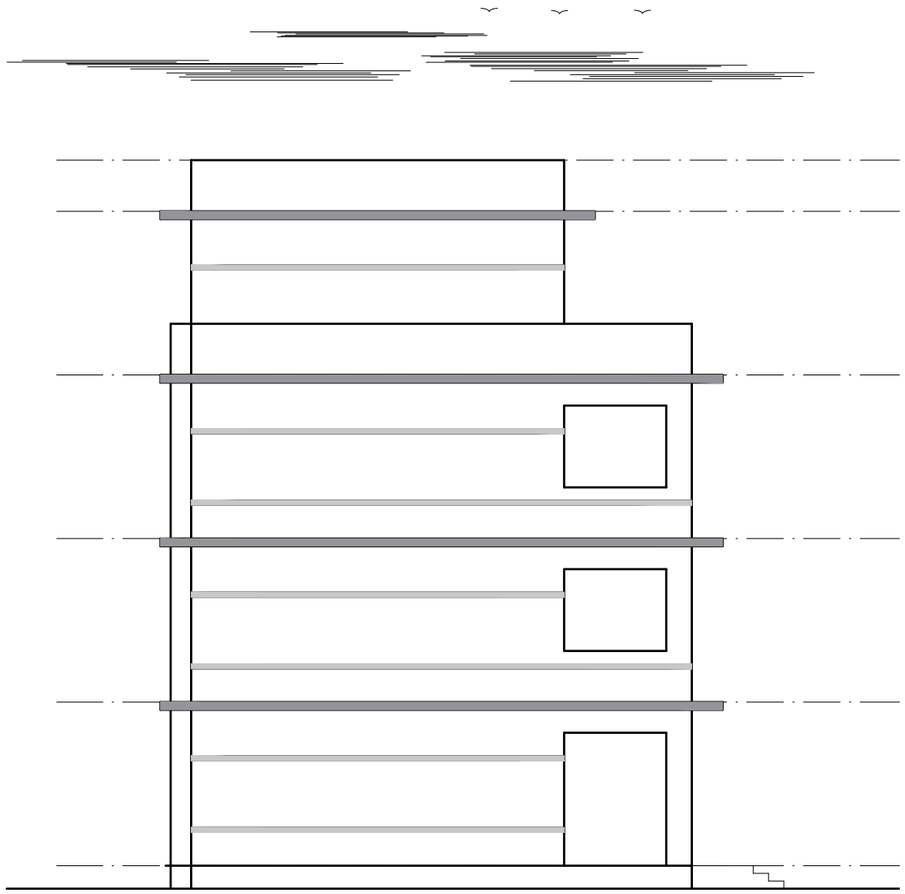
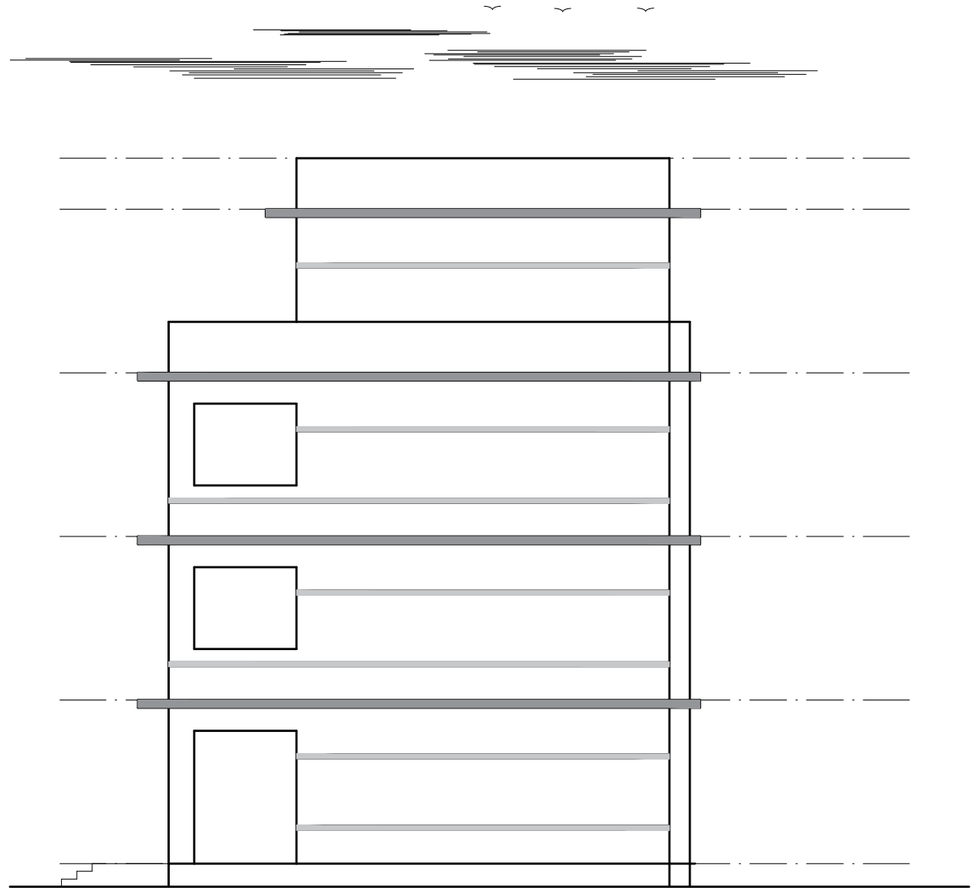


SIDE-2 ELEVATION



SIDE-1 ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 06	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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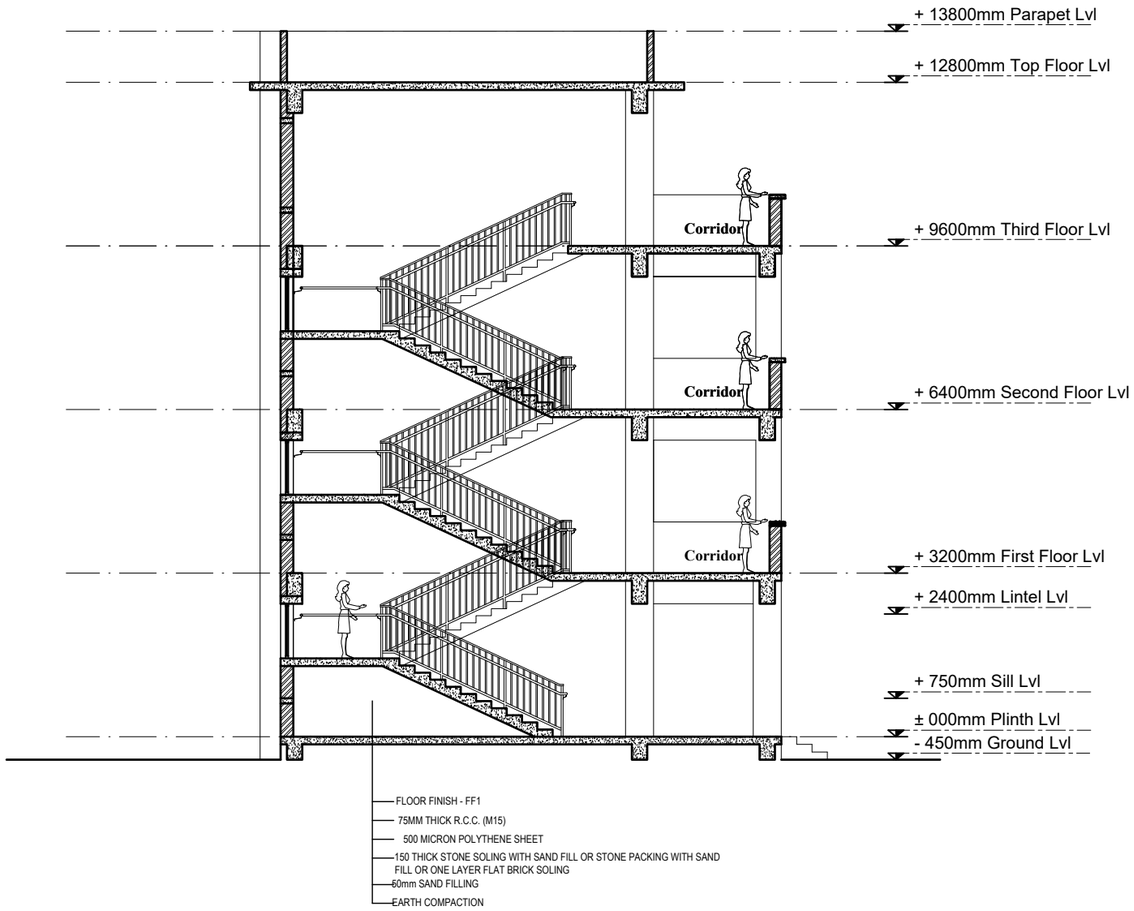

SECTION AT STAIRCASE

OPENING SCHEDULE

S.N.	SYMBOL	SIZES	G.F.	F.F.	S.F.	TOTAL	SILL HT.	REMARKS
1.	MD	1200 x 2400	8	8	8	24	-	
2.	D1	1000 x 2400	2	2	2	6	-	
3.	D2	750 x 2100	6	6	6	18	-	
4.	D3	1200 x 2400	2			2	-	
5.	W1	1700 x 1650	8	8	8	24	750 MM	
6.	W2	2000 x 1650	4	4	4	12	750 MM	
7.	SW	1800 x 1070	1	1		2	1530 MM	
8.	V1	600 x 600	6	6	6	18	1800 MM	

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**SECTION AND OPENING SCHEDULE**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 07	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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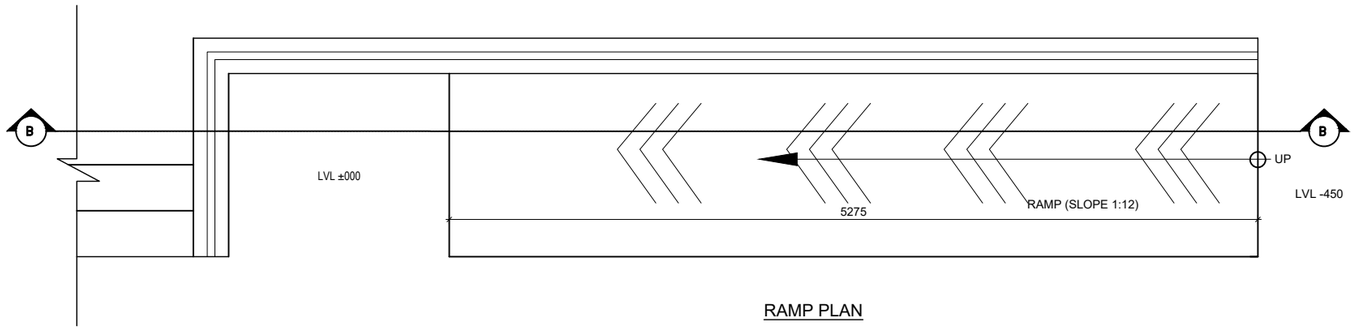
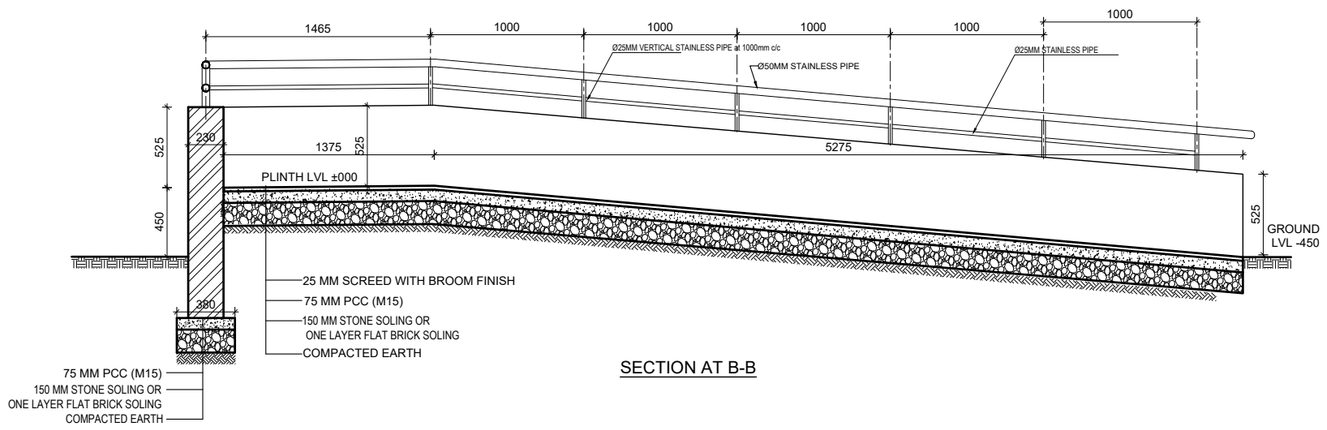


RAMP PLAN



SECTION AT B-B

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**RAMP DETAILS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 08 / R-00
				ARCHITECT:	CHECKED:	
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S12R-HILLY
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023	

STRUCTURE

DRAWING

SN.	DRAWING LIST
1.	GENERAL NOTES
3.	FOOTING DETAIL FOR 100kN/m2
4.	TYPICAL FLOORING DETAIL
5.	SITE SPECIFIC DRAWING
6.	TYPICAL DETAILS OF FOUNDATION WALL
7.	COLUMN DETAIL
8.	BEAM PLAN
9.	BEAM DETAIL
10.	SLAB DETAIL
11.	STAIRCASE DETAIL
12.	BAND DETAIL
13.	RAILING DETAIL

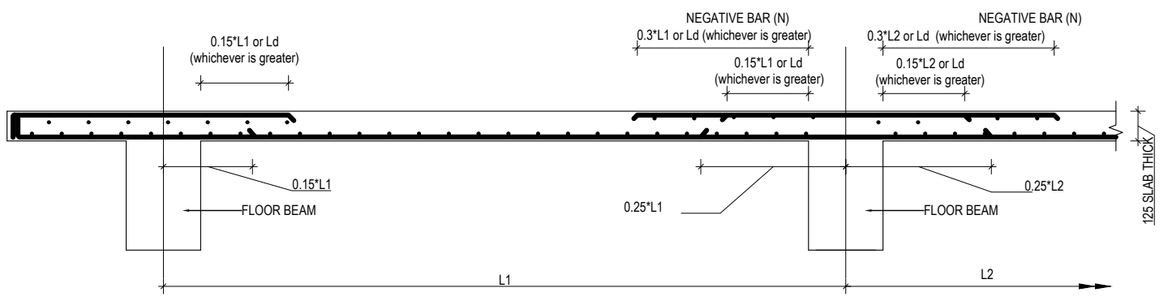
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TABLE OF CONTENTS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-00	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

GENERAL NOTES:

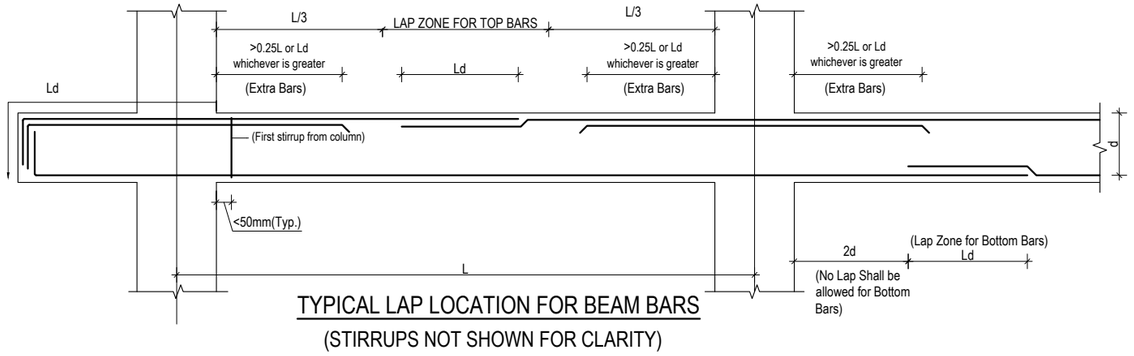
1. USE M25 GRADE CONCRETE FOR SLAB, BEAM, COLUMN, FOUNDATION, SILL & LINTEL BANDS (ALL RCC WORKS)
2. USE Fe500 GRADE STEEL ($fy=500N/mm^2$)
3. CLEAR COVER TO BARS
   a. FOR CONCRETE MEMBERS IN CONTACT WITH SOIL = MIN 50mm
   b. FOR COLUMN (FROM FACE TO LATERAL TIES) = 40mm
   c. FOR BEAMS (FROM FACE TO LATERAL STIRRUPS) = 25mm
   d. FOR OUTER BARS IN SLAB = 15mm
   e. FOR STAIRCASE = 20mm
4. BARS IN COLUMNS SHALL BE SPLICED ONLY AT MID HEIGHT OF COLUMN.
5. BARS SPLICING IN BEAM SHALL BE AVOIDED IN THE SPAN WHERE INTERMEDIATE BEAM IS CONNECTED AND SHALL BE ONLY AS SHOWN IN DWG.
6. DEVELOPMENT / LAP LENGTH (Ld.) FOR BARS.

BAR DIA-(mm)	8	10	12	16	20	25
FOR M25 Ld	400	490	590	790	980	1230

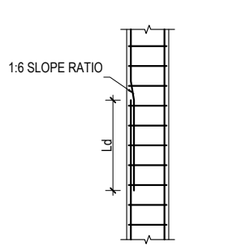
7. TEMP./DISTRIBUTION REINFORCEMENT FOR SLAB - TMT 8Ø @ 200 C/C
8. CLEAR VERTICAL DISTANCE BETWEEN TWO ROWS (LAYERS) OF BARS=25mm OR MAXIMUM SIZE OF REBAR
9. PROVIDE STIRRUPS OR TIES AT MIN 150 C/C AT LAP LOCATIONS IN BEAM AND AT MIN 100 C/C AT LAP LOCATION IN COLUMNS.
10. FOUNDATION
    10.1 FOUNDATION DESIGN HAVE BEEN PROVIDED FOR SAFE BEARING CAPACITY OF 150KN/m2. THIS S.B.C. SHALL BE CONFIRMED FROM GEO TECHNICAL INVESTIGATION AND CONSULTED TO DESIGNER.
    10.2 IF SAFE BEARING CAPACITY OF SOIL IS FOUND LESS THAN 100KN/m2, SPECIAL STUDY FOR FOUNDATION DESIGN IS REQUIRED.
11. H = CLEAR SPAN OF FLOOR.
12. D=DEPTH OF BEAM
13. d=EFFECTIVE DEPTH OF BEAM
14. Ld=DEVELOPMENT LENGHT
15. The seismic gap shall be as per codal requirement.



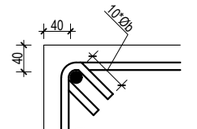
TYPICAL DETAIL FOR SLAB BARS



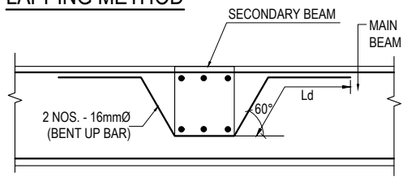
TYPICAL LAP LOCATION FOR BEAM BARS
(STIRRUPS NOT SHOWN FOR CLARITY)



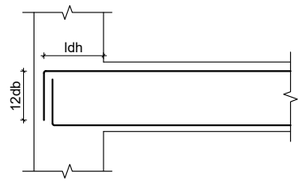
LAPPING METHOD



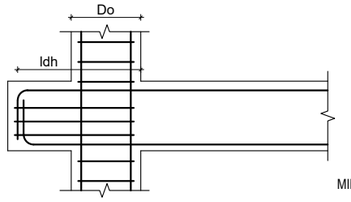
DETAIL OF HOOK
(Not to Scale)



CONNECTION DETAIL BETWEEN
MAIN & SECONDARY BEAM



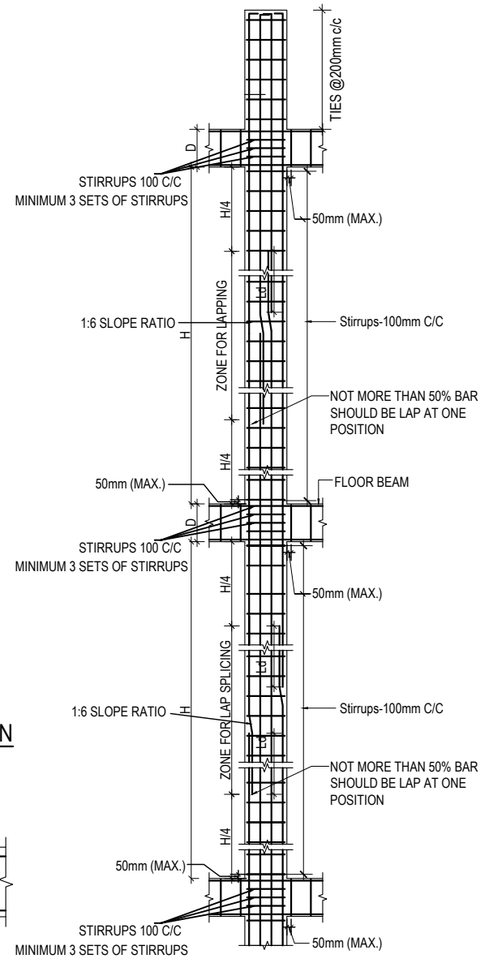
ANCHORAGE OF BEAM
LONGITUDINAL BAR IN COLUMN



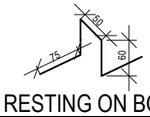
PPROVISION OF BEAM STUB

fy	fck	db	Ldh	12db
N/mm2	N/mm2	mm	mm	mm
500	20	12	277	144
500	25	12	248	144
500	20	16	369	192
500	25	16	330	192
500	20	20	462	240
500	25	20	413	240
500	20	25	577	300
500	25	25	516	300

fy= yield strength of steel
fck= Characteristic Compressive strength of concrete
db= diameter of largest longitudinalbar in beam in mm

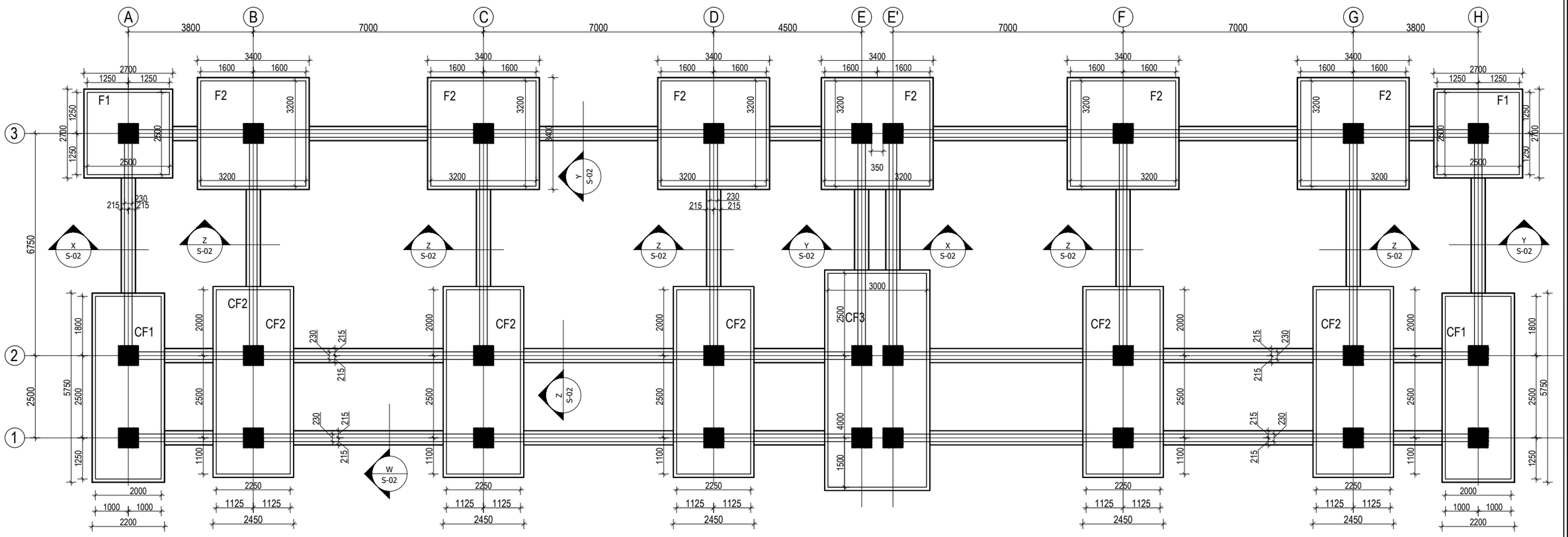


TYP. COLUMN SHEAR
REINFORCEMENT DETAIL



CHAIR RESTING ON BOTTOM BARS
@600 - 900 mm staggered position

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	GENERAL NOTES	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 / PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-00 / R-00 DWG CODE. 3S12R-HILLY

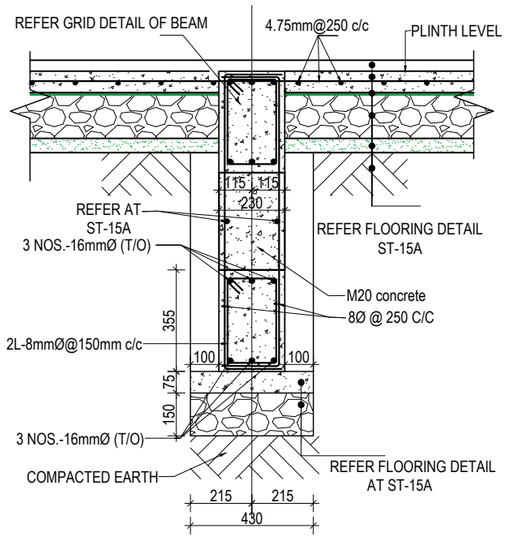


TRENCH PLAN

(Scale= 1:100)

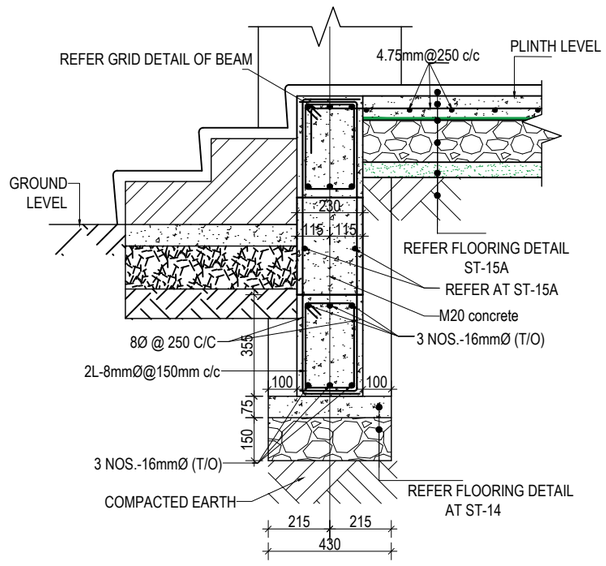
[Note: Provide wall footing for book corner walls]

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-01	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



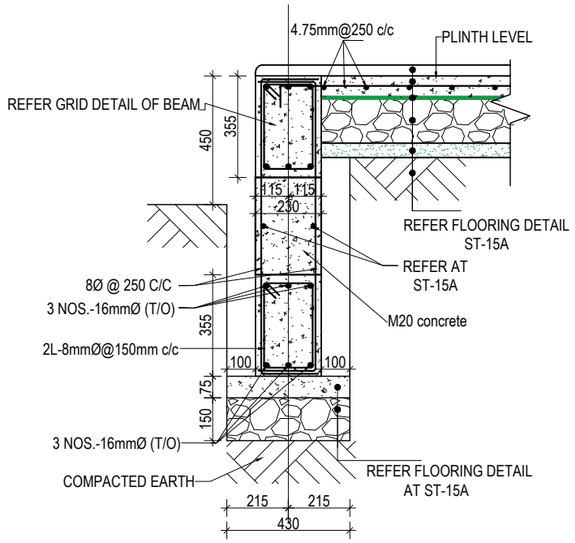
SECTION AT Z-Z

(Scale= 1:20)



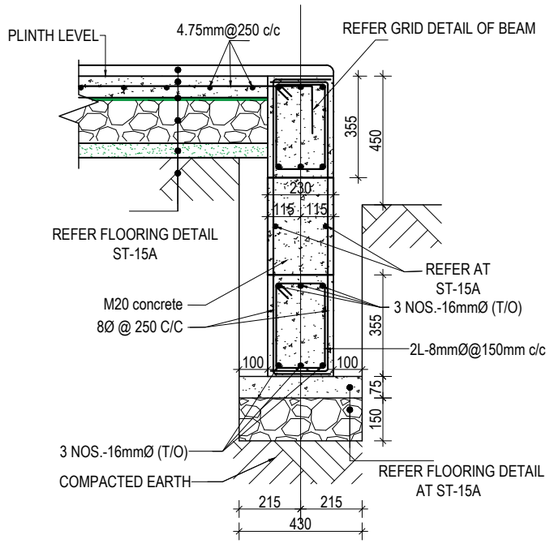
SECTION AT W-W

(Scale= 1:20)



SECTION AT X-X

(Scale= 1:20)



SECTION AT Y-Y

(Scale= 1:20)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-02	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
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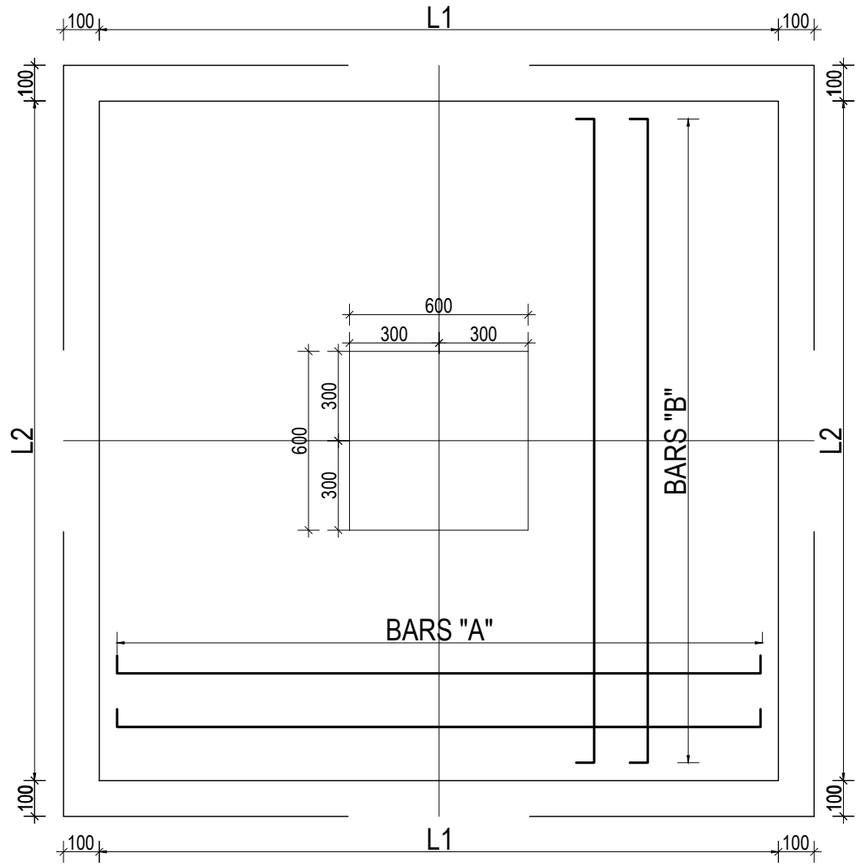
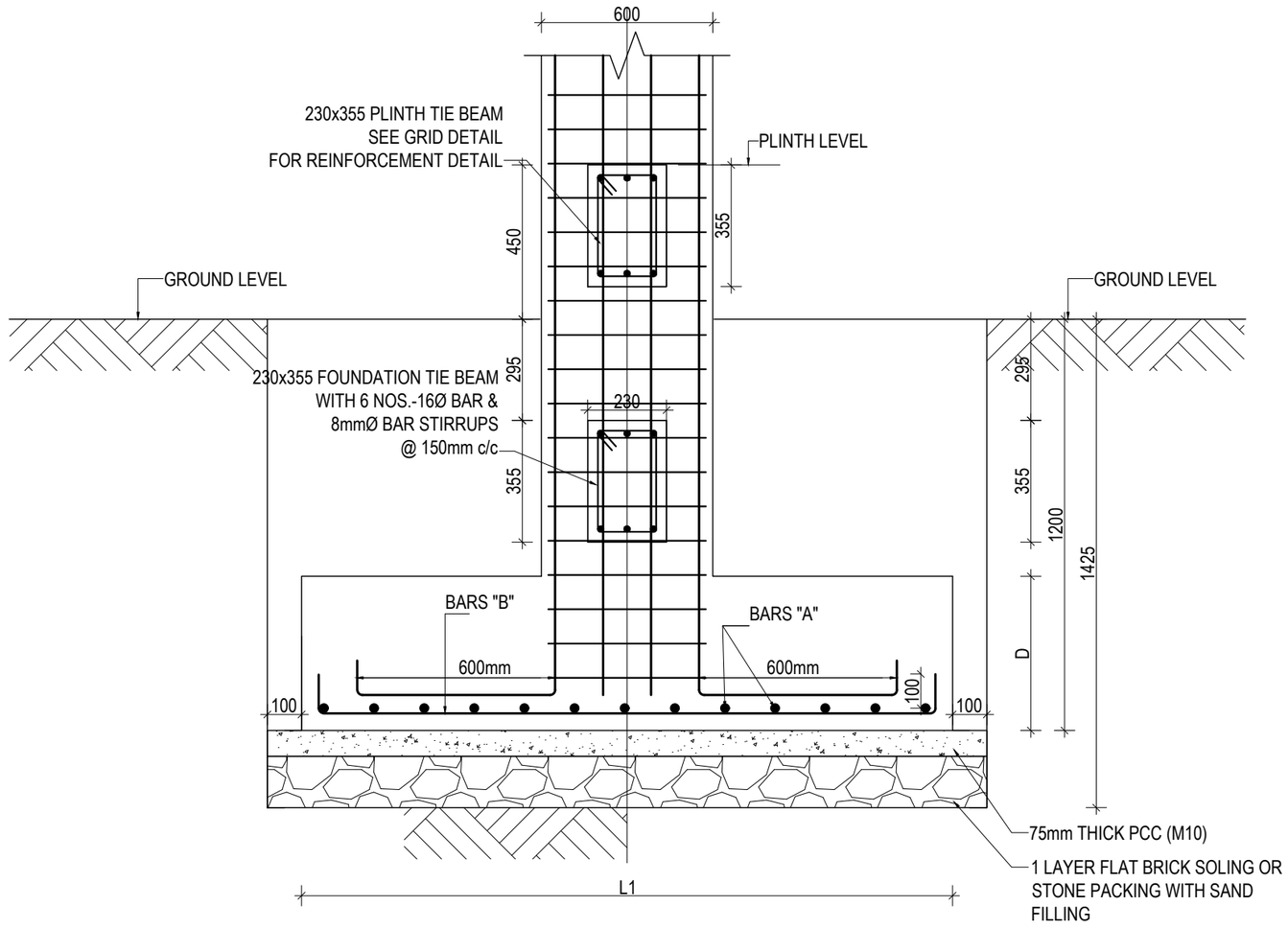


TYPICAL ISOLATED FOOTING PLAN



TYPICAL ISOLATED FOOTING SECTION

ISOLATED FOOTING SCHEDULE FOR S.B.C 150 kN/m2

FOOTING ID	L1	L2	DEPTH (D)	REINFORCEMENT DETAILS	
				BARS "A"	BARS "B"
F1	2500	2500	600	16Ø @ 150 C/C	16Ø @ 150 C/C
F2	3200	3200	750	16Ø @ 150 C/C	16Ø @ 150 C/C

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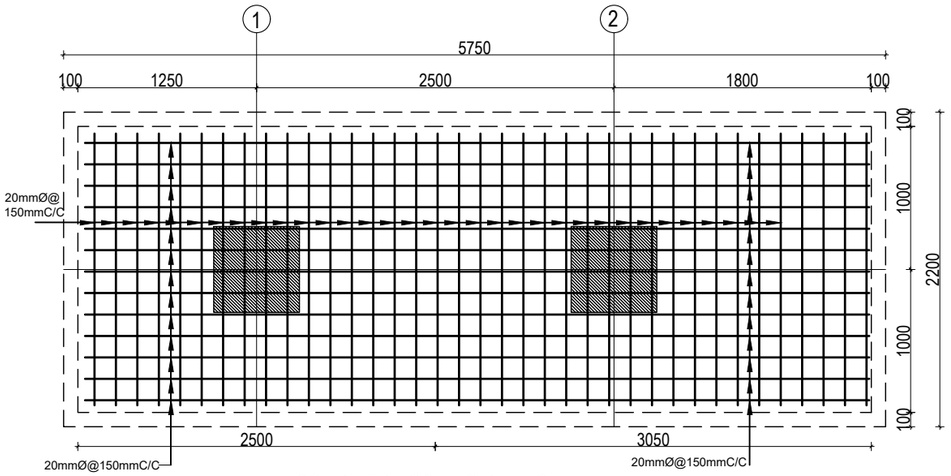
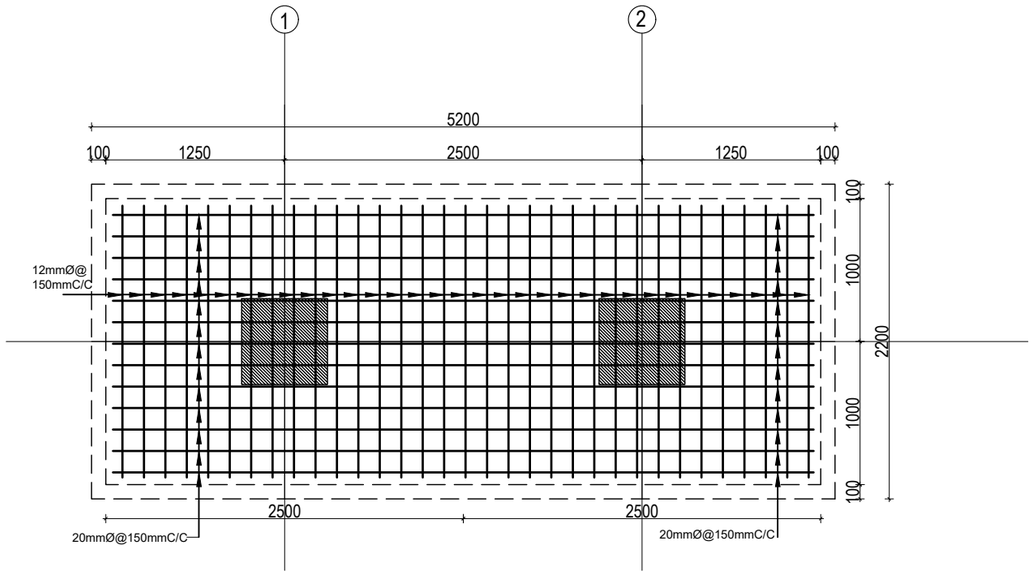
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-03	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



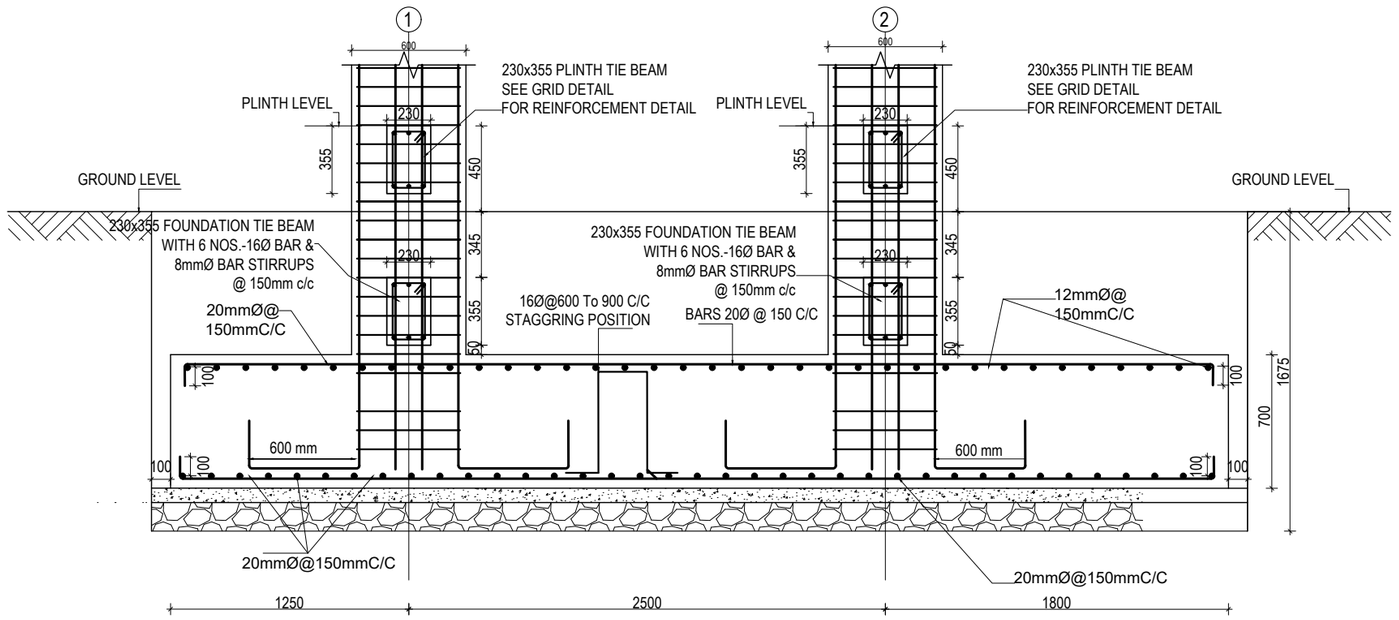
COMBINED FOOTING PLAN CF1

BOTTOM REINFORCEMENT



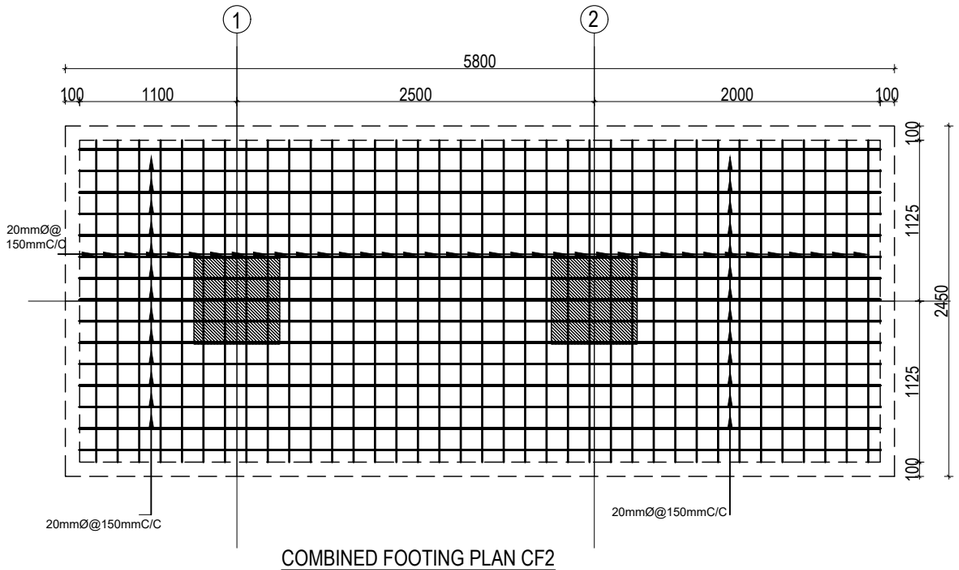
COMBINED FOOTING PLAN CF1

TOP REINFORCEMENT



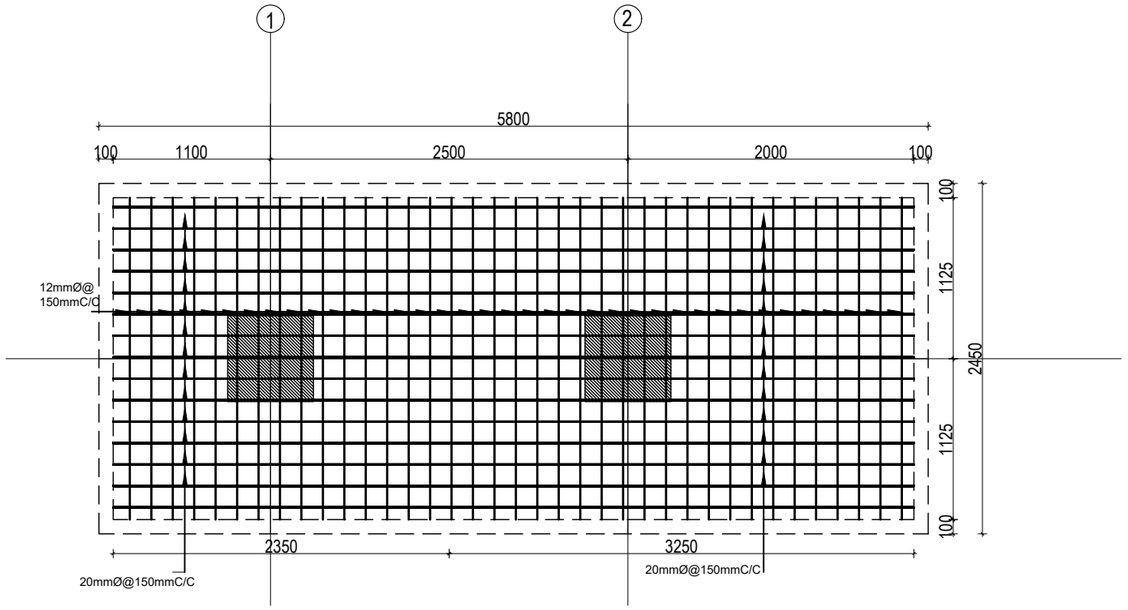
COMBINED FOOTING SECTION CF1

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-04	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



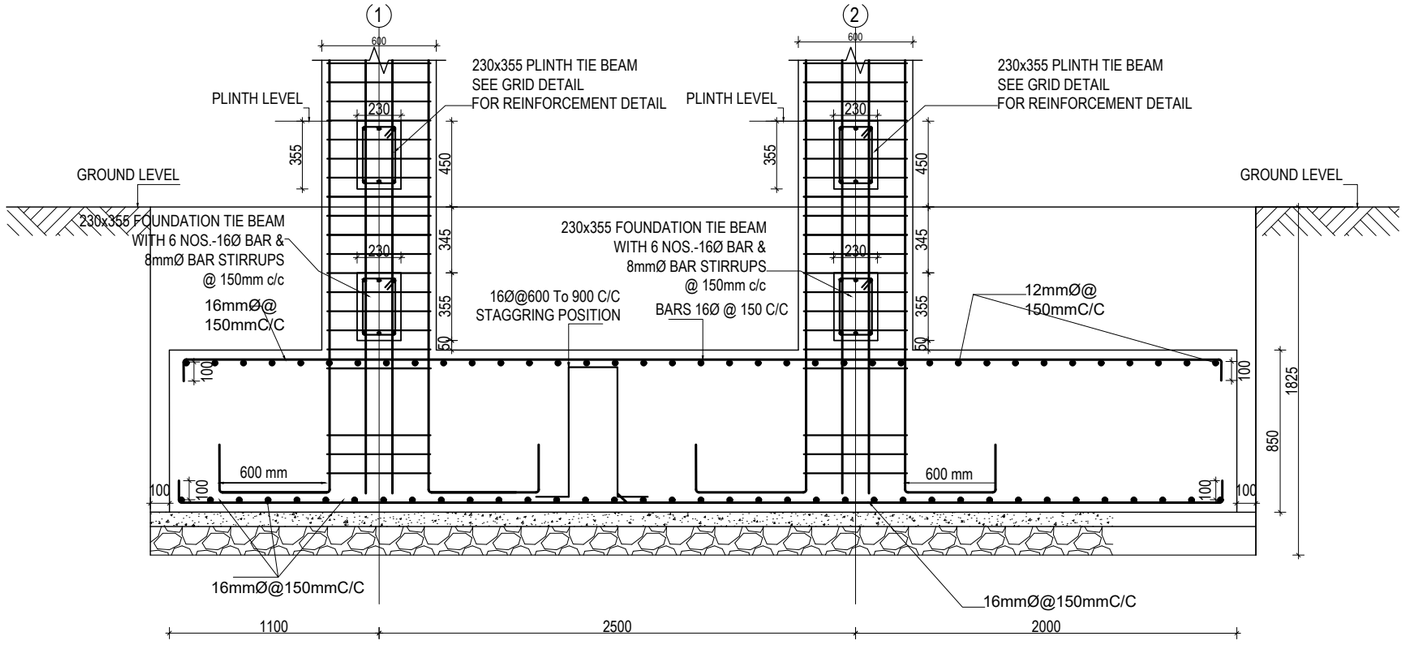
COMBINED FOOTING PLAN CF2

BOTTOM REINFORCEMENT



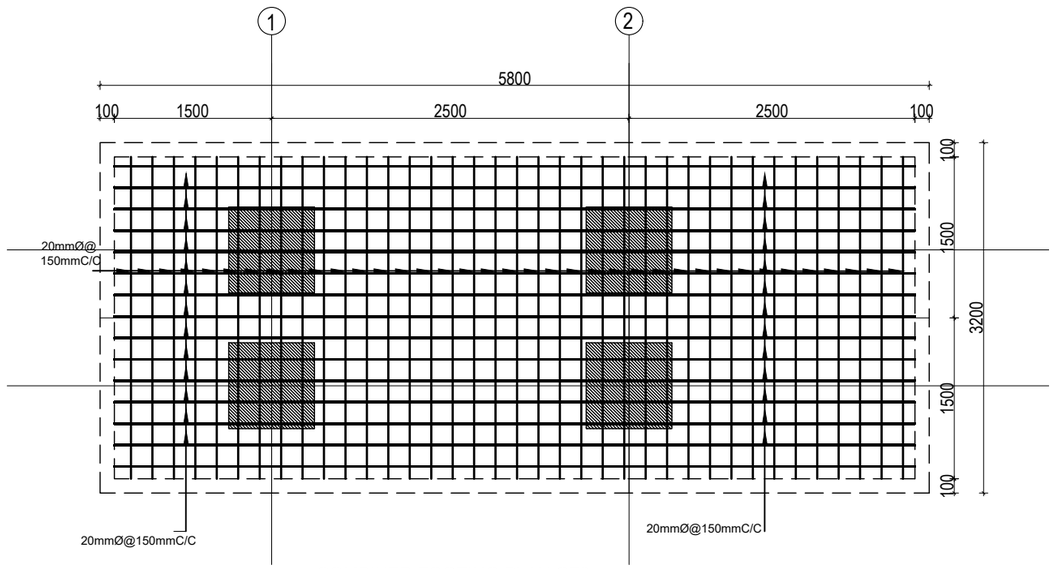
COMBINED FOOTING PLAN CF2

TOP REINFORCEMENT



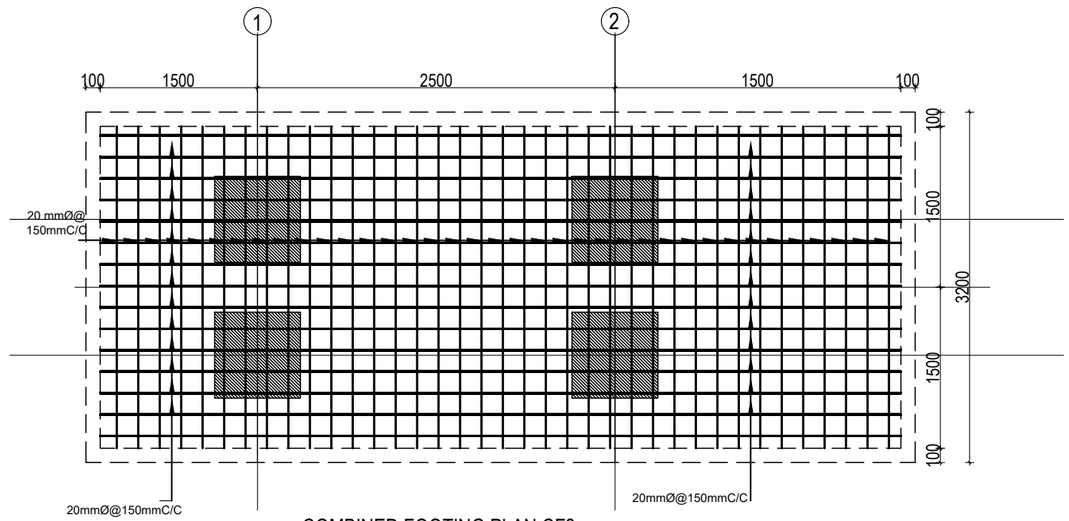
COMBINED FOOTING SECTION CF2

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-05	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



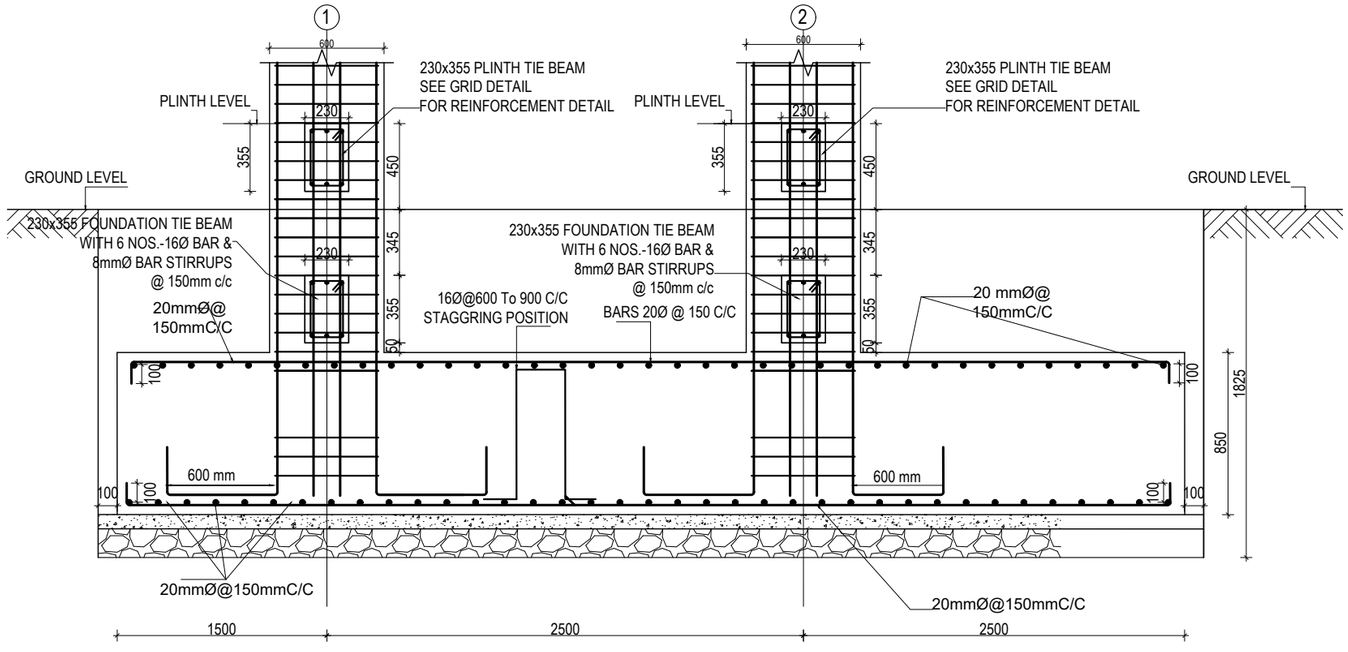
COMBINED FOOTING PLAN CF3

BOTTOM REINFORCEMENT

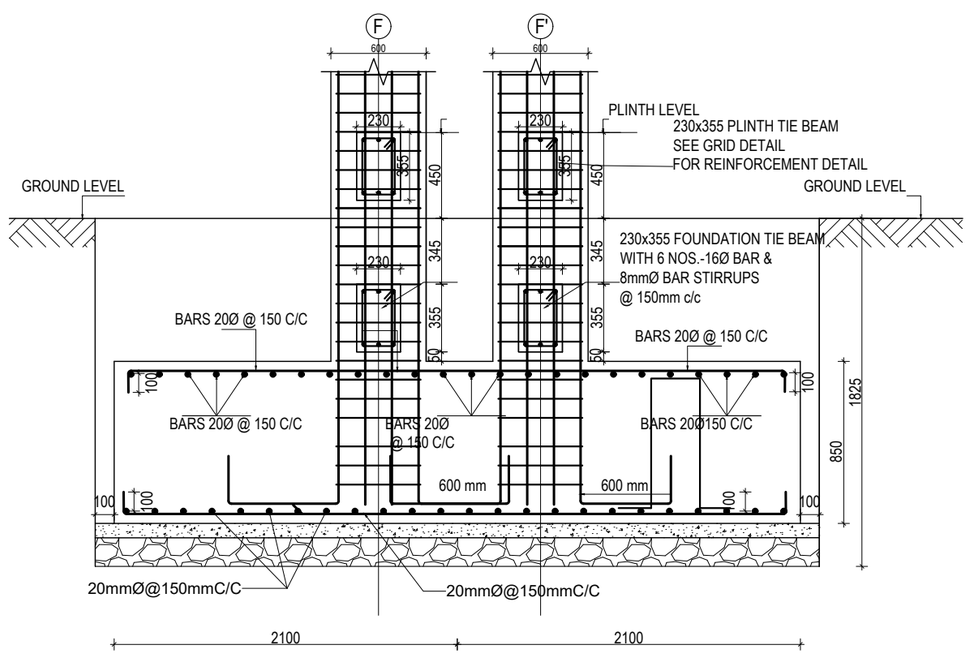


COMBINED FOOTING PLAN CF3

TOP REINFORCEMENT

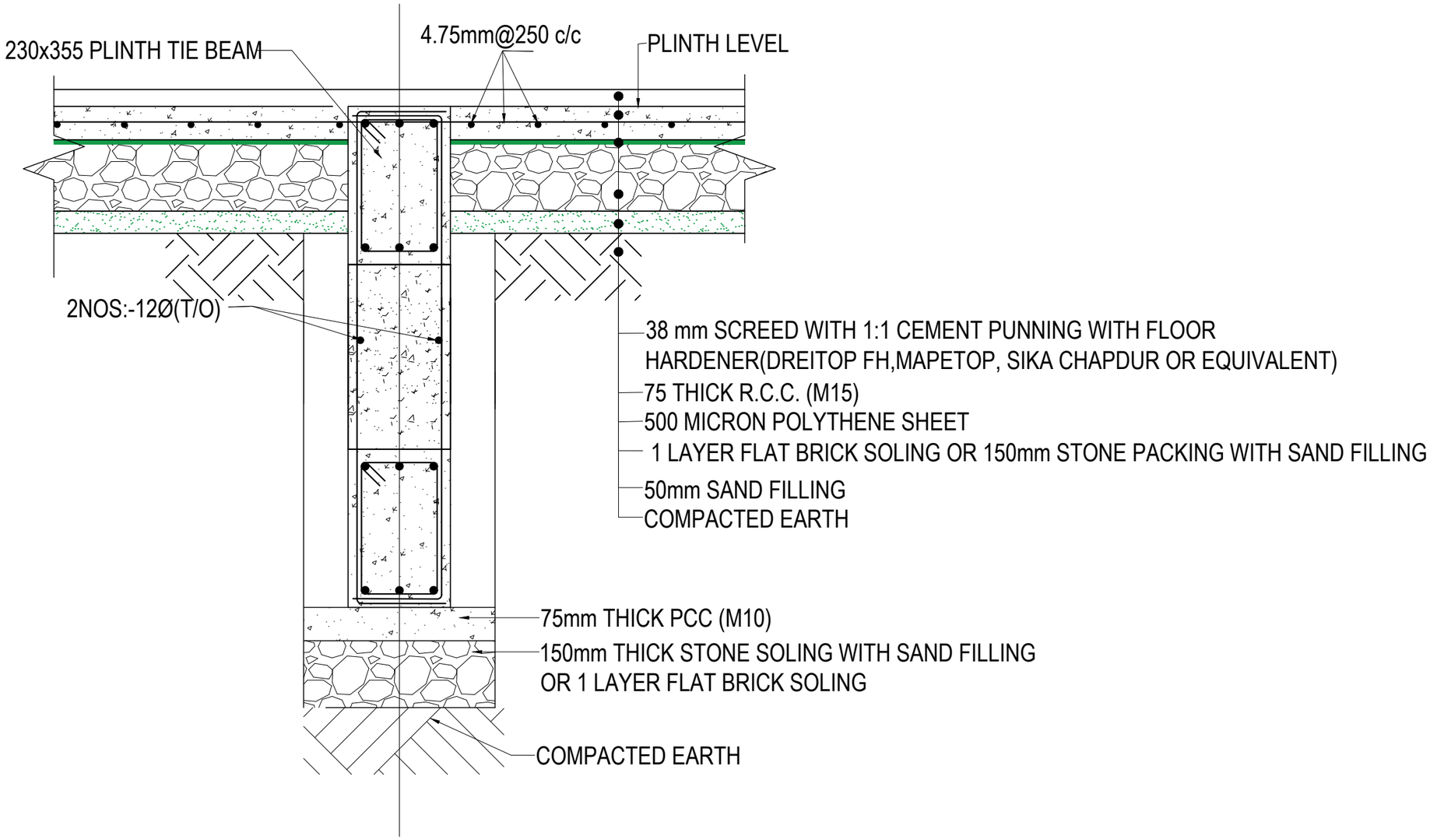


COMBINED FOOTING SECTION CF3 (L-SECTION)



COMBINED FOOTING SECTION CF3 [X-SECTION]

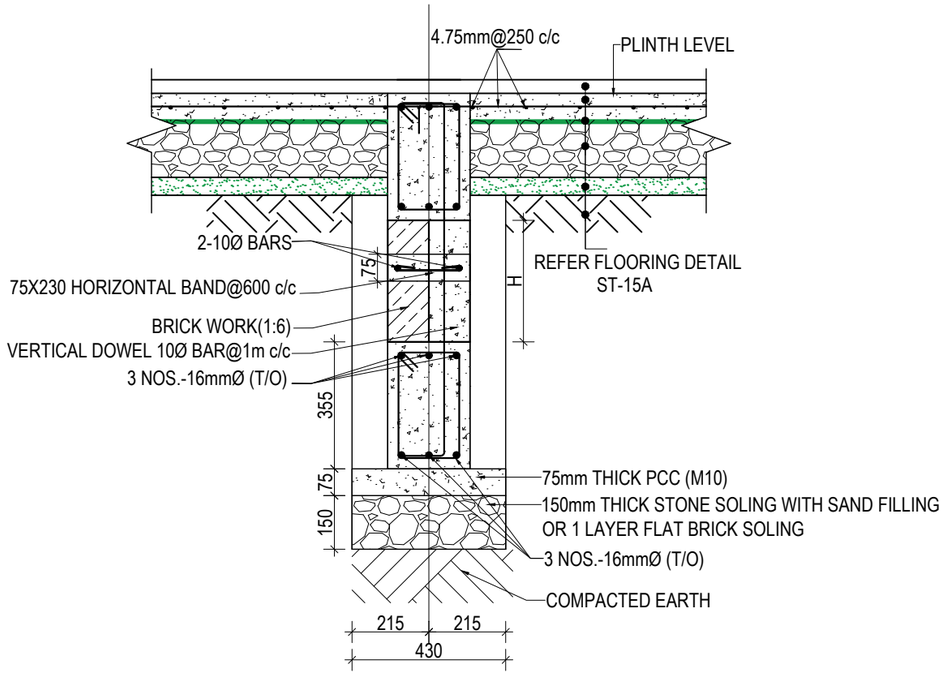
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-06	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL FLOORING DETAIL FF1

(Scale= 1:10)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL FLOORING DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-07	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



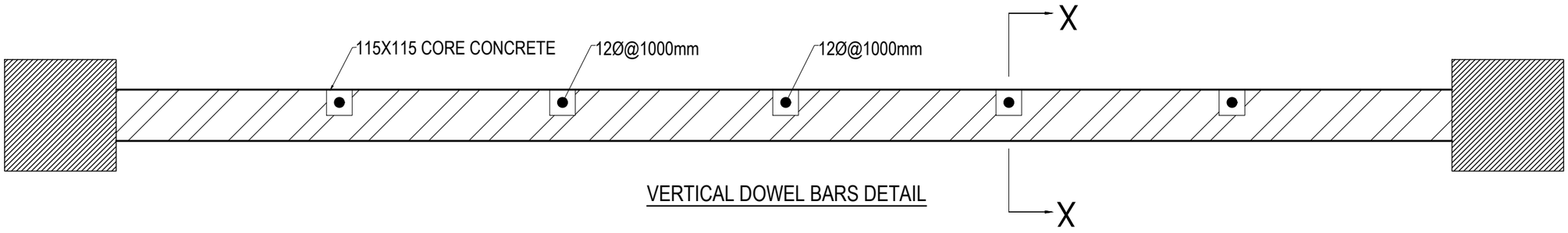
WALL DETAIL FOR DEPTH OF FOOTING MORE THAN 1500 mm

SECTION AT X-X

NOTES:-

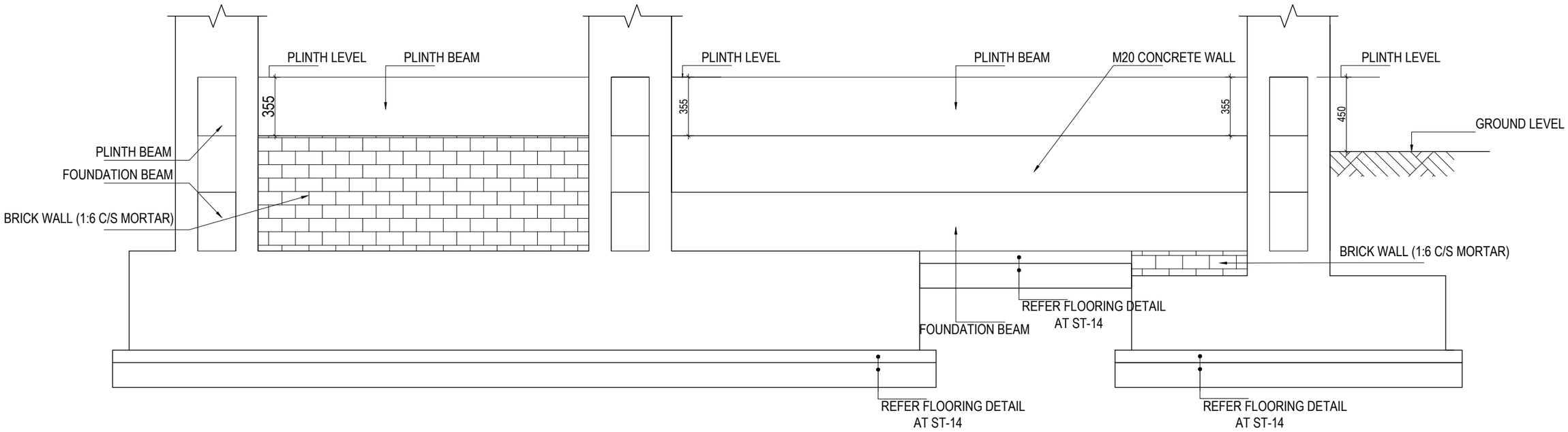
1) BRICK WALL IS USED IF WALL IS CONFINED BY SOIL ON BOTH SIDES

2)IF THE HEIGHT OF THE BRICKWALL EXCEEDS 1800 mm ADDITIONAL BEAM SHALL BE PROVIDED OF SAME SIZE OF FOUNDATION BEAM(SAME REINFORCEMENT TO BE USED)



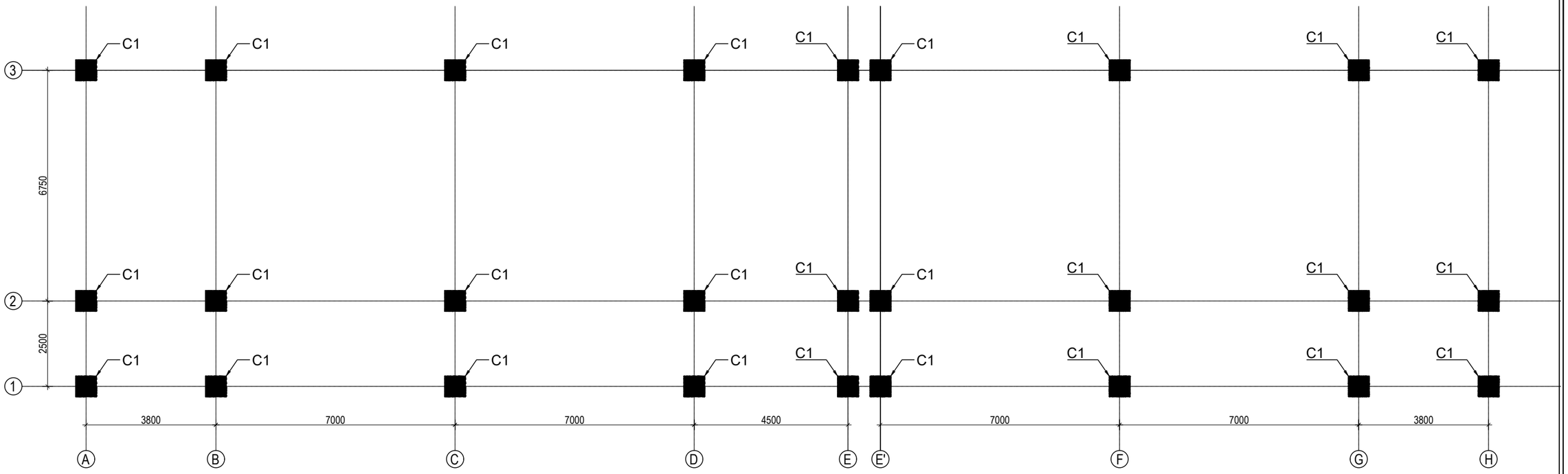
VERTICAL DOWEL BARS DETAIL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SITE SPECIFIC DRAWING	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-08	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL DETAIL OF FOUNDATION WALL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL DETAIL OF FOUNDATION WALL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-09	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



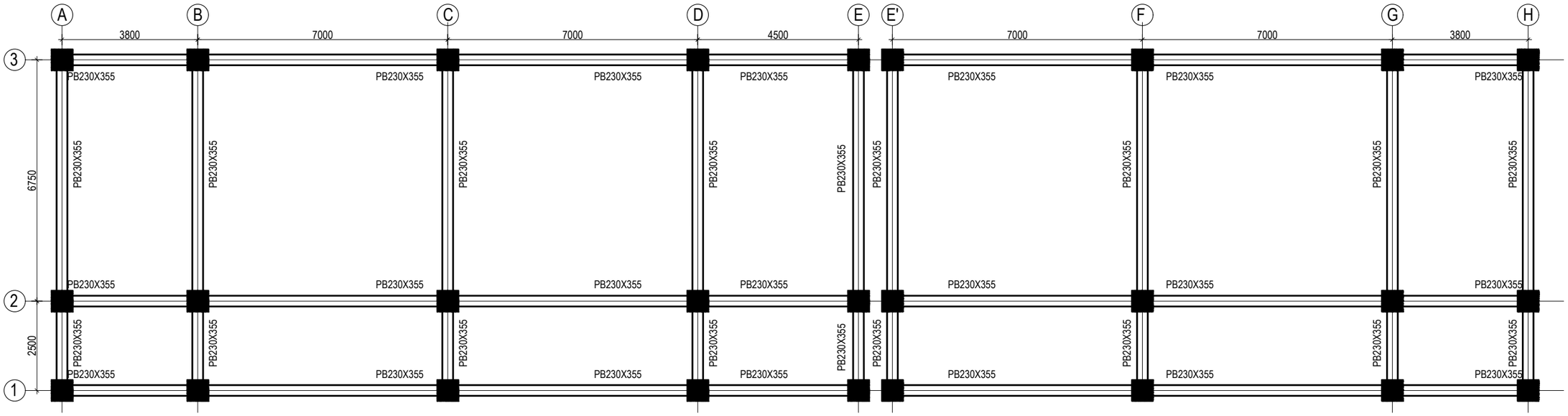
GROUND FLOOR COLUMN LAYOUT PLAN

(SCALE 1:100)

COLUMN REINFORCEMENT DETAILS

S. NO.	COLUMN	COLUMN SIZE	FLOOR					TIE BAR ORIENTATION
			GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	TOP FLOOR	
1	C1	600X600	600 × 600, 16 NOS. -25mmØ	600 × 600, 16 NOS. -25mmØ	600 × 600, 16 NOS. -25mmØ	600 × 600, 16 NOS. -25mmØ		A B A: 10Ø100c/c & B:8Ø100c/c

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	COLUMN DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-10	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

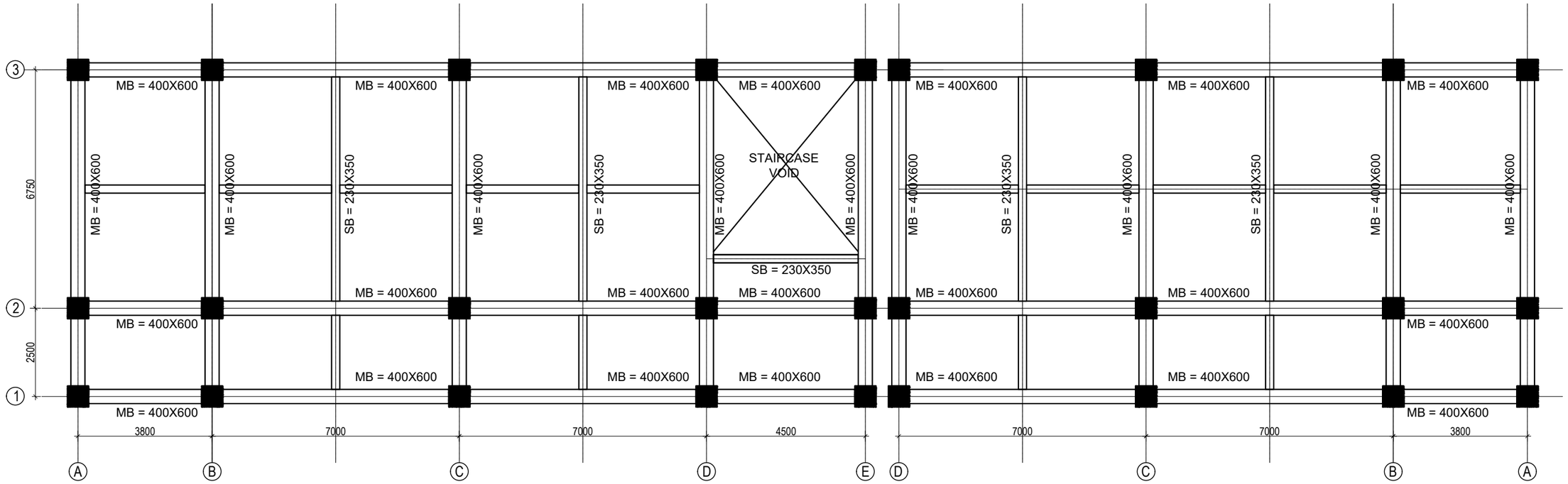


PLINTH BEAM LAYOUT PLAN

(Scale= 1:100)

LVL:- PL+0000

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-11	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

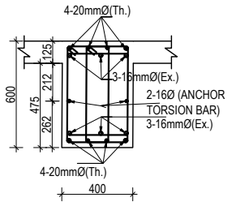
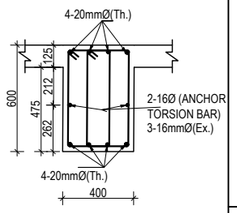
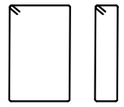
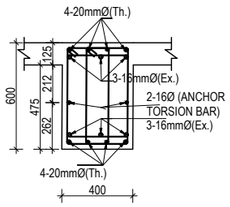
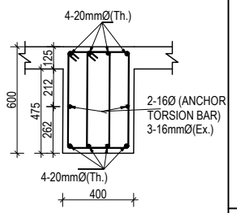
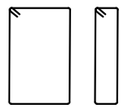
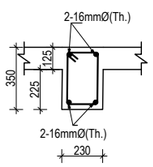
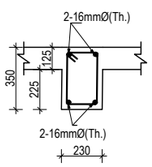


BEAM LAYOUT PLAN (FIRST, SECOND AND THIRD FLOOR)

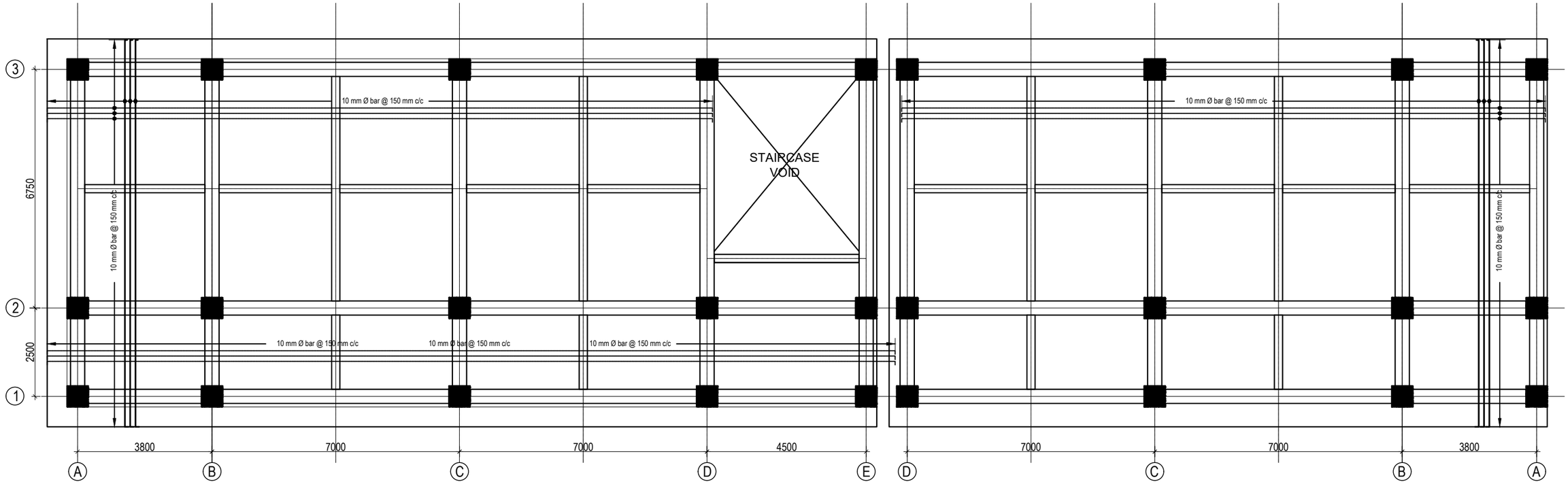
(Scale= 1:100)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 / PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-12 / R-00 DWG CODE. 3S12R-HILLY

COLUMN REINFORCEMENT DETAILS

S. NO.	GRID	BEAM SIZE	AT SUPPORT	AT MID	STIRRUPS BAR ORIENTATION	FLOOR LVL
1	1-1 2-2 3-3	400X600				FIRST FLOOR BEAMS SECOND FLOOR BEAMS
					4- Legged, 10Ø100c/c & 150 c/c	
2	A-A B-B C-C D-D E-E	400X600				REMAINING FLOOR BEAMS
					4- Legged, 10Ø100c/c & 150 c/c	
3	Sec. beam	230X350				ALL FLOOR BEAMS
					2- Legged, 10Ø100c/c & 150 c/c	

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-13	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



SLAB REINFORCEMENT DETAIL FOR TOP BARS

(GROUND,FIRST, SECOND AND THIRD FLOOR)

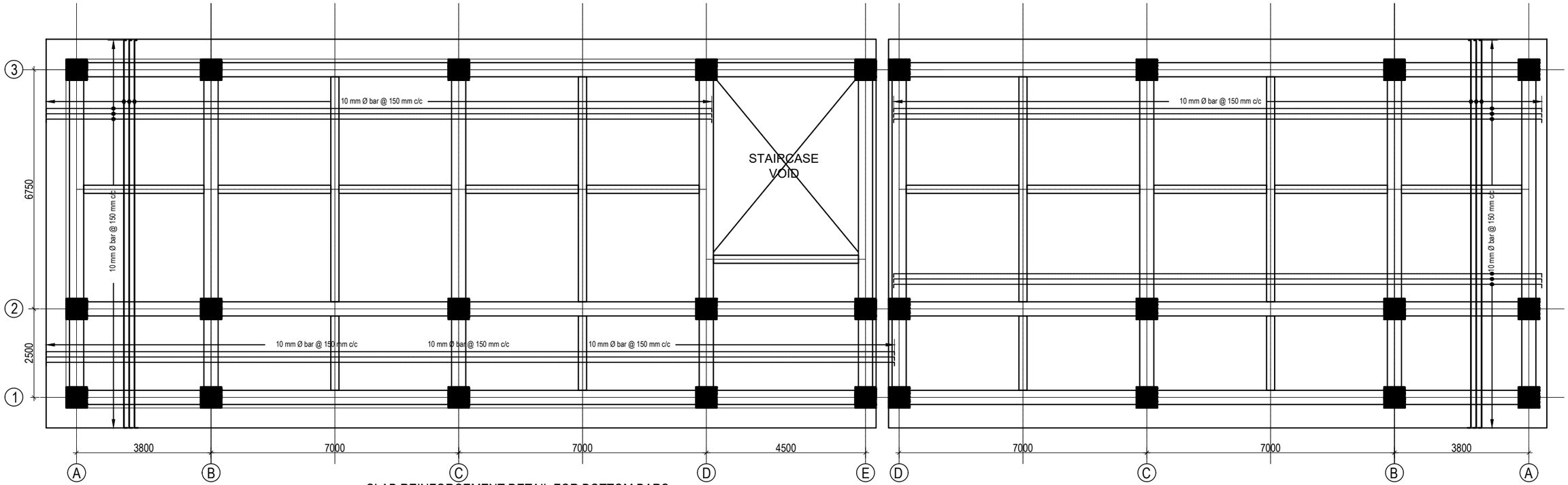
TOP REINFORCEMENT: a. FOR MAIN BEAM :10Ø@150 mm c/c

b. FOR SECONDARY BEAM :10Ø@200 mm c/c

(Scale= 1:120)

125 mm SLAB THICKNESS

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-14	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



SLAB REINFORCEMENT DETAIL FOR BOTTOM BARS

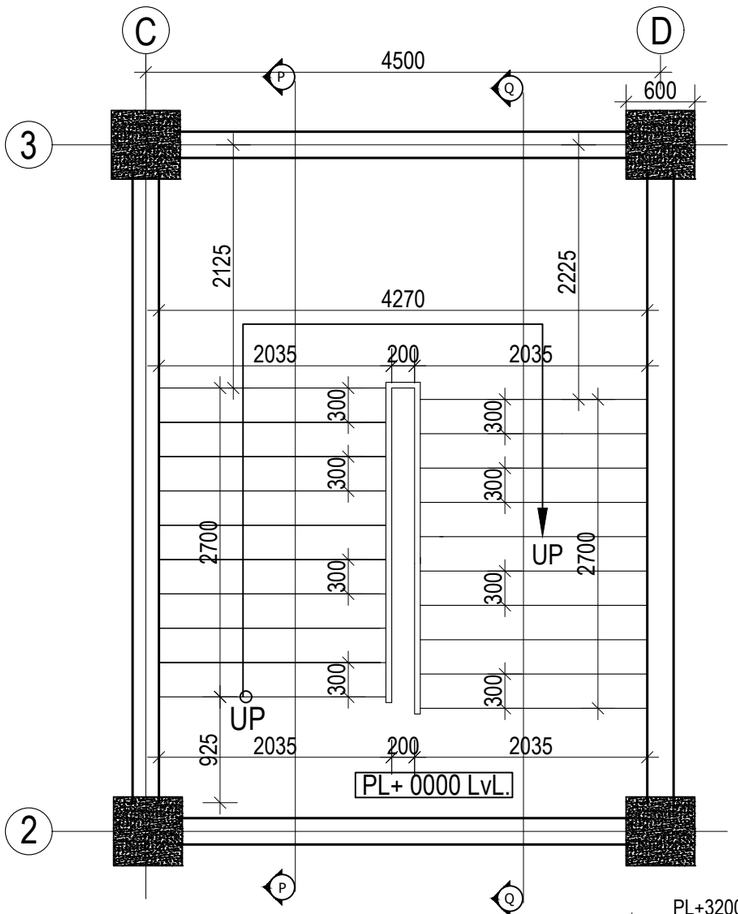
(GROUND,FIRST, SECOND AND THIRD FLOOR)

BOTTOM REINFORCEMENT: 8Ø@150 mm c/c

(Scale= 1:120)

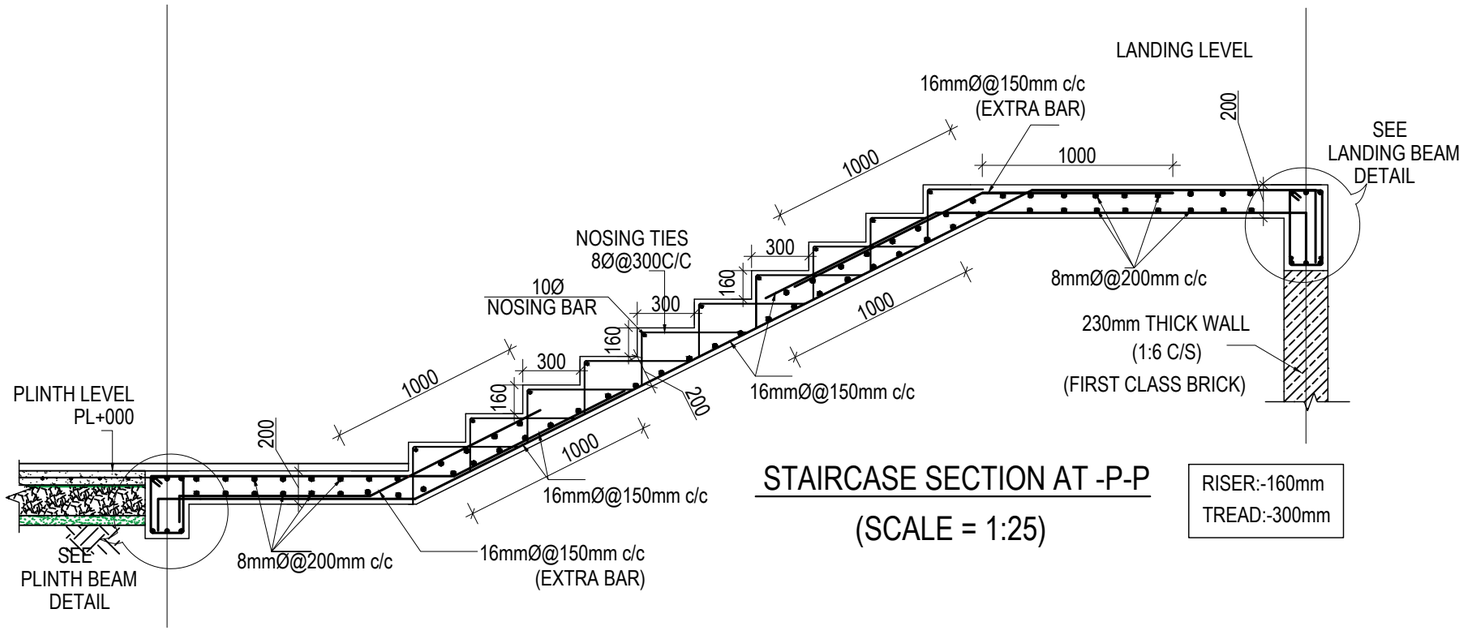
125 mm SLAB THICKNESS

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-15	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



GROUND FLOOR STAIRCASE PLAN

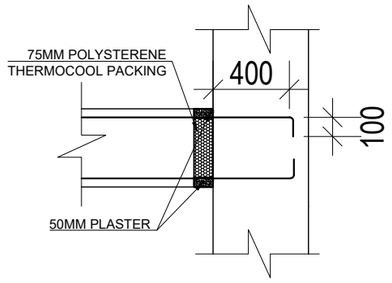
(Scale= 1:50)



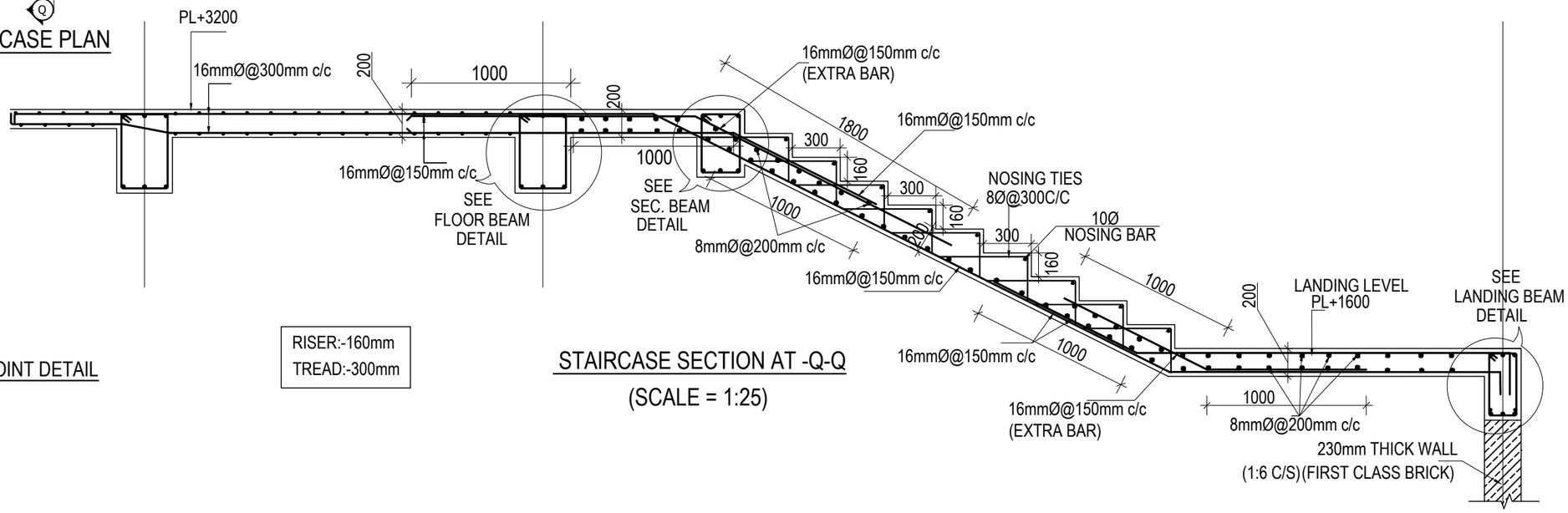
STAIRCASE SECTION AT -P-P

(SCALE = 1:25)

RISER:-160mm
TREAD:-300mm



TYPICAL LANDING BEAM AND COLUMN JOINT DETAIL

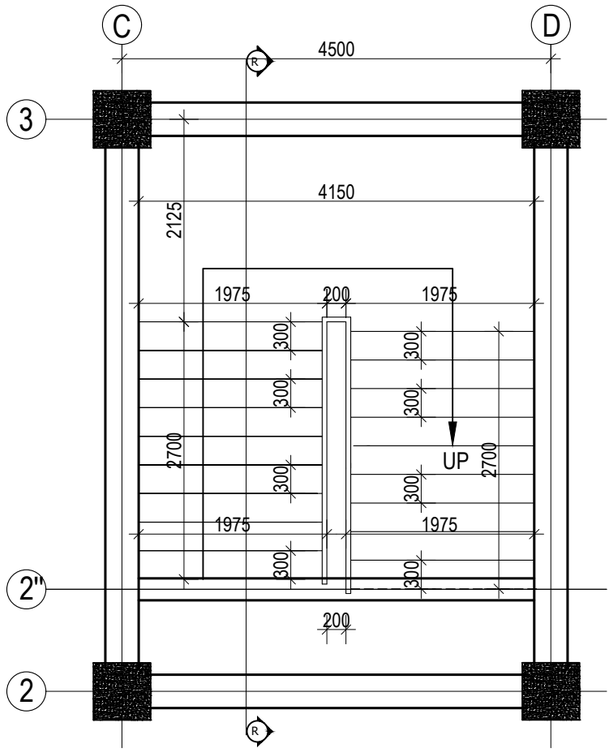


RISER:-160mm
TREAD:-300mm

STAIRCASE SECTION AT -Q-Q

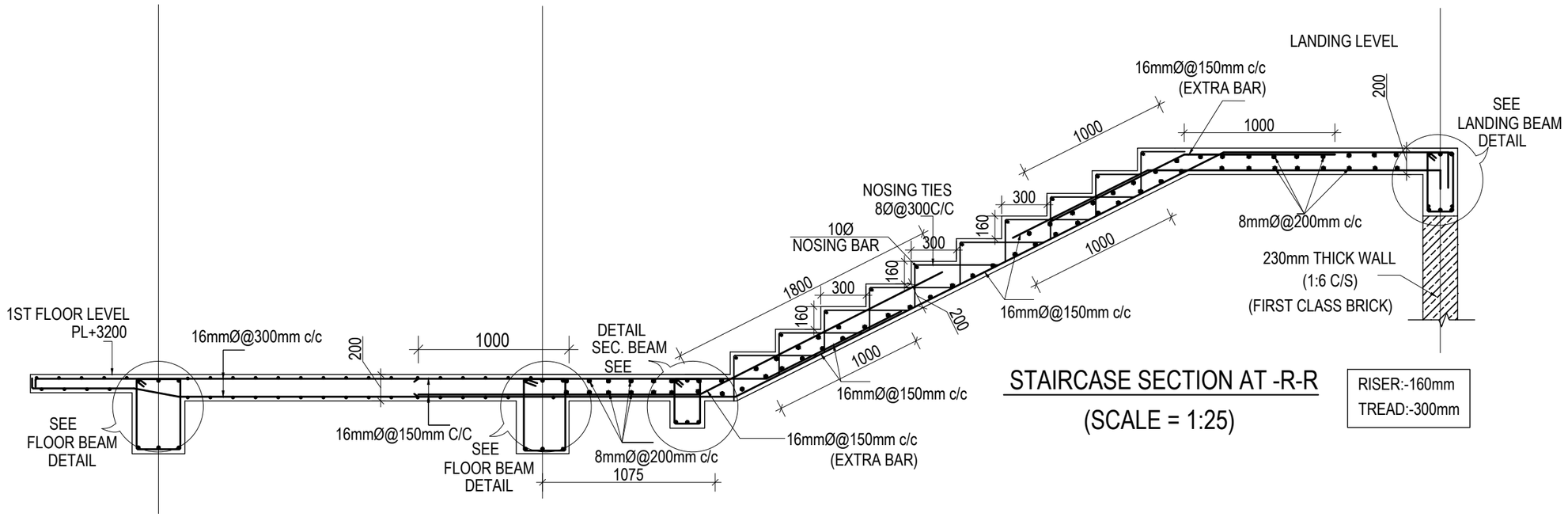
(SCALE = 1:25)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-16	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL FLOOR STAIRCASE PLAN

(Scale= 1:50)

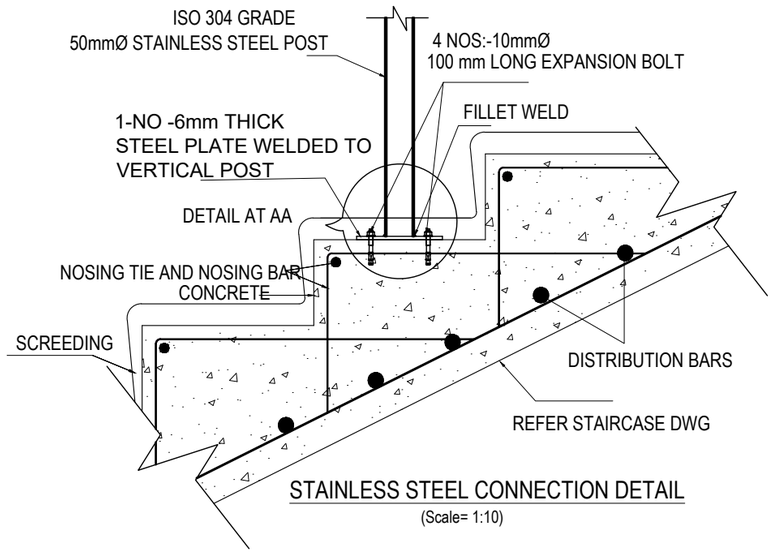


STAIRCASE SECTION AT -R-R

(SCALE = 1:25)

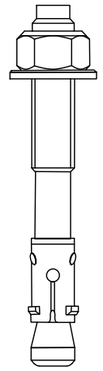
RISER:-160mm
TREAD:-300mm

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-17	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



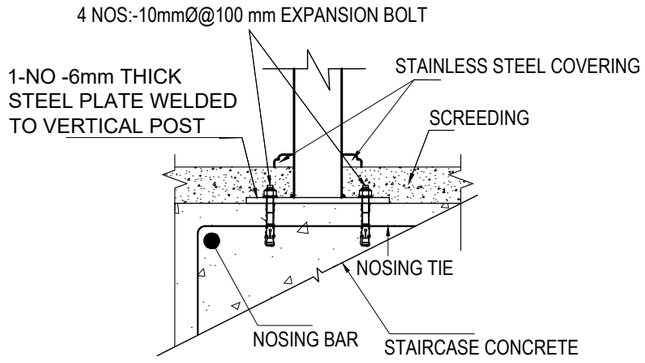
STAINLESS STEEL CONNECTION DETAIL

(Scale= 1:10)



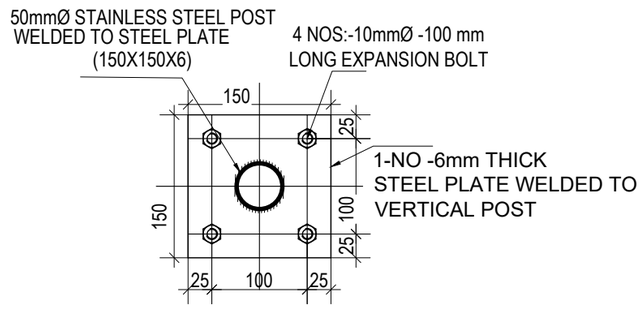
10mmØ-50 mm LONG EXPANSION BOLT

(Scale= 1:1)



DETAIL AT AA

(Scale= 1:5)



PLAN VIEW OF STEEL PLATE

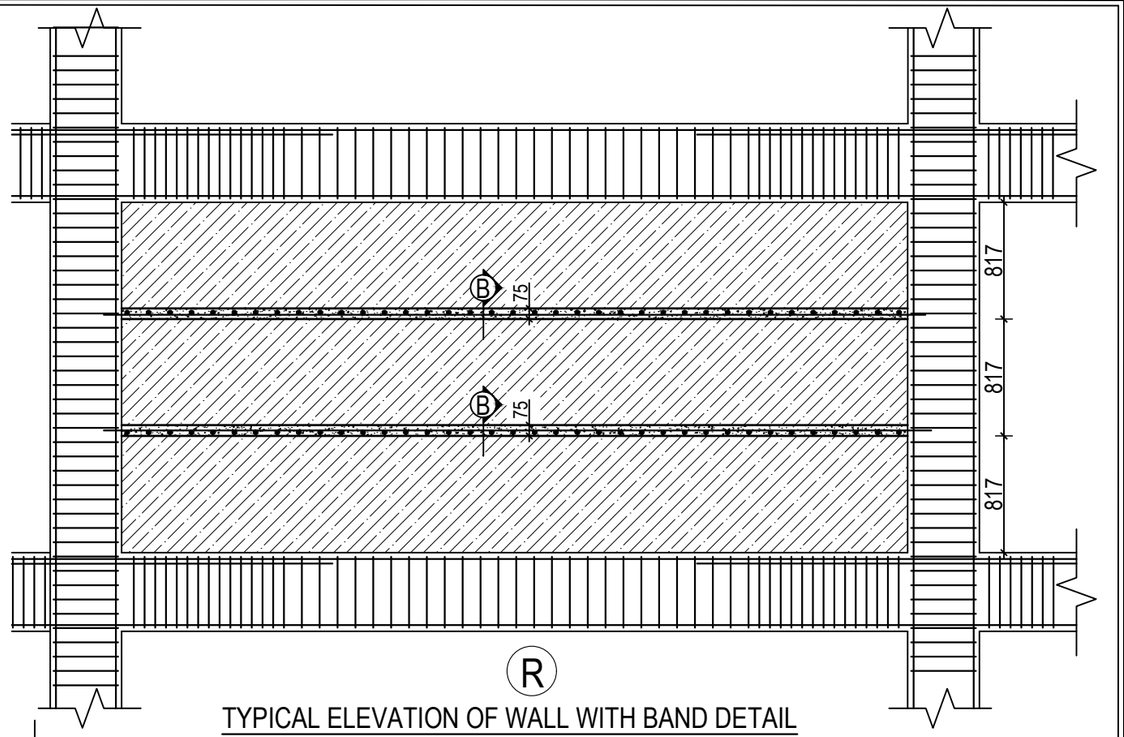
(Scale= 1:5)

NOTE:

1) STAINLESS STEEL SHALL BE IN COMPLIANCE WITH ISO 304 GRADE

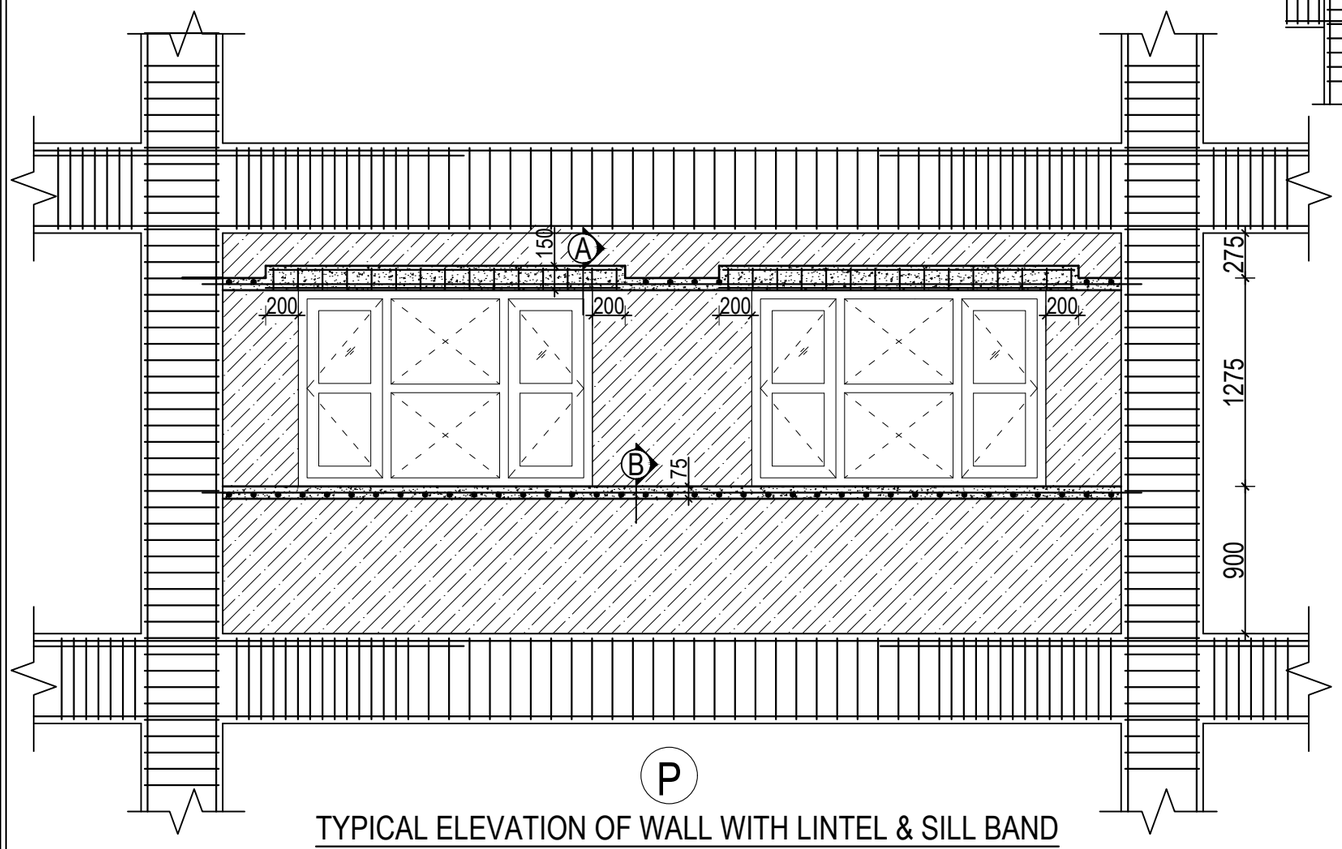
2) DRILLED HOLE SHALL BE PROPERLY CLEANED BEFORE EMBEDMENT OF BOLT

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-18	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



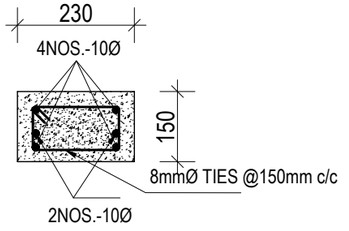
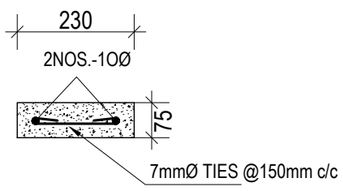
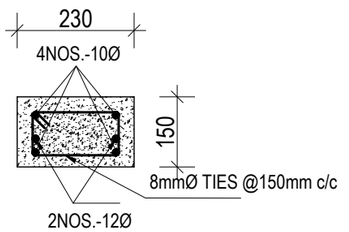
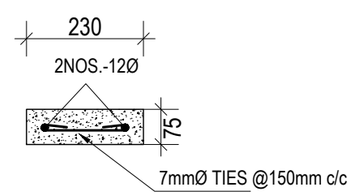
R

TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITHOUT OPENINGS
(Scale= 1:40)

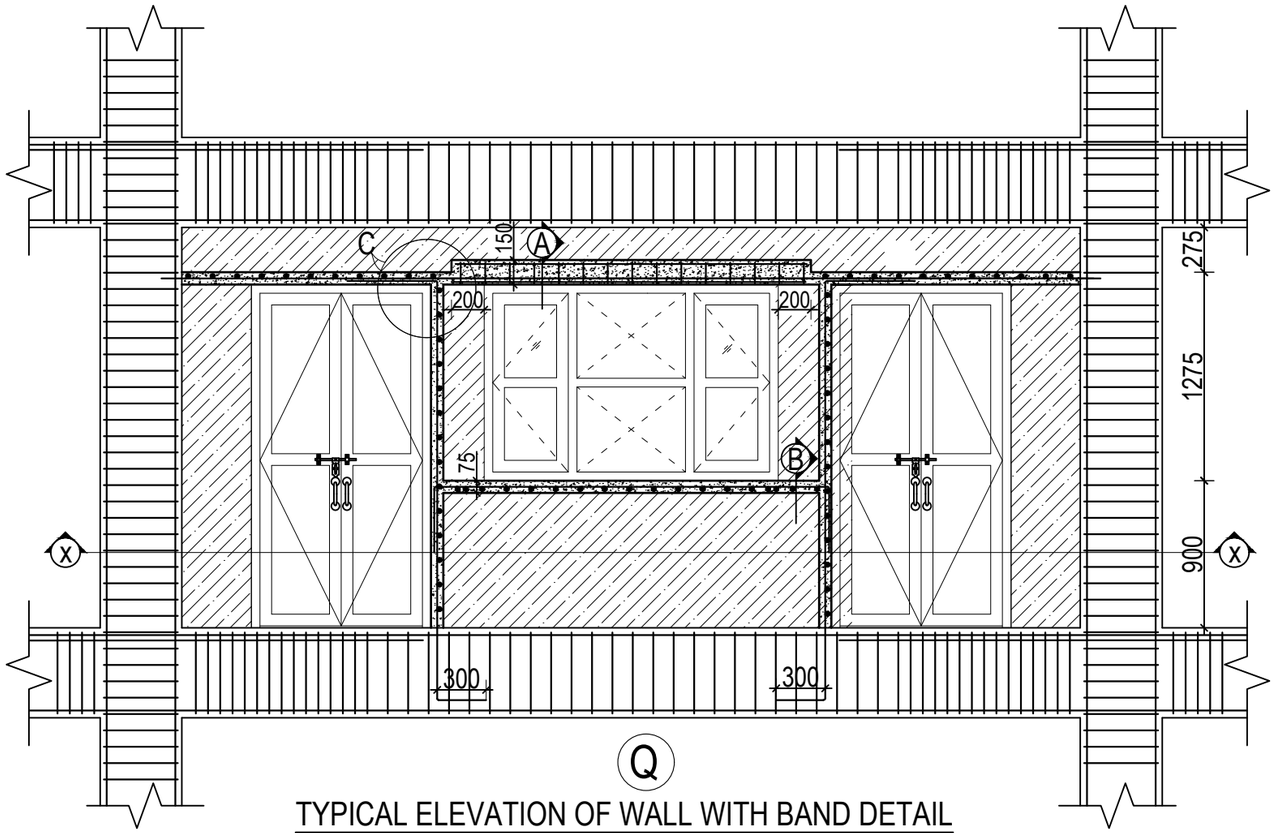


P

TYPICAL ELEVATION OF WALL WITH LINTEL & SILL BAND
WITH WINDOWS
(Scale= 1:35)

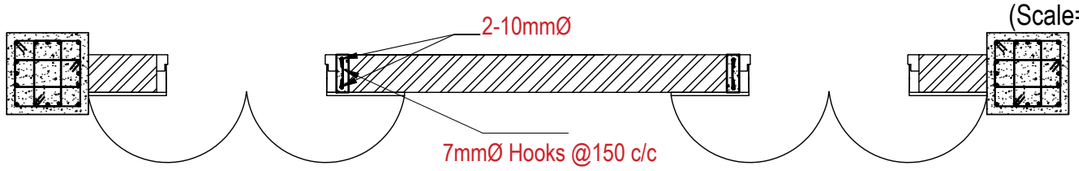
SN.	FLOOR	SECTION AT A-A	SECTION AT B-B
1.	GROUND,FIRST & SECOND FLOOR		
2.	THIRD FLOOR		

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-19	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

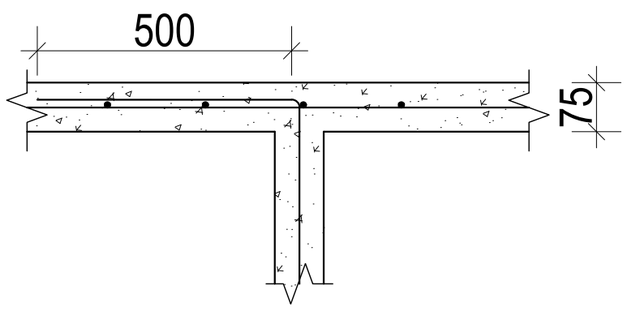


Q

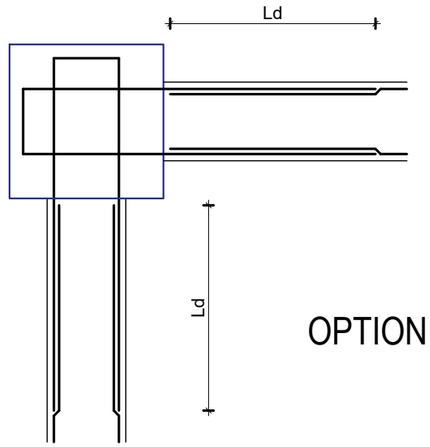
TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITH DOORS AND WINDOWS
(Scale= 1:35)



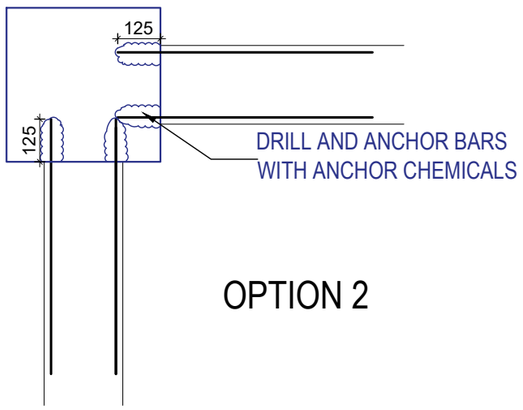
SECTION AT X-X



DETAIL AT C



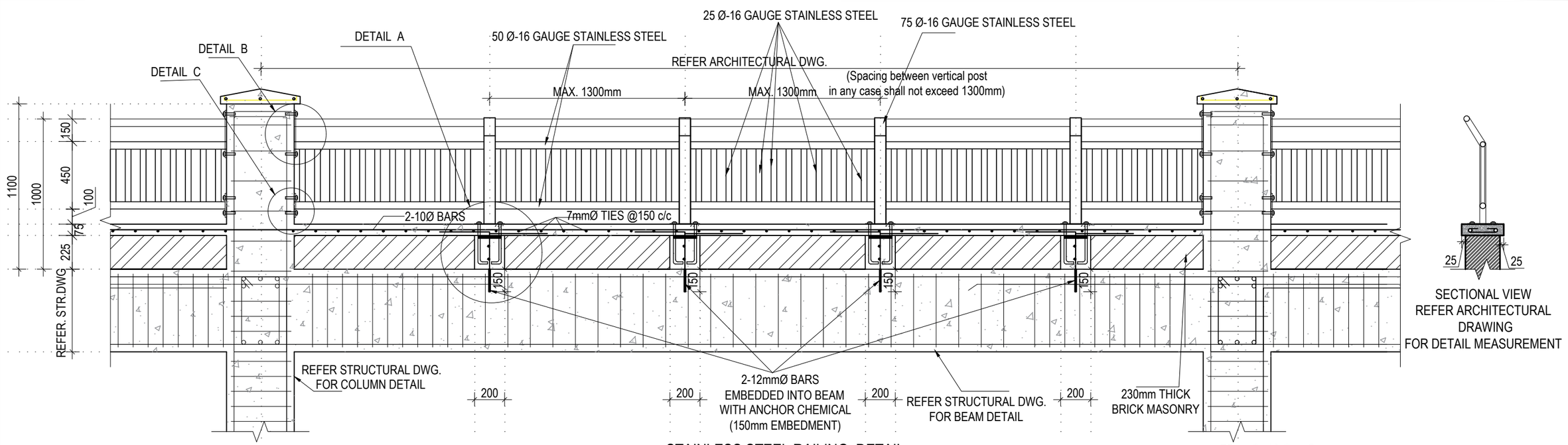
OPTION 1



OPTION 2

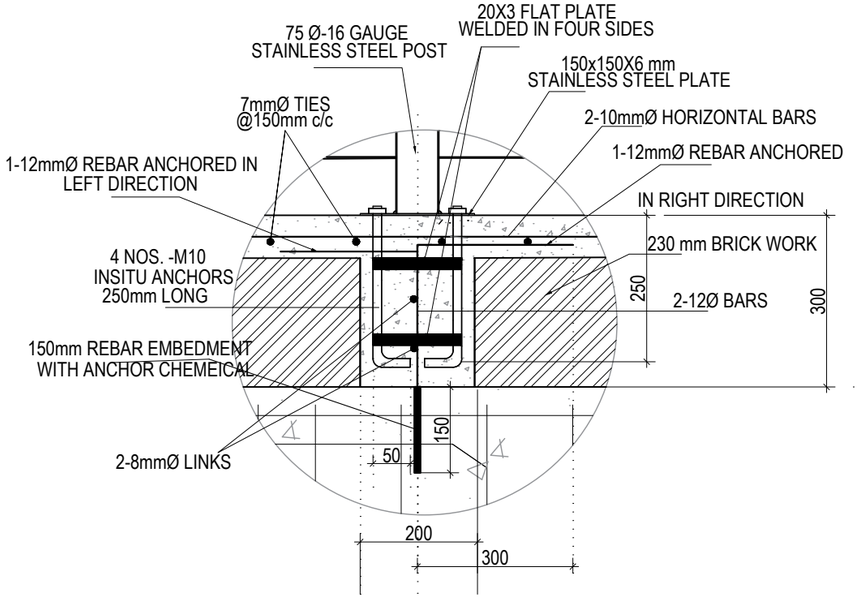
CONNECTION OF BAND REBARS AND COLUMN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-20	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

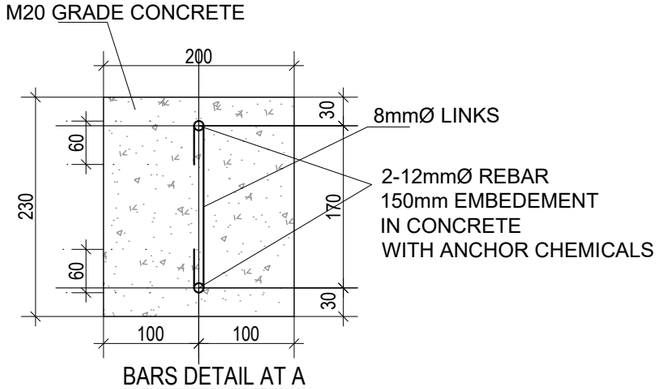


STAINLESS STEEL RAILING DETAIL

(Scale= 1:25)

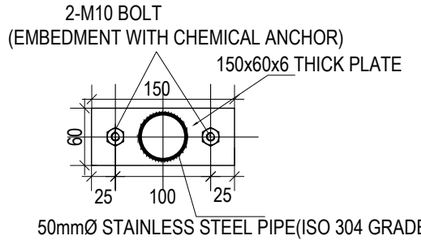


DETAIL AT A



BARS DETAIL AT A

PLAN VIEW

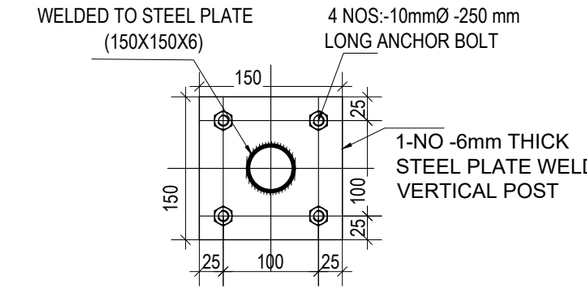


50mmØ STAINLESS STEEL PIPE(ISO 304 GRADE)
16 GAUGE WELDED TO 150X60X6 STAINLESS
PLATE

PLATE DETAIL AT C

PLAN VIEW

75mmØ -16 GAUGE
STAINLESS STEEL POST (ISO 304 GRADE)



PLAN VIEW OF STEEL PLATE

PLATE DETAIL AT A

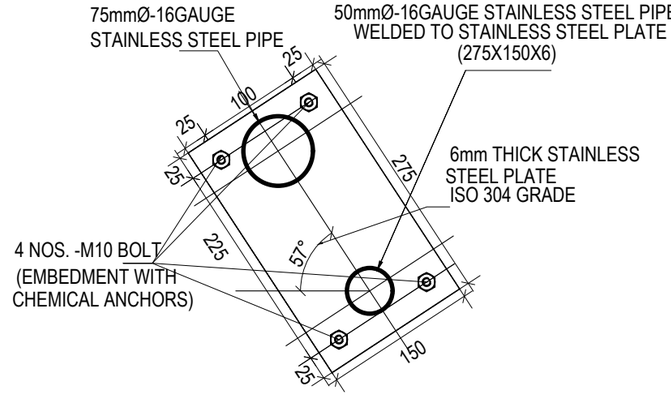


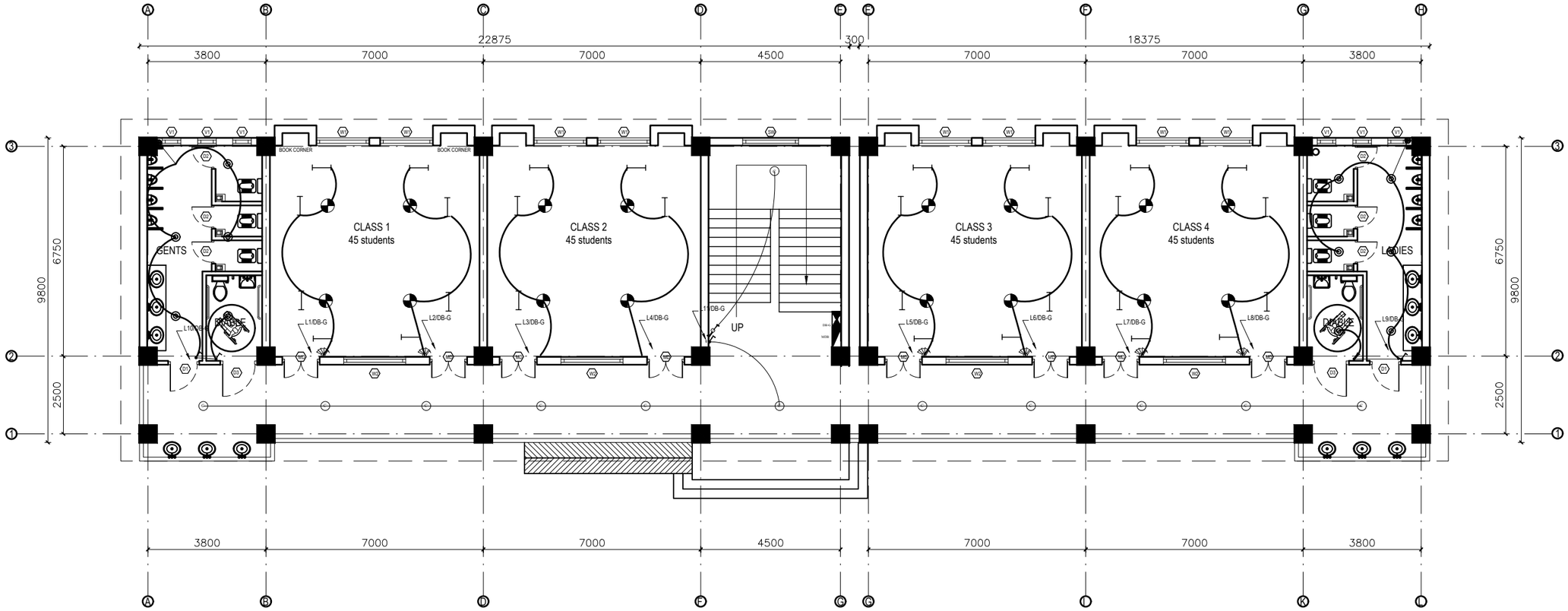
PLATE DETAIL AT B

NOTE:- STAINLESS STEEL SHALL BE ISO304 GRADE

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL RAILING DETAILS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-21	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

ELECTRICAL

DRAWING

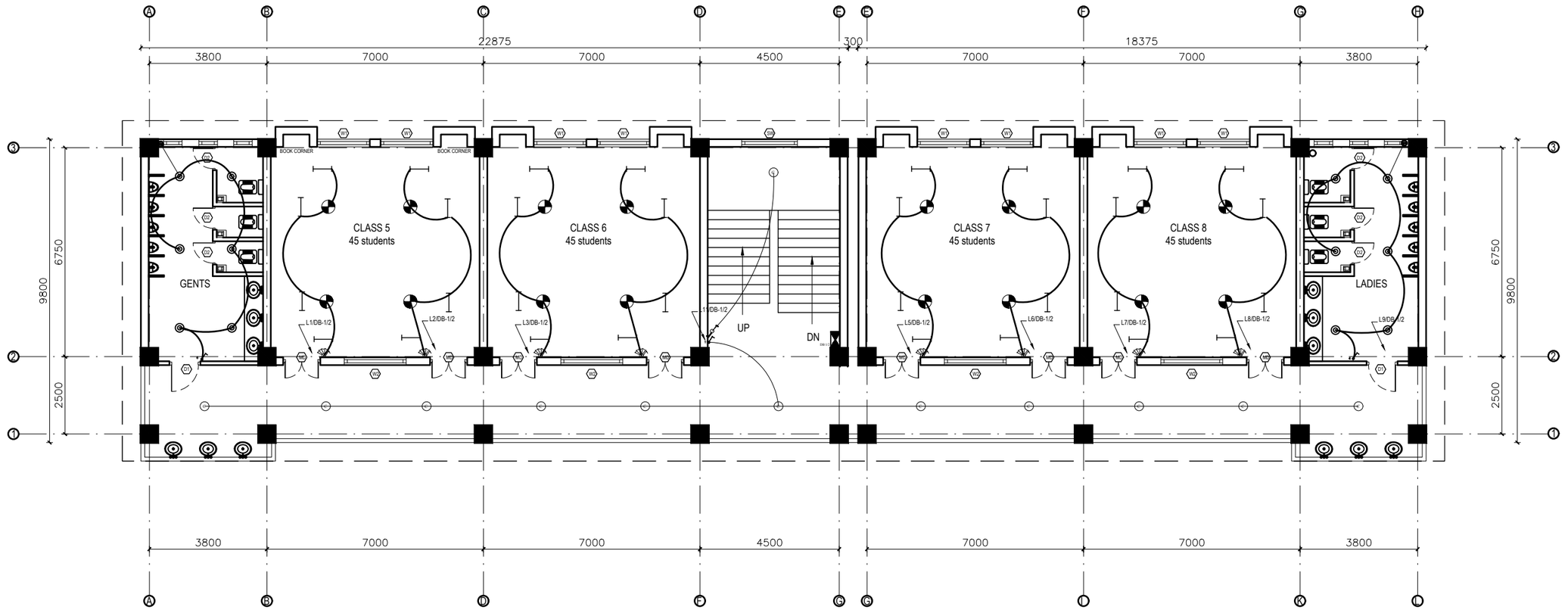


GROUND FLOOR PLAN

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-01**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



FIRST/SECOND FLOOR PLAN

FLOOR AREA: 410.22 sq.m

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
DB	Distribution Box	2.5m above finished floor level
MDB	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-02**	R-00
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				DRAWN : NEETA BHANDARI	APPROVED:		
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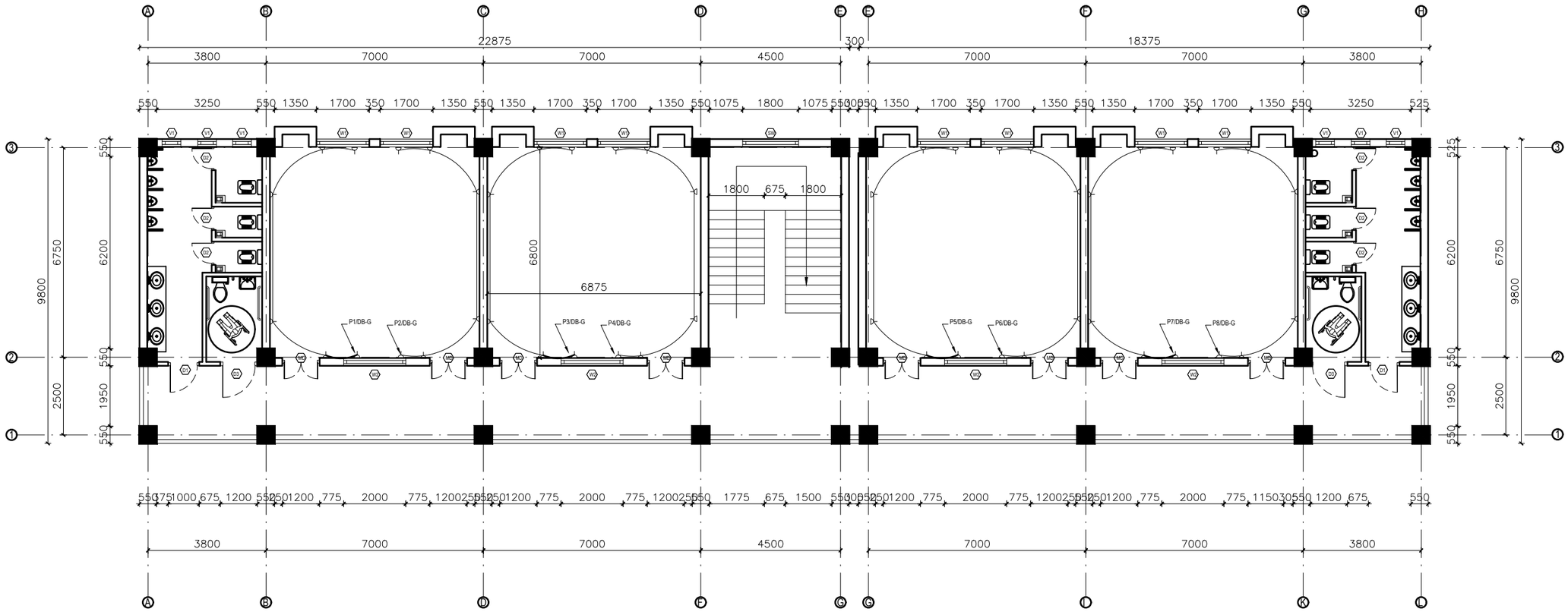

GROUND FLOOR PLAN

FLOOR AREA: 410.22 sq.m

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-03**	R-00
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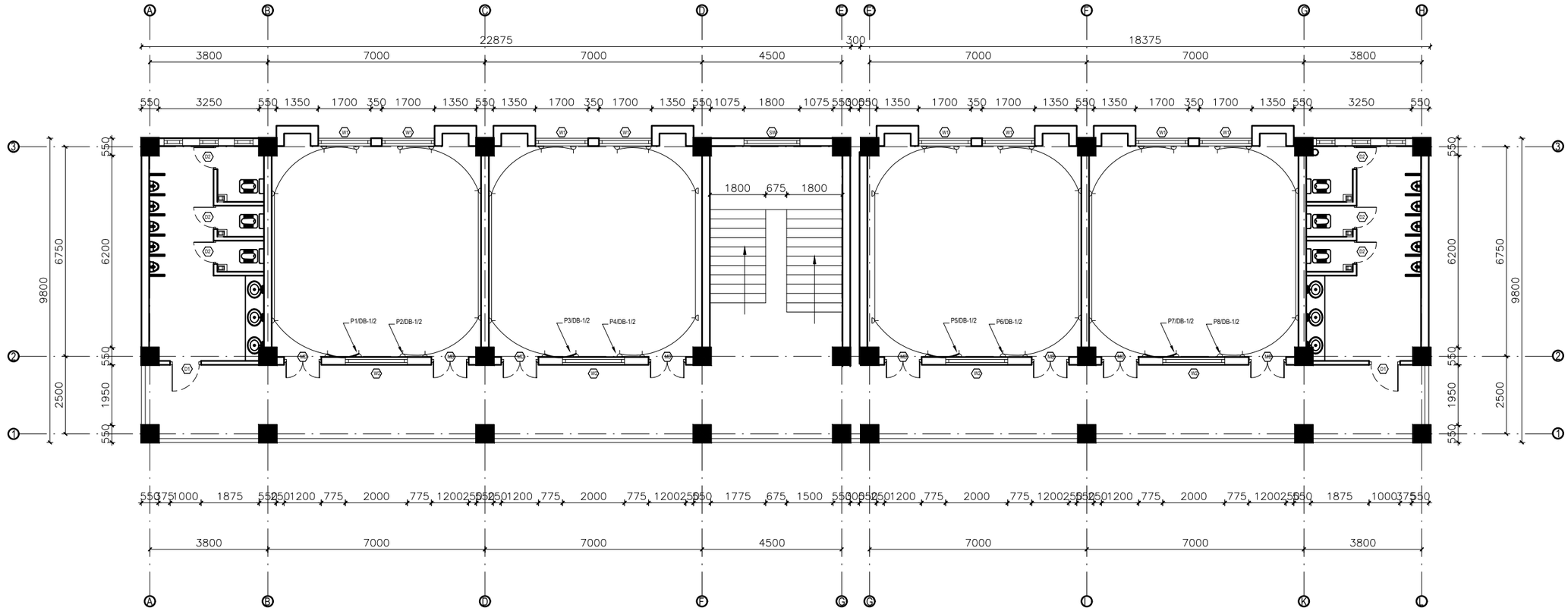
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



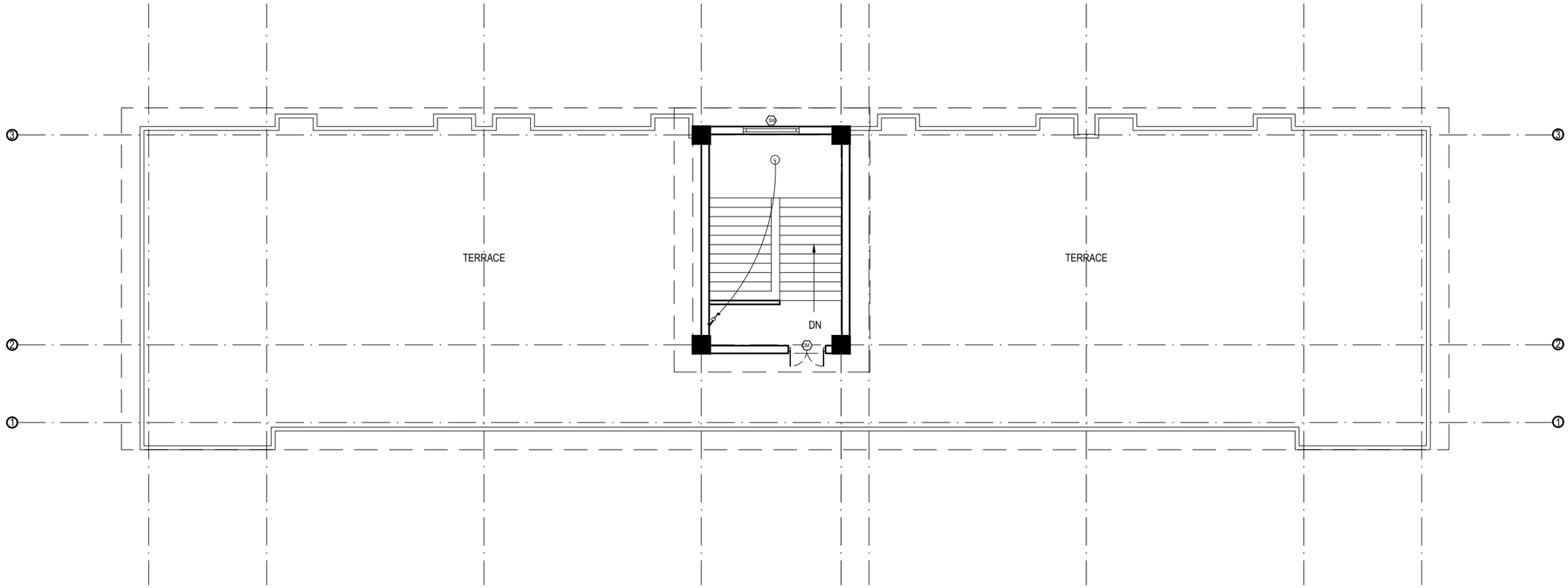
FIRST&SECOND FLOOR PLAN

FLOOR AREA: 410.22 sq.m

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-04**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S12R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TOP FLOOR PLAN

FLOOR AREA: 36.86 sq.m

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-05**	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S12R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

INSTALLATION CONSIDERATION

* The switch box should be at 200mm from the door and 1250mm above floor.
* General room socket height should be at 150mm above skirting wall.
* Kitchen socket height should be at 450mm above kitchen top.
* Toilet socket/switch should be at 1250mm above floor level and mirror light at 50 mm above mirror as per mirror size.
* Exhaust fan should be at 600mm below slab.
* Wall Light should be at 2100mm from floor level.

CONDUIT SCHEDULE

PVC CON. DIA. / CABLE SIZES	NO OF MAXIMUM CABLE AND PVC FRLS CONDUIT SIZES					
	16 mm Dia.	20 mm Dia.	25 mm Dia.	32 mm Dia.	40 mm Dia.	50 mm Dia.
1.5 SQ. MM/Equivalent	5	7	10	14	--	--
2.5 SQ. MM/Equivalent	3	5	8	12	--	--
4.0 SQ. MM/Equivalent	--	3	6	10	12	--
6.0 SQ. MM/Equivalent	--	2	4	8	9	--
10 SQ. MM/Equivalent	--	--	3	6	8	--
16 SQ. MM/Equivalent	--	--	2	3	4	8

CONVERSION TABLE

INCHES	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
mm	16	20	25	32	40	50	65	80	90	100	130	150

* Unless and otherwise stated, all final circuits shall be wired with multistranded CU wires in PVC Conduit and shall confirm to the following schedule:

WIRING SYSTEM	CABLE/CONDUCTOR SIZE
Air Conditioner/Heater/Range/Appliances	2x4.0 + 1x2.5 sq. mm copper wire
RJ – 45 Data / TV Point	CAT 6 4 pairs Data cable
RJ –11 Telecommunication point	CAT 6 4 pairs Data cable
Telephone Point	0.5mm dia PVC Insulated Tinned Cu Cable
Outdoor Gate/ Post Top/Street Lights/Flood Lights	3 x 2.5 sq. mm copper M/S wire
6 Amp switched outlet sockets	2x2.5 + 1x1.5 sq. mm copper M/S wire
16 Amp Power Sockets Points	2x4.0 + 1x2.5 sq. mm copper M/S wire
General Light Points (From DB to Switch Board)	2x2.5 + 1x1.5 sq. mm copper M/S wire
Looping of Light Points	2x1.5 + 1x1.0 sq. mm copper M/S wire

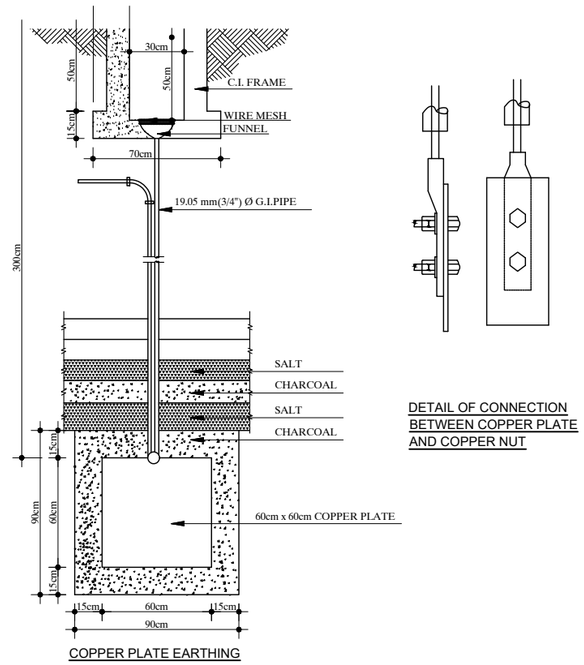
NOTE

* Conduit Colors for Light/Power Circuit shall be Black, Security Wiring shall be Blue, Fire Alarm Wiring shall be Red, Low Voltage Circuits shall be Brown and UPS Circuits sahll be Green.
* L–N stands for Lighting Circuit, P–N for Power Circuit, AC–N for Air Condition, M/PC–N for Pump/Motor & Lp–N Light Outlet Circuit no.–N (Where N=1,2,3...)
* For Circuit no., see Distribution Details
* Unless and otherwise stated, all final circuits shall be wired up by PVC CU M/S Wire in PVC Conduit and shall confirm to the following schedule:

Rating (Amp)	6	10	20	32	40	63
Wire (sq. mm)	1.5	2.5	4.0	6.0	10	16

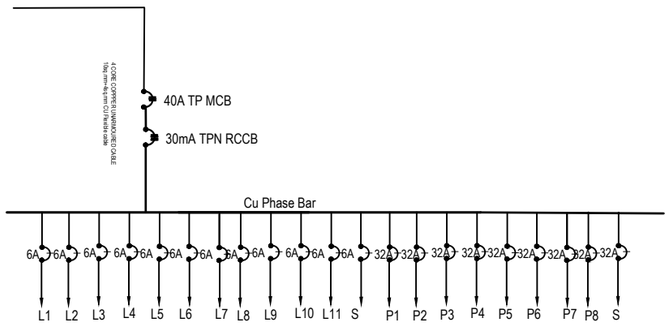
* Unless and otherwise stated, maximum of 8 light points shall be wired in a final single lighting circuit where as maximum of 3 power socket outlet shall be wired in single power circuit.
* Unless and otherwise stated, all 16 A outlets with the same circuit no. shall be wired in ring circuit.
* Electrical drawings are schematical only, scale: NTS, use as shown purpose, do not mesaure directly.
* Contractor should coordinate with interior for exact location of fixtures
* Run seperate conduit for TV, TEL and PS wherever they are in matching places
* All the Kitchen/Bathroom Power Circuits should be feed by RCCB with 100 mA sensitivity – see schematic details
* All the cables and conductors shall be PVC insulated CU and shall confirm to the following color codes:

Neutral of AC 1/3 Phase	Black
Grounding/ Bounding/Earthing	Green
loop/common wire for 2 way switch	White
Live Phase A of 3 Phase	Red
Live Phase B of 3 Phase	Yellow
Live Phase C of 3 Phase	Blue

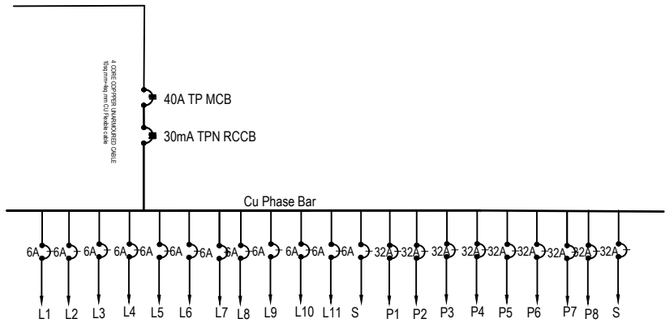


COPPER PLATE EARTHING

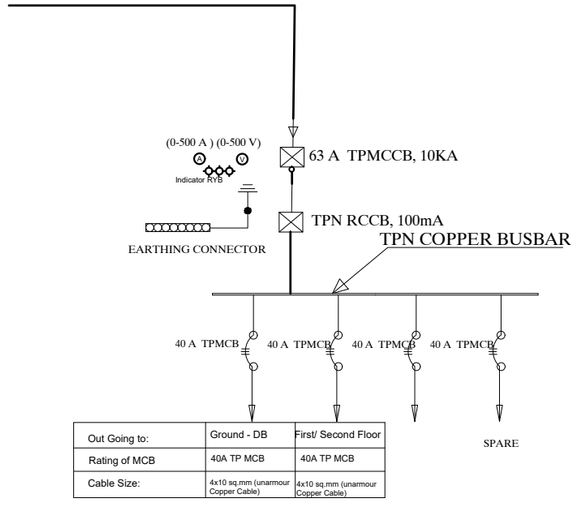
DETAIL OF CONNECTION BETWEEN COPPER PLATE AND COPPER NUT



GROUND FLOOR L/P DISTRIBUTION SYSTEM (DB-G)



FIRST/SECOND FLOOR L/P DISTRIBUTION SYSTEM (DB-1/2)



Out Going to:	Ground - DB	First/ Second Floor
Rating of MCB	40A TP MCB	40A TP MCB
Cable Size:	4x10 sq.mm (unarmour Copper Cable)	4x10 sq.mm (unarmour Copper Cable)

DETAILS OF Main -DB

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	**ELE-06**	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S12R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

Government of Nepal
Ministry of Education, Science & Technology
Center for Education and Human Resource Development
Sanothimi, Bhaktapur, Nepal

PREPARE SCHOOL BUILDING TYPE DESIGN FOR HILLY REGION

CONTRACT ID: CEHRD/SESP/SQ/Consultancy/03/2079/080

DETAIL DESIGN AND DRAWING

3 STORY@ 18 ROOM WITH

(TOILET, WASH ROOM, CHANGING ROOM & BOOK CORNER)

SUBMITTED BY:
OPTIMUM STRUCTURES (P.) LTD.

FEBRUARY, 2023

ARCHITECTURE

DRAWING

NOTES:
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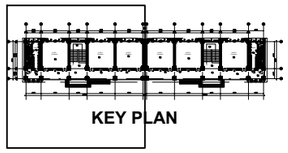
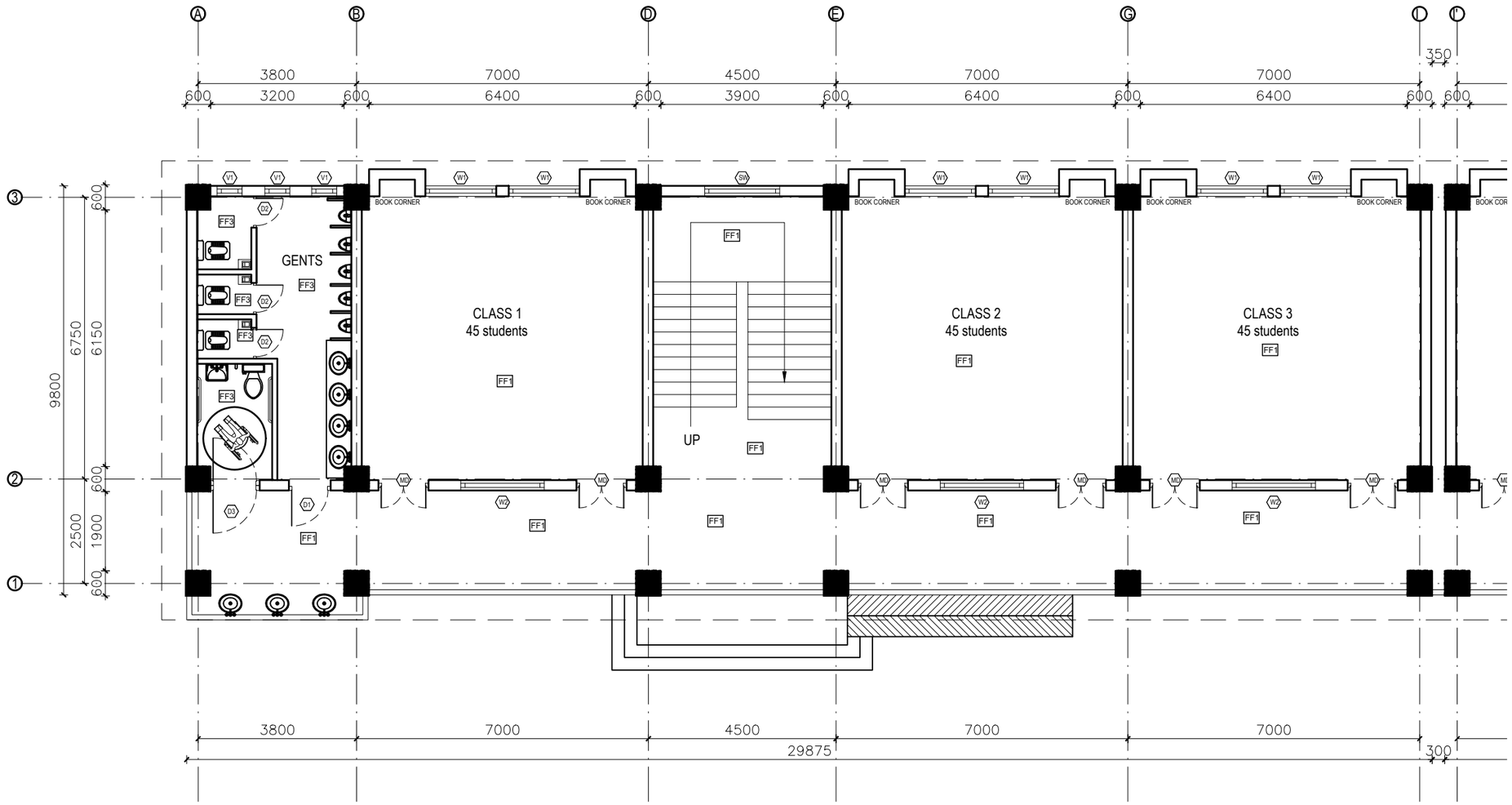
4. Sill and Lintel dimensions are measured from the Slab Lvl.
5. Dimensions are excluding the plaster/POP thickness.





GROUND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
FF3	6 mm thick porcelain non-glaze tile with 20 mm cement sand mortar (1:4)

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**GROUND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 01	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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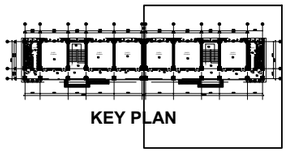

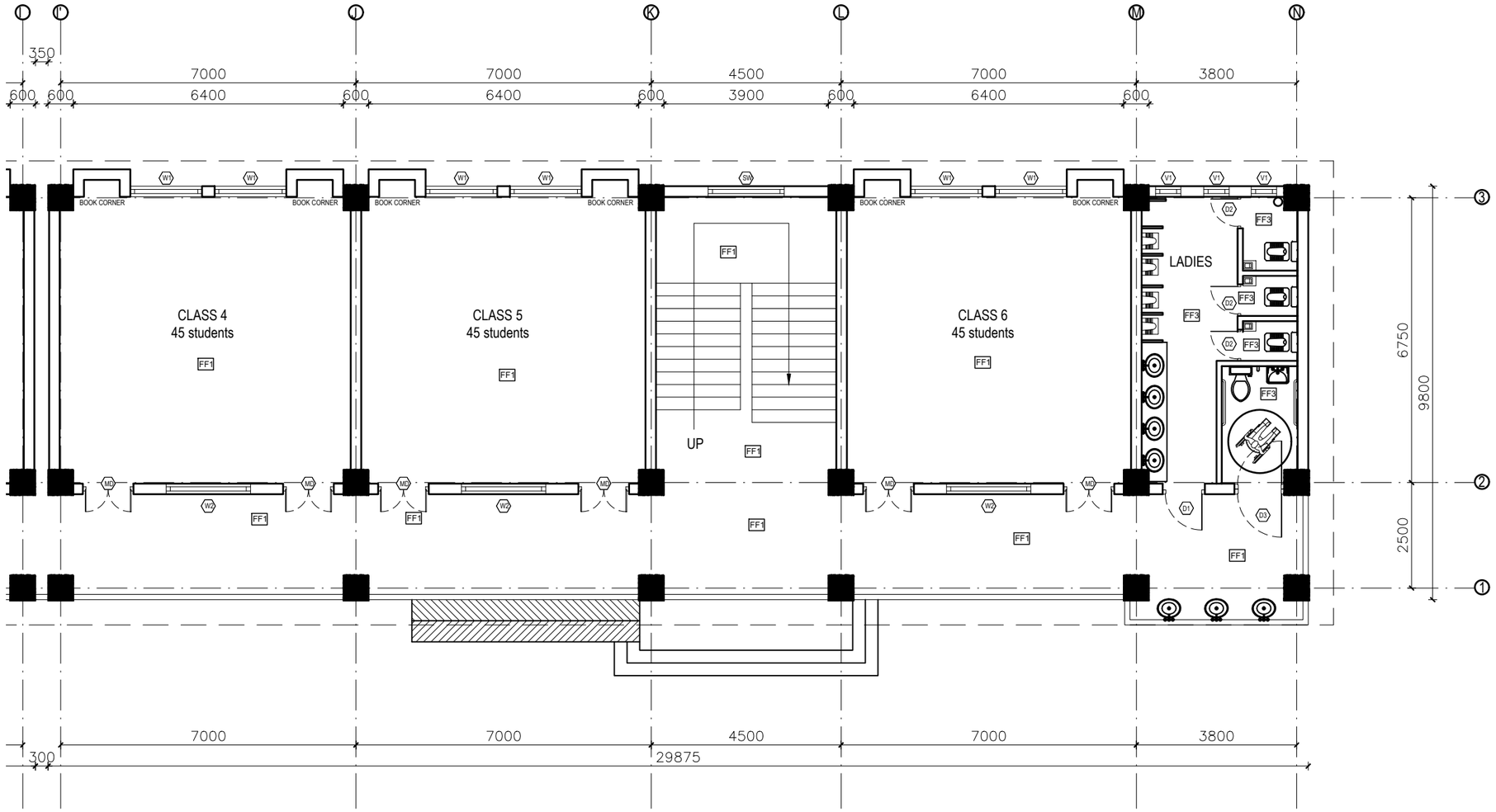

FINISHING DETAILS:

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**GROUND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 02	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S18R-HILLY	
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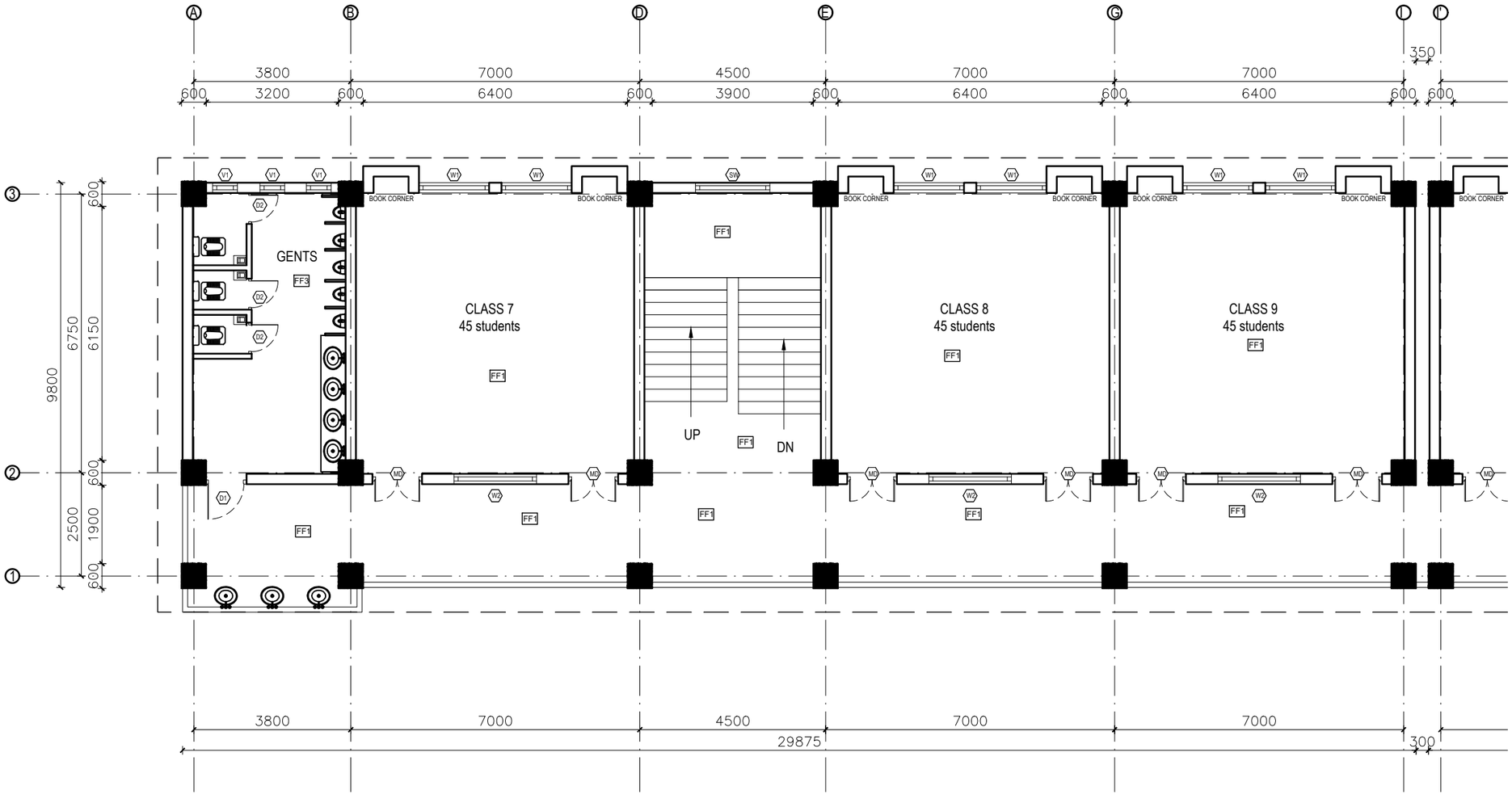

KEY PLAN

FIRST&SECOND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

FINISHING DETAILS:

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**FIRST AND SECOND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 03	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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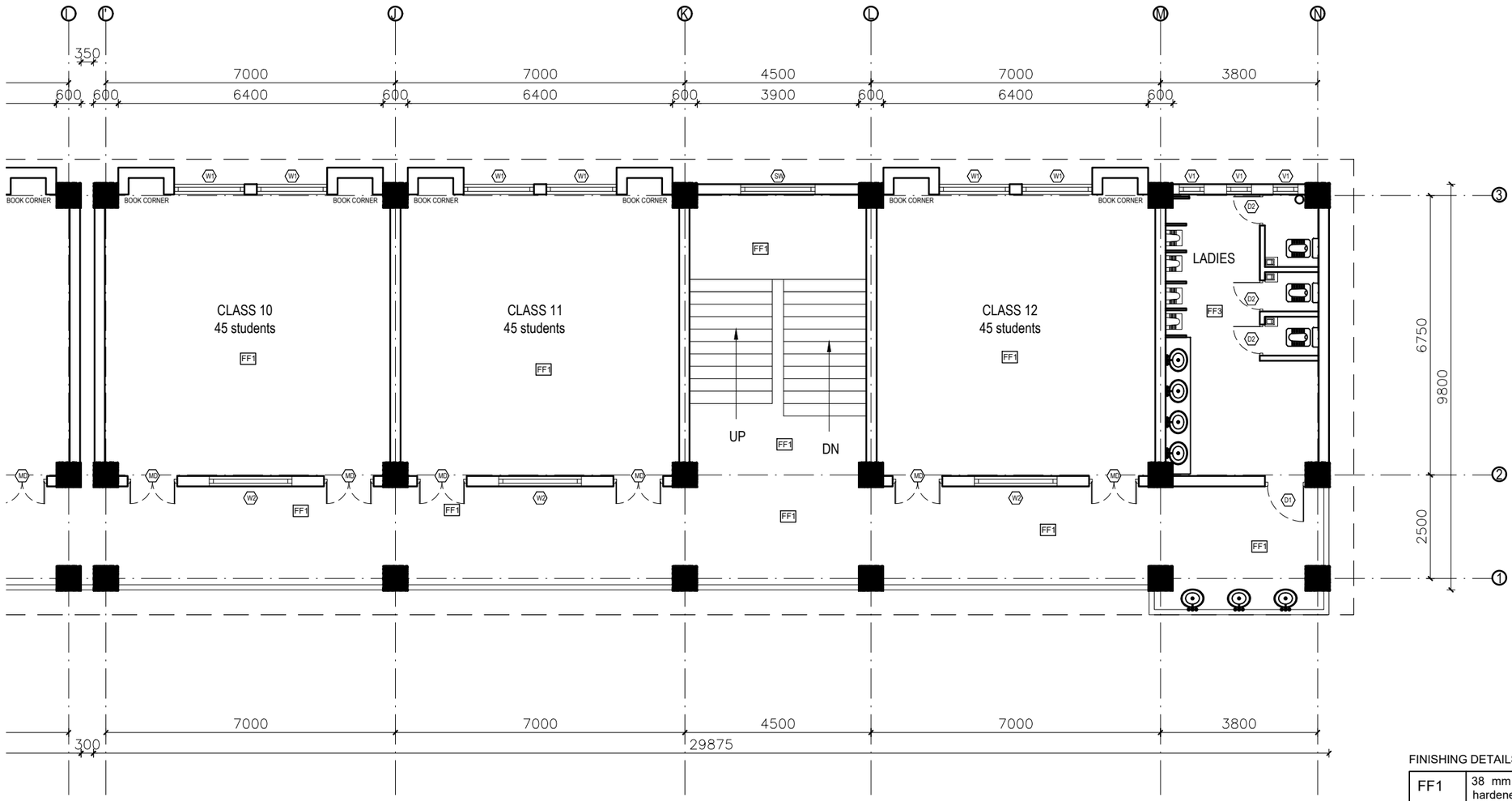

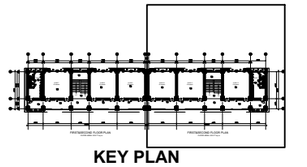
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FIRST&SECOND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**FIRST AND SECOND FLOOR PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 04	R-00
				ARCHITECT:	CHECKED:		
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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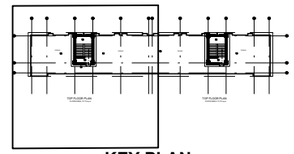
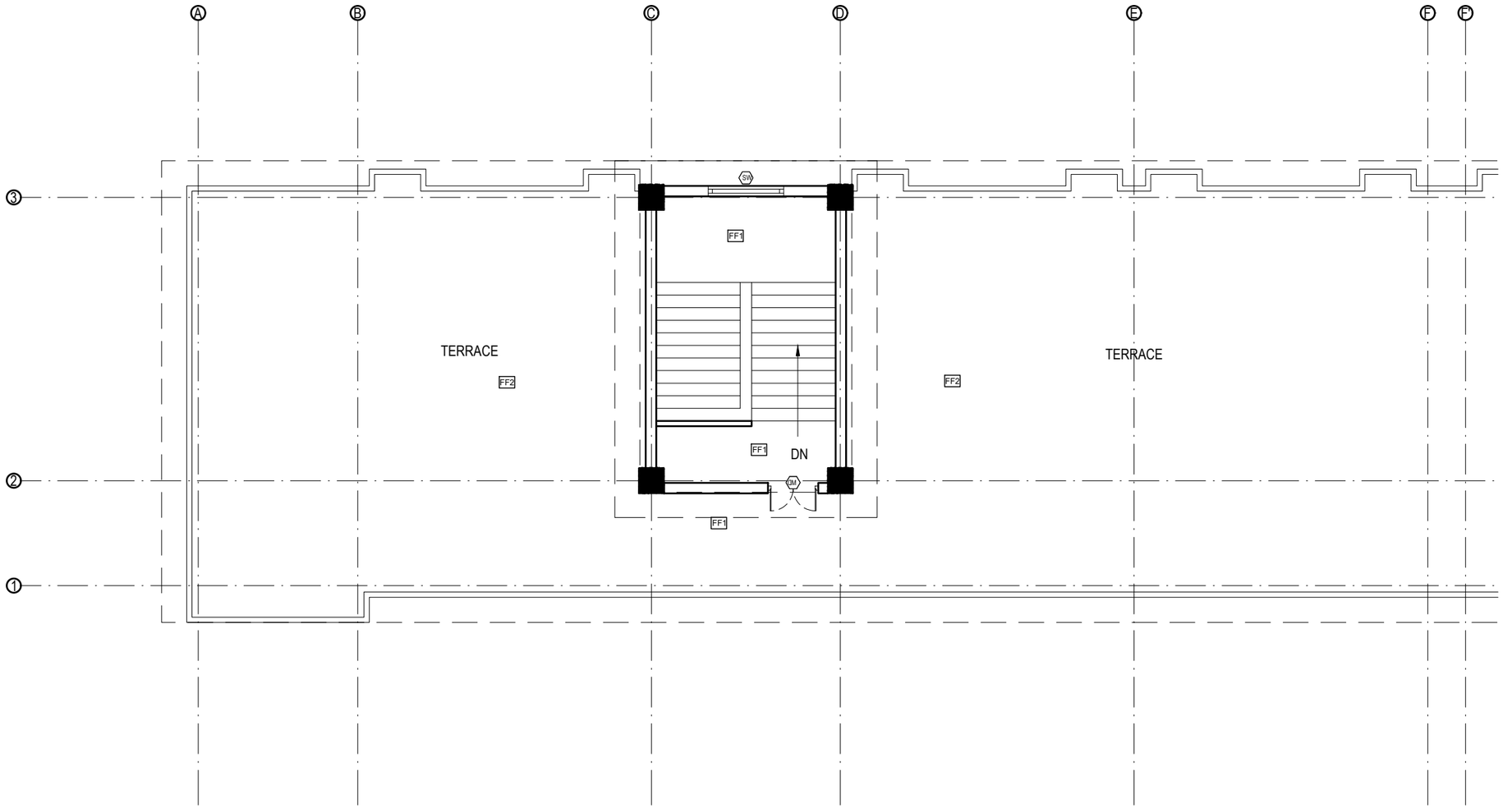


KEY PLAN



TOP FLOOR PLAN

FLOOR AREA: 73.72 sq.m

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
FF2	50 mm PCC (M15) with 1:1 cement punning in a 600X600 thread cut grid with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)
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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ROOF PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 05	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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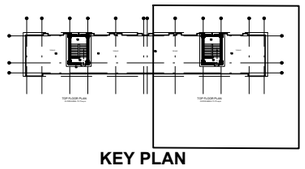

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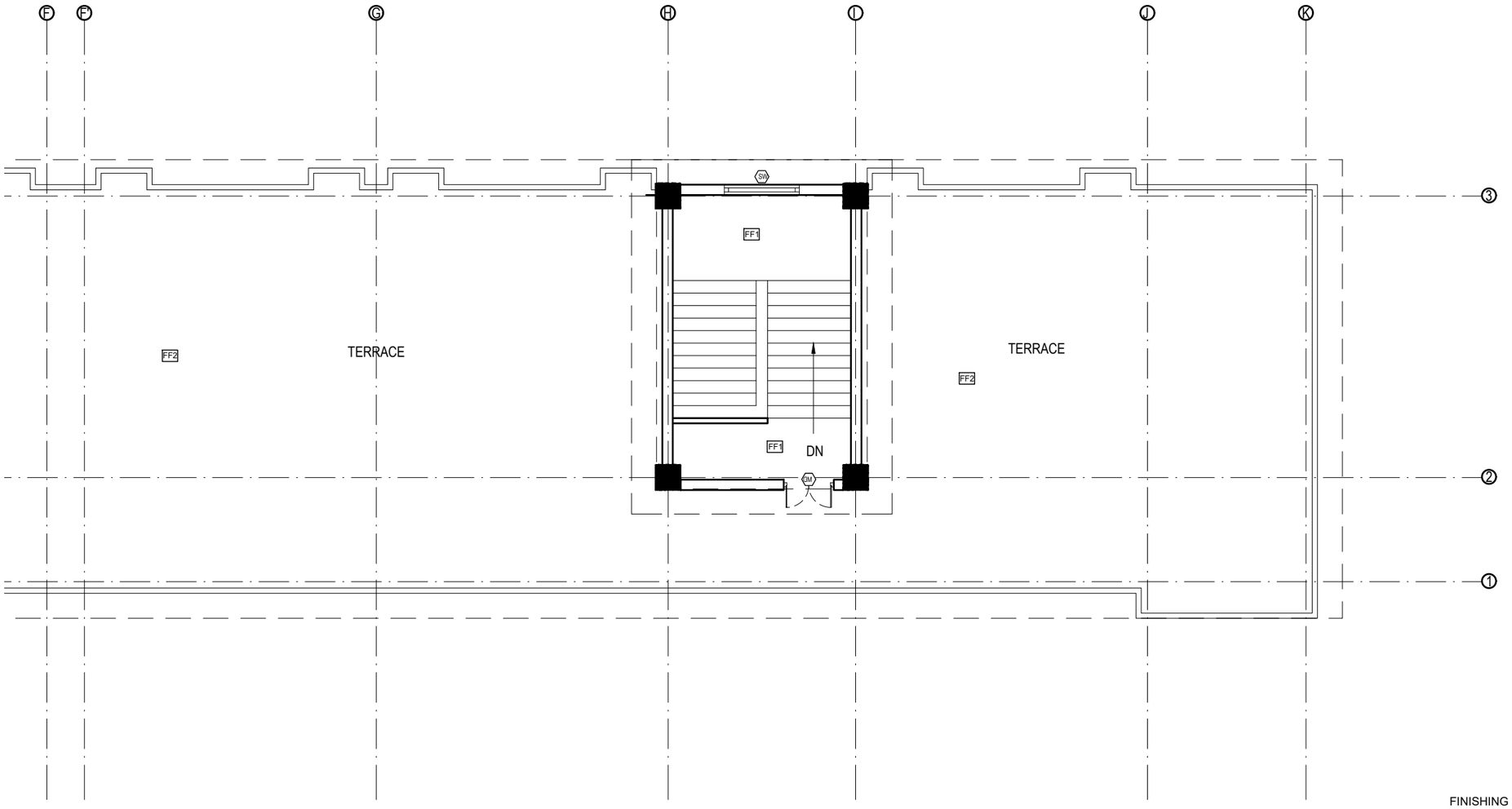

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Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ROOF PLAN**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 06	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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FRONT ELEVATION

BACK ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 07	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

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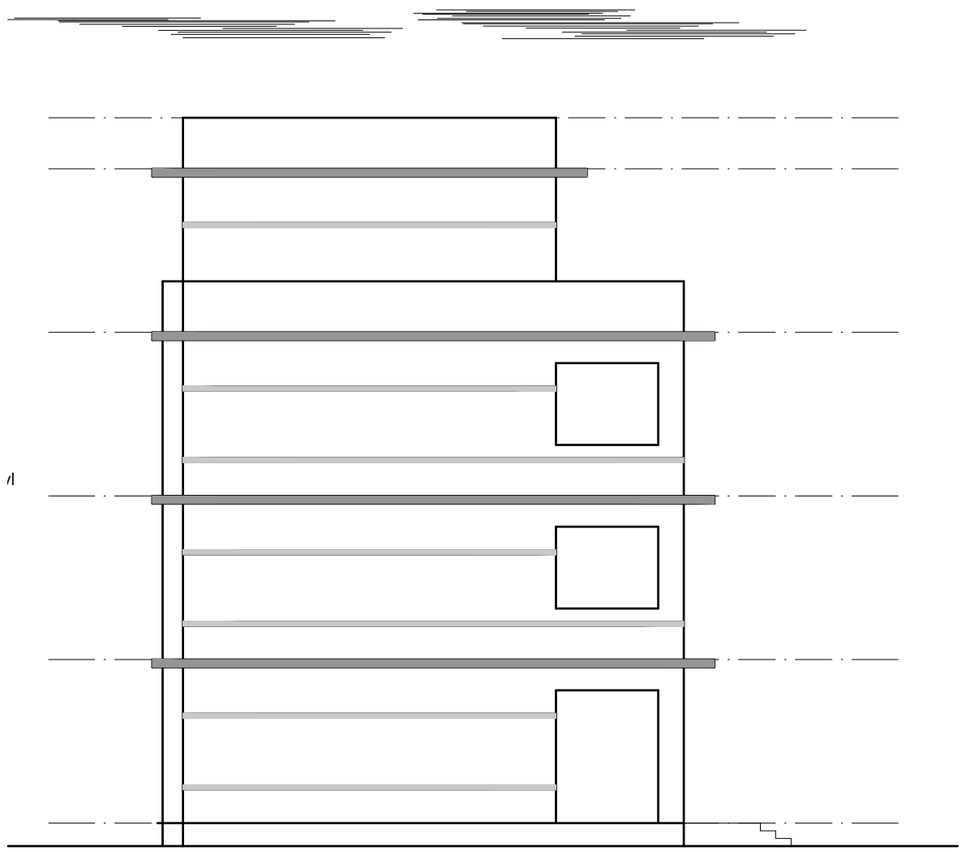
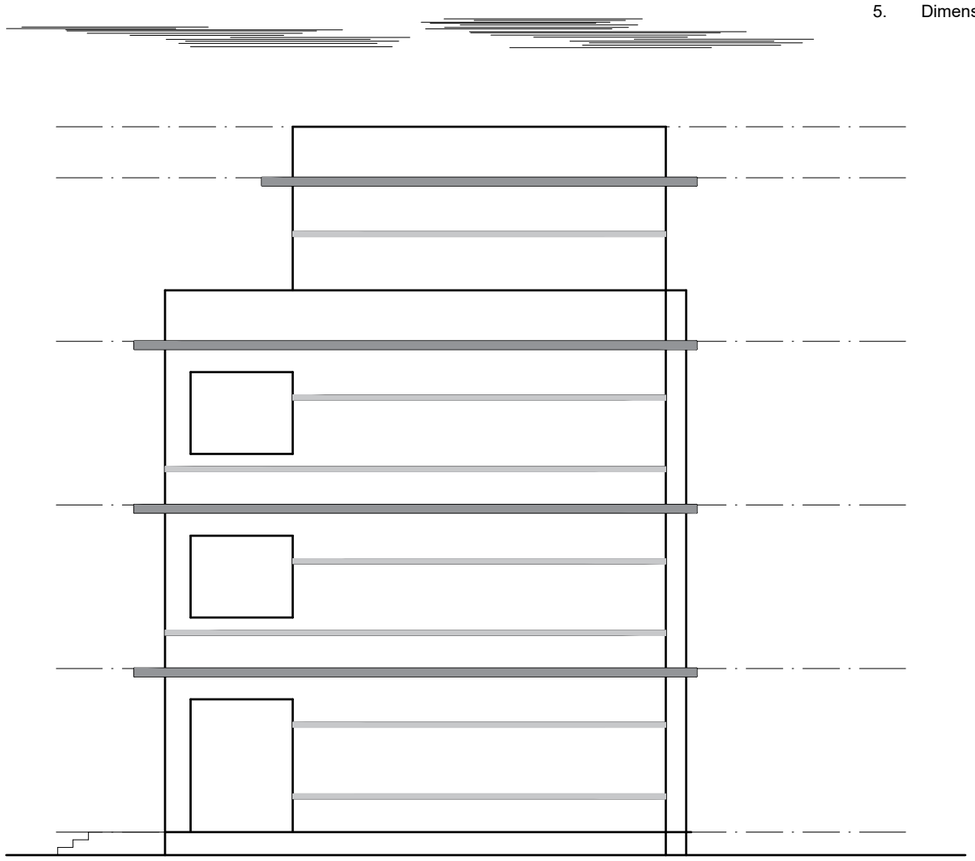


SIDE-2 ELEVATION



SIDE-1 ELEVATION

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELEVATIONS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 08	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
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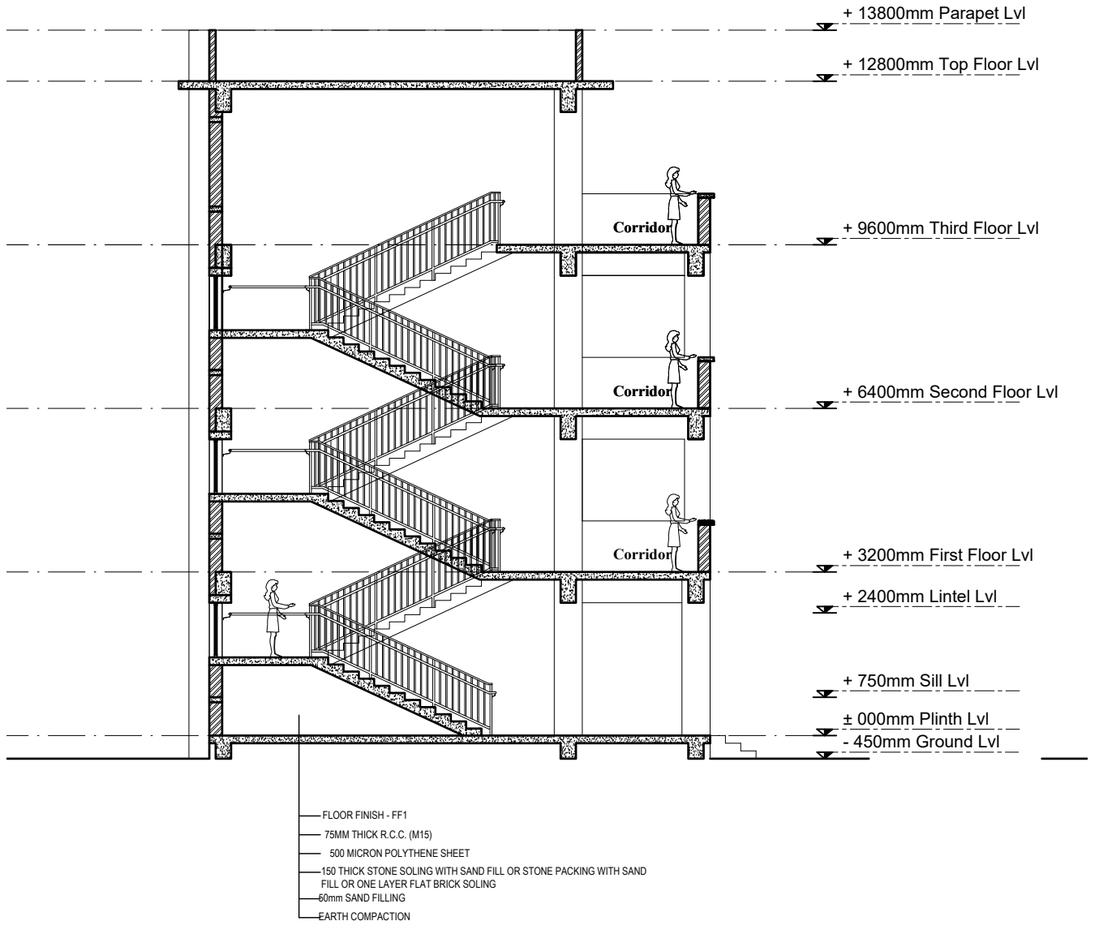

SECTION AT STAIRCASE

OPENING SCHEDULE

S.N.	SYMBOL	SIZES	G.F.	F.F.	S.F.	TOTAL	SILL HT.	REMARKS
1.	MD	1200 x 2400	12	12	12	36	-	
2.	D1	1000 x 2400	2	2	2	6	-	
3.	D2	750 x 2100	6	6	6	18	-	
4.	D3	1200 x 2400	2			2	-	
5.	W1	1700 x 1650	12	12	12	36	750 MM	
6.	W2	2000 x 1650	6	6	6	18	750 MM	
7.	SW	1800 x 1070	1	1		2	1530 MM	
8.	V1	600 x 600	6	6	6	18	1800 MM	

FINISHING DETAILS:

FF1	38 mm PCC (M15) with 1:1 cement punning with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent)
Terrace	50 mm PCC (M15) with 1:1 cement punning in a 600*600 grid thread cut with floor hardener (Dreitop FH, mapetop, Sika Chapdur or equivalent) and water proofing (safe-crete or equivalent)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**SECTION AND OPENING SCHEDULE**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 09	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
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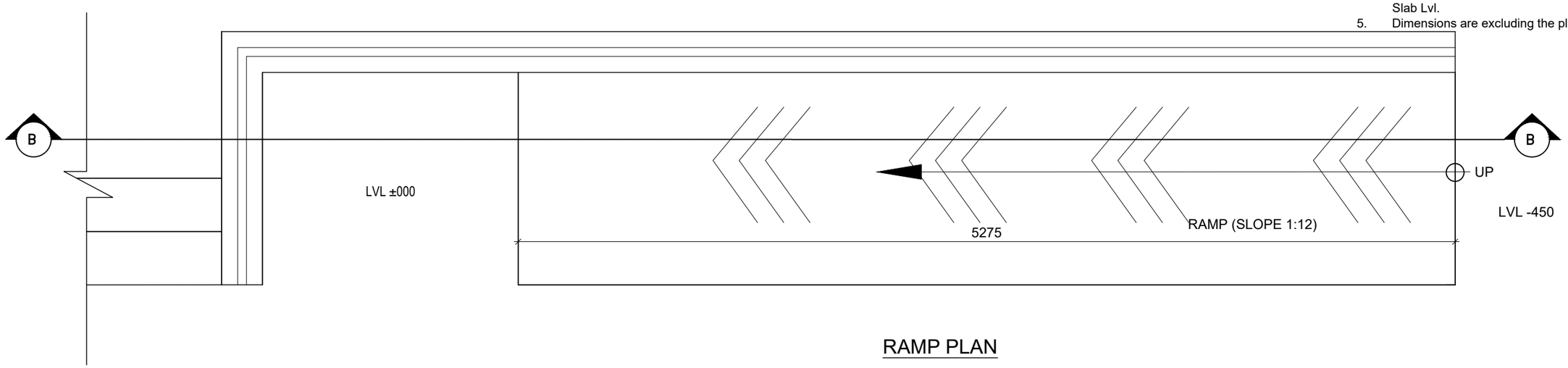
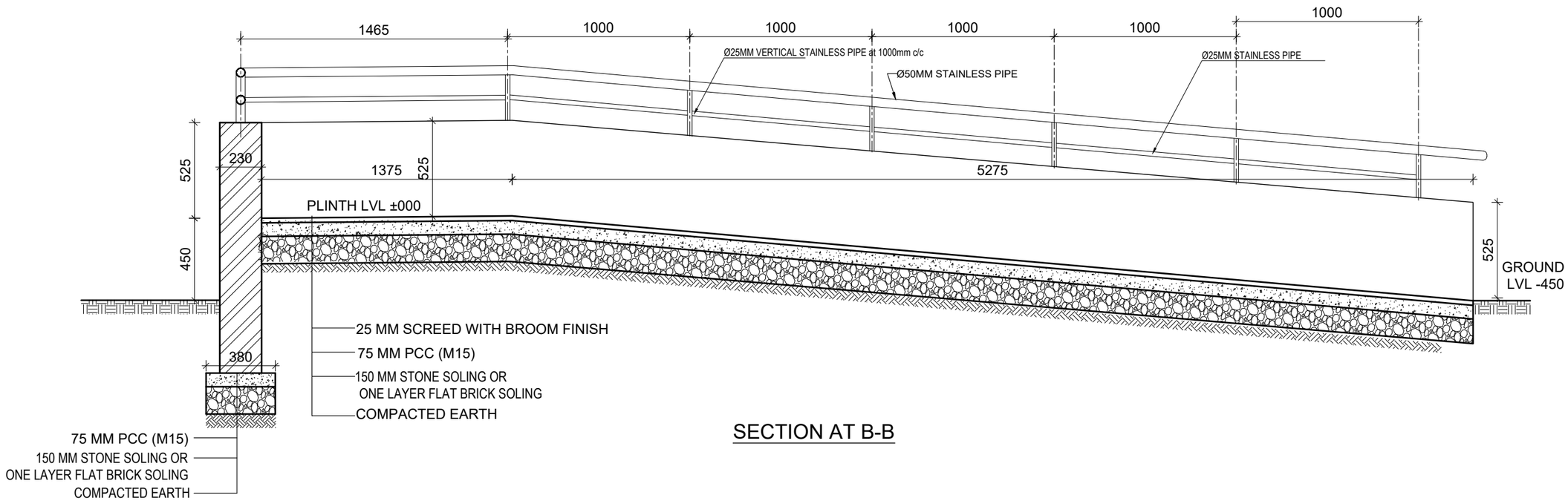


RAMP PLAN



SECTION AT B-B

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**RAMP DETAILS**	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	AR - 10	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

STRUCTURE

DRAWING

SN.	DRAWING LIST
1.	GENERAL NOTES
3.	FOOTING DETAIL FOR 100kN/m2
4.	TYPICAL FLOORING DETAIL
5.	SITE SPECIFIC DRAWING
6.	TYPICAL DETAILS OF FOUNDATION WALL
7.	COLUMN DETAIL
8.	BEAM PLAN
9.	BEAM DETAIL
10.	SLAB DETAIL
11.	STAIRCASE DETAIL
12.	BAND DETAIL
13.	RAILING DETAIL

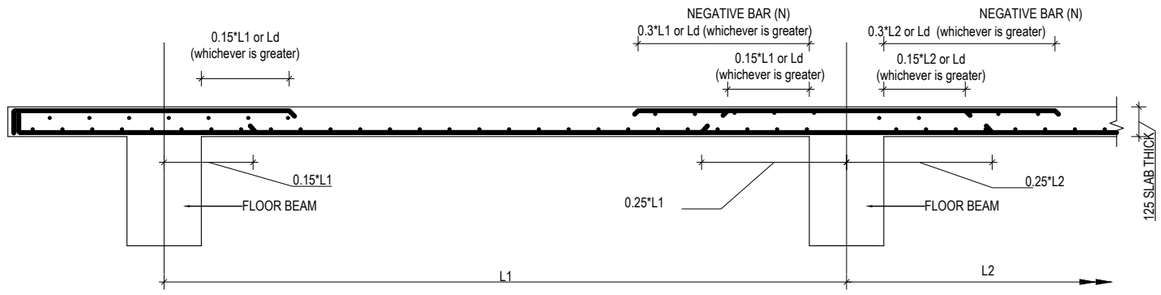
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TABLE OF CONTENTS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :		R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

GENERAL NOTES:

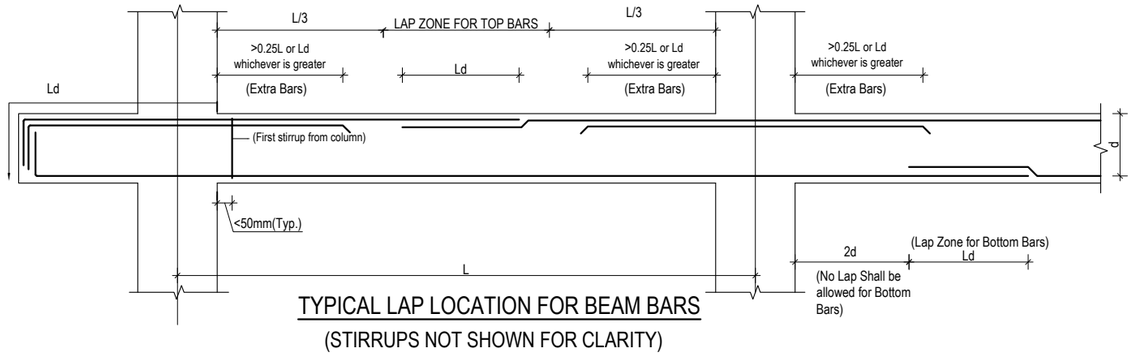
1. USE M25 GRADE CONCRETE FOR SLAB, BEAM, COLUMN, FOUNDATION, SILL & LINTEL BANDS (ALL RCC WORKS)
2. USE Fe500 GRADE STEEL (fy=500N/mm^2)
3. CLEAR COVER TO BARS
   a. FOR CONCRETE MEMBERS IN CONTACT WITH SOIL = MIN 50mm
   b. FOR COLUMN (FROM FACE TO LATERAL TIES) = 40mm
   c. FOR BEAMS (FROM FACE TO LATERAL STIRRUPS) = 25mm
   d. FOR OUTER BARS IN SLAB = 15mm
   e. FOR STAIRCASE = 20mm
4. BARS IN COLUMNS SHALL BE SPLICED ONLY AT MID HEIGHT OF COLUMN.
5. BARS SPLICING IN BEAM SHALL BE AVOIDED IN THE SPAN WHERE INTERMEDIATE BEAM IS CONNECTED AND SHALL BE ONLY AS SHOWN IN DWG.
6. DEVELOPMENT / LAP LENGTH (Ld.) FOR BARS.

BAR DIA-(mm)	8	10	12	16	20	25
FOR M25 Ld	400	490	590	790	980	1230

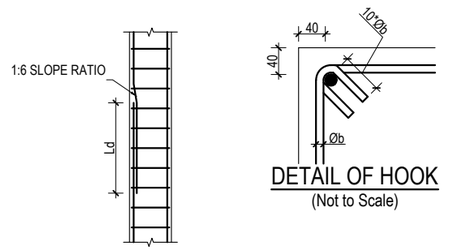
7. TEMP./DISTRIBUTION REINFORCEMENT FOR SLAB - TMT 8Ø @ 200 C/C
8. CLEAR VERTICAL DISTANCE BETWEEN TWO ROWS (LAYERS) OF BARS=25mm OR MAXIMUM SIZE OF REBAR
9. PROVIDE STIRRUPS OR TIES AT MIN 150 C/C AT LAP LOCATIONS IN BEAM AND AT MIN 100 C/C AT LAP LOCATION IN COLUMNS.
10. FOUNDATION
10.1 FOUNDATION DESIGN HAVE BEEN PROVIDED FOR SAFE BEARING CAPACITY OF 150KN/m2. THIS S.B.C. SHALL BE CONFIRMED FROM GEO TECHNICAL INVESTIGATION AND CONSULTED TO DESIGNER.
10.2 IF SAFE BEARING CAPACITY OF SOIL IS FOUND LESS THAN 100KN/m2, SPECIAL STUDY FOR FOUNDATION DESIGN IS REQUIRED.
11. H = CLEAR SPAN OF FLOOR.
12. D=DEPTH OF BEAM
13. d=EFFECTIVE DEPTH OF BEAM
14. Ld=DEVELOPMENT LENGHT
15. The seismic gap shall be as per codal requirement.



TYPICAL DETAIL FOR SLAB BARS

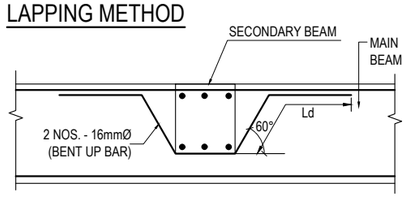


TYPICAL LAP LOCATION FOR BEAM BARS
(STIRRUPS NOT SHOWN FOR CLARITY)

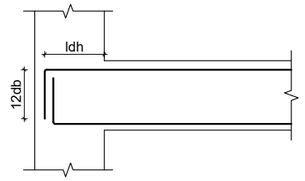


LAPPING METHOD

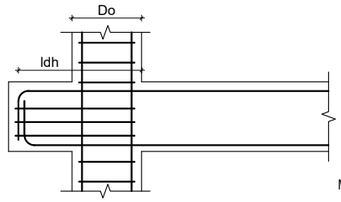
DETAIL OF HOOK
(Not to Scale)



CONNECTION DETAIL BETWEEN MAIN & SECONDARY BEAM



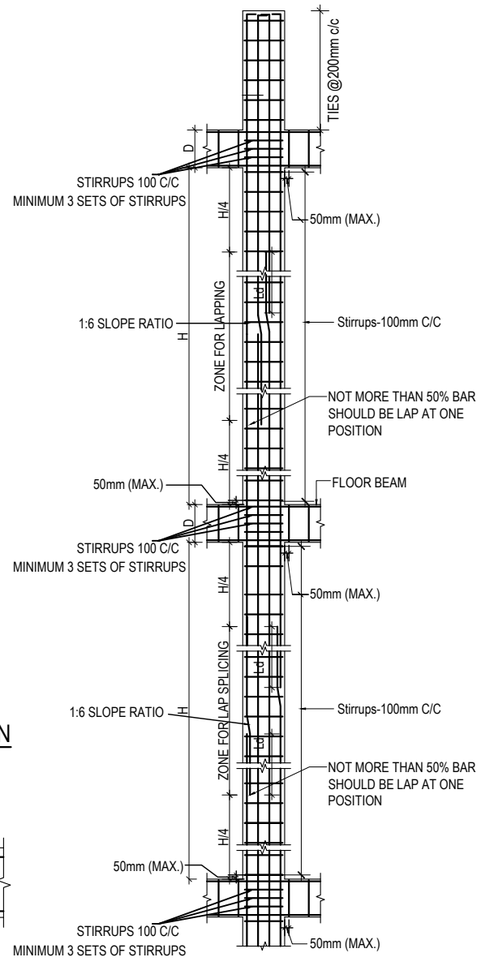
ANCHORAGE OF BEAM LONGITUDINAL BAR IN COLUMN



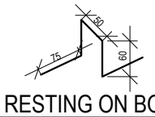
PPROVISION OF BEAM STUB

fy	fck	db	Ldh	12db
N/mm2	N/mm2	mm	mm	mm
500	20	12	277	144
500	25	12	248	144
500	20	16	369	192
500	25	16	330	192
500	20	20	462	240
500	25	20	413	240
500	20	25	577	300
500	25	25	516	300

fy= yield strength of steel
fck= Characteristic Compressive strength of concrete
db= diameter of largest longitudinalbar in beam in mm

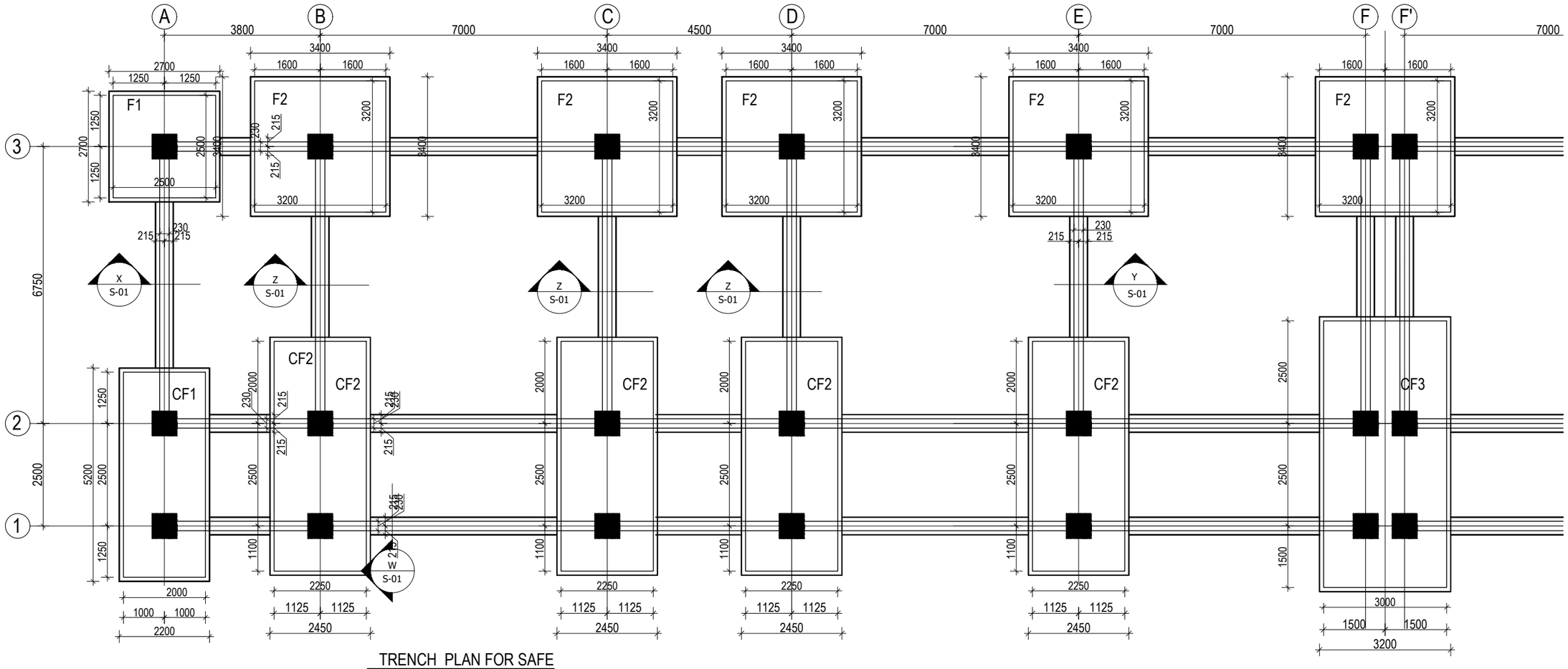


TYP. COLUMN SHEAR REINFORCEMENT DETAIL



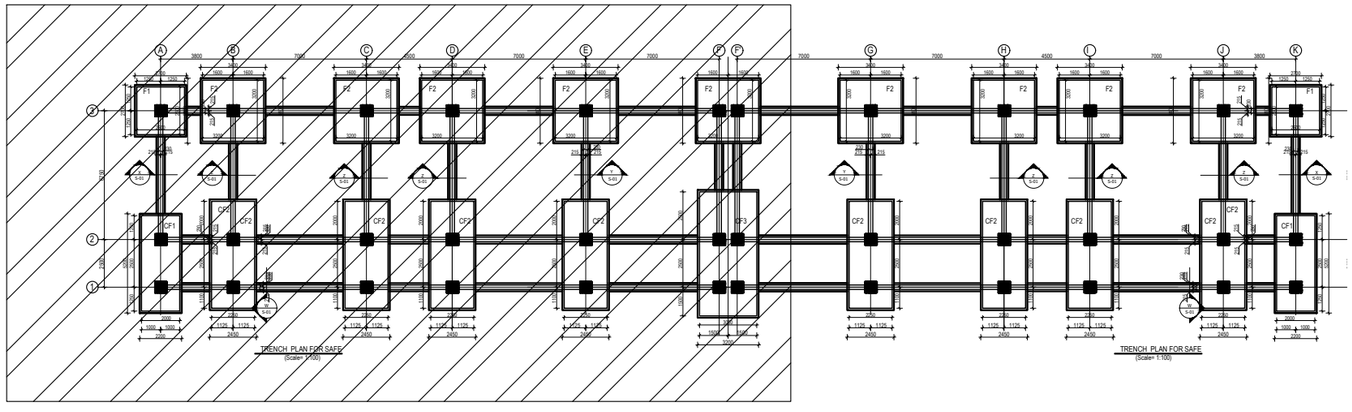
CHAIR RESTING ON BOTTOM BARS @600 - 900 mm staggered position

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	GENERAL NOTES	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 / PAPER SIZE : A3 / DATE: FEBRUARY, 2023		R-00
					DWG CODE.	3S18R-HILLY

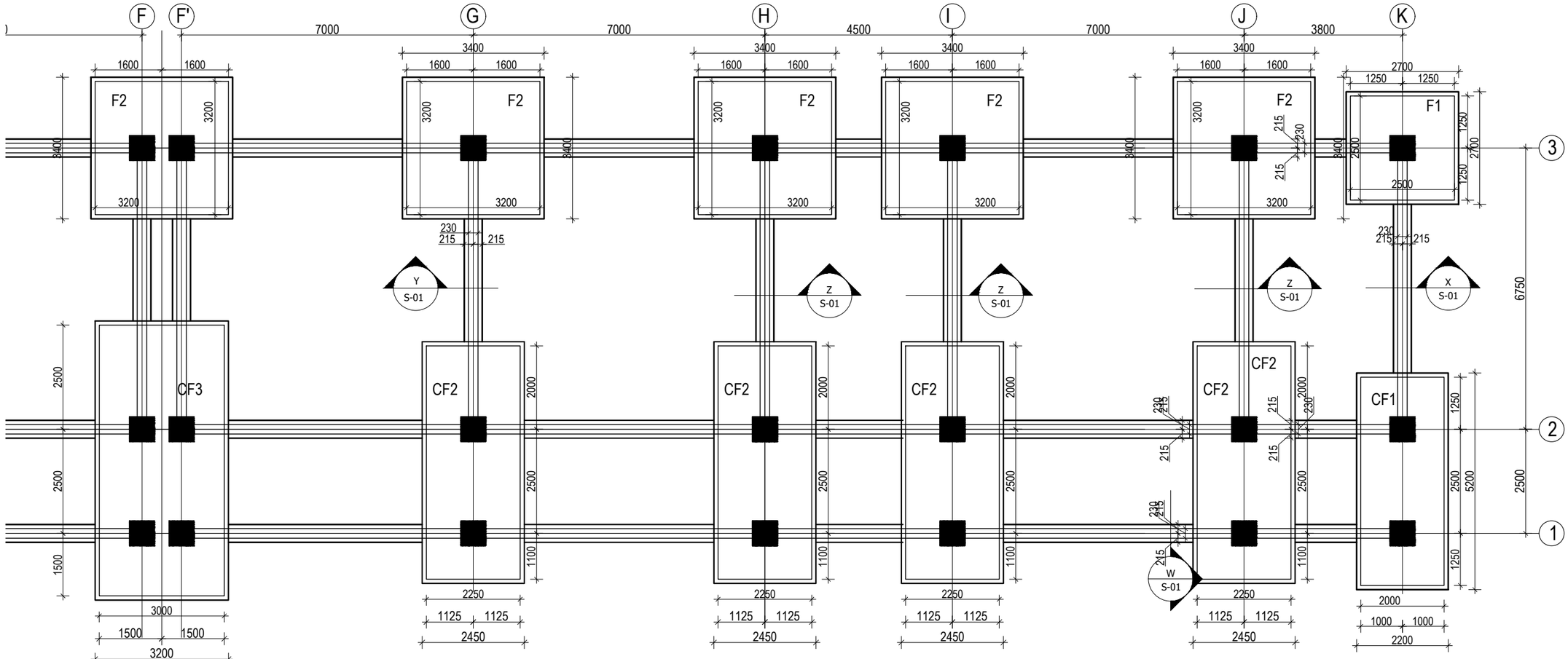


TRENCH PLAN FOR SAFE
(Scale= 1:100)

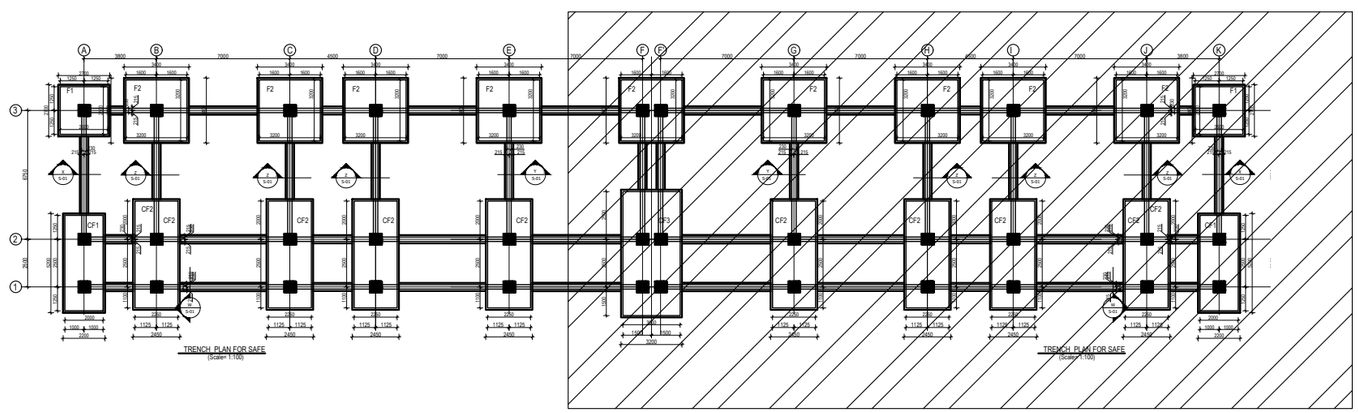
KEY PLAN



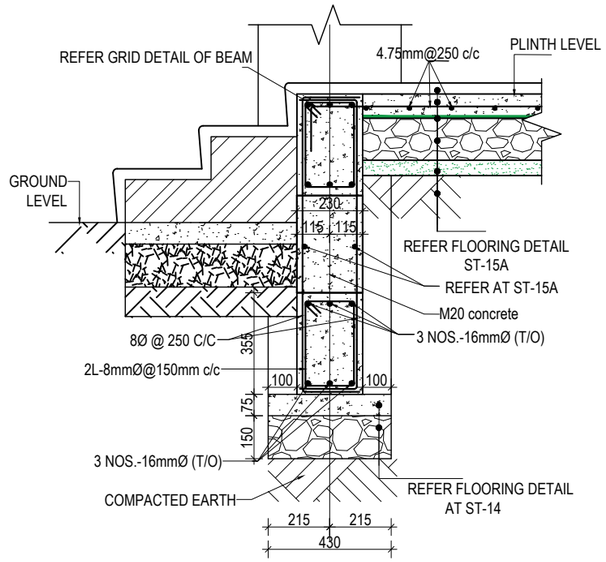
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-01	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



KEY PLAN

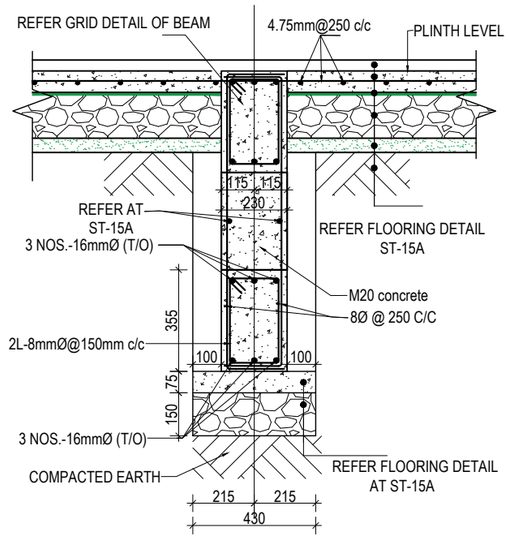


CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 / PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-02	R-00
					DWG CODE.	3S18R-HILLY



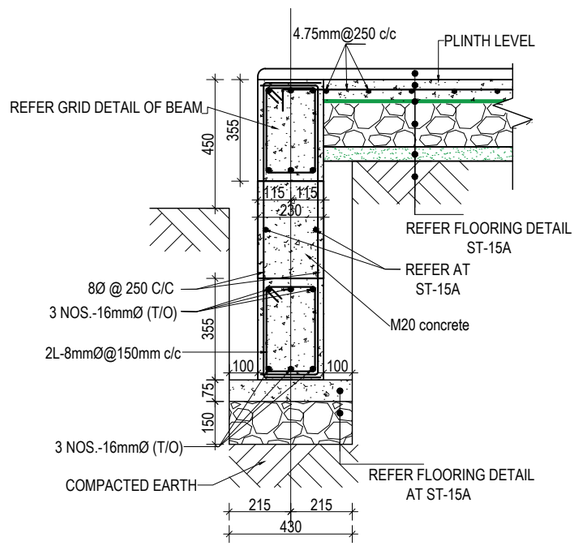
SECTION AT W-W

(Scale= 1:20)



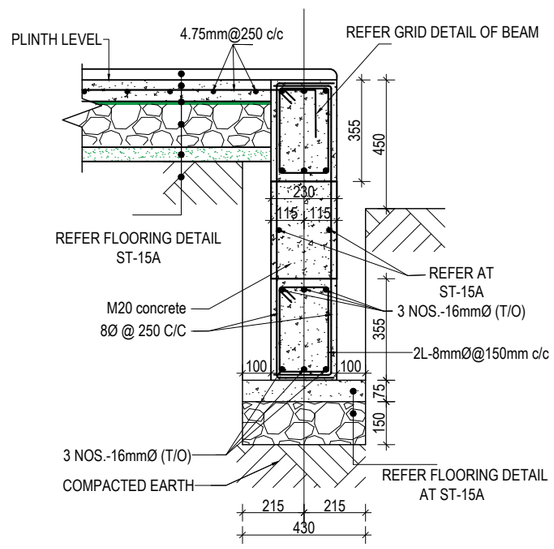
SECTION AT Z-Z

(Scale= 1:20)



SECTION AT X-X

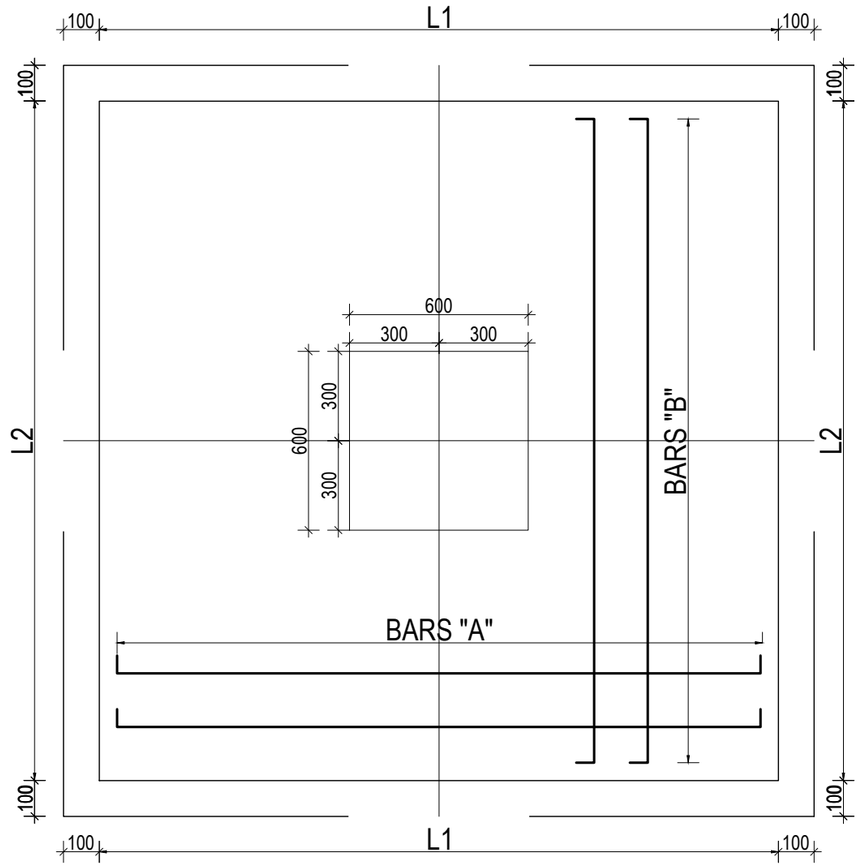
(Scale= 1:20)



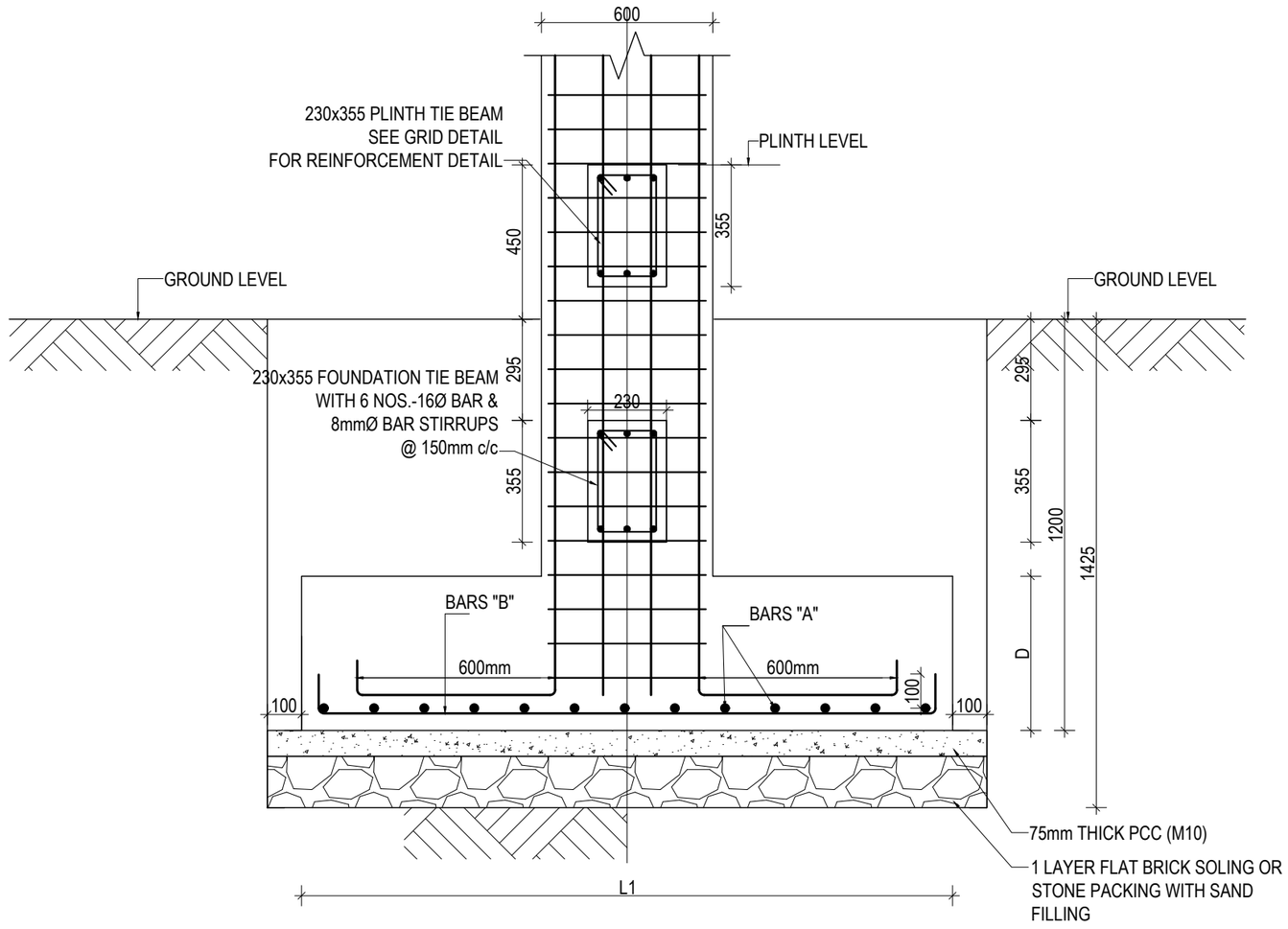
SECTION AT Y-Y

(Scale= 1:20)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TRENCH DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-03	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL ISOLATED FOOTING PLAN

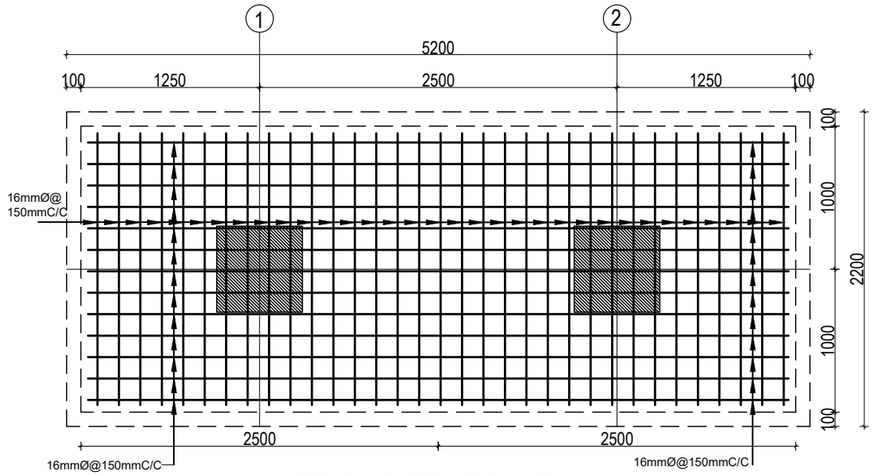


TYPICAL ISOLATED FOOTING SECTION

ISOLATED FOOTING SCHEDULE FOR S.B.C 150 kN/m2

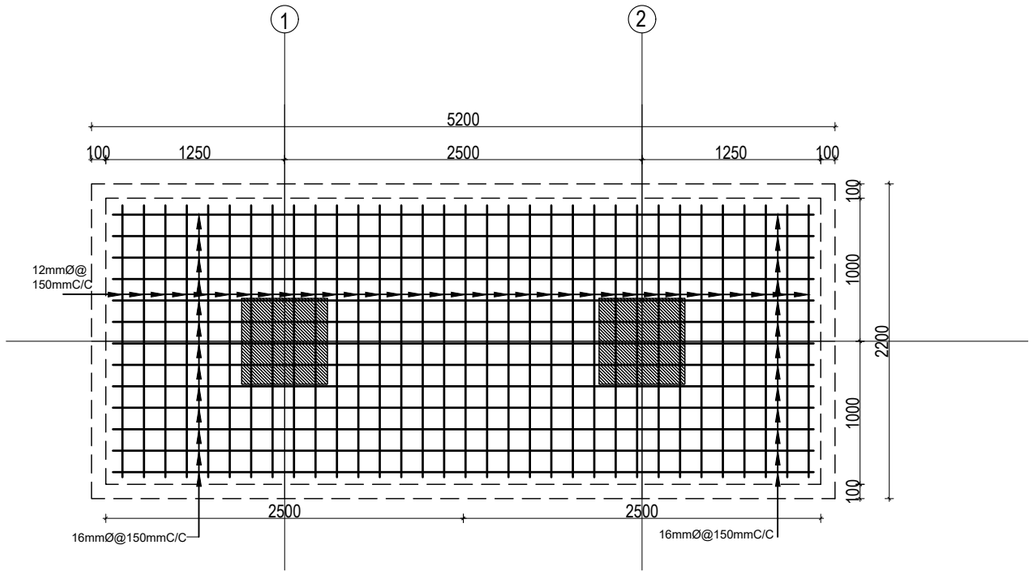
FOOTING ID	L1	L2	DEPTH (D)	REINFORCEMENT DETAILS	
				BARS "A"	BARS "B"
F1	2500	2500	600	16Ø @ 150 C/C	16Ø @ 150 C/C
F2	3200	3200	750	16Ø @ 150 C/C	16Ø @ 150 C/C

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-04	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



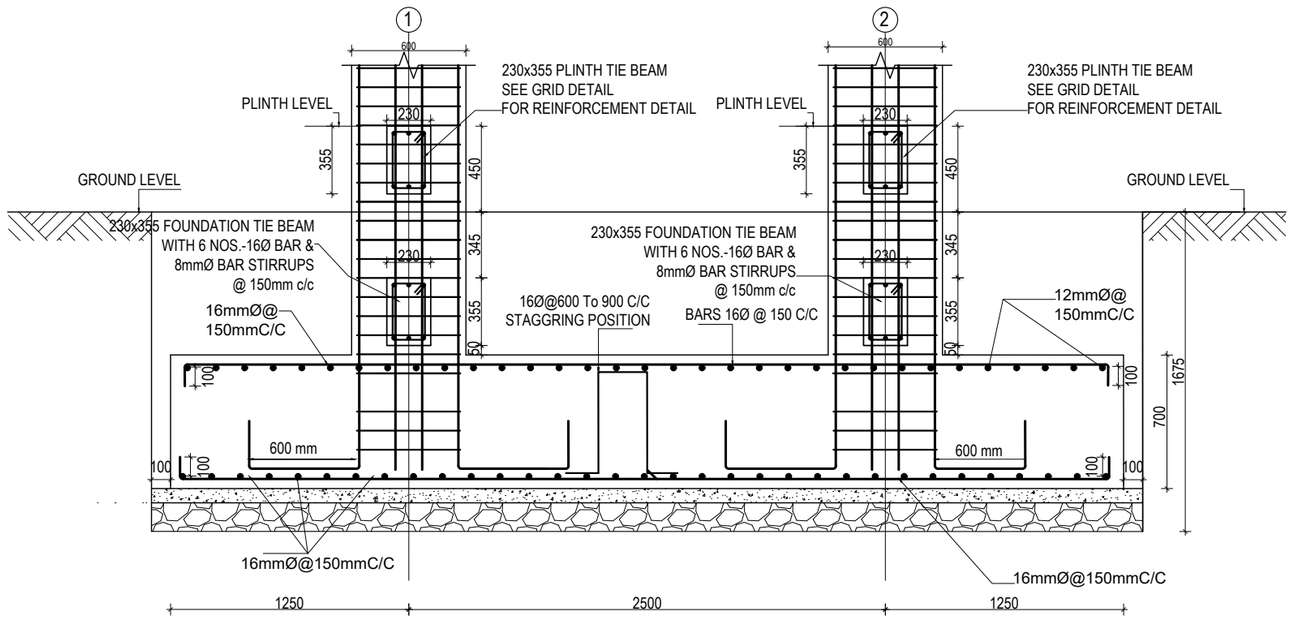
COMBINED FOOTING PLAN CF1

BOTTOM REINFORCEMENT



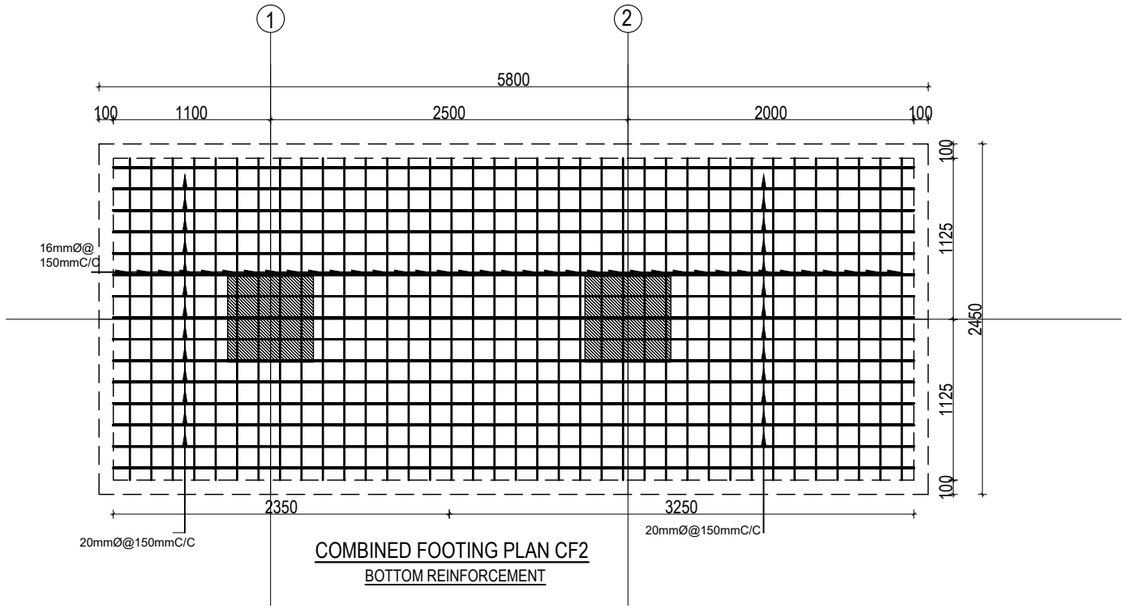
COMBINED FOOTING PLAN CF1

TOP REINFORCEMENT



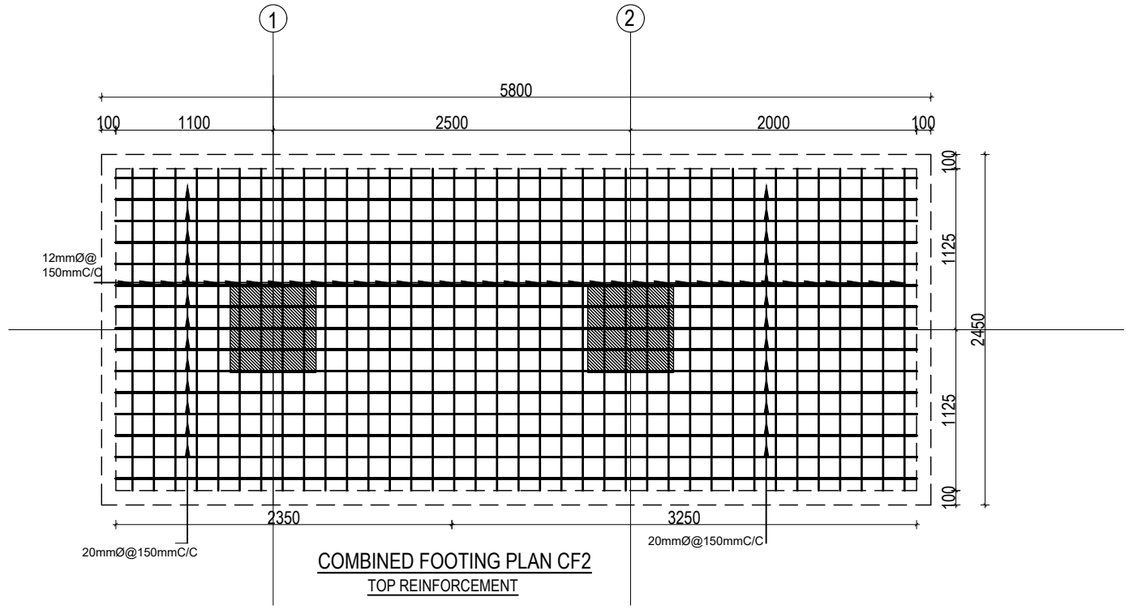
COMBINED FOOTING SECTION CF1

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-05 / R-00
				ARCHITECT:	CHECKED:	
				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE. 3S18R-HILLY
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023	



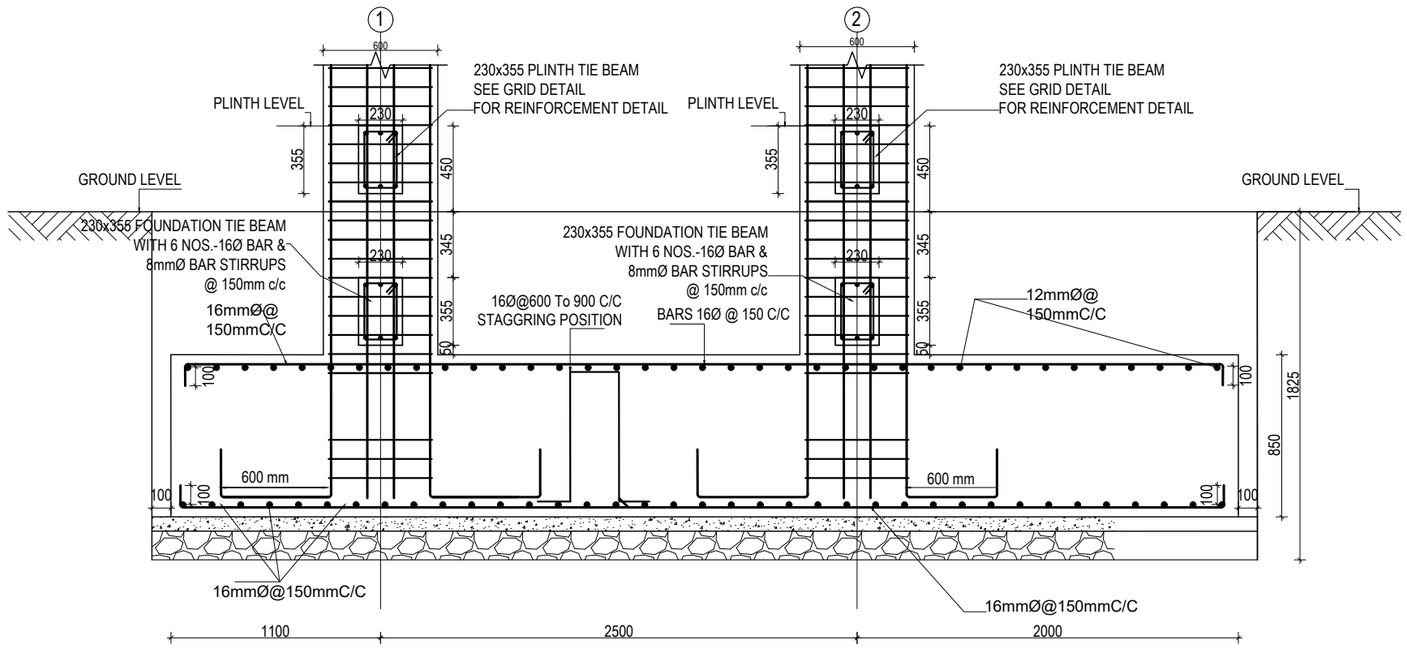
COMBINED FOOTING PLAN CF2

BOTTOM REINFORCEMENT



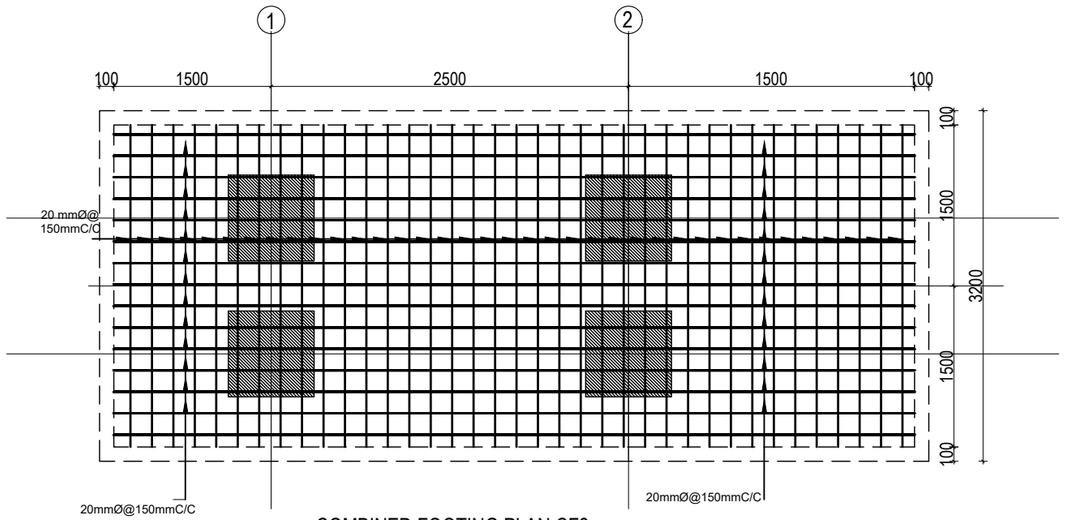
COMBINED FOOTING PLAN CF2

TOP REINFORCEMENT

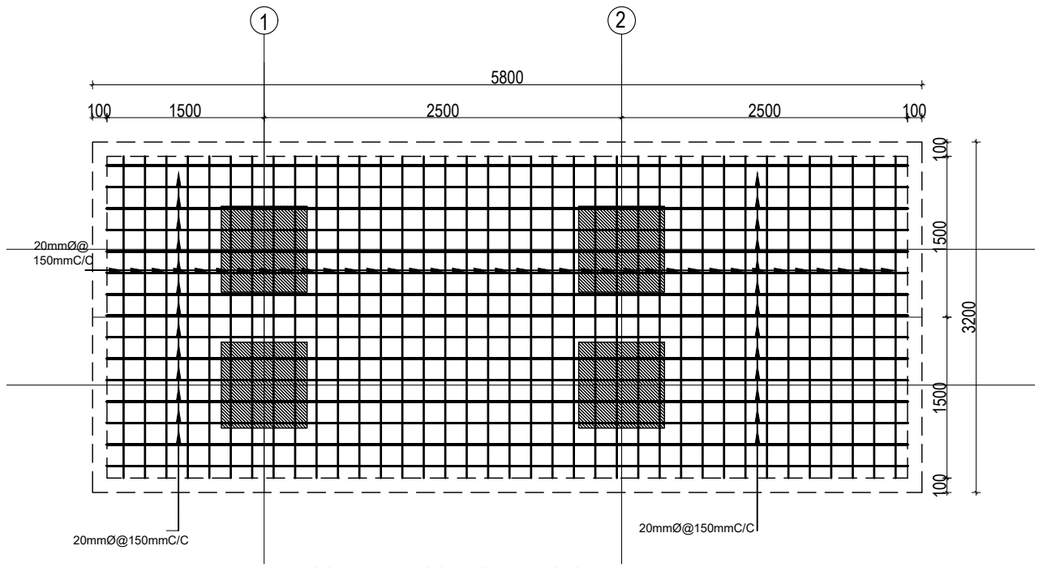


COMBINED FOOTING SECTION CF2

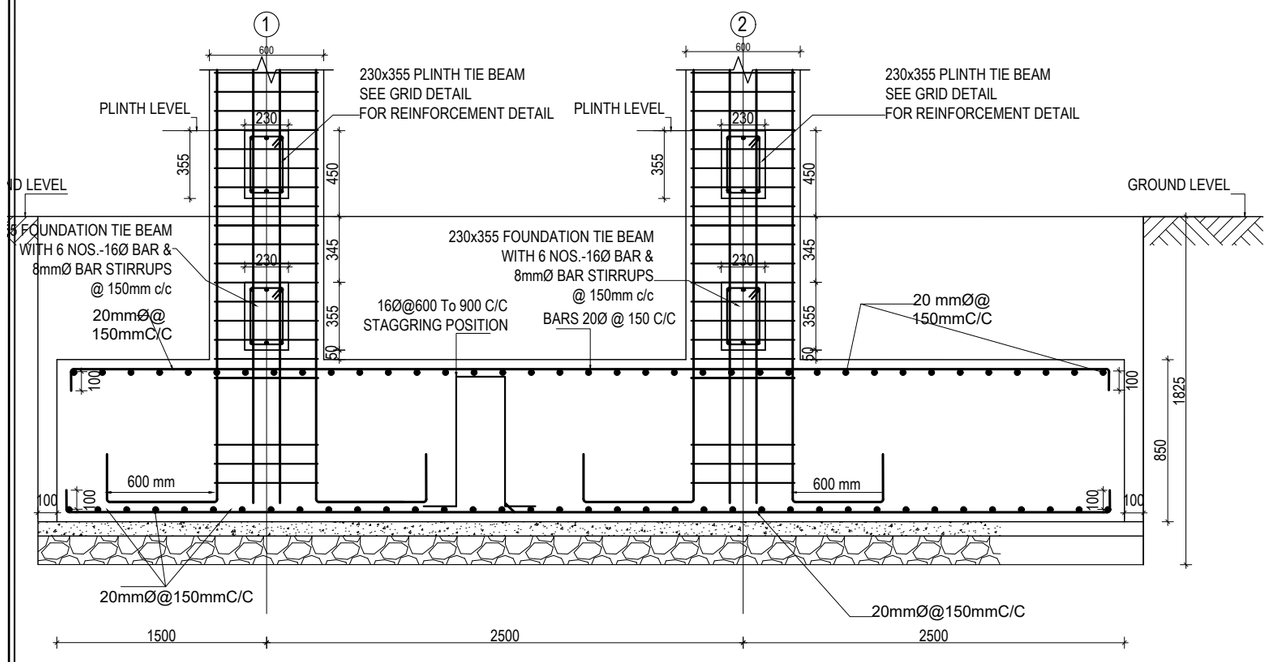
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-06	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



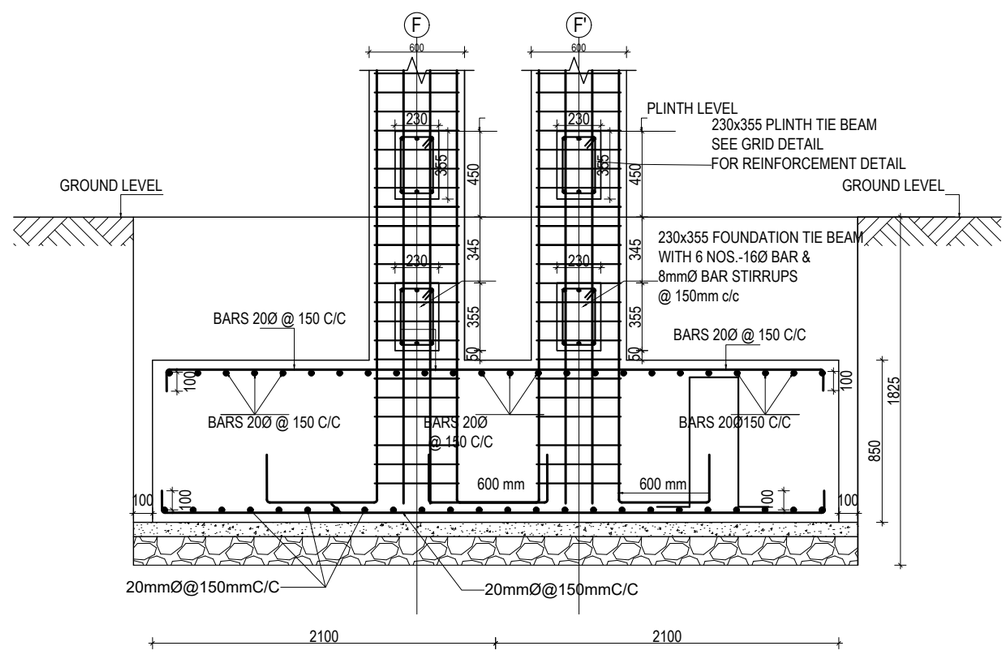
COMBINED FOOTING PLAN CF3
TOP REINFORCEMENT



COMBINED FOOTING PLAN CF3
BOTTOM REINFORCEMENT

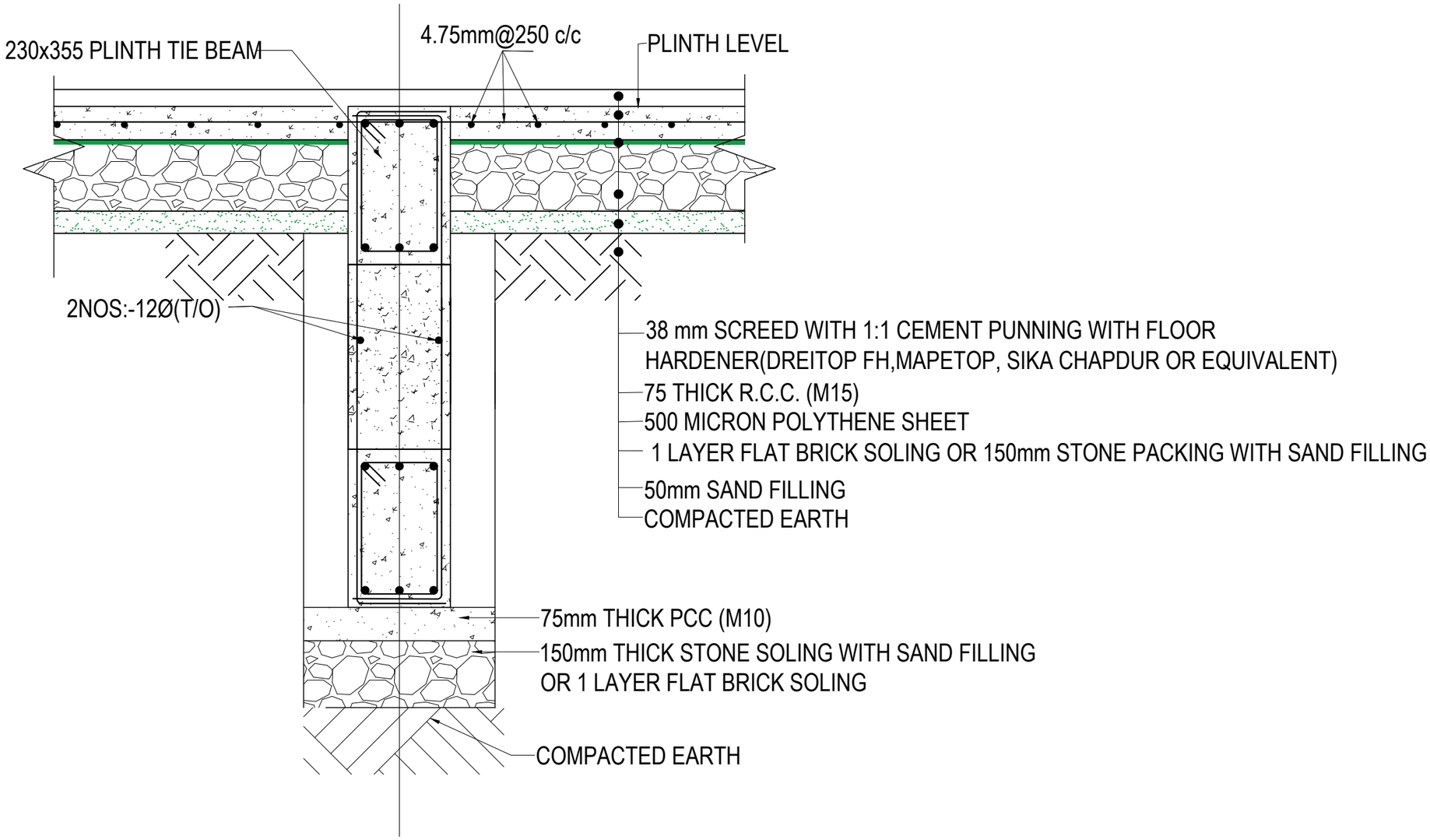


COMBINED FOOTING SECTION CF3 (L-SECTION)



COMBINED FOOTING SECTION CF3 [X-SECTION]

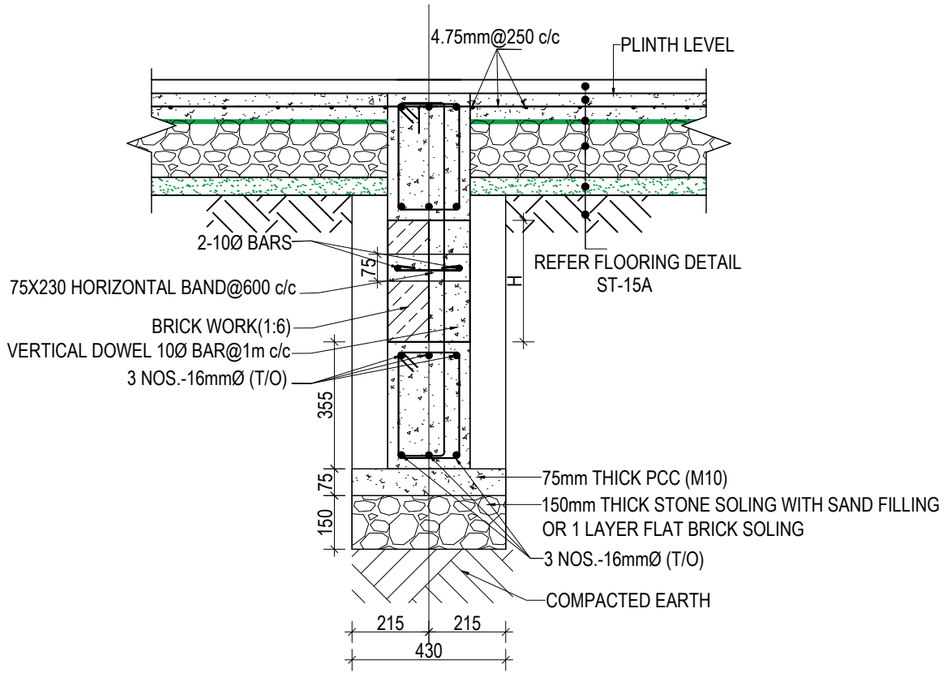
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	FOOTING DETAIL FOR S.B.C 150kN/m2	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-07	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL FLOORING DETAIL FF1

(Scale= 1:10)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL FLOORING DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-08	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



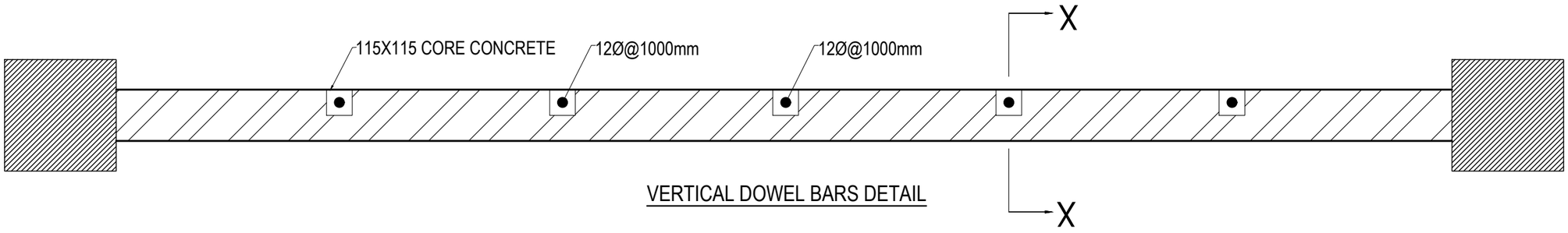
WALL DETAIL FOR DEPTH OF FOOTING MORE THAN 1500 mm

SECTION AT X-X

NOTES:-

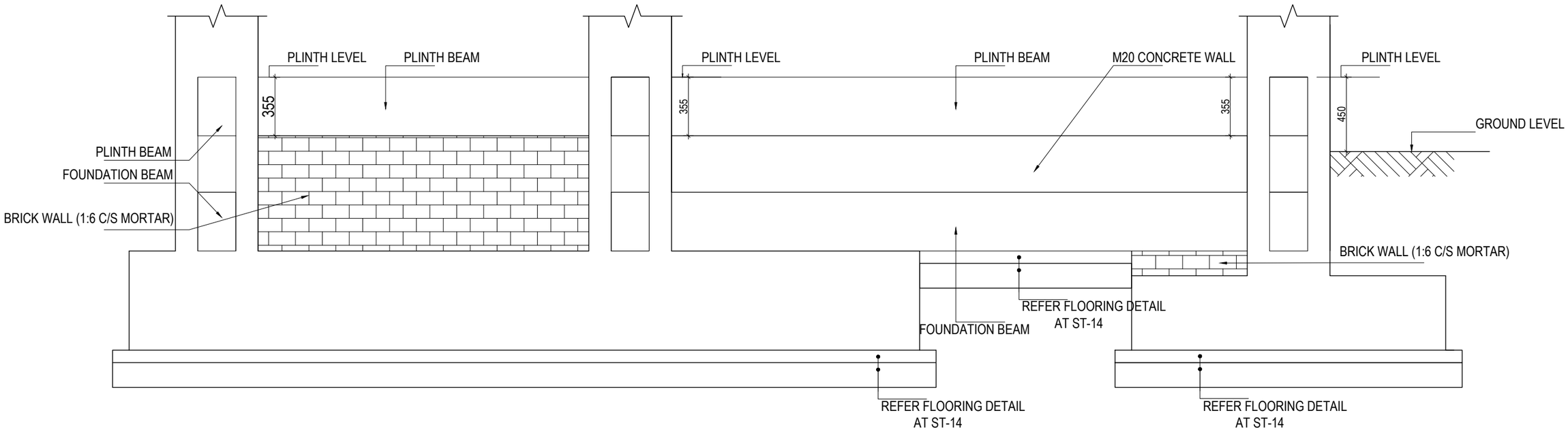
1) BRICK WALL IS USED IF WALL IS CONFINED BY SOIL ON BOTH SIDES

2)IF THE HEIGHT OF THE BRICKWALL EXCEEDS 1800 mm ADDITIONAL BEAM SHALL BE PROVIDED OF SAME SIZE OF FOUNDATION BEAM(SAME REINFORCEMENT TO BE USED)



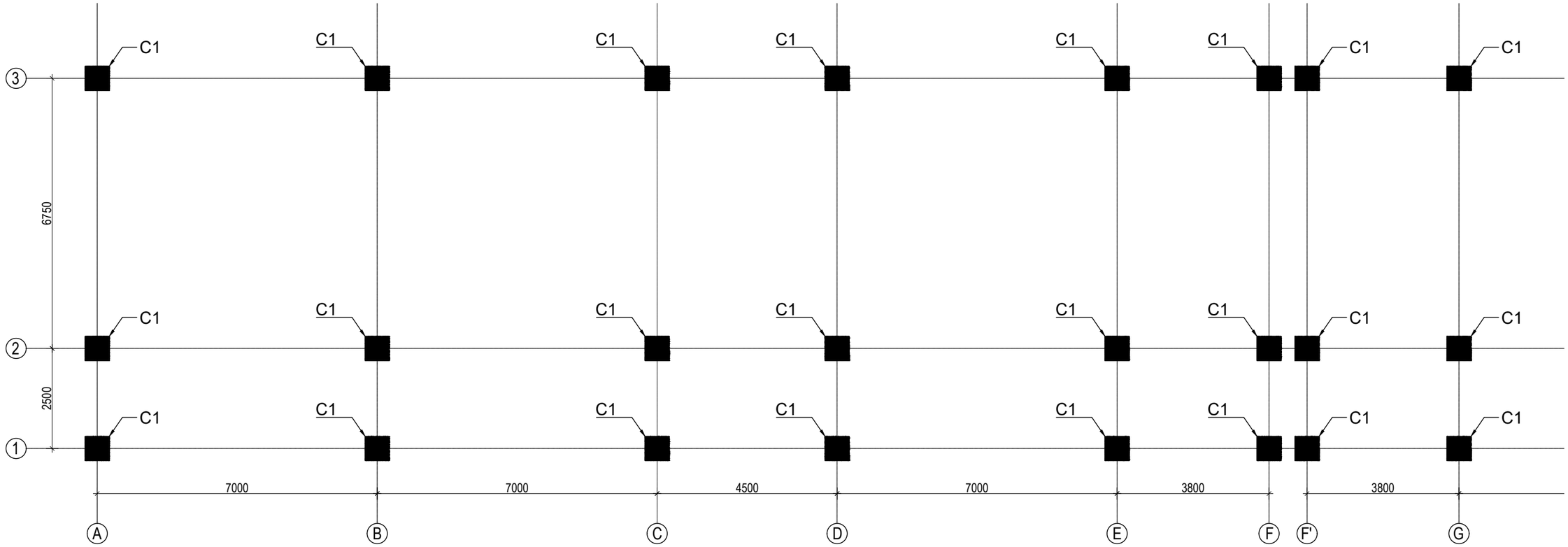
VERTICAL DOWEL BARS DETAIL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SITE SPECIFIC DRAWING	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-09	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



TYPICAL DETAIL OF FOUNDATION WALL

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL DETAIL OF FOUNDATION WALL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-10	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

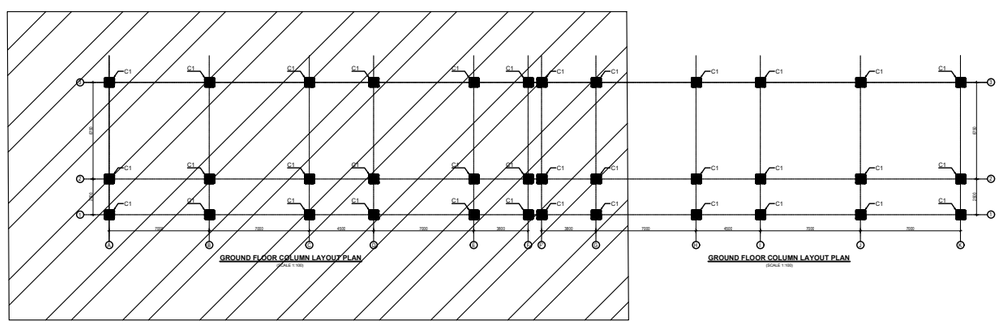


GROUND FLOOR COLUMN LAYOUT PLAN

(SCALE 1:100)

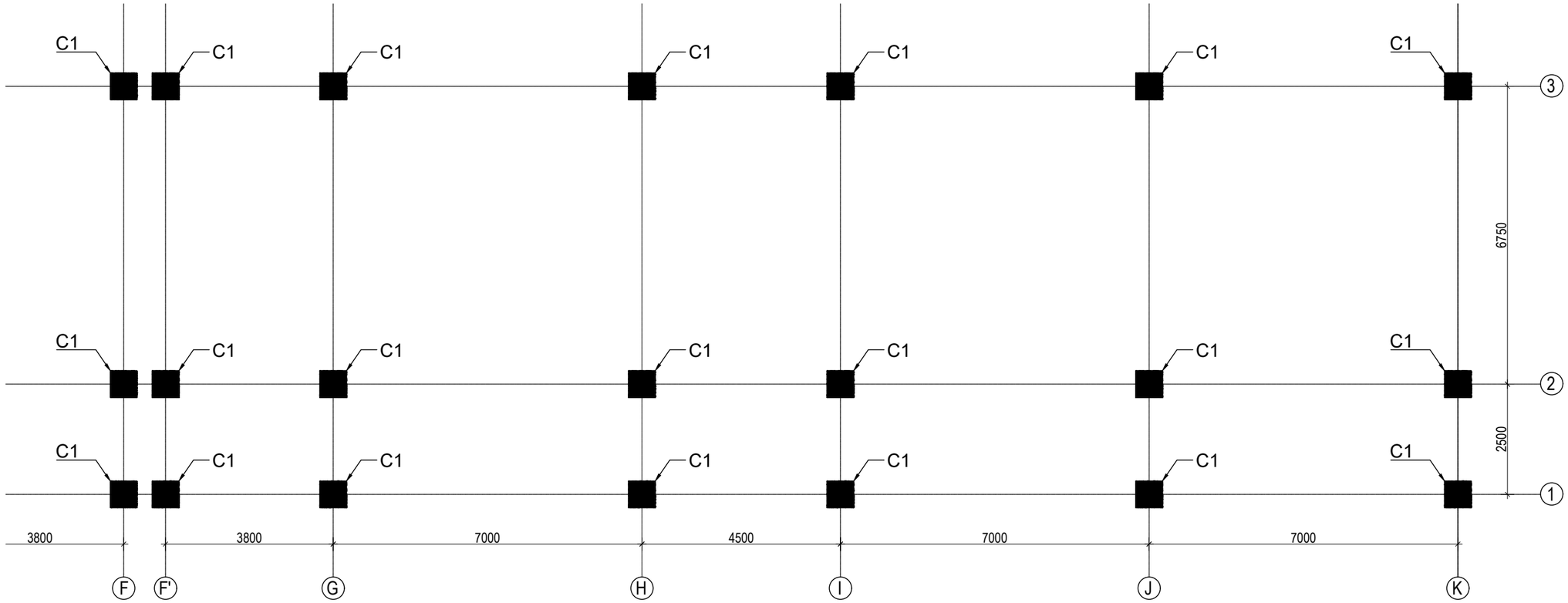
COLUMN REINFORCEMENT DETAILS

S. NO.	COLUMN	COLUMN SIZE	FLOOR					TIE BAR ORIENTATION
			GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	TOP FLOOR	
1	C1	600X600	600 / 600 ● 16 NOS. -25mmØ	600 / 600 ● 16 NOS. -25mmØ	600 / 600 ● 16 NOS. -25mmØ	600 / 600 ● 16 NOS. -25mmØ		A B A: 10Ø100c/c & B:8Ø100c/c



KEY PLAN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	COLUMN DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-11	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

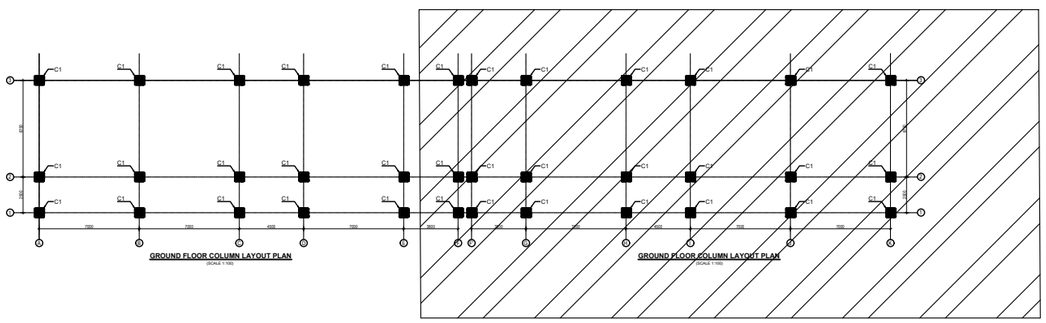


GROUND FLOOR COLUMN LAYOUT PLAN

(SCALE 1:100)

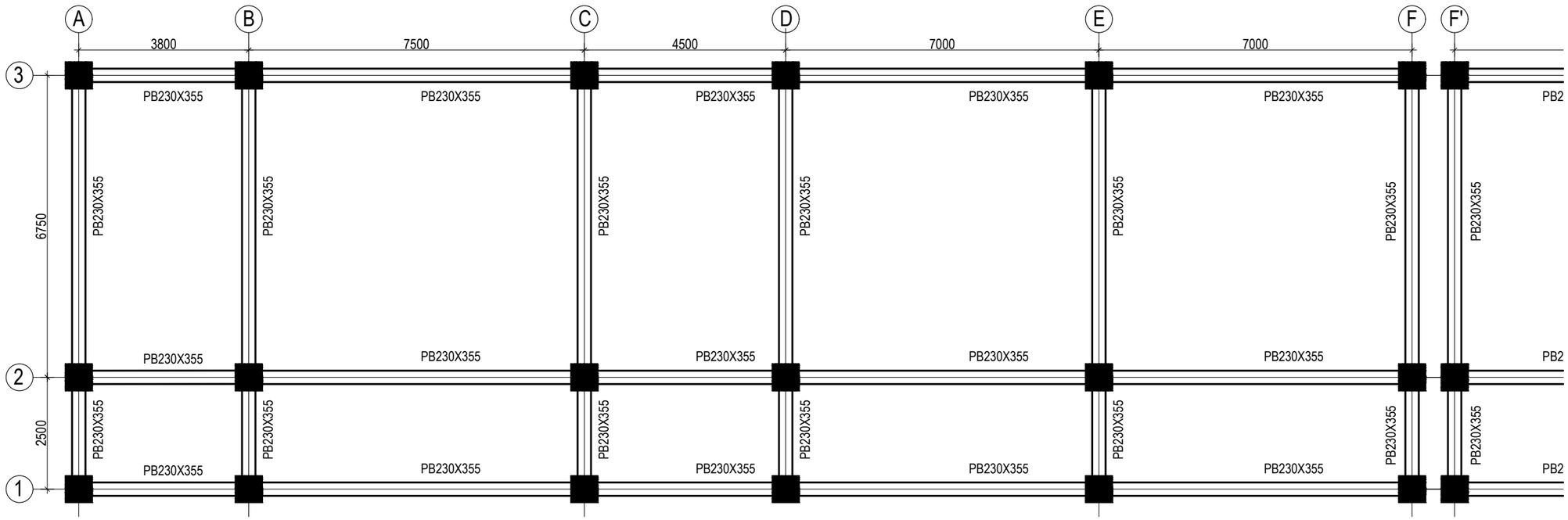
COLUMN REINFORCEMENT DETAILS

S. NO.	COLUMN	COLUMN SIZE	FLOOR					TIE BAR ORIENTATION
			GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	TOP FLOOR	
1	C1	600X600	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ	600 / 600 • 16 NOS. -25mmØ		A B A: 10Ø100c/c & B:8Ø100c/c



KEY PLAN

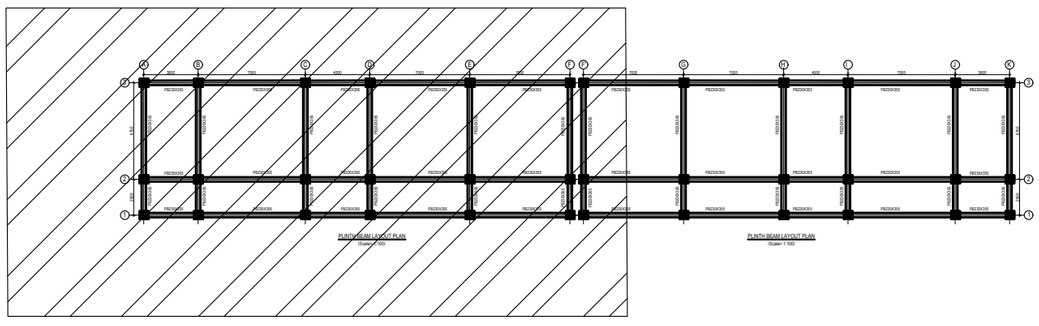
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	COLUMN DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-12	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



PLINTH BEAM LAYOUT PLAN

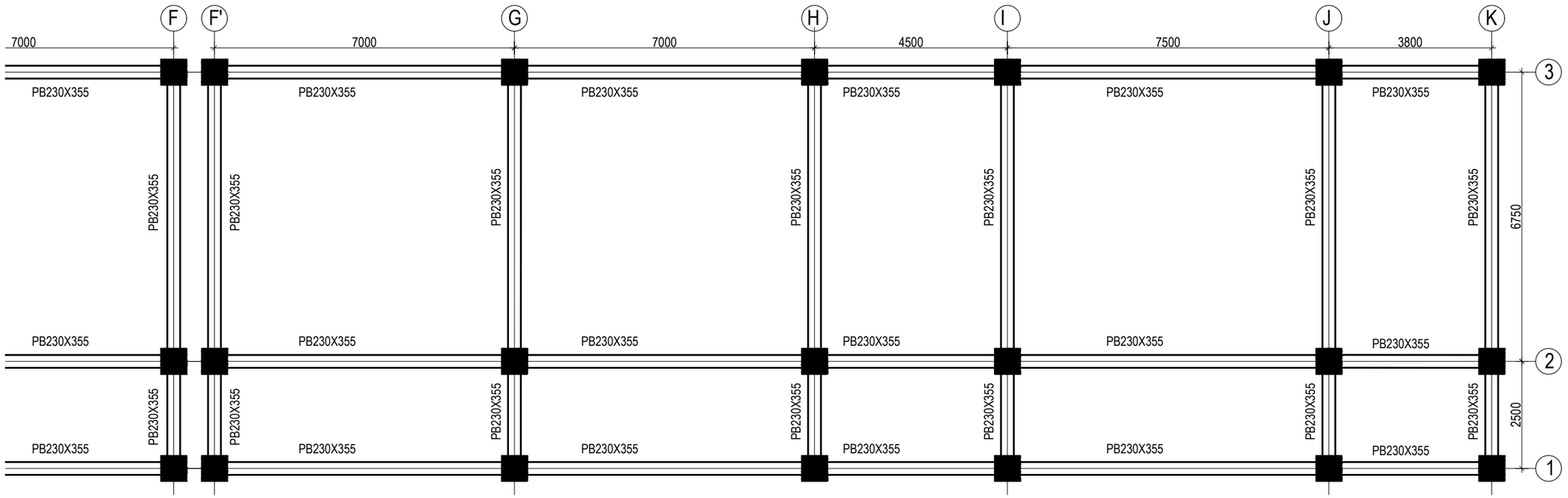
(Scale= 1:100)

LVL:- PL+0000



KEY PLAN

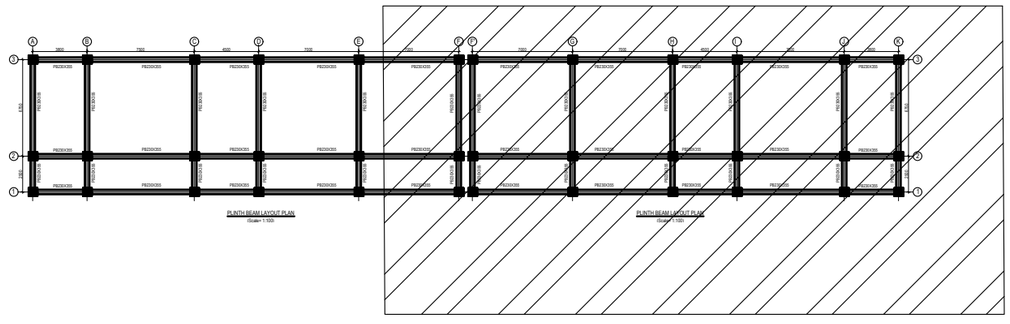
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-13	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



PLINTH BEAM LAYOUT PLAN

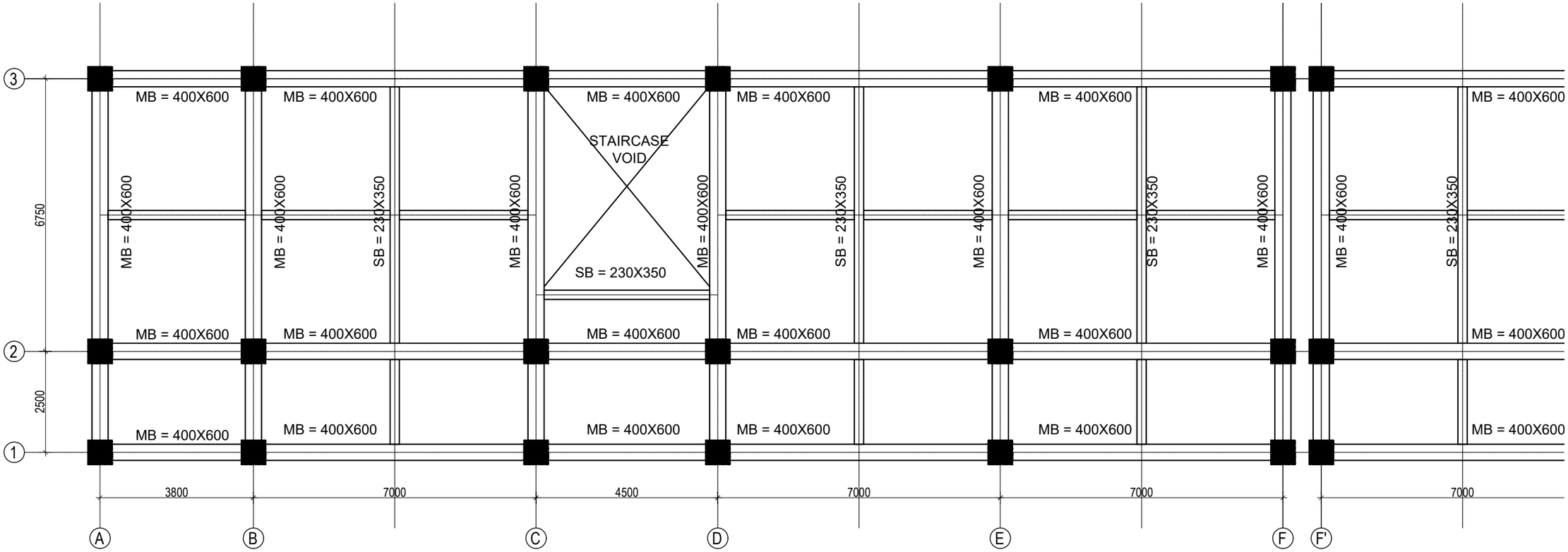
(Scale= 1:100)

LVL:- PL+0000



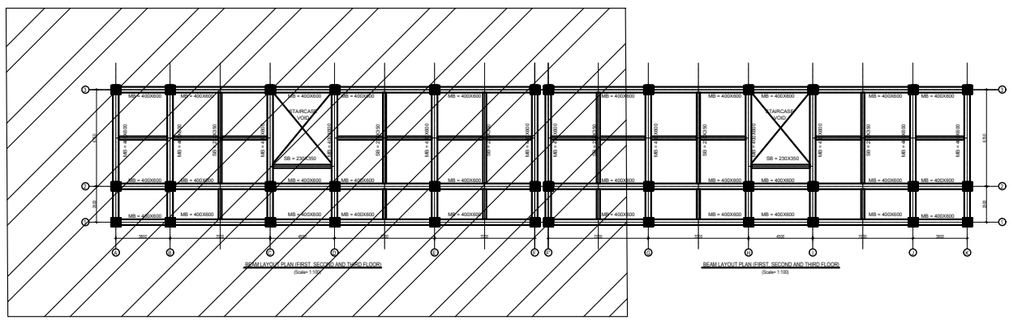
KEY PLAN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-14	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



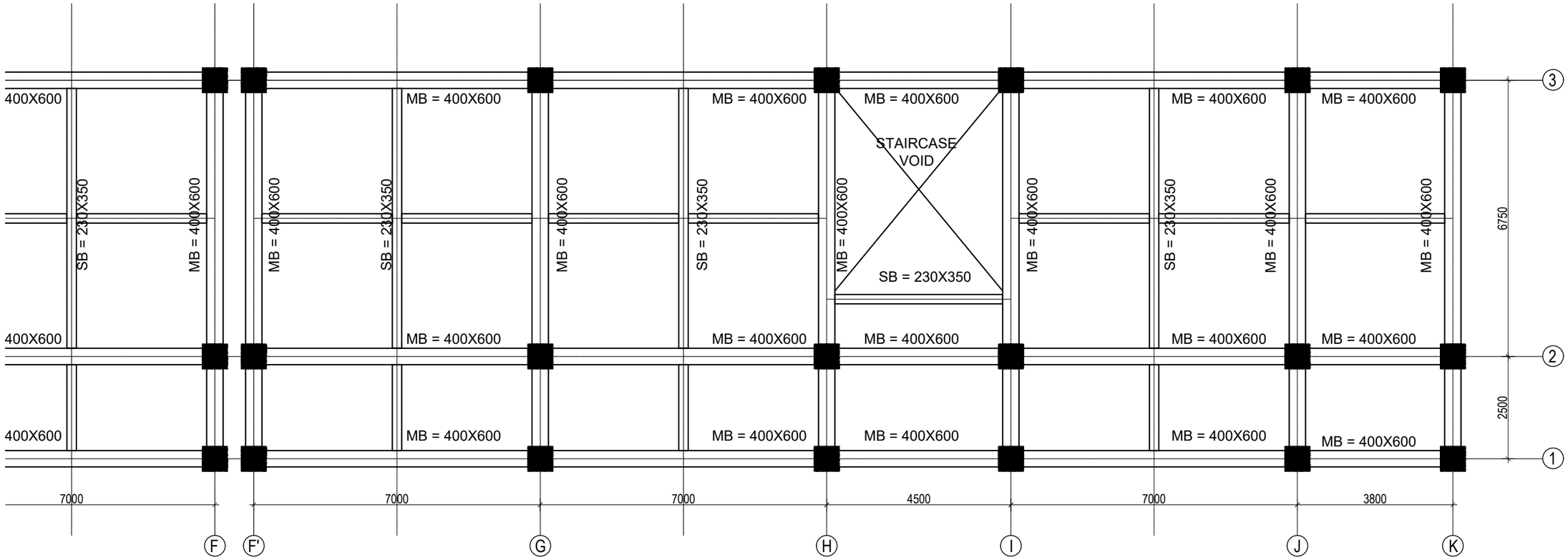
BEAM LAYOUT PLAN (FIRST, SECOND AND THIRD FLOOR)

(Scale= 1:100)



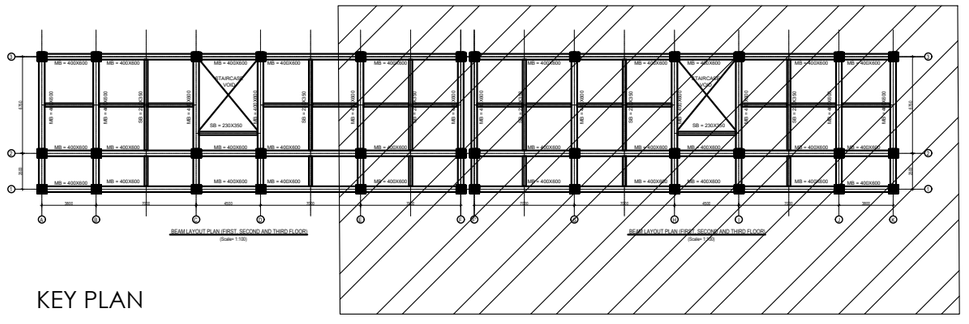
KEY PLAN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-15	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



BEAM LAYOUT PLAN (FIRST, SECOND AND THIRD FLOOR)

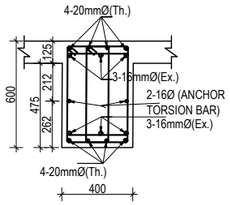
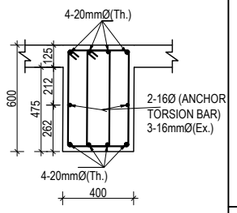
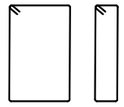
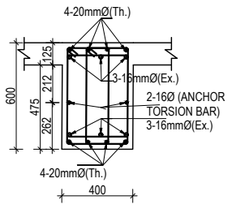
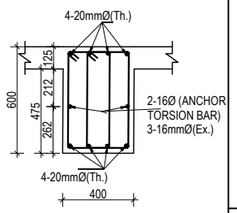
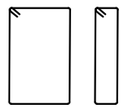
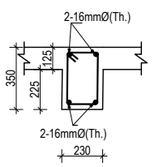
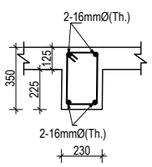
(Scale= 1:100)



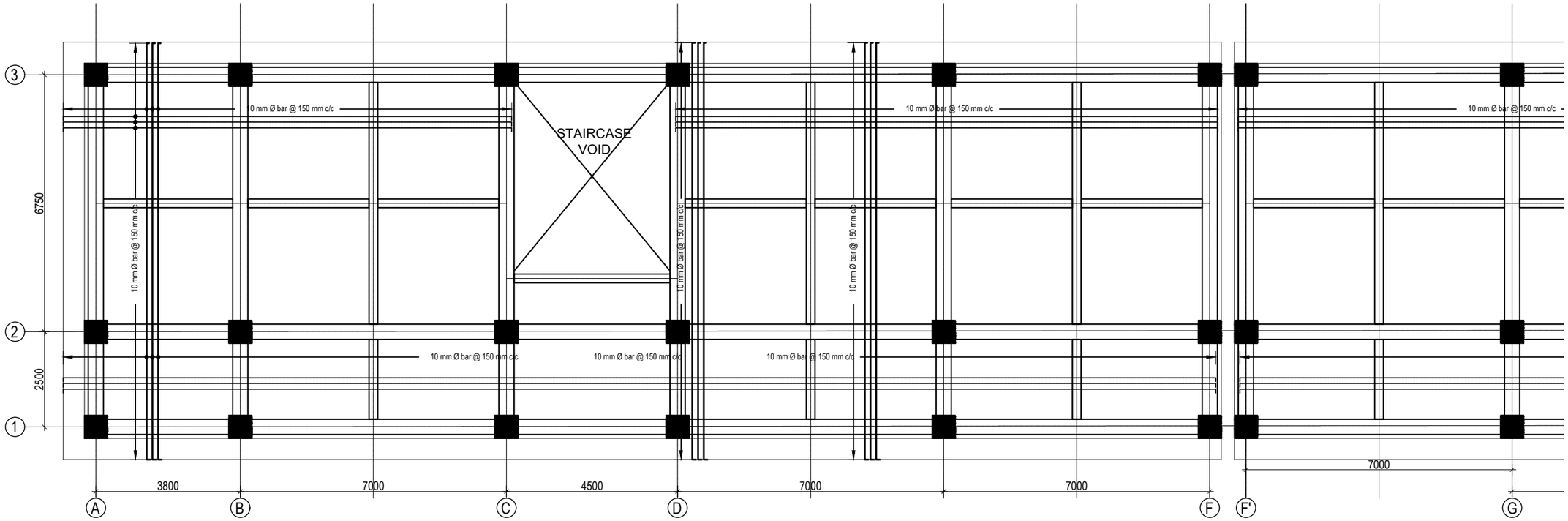
KEY PLAN

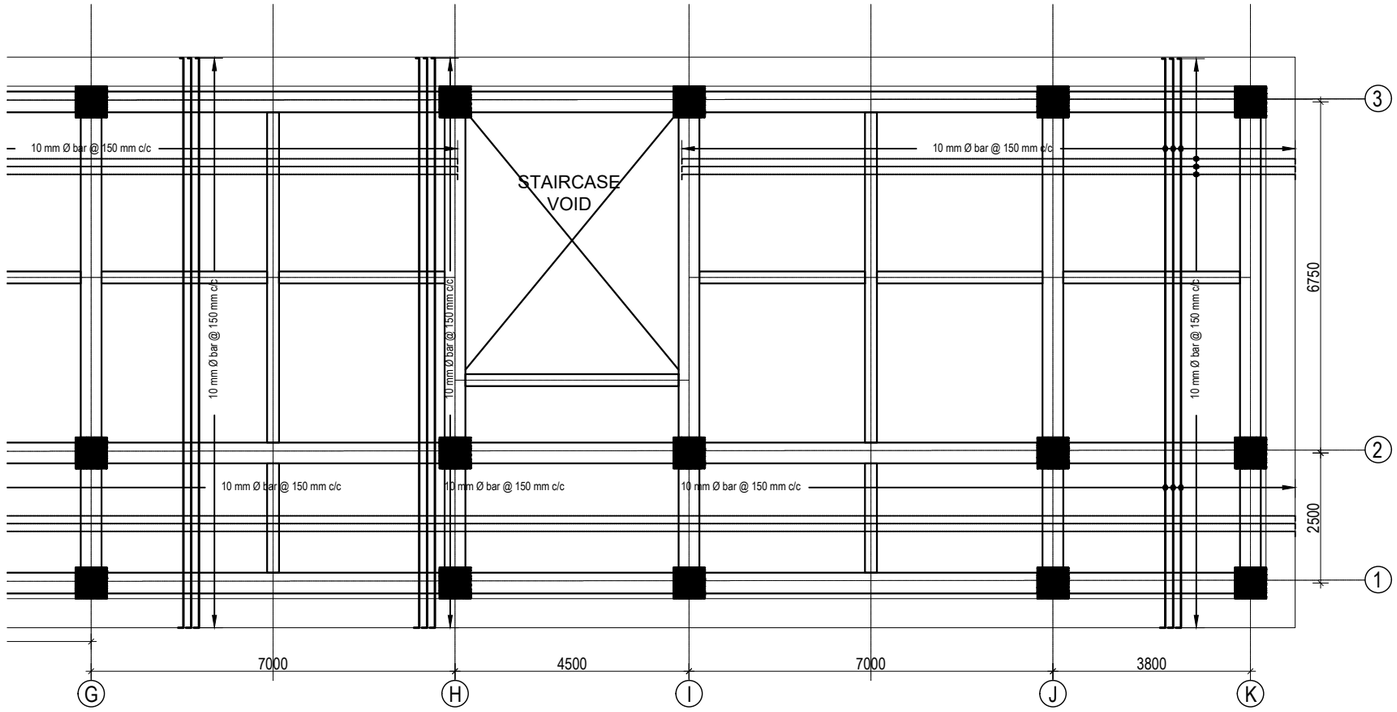
CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM LAYOUT PLAN	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-16	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

COLUMN REINFORCEMENT DETAILS

S. NO.	GRID	BEAM SIZE	AT SUPPORT	AT MID	STIRRUPS BAR ORIENTATION	FLOOR LVL
1	1-1 2-2 3-3	400X600			 4- Legged, 10Ø100c/c & 150 c/c	FIRST FLOOR BEAMS SECOND FLOOR BEAMS
2	A-A B-B C-C D-D E-E	400X600			 4- Legged, 10Ø100c/c & 150 c/c	REMAINING FLOOR BEAMS
3	Sec. beam	230X350			 2- Legged, 10Ø100c/c & 150 c/c	ALL FLOOR BEAMS

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	BEAM DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-17	R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY	
				DRAWN : NEETA BHANDARI	APPROVED:		
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		





SLAB REINFORCEMENT DETAIL FOR TOP BARS

(GROUND,FIRST, SECOND AND THIRD FLOOR)

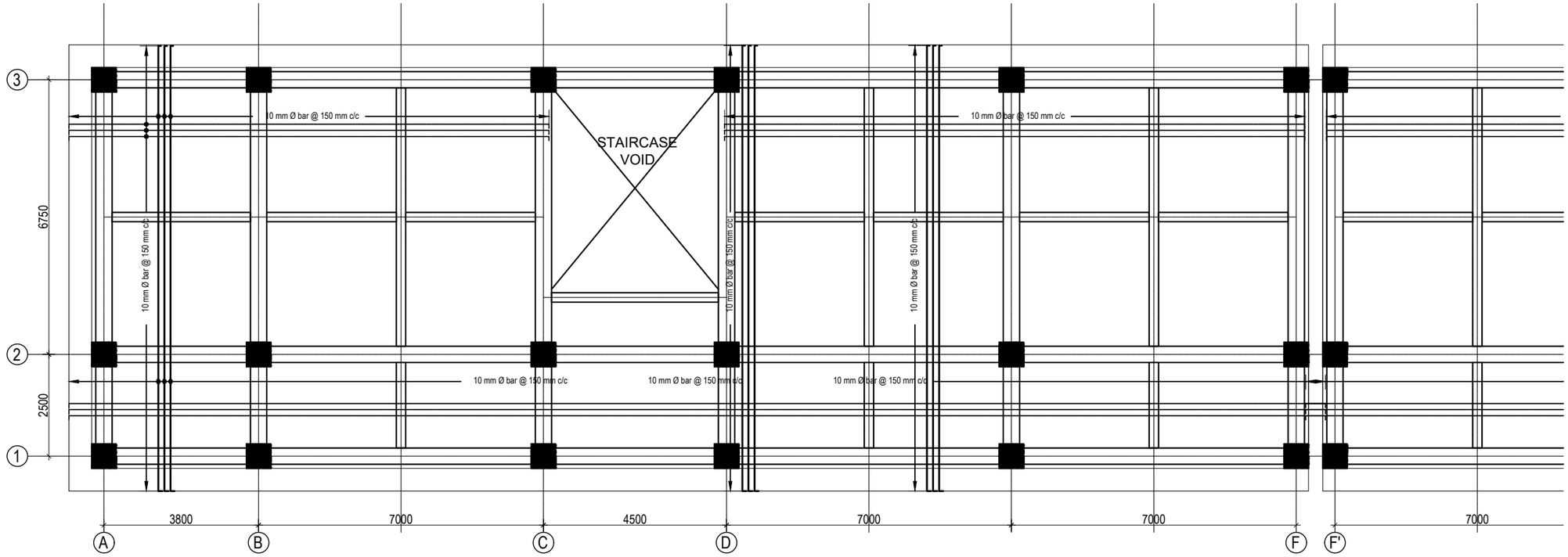
125 mm SLAB THICKNESS

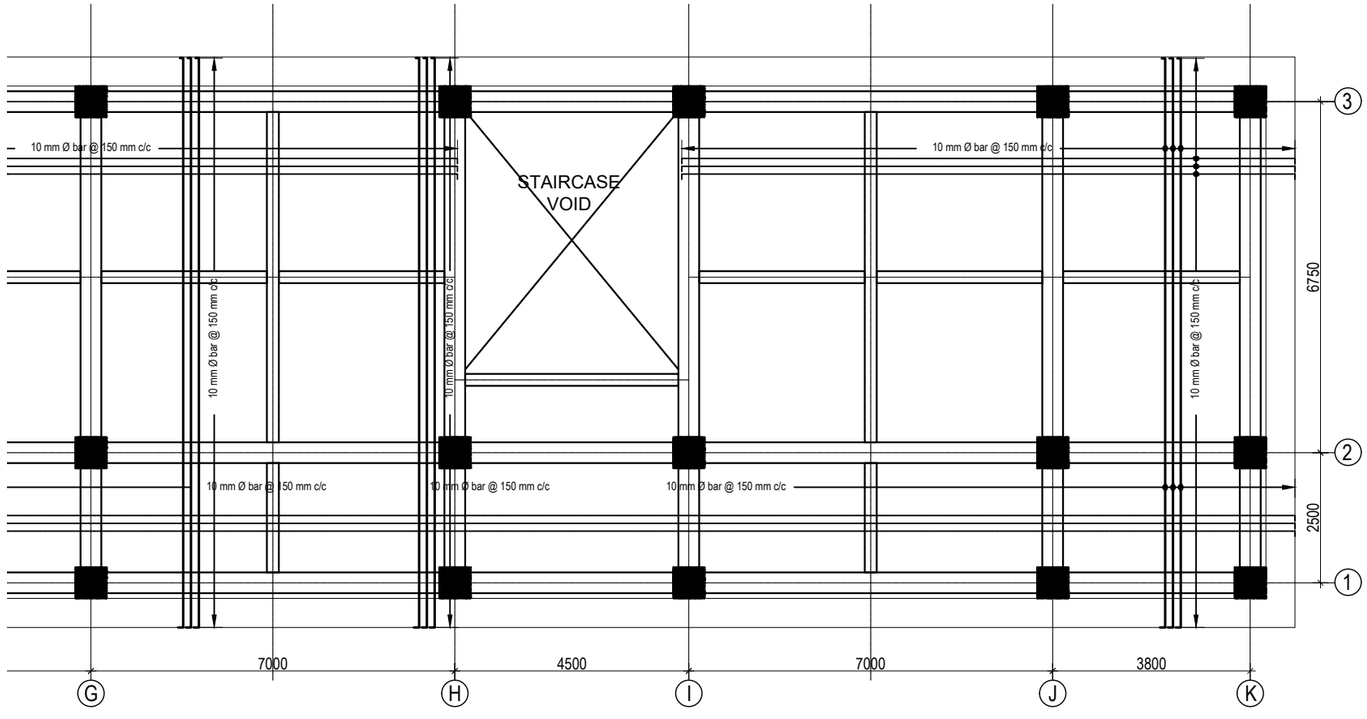
TOP REINFORCEMENT: a. FOR MAIN BEAM :10Ø@150 mm c/c

b. FOR SECONDARY BEAM :10Ø@200 mm c/c

(Scale= 1:120)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-18 / R-00 DWG CODE. 3S18R-HILLY





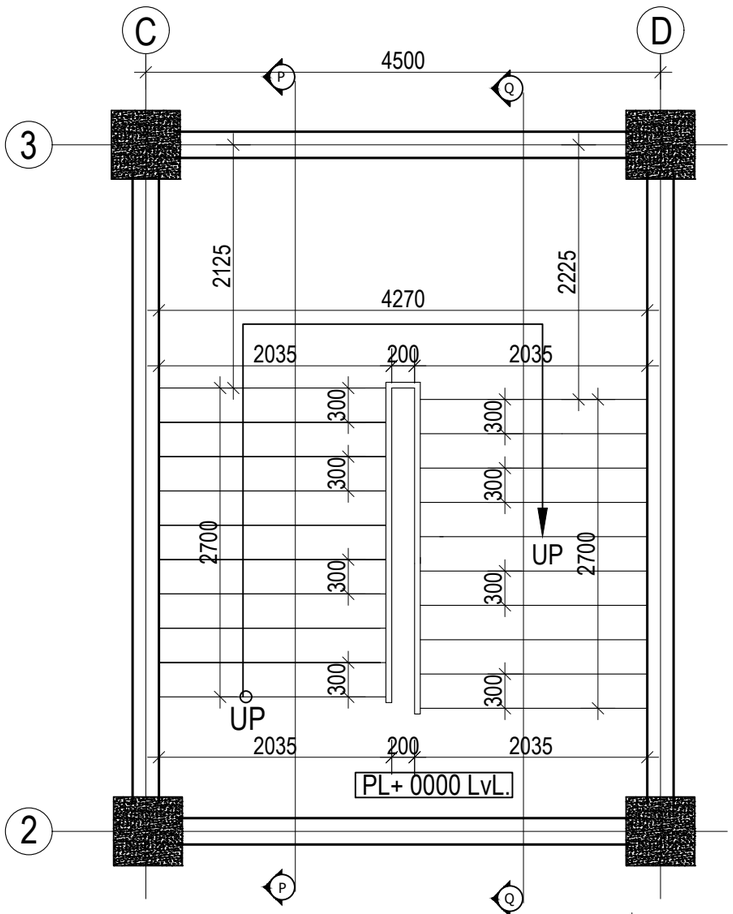
(GROUND,FIRST, SECOND AND THIRD FLOOR)

BOTTOM REINFORCEMENT: 8Ø@150 mm c/c

125 mm SLAB THICKNESS

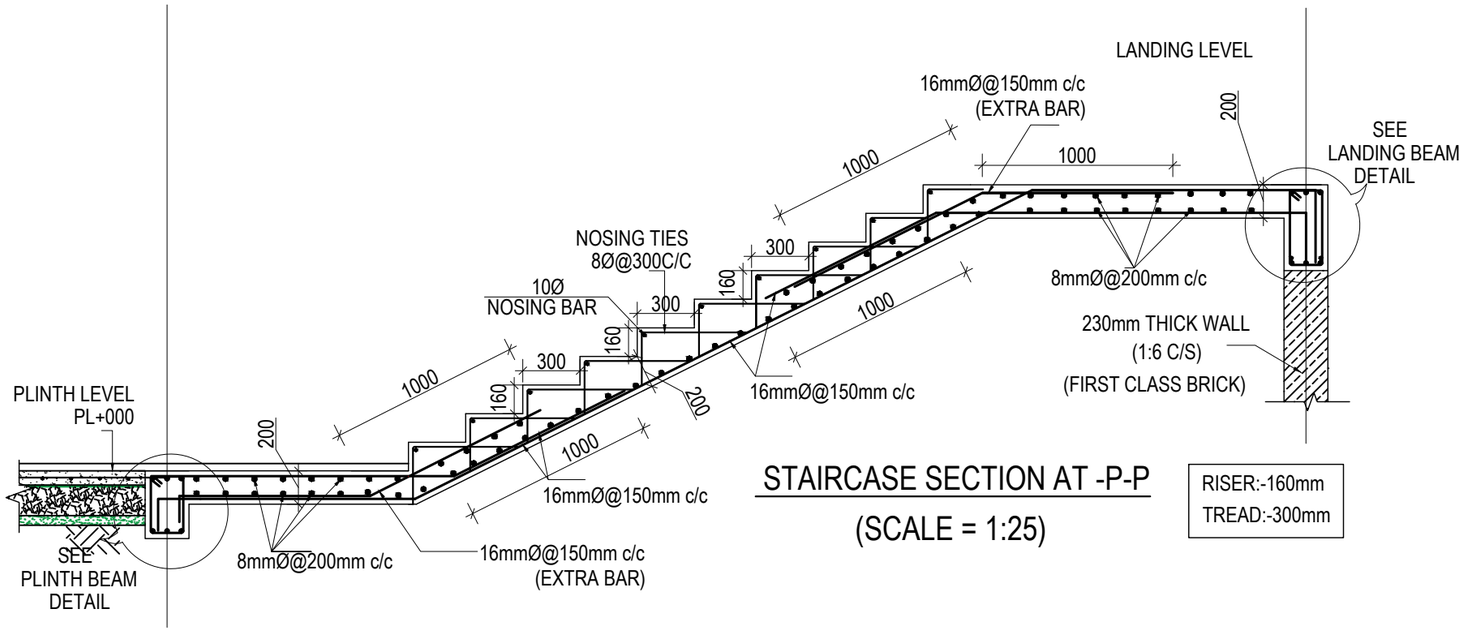
(Scale= 1:120)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	SLAB REINFORCEMENT DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-19	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



GROUND FLOOR STAIRCASE PLAN

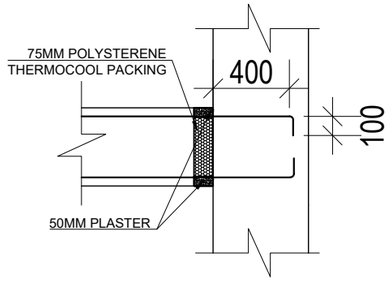
(Scale= 1:50)



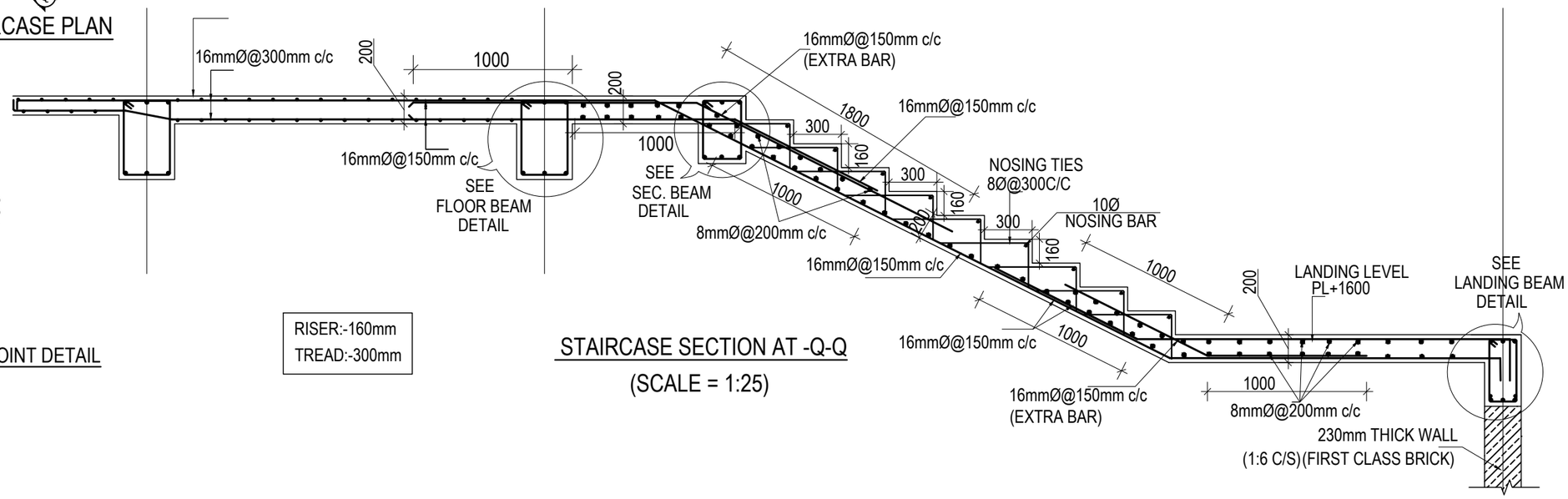
STAIRCASE SECTION AT -P-P

(SCALE = 1:25)

RISER:-160mm
TREAD:-300mm



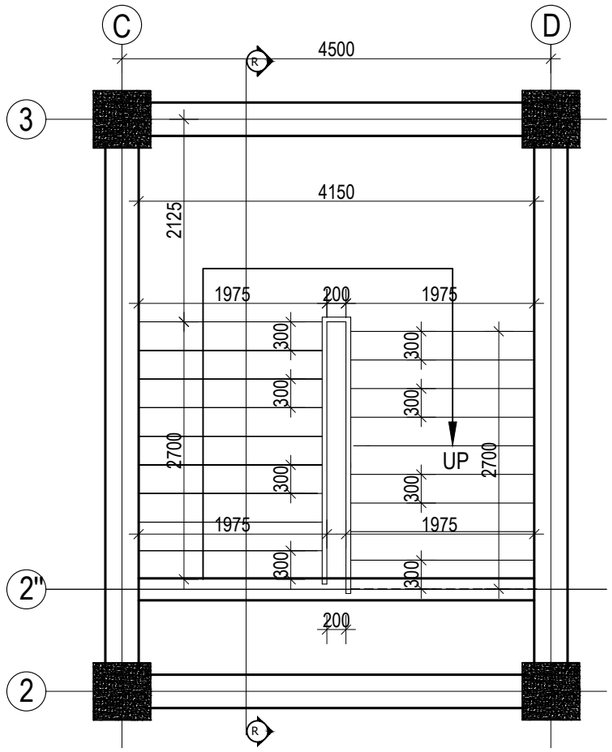
TYPICAL LANDING BEAM AND COLUMN JOINT DETAIL



STAIRCASE SECTION AT -Q-Q

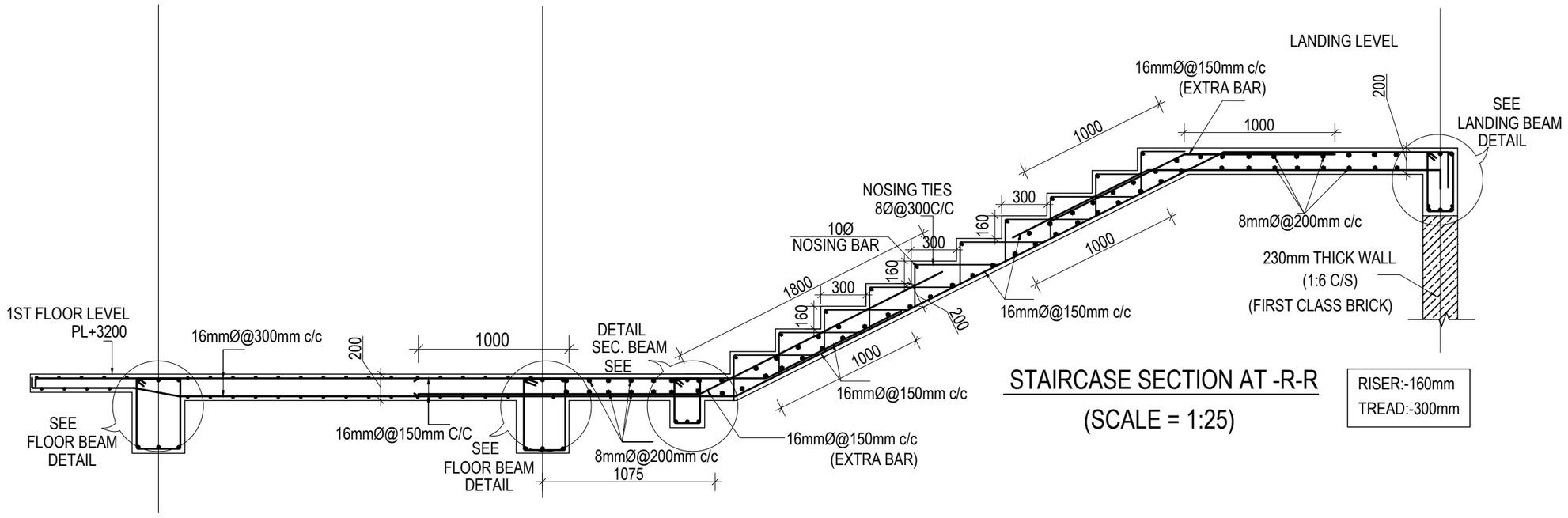
(SCALE = 1:25)

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-20 / R-00
				ARCHITECT:	CHECKED:	DWG CODE. 3S18R-HILLY
				DRAWN : NEETA BHANDARI	APPROVED:	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023	



TYPICAL FLOOR STAIRCASE PLAN

(Scale= 1:50)

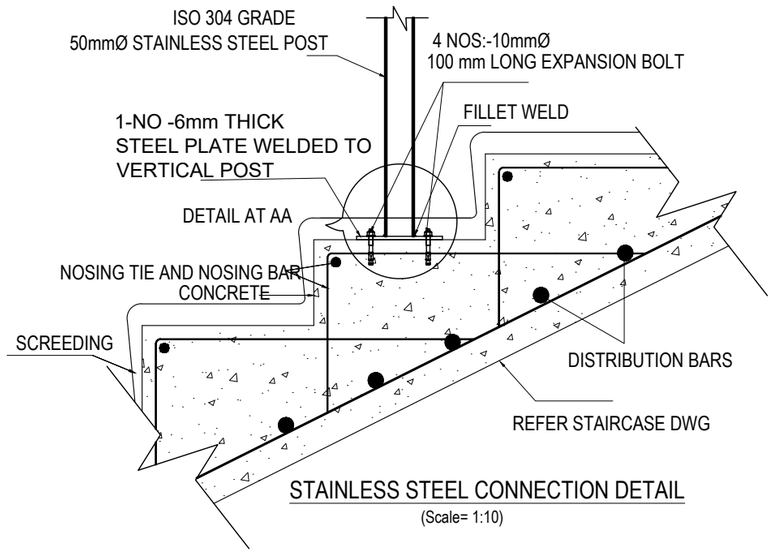


STAIRCASE SECTION AT -R-R

(SCALE = 1:25)

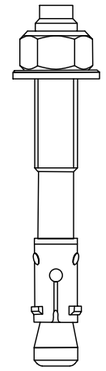
RISER:-160mm
TREAD:-300mm

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-21	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



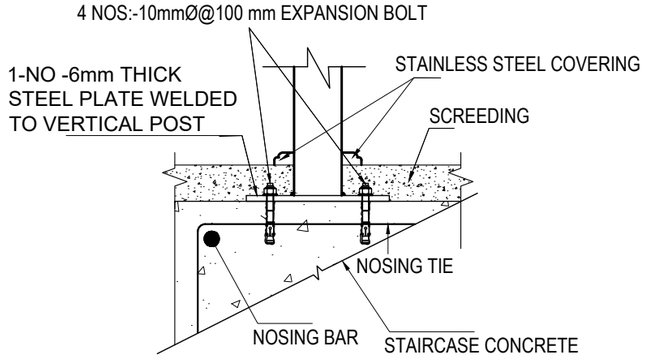
STAINLESS STEEL CONNECTION DETAIL

(Scale= 1:10)



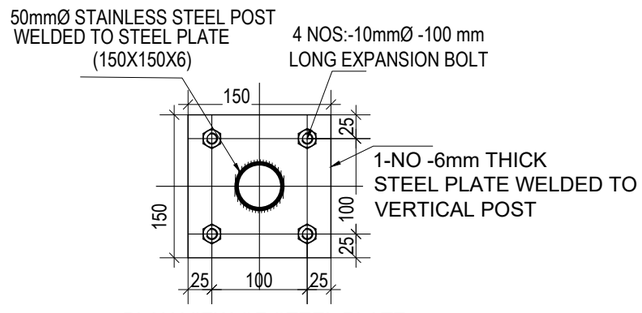
10mmØ-50 mm LONG EXPANSION BOLT

(Scale= 1:1)



DETAIL AT AA

(Scale= 1:5)



PLAN VIEW OF STEEL PLATE

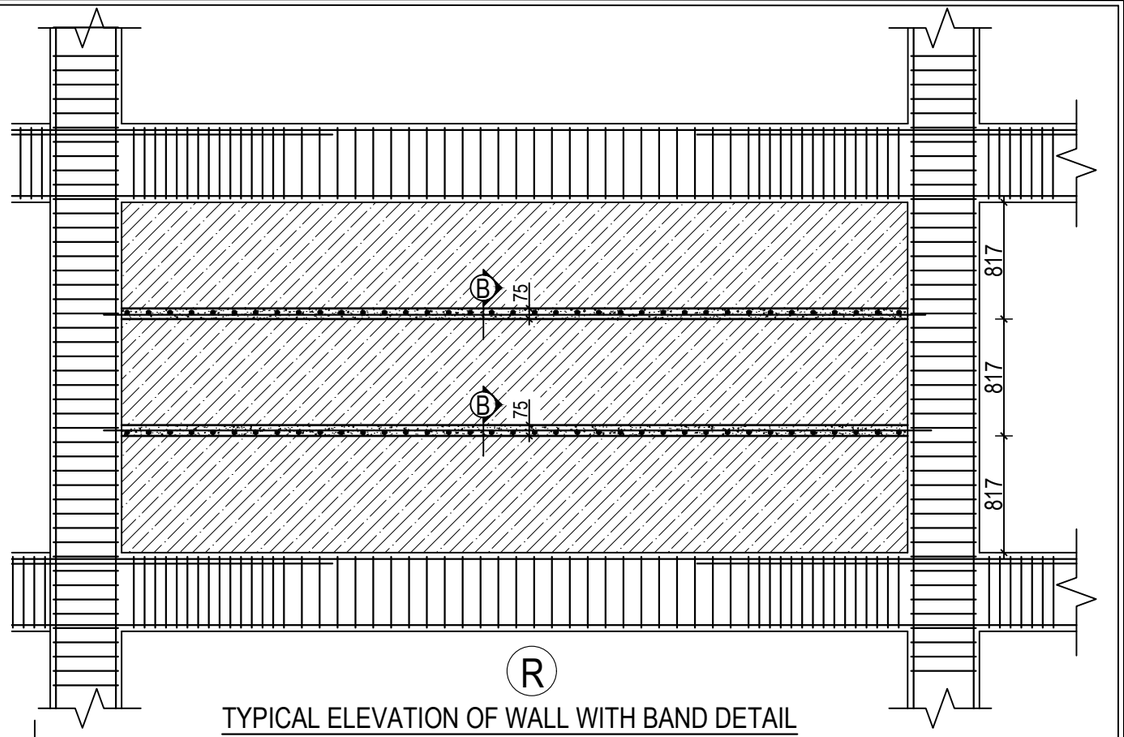
(Scale= 1:5)

NOTE:

1) STAINLESS STEEL SHALL BE IN COMPLIANCE WITH ISO 304 GRADE

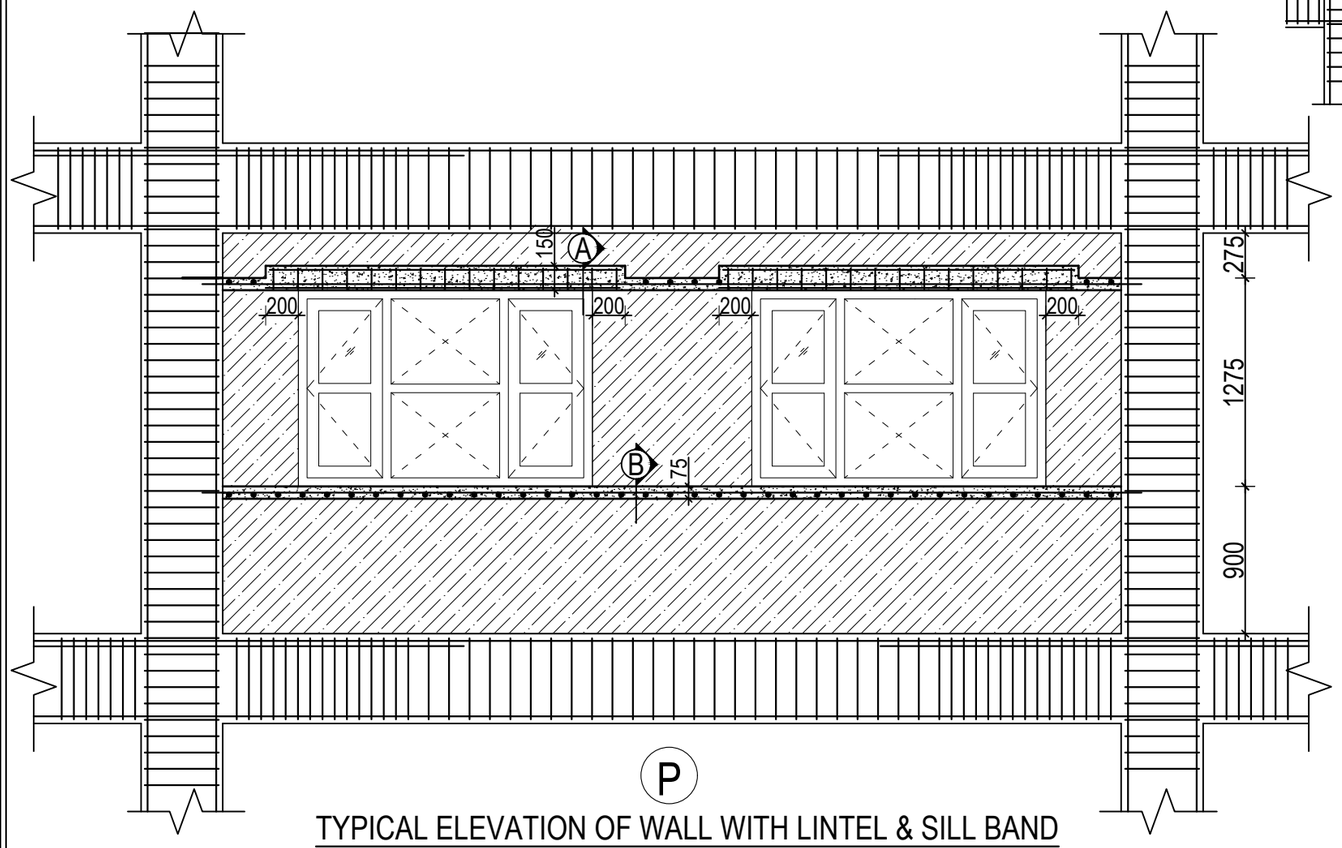
2) DRILLED HOLE SHALL BE PROPERLY CLEANED BEFORE EMBEDMENT OF BOLT

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	STAIRCASE DETAIL	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-22	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



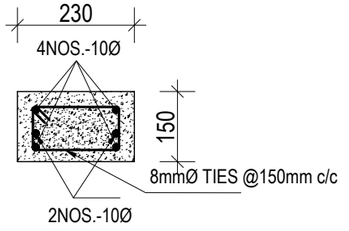
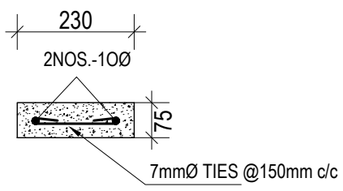
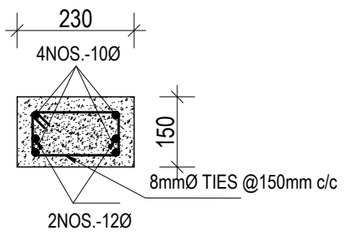
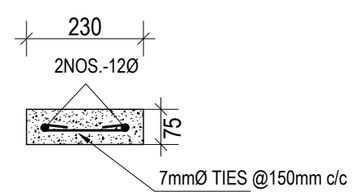
R

TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITHOUT OPENINGS
(Scale= 1:40)

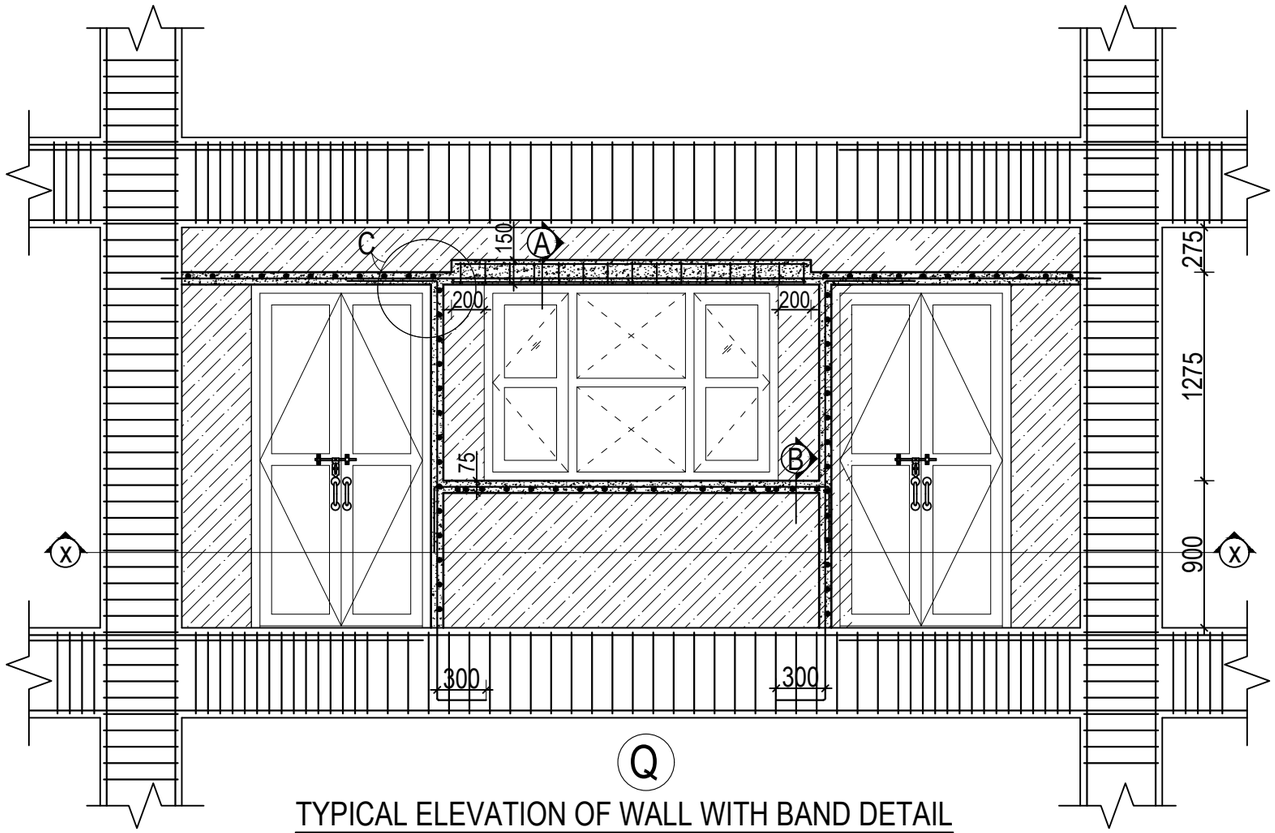


P

TYPICAL ELEVATION OF WALL WITH LINTEL & SILL BAND
WITH WINDOWS
(Scale= 1:35)

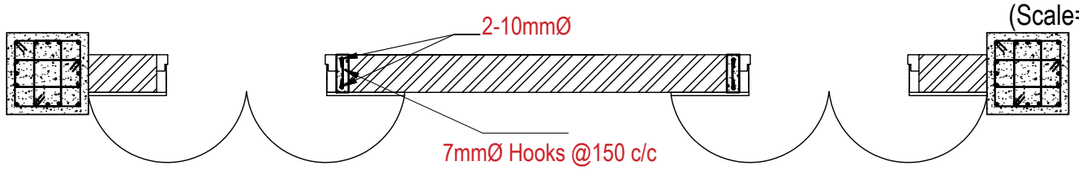
SN.	FLOOR	SECTION AT A-A	SECTION AT B-B
1.	GROUND,FIRST & SECOND FLOOR		
2.	THIRD FLOOR		

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM	SHEET NO. / REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER: / STRUCTURE ER. : ARCHITECT: / CHECKED: DRAWN : NEETA BHANDARI / APPROVED: SCALE : 1: 120 / PAPER SIZE : A3 / DATE: FEBRUARY, 2023	ST-23 / R-00 DWG CODE. 3S18R-HILLY

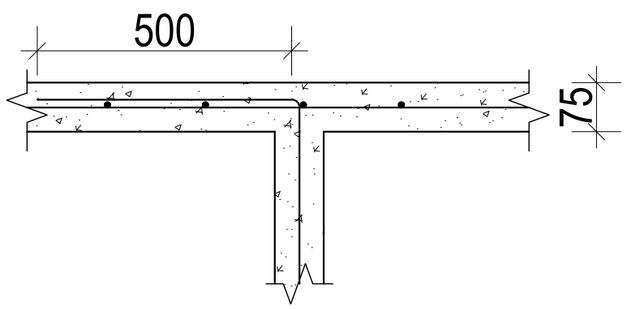


Q

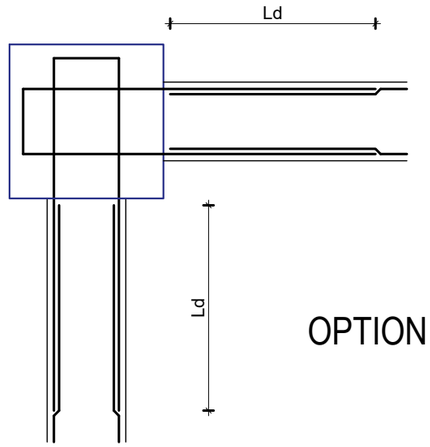
TYPICAL ELEVATION OF WALL WITH BAND DETAIL
WITH DOORS AND WINDOWS
(Scale= 1:35)



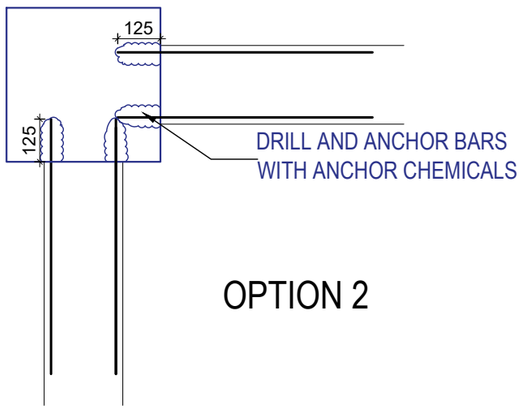
SECTION AT X-X



DETAIL AT C



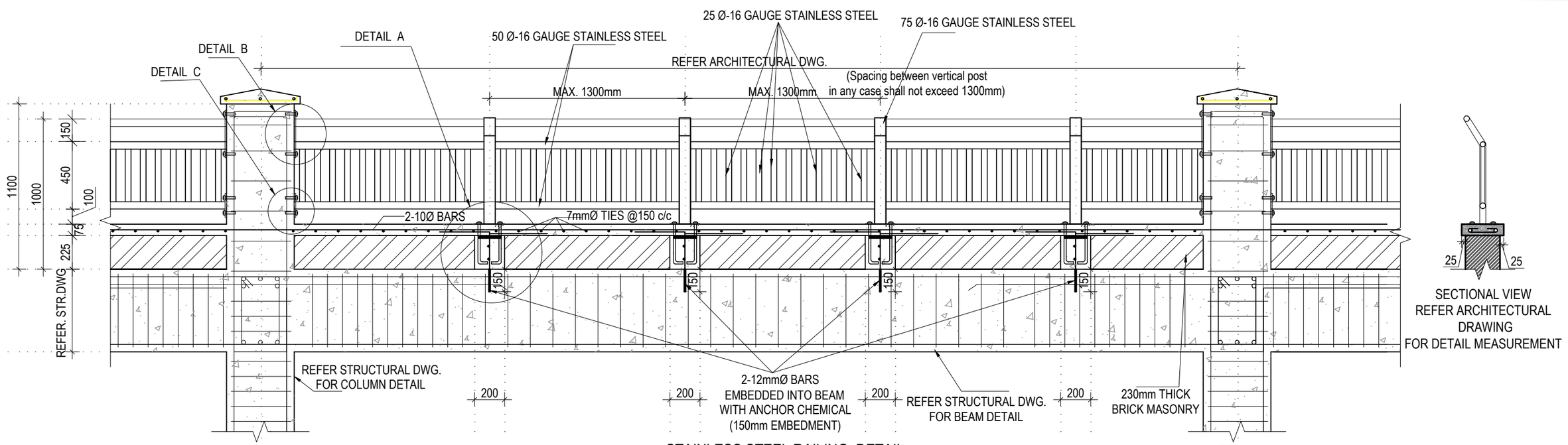
OPTION 1



OPTION 2

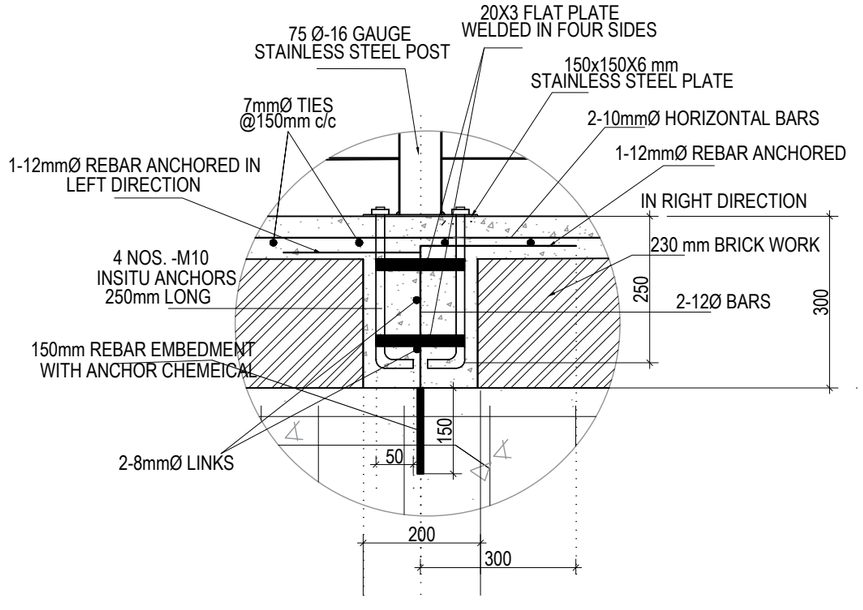
CONNECTION OF BAND REBARS AND COLUMN

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL WALL DETAIL UPTO SECOND FLOOR	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-24	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

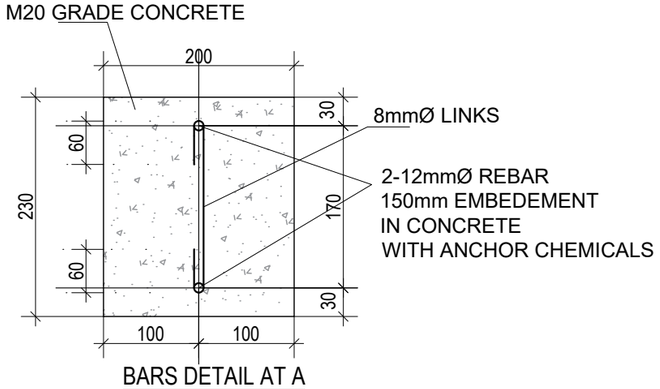


STAINLESS STEEL RAILING DETAIL

(Scale= 1:25)

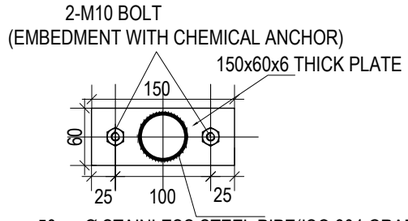


DETAIL AT A



BARS DETAIL AT A

PLAN VIEW

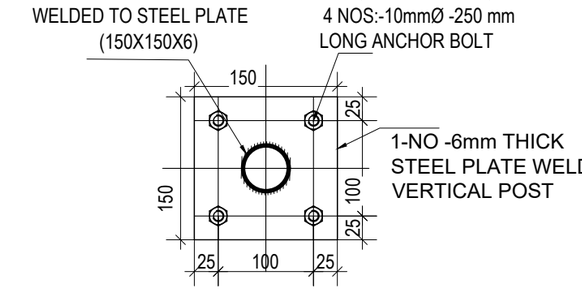


50mmØ STAINLESS STEEL PIPE(ISO 304 GRADE)
16 GAUGE WELDED TO 150X60X6 STAINLESS
PLATE

PLATE DETAIL AT C

PLAN VIEW

75mmØ -16 GAUGE
STAINLESS STEEL POST (ISO 304 GRADE)



PLAN VIEW OF STEEL PLATE

PLATE DETAIL AT A

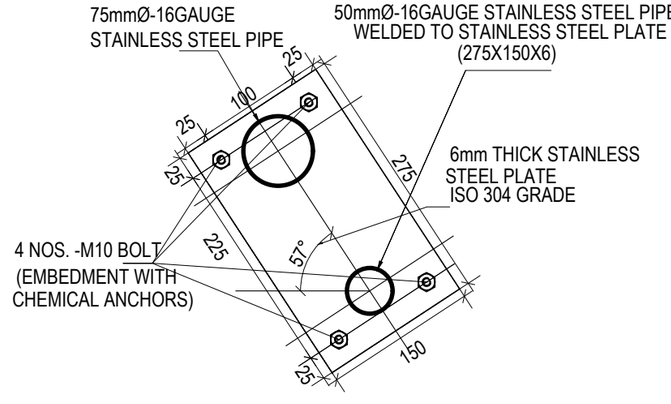


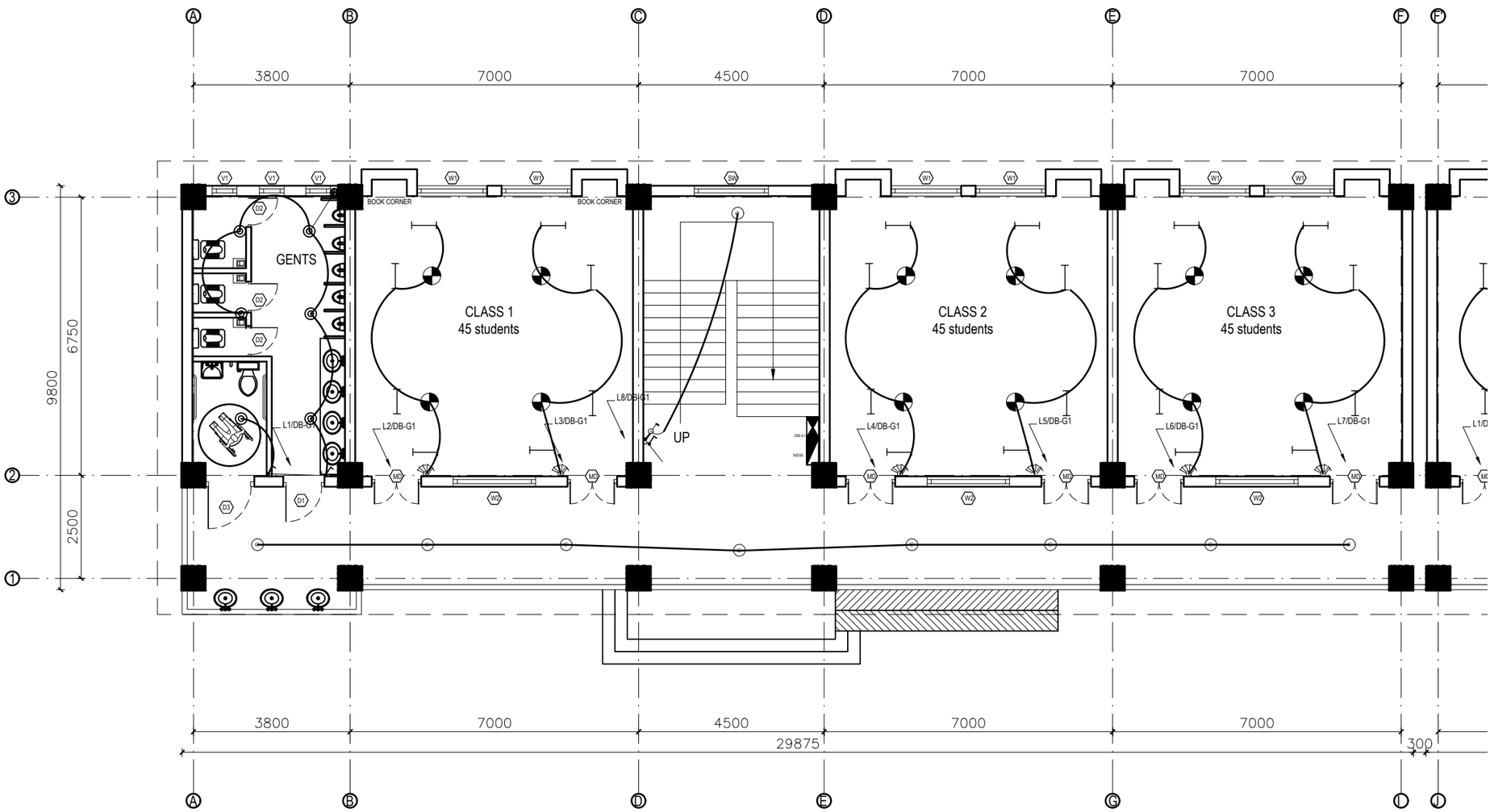
PLATE DETAIL AT B

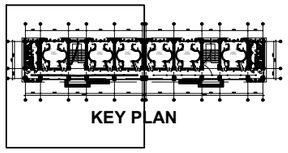
NOTE:- STAINLESS STEEL SHALL BE ISO304 GRADE

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	TYPICAL RAILING DETAILS	Optimum Structures (P.) Ltd. Nepal	ENGINEER:	STRUCTURE ER. :	ST-25	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1: 120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		

ELECTRICAL

DRAWING





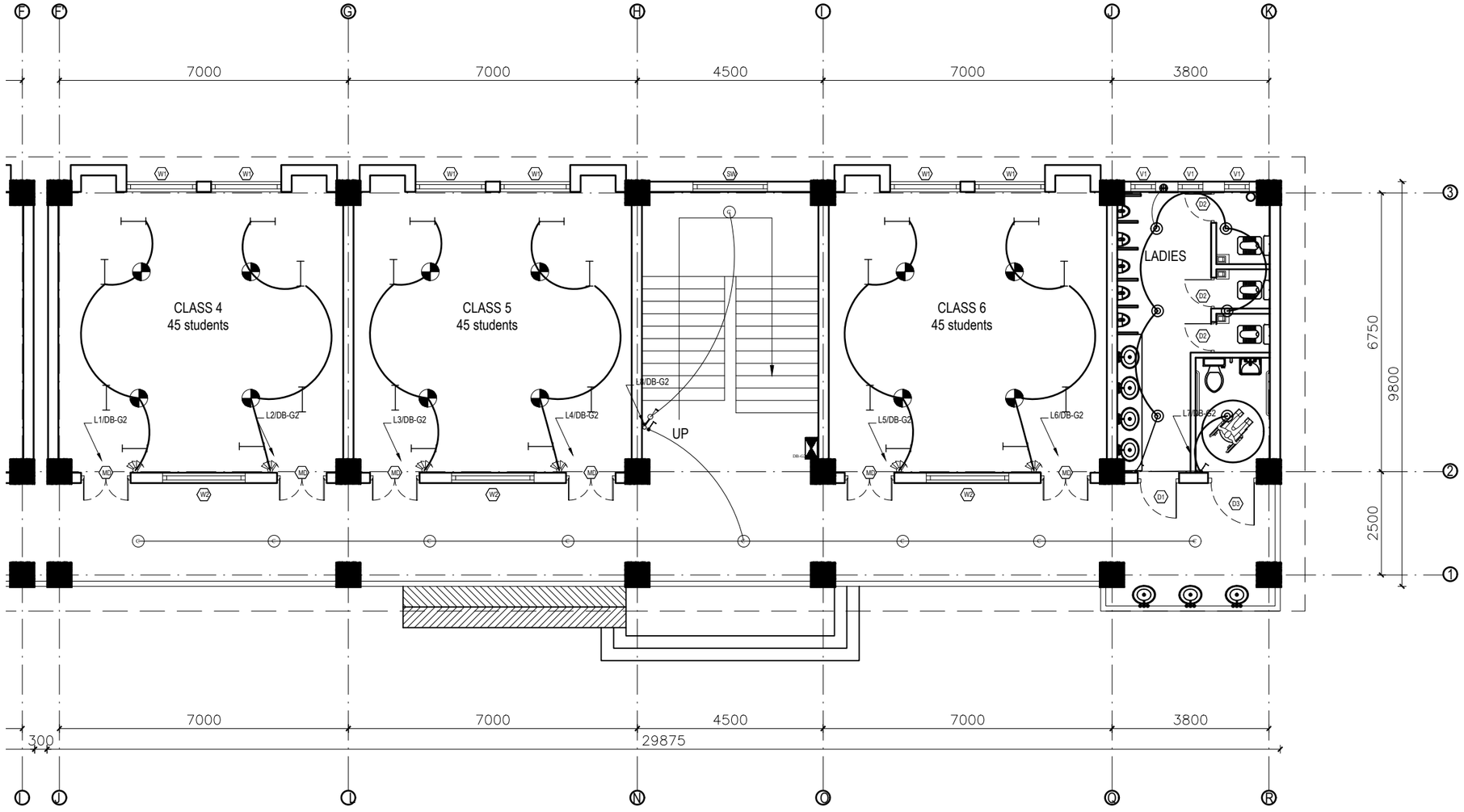
LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	**1m above finished floor level**
	9"Exhaust Fan	24" BELOW SLAB

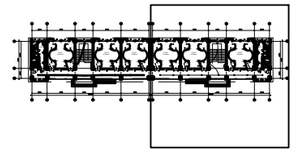
EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

GROUND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE-01**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		





KEY PLAN

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
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	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

GROUND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE- 02**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
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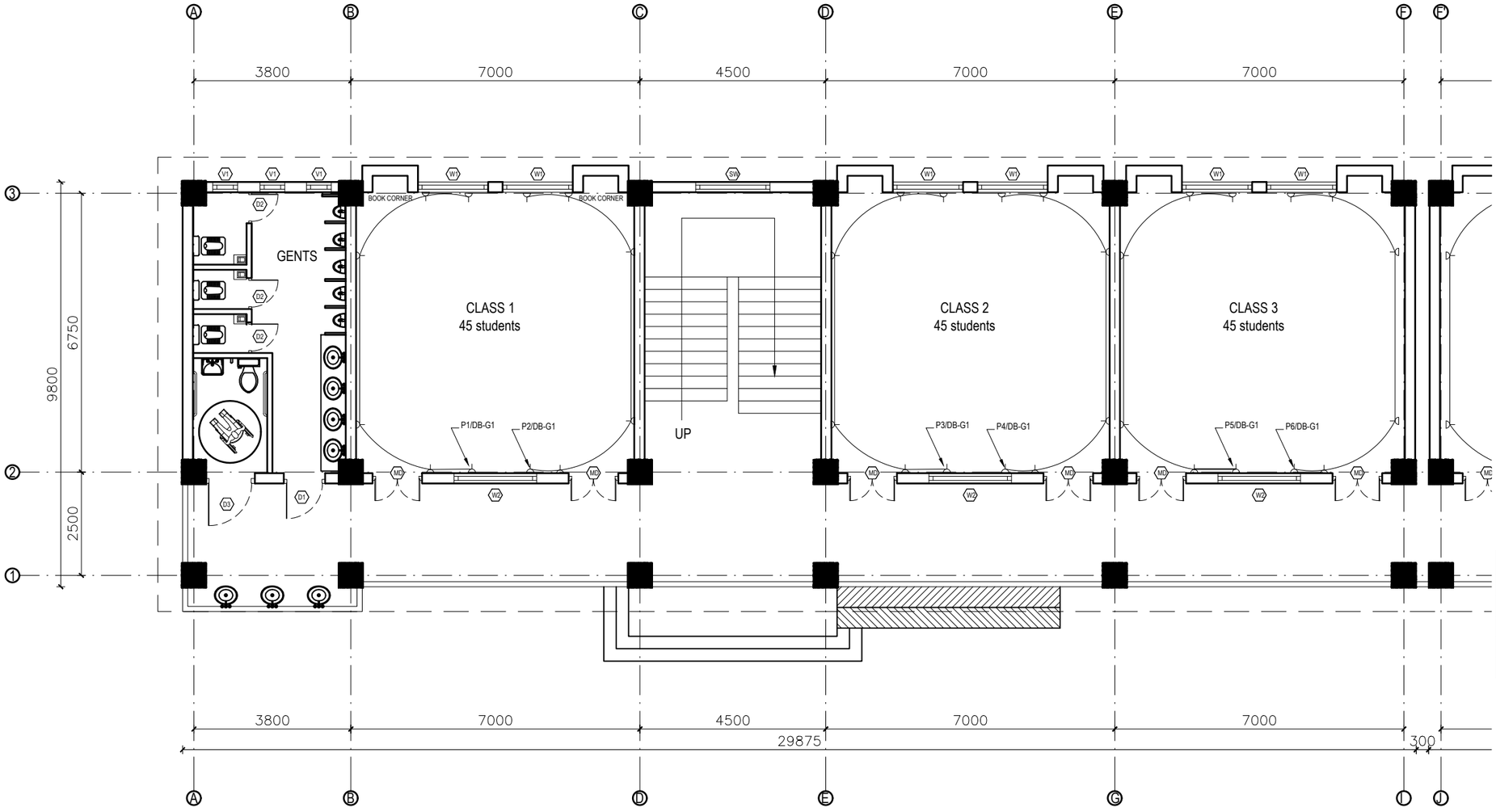

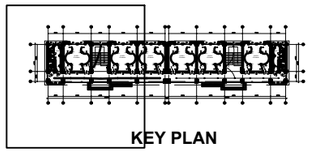

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
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	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

GROUND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE- 03**	R-00
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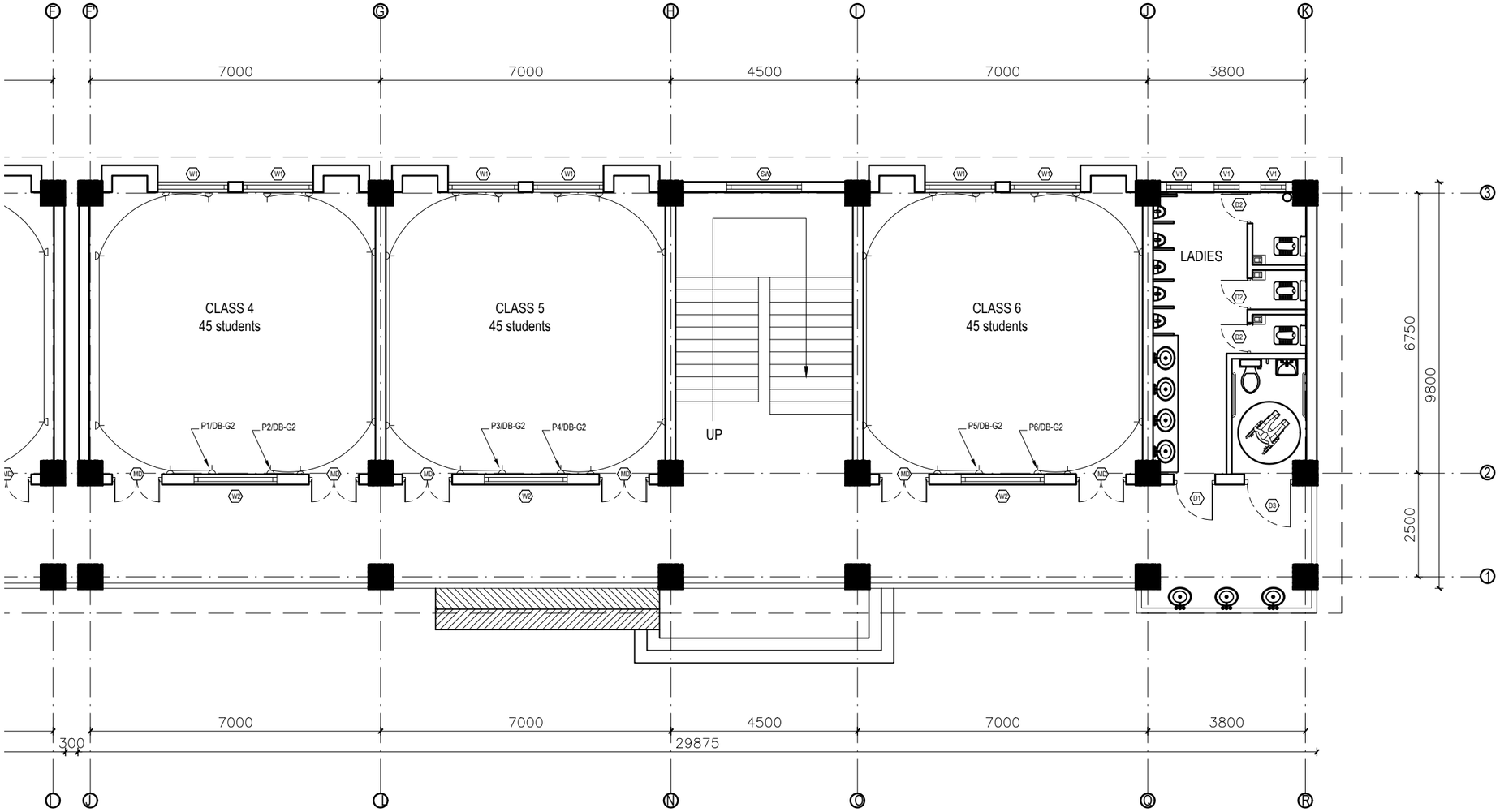

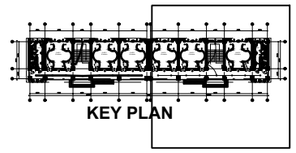

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
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	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
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	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

GROUND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE- 04**	R-00
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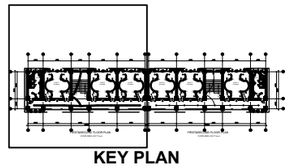
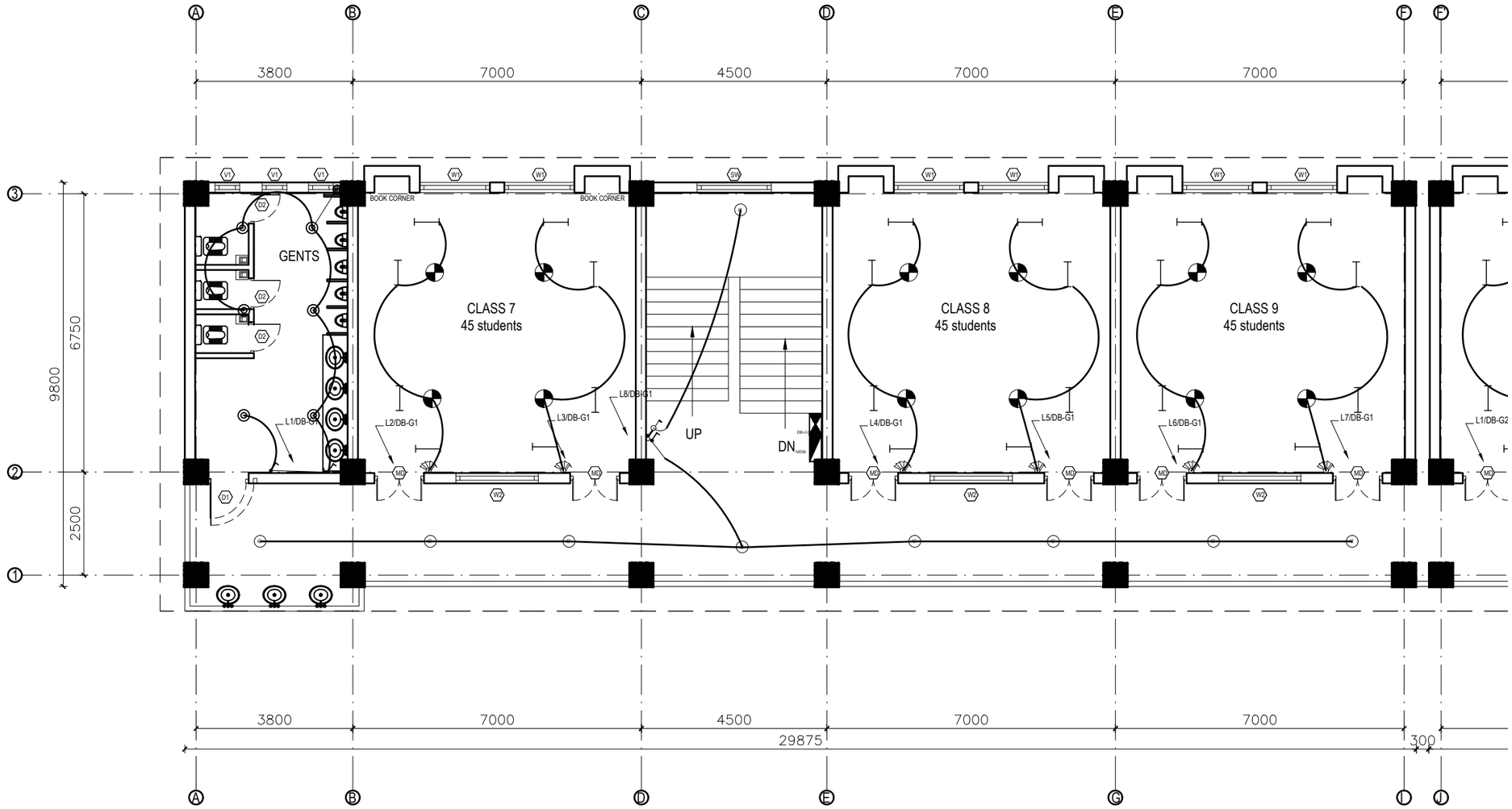


KEY PLAN



LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
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	Two way Switch	1.25m above finished floor level
	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

FIRST&SECOND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE-05**	R-00
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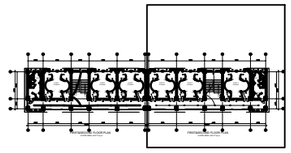

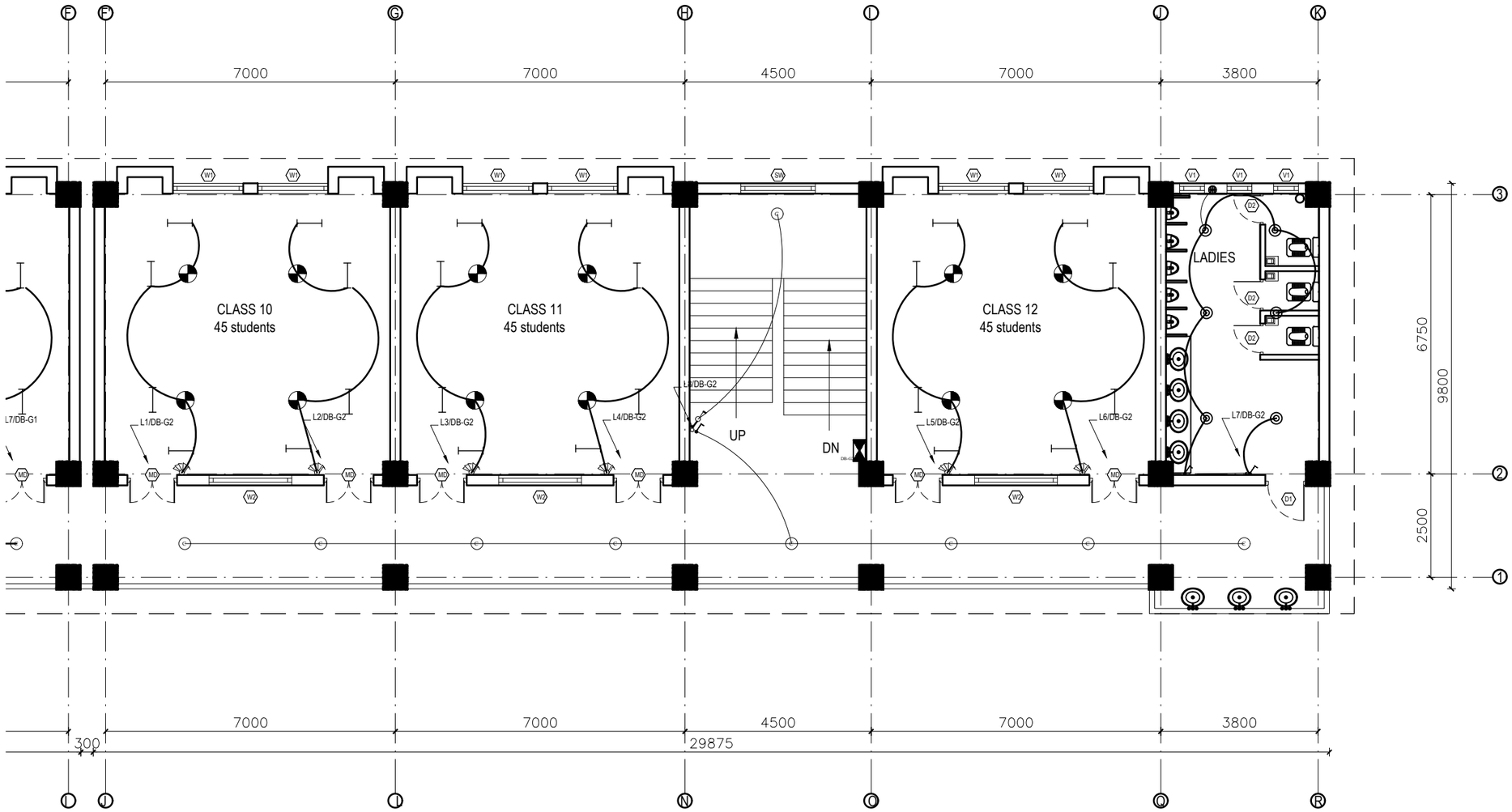

KEY PLAN

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
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	Distribution Box	2.5m above finished floor level
	MDB	**1m above finished floor level**
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

FIRST&SECOND FLOOR PLAN

FLOOR AREA: 593.77 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE-06**	R-00
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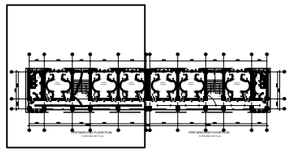

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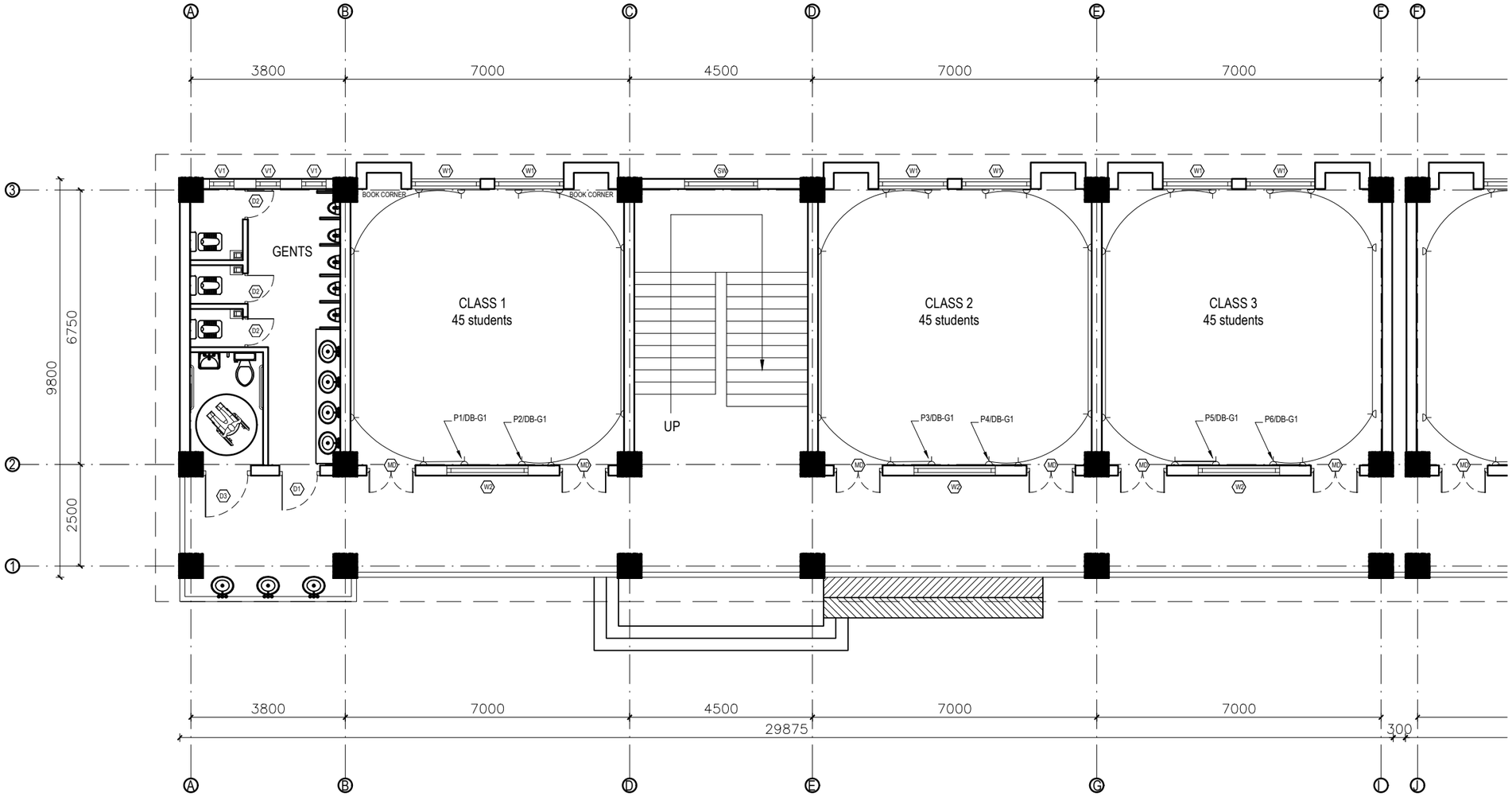

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
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EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
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	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE- 07**	R-00
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				DRAWN : NEETA BHANDARI	APPROVED:	DWG CODE.	
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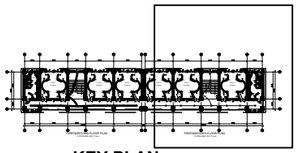

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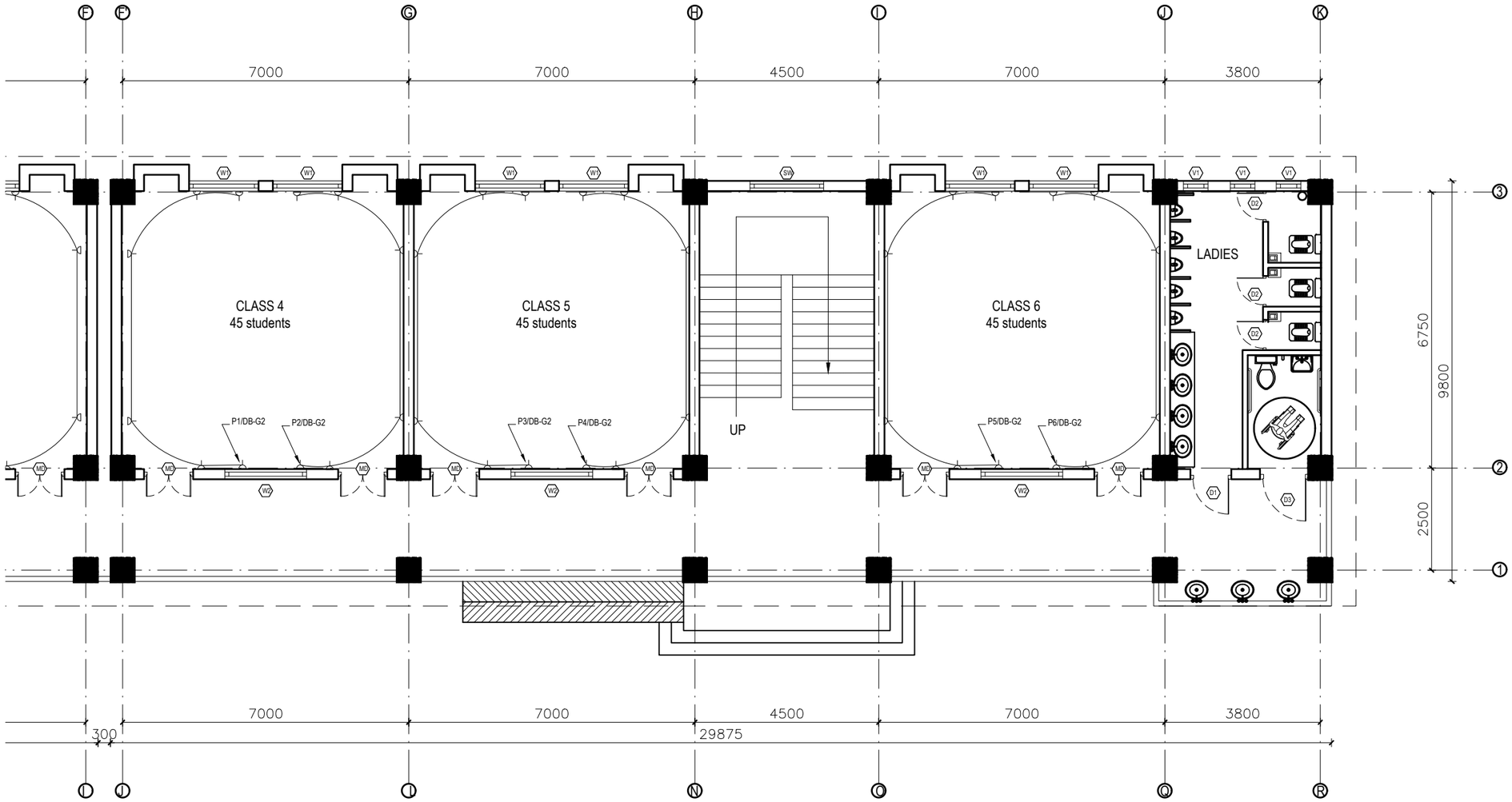

LEGEND		
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EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE- 08**	R-00
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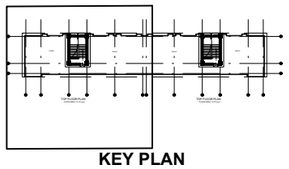

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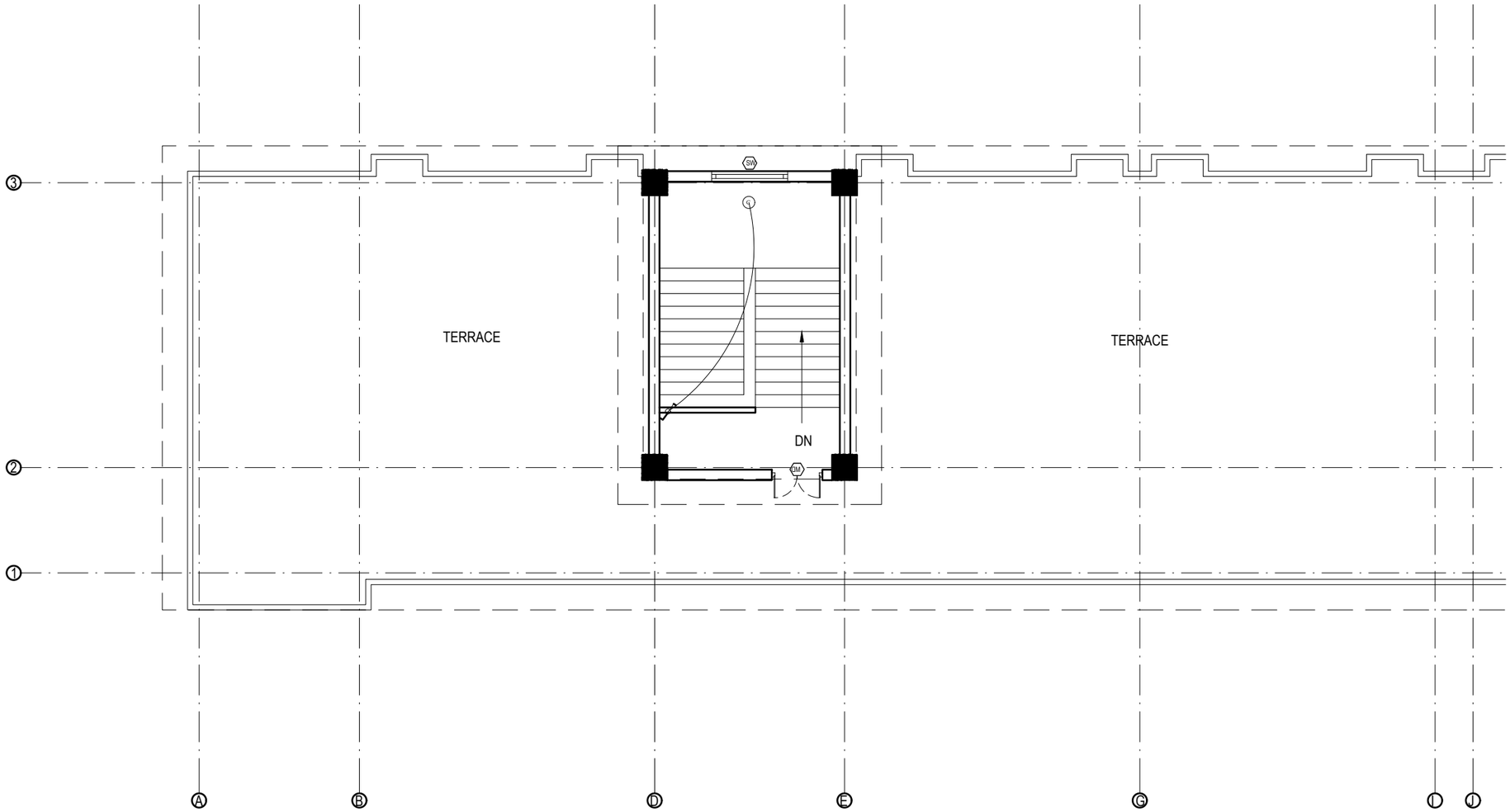

LEGEND		
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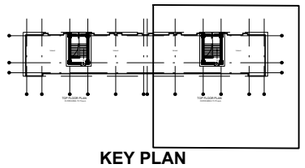
EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

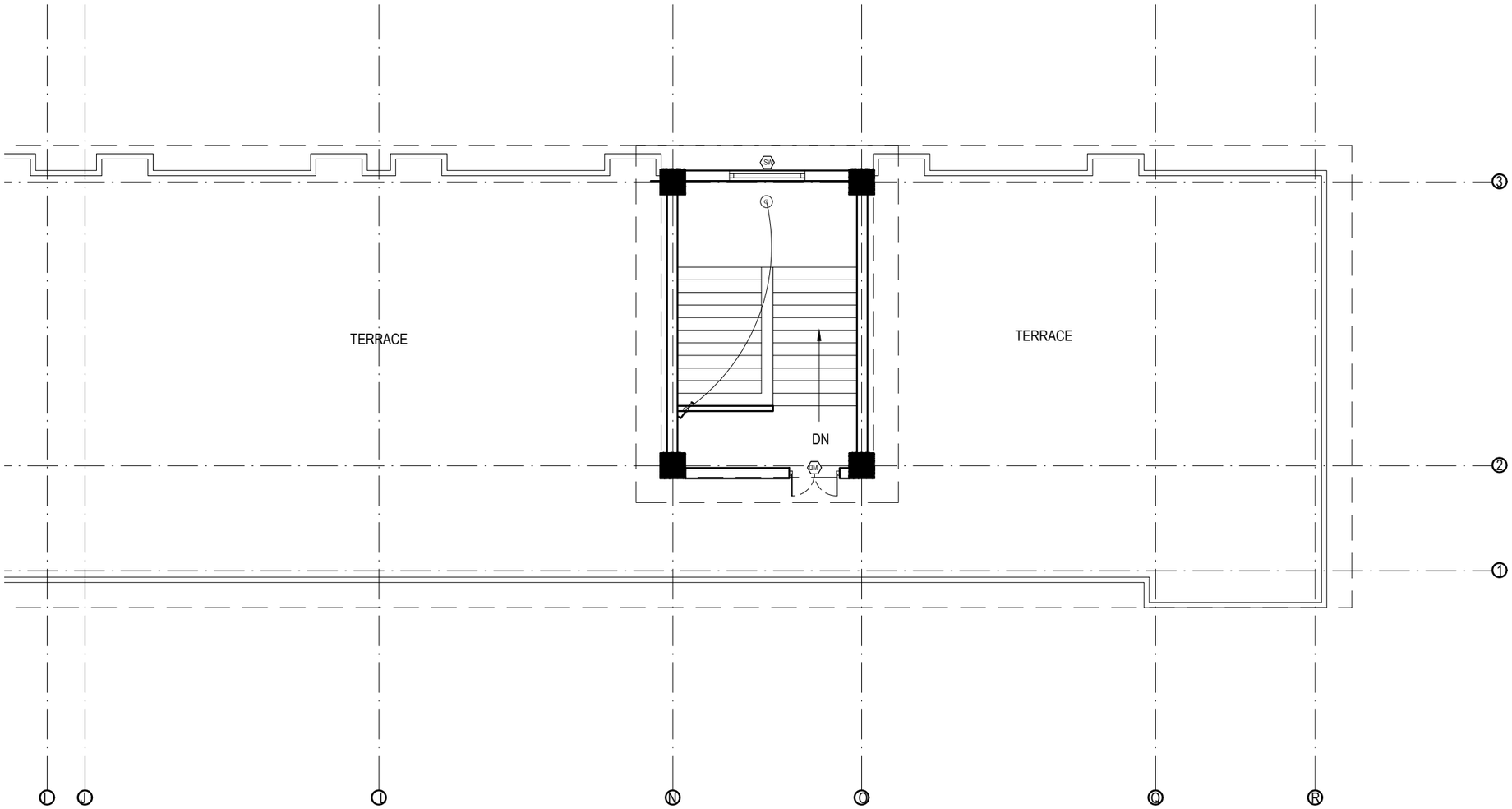
TOP FLOOR PLAN

FLOOR AREA: 73.72 sq.m

CLIENT	PROJECT TITLE	SHEET TITLE	CONSULTANT	PLANNING DESIGN TEAM		SHEET NO.	REVISION NO.
Government of Nepal Ministry of Education, Science & Technology Center for Education and Human Resource Development Sanothimi, Bhaktapur, Nepal	Prepare School Building Type Design for Hilly Region	**ELECTRICAL DRAWING**	Optimum Structures (P.) Ltd. Rupandehi, Neapl	ENGINEER:	STRUCTURE ER. :	**ELE-09**	R-00
				ARCHITECT:	CHECKED:	DWG CODE.	
				DRAWN : NEETA BHANDARI	APPROVED:	3S18R-HILLY	
				SCALE : 1:120 PAPER SIZE : A3	DATE: FEBRUARY, 2023		



KEY PLAN



TOP FLOOR PLAN

FLOOR AREA: 73.72 sq.m

LEGEND		
SYMBOL	DESCRIPTION	MOUNT HEIGHT
	40 W Tubelight	Attached to wall
	12WCFL Light Bulb	Attached to ceiling
	42"Ceiling Fan	Attached to ceiling
	Power Socket	300mm from finished floor level
	1,2,3 gang Switch	1.25m above finished floor level
	4,5,6 gang Switch	1.25m above finished floor level
	Two way Switch	1.25m above finished floor level
M	Distribution Box	2.5m above finished floor level
	MDB	1m above finished floor level
	9"Exhaust Fan	24" BELOW SLAB

EARTHING & LIGHTNING PROTECTION SYSTEM		
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	VERTICAL AIR TERMINAL	--
	CLIP TO HOLD DOWN CONDUCTOR	--
	EARTH TEST LINK	--
	EARTH PIT	--

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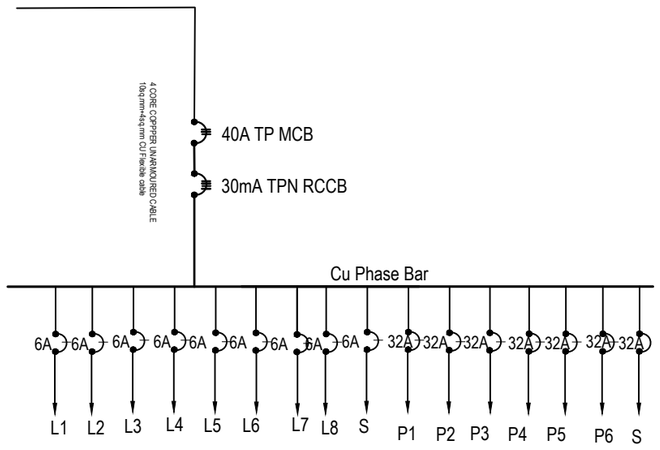
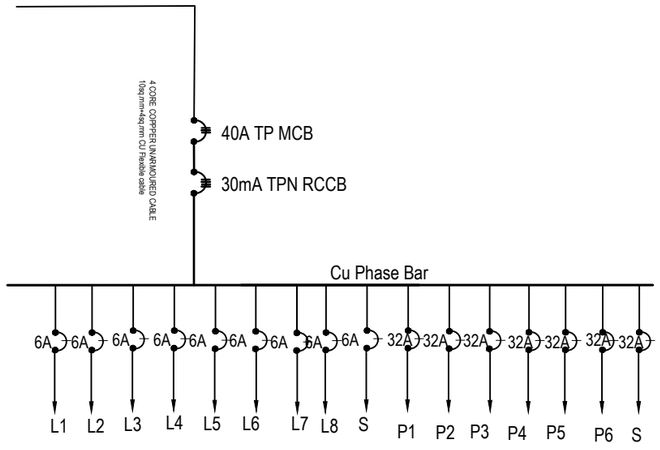
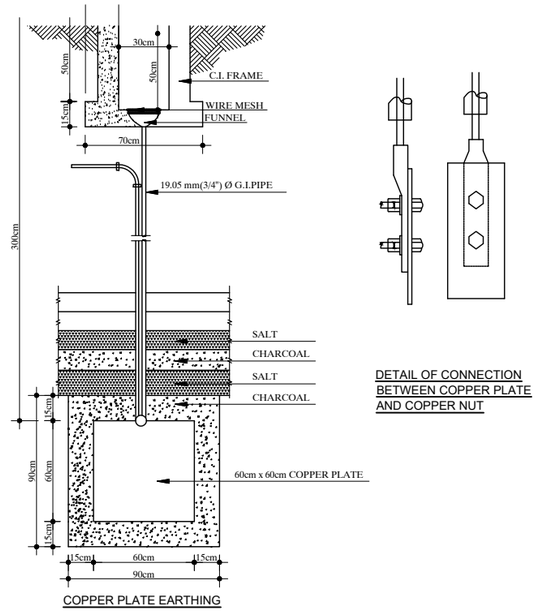


GROUND FLOOR L/P DISTRIBUTION SYSTEM (DB-G1)

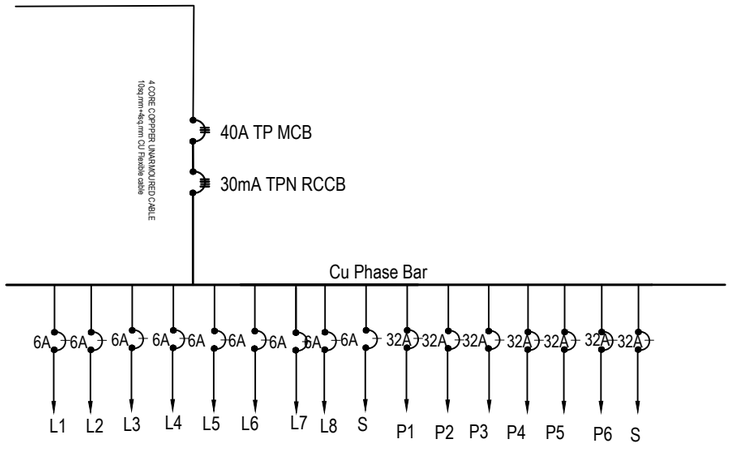


FIRST/SECOND FLOOR L/P DISTRIBUTION SYSTEM (DB-A1/2)

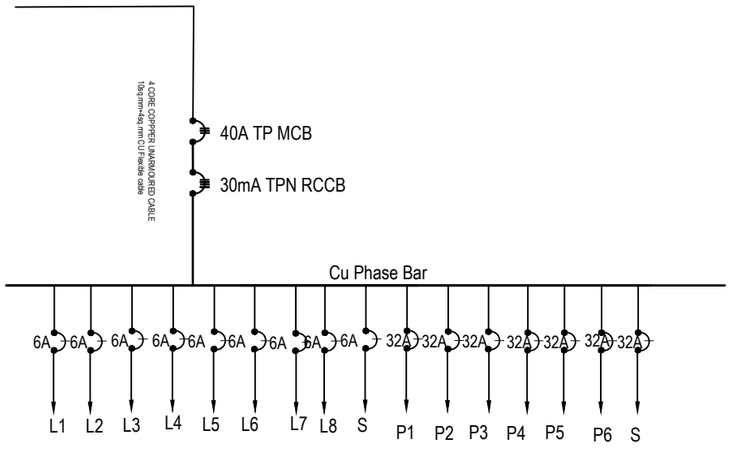


DETAIL OF CONNECTION BETWEEN COPPER PLATE AND COPPER NUT

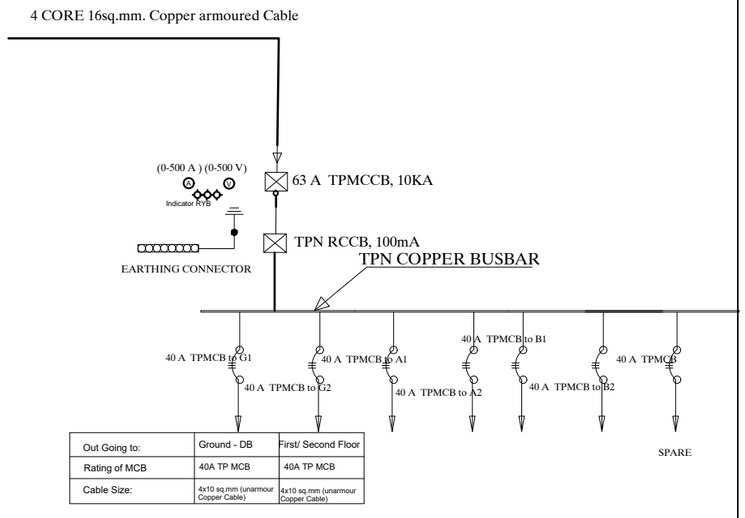
EARTHING DETAILS



GROUND FLOOR L/P DISTRIBUTION SYSTEM (DB-G2)



FIRST/SECOND FLOOR L/P DISTRIBUTION SYSTEM (DB-B1/2)



Out Going to:	Ground - DB	First/ Second Floor
Rating of MCB	40A TP MCB	40A TP MCB
Cable Size:	4x10 sq.mm (unarmour Copper Cable)	4x10 sq.mm (unarmour Copper Cable)

DETAILS OF Main -DB

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INSTALLATION CONSIDERATION

* The switch box should be at 200mm from the door and 1250mm above floor.
* General room socket height should be at 150mm above skirting wall.
* Kitchen socket height should be at 450mm above kitchen top.
* Toilet socket/switch should be at 1250mm above floor level and mirror light at 50 mm above mirror as per mirror size.
* Exhaust fan should be at 600mm below slab.
* Wall Light should be at 2100mm from floor level.

CONDUIT SCHEDULE

PVC CON. DIA. / CABLE SIZES	NO OF MAXIMUM CABLE AND PVC FRLS CONDUIT SIZES					
	16 mm Dia.	20 mm Dia.	25 mm Dia.	32 mm Dia.	40 mm Dia.	50 mm Dia.
1.5 SQ. MM/Equivalent	5	7	10	14	--	--
2.5 SQ. MM/Equivalent	3	5	8	12	--	--
4.0 SQ. MM/Equivalent	--	3	6	10	12	--
6.0 SQ. MM/Equivalent	--	2	4	8	9	--
10 SQ. MM/Equivalent	--	--	3	6	8	--
16 SQ. MM/Equivalent	--	--	2	3	4	8

CONVERSION TABLE

INCHES	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
mm	16	20	25	32	40	50	65	80	90	100	130	150

* Unless and otherwise stated, all final circuits shall be wired with multistranded CU wires in PVC Conduit and shall confirm to the following schedule:

WIRING SYSTEM	CABLE/CONDUCTOR SIZE
Air Conditioner/Heater/Range/Appliances	2x4.0 + 1x2.5 sq. mm copper wire
RJ - 45 Data / TV Point	CAT 6 4 pairs Data cable
RJ -11 Telecommunication point	CAT 6 4 pairs Data cable
Telephone Point	0.5mm dia PVC Insulated Tinned Cu Cable
Outdoor Gate/ Post Top/Street Lights/Flood Lights	3 x 2.5 sq. mm copper M/S wire
6 Amp switched outlet sockets	2x2.5 + 1x1.5 sq. mm copper M/S wire
16 Amp Power Sockets Points	2x4.0 + 1x2.5 sq. mm copper M/S wire
General Light Points (From DB to Switch Board)	2x2.5 + 1x1.5 sq. mm copper M/S wire
Looping of Light Points	2x1.5 + 1x1.0 sq. mm copper M/S wire

NOTE

* Conduit Colors for Light/Power Circuit shall be Black, Security Wiring shall be Blue, Fire Alarm Wiring shall be Red, Low Voltage Circuits shall be Brown and UPS Circuits sahll be Green.
* L-N stands for Lighting Circuit, P-N for Power Circuit, AC-N for Air Condition, M/PC-N for Pump/Motor & Lp-N Light Outlet Circuit no.-N (Where N=1,2,3...)
* For Circuit no., see Distribution Details
* Unless and otherwise stated, all final circuits shall be wired up by PVC CU M/S Wire in PVC Conduit and shall confirm to the following schedule:

Rating (Amp)	6	10	20	32	40	63
Wire (sq. mm)	1.5	2.5	4.0	6.0	10	16

* Unless and otherwise stated, maximum of 8 light points shall be wired in a final single lighting circuit where as maximum of 3 power socket outlet shall be wired in single power circuit.
* Unless and otherwise stated, all 16 A outlets with the same circuit no. shall be wired in ring circuit.
* Electrical drawings are schematical only, scale: NTS, use as shown purpose, do not mesaure directly.
* Contractor should coordinate with interior for exact location of fixtures
* Run seperate conduit for TV, TEL and PS wherever they are in matching places
* All the Kitchen/Bathroom Power Circuits should be feed by RCCB with 100 mA sensitivity - see schematic details
* All the cables and conductors shall be PVC insulated CU and shall confirm to the following color codes:

Neutral of AC 1/3 Phase	Black
Grounding/ Bounding/Earthing	Green
loop/common wire for 2 way switch	White
Live Phase A of 3 Phase	Red
Live Phase B of 3 Phase	Yellow
Live Phase C of 3 Phase	Blue

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