


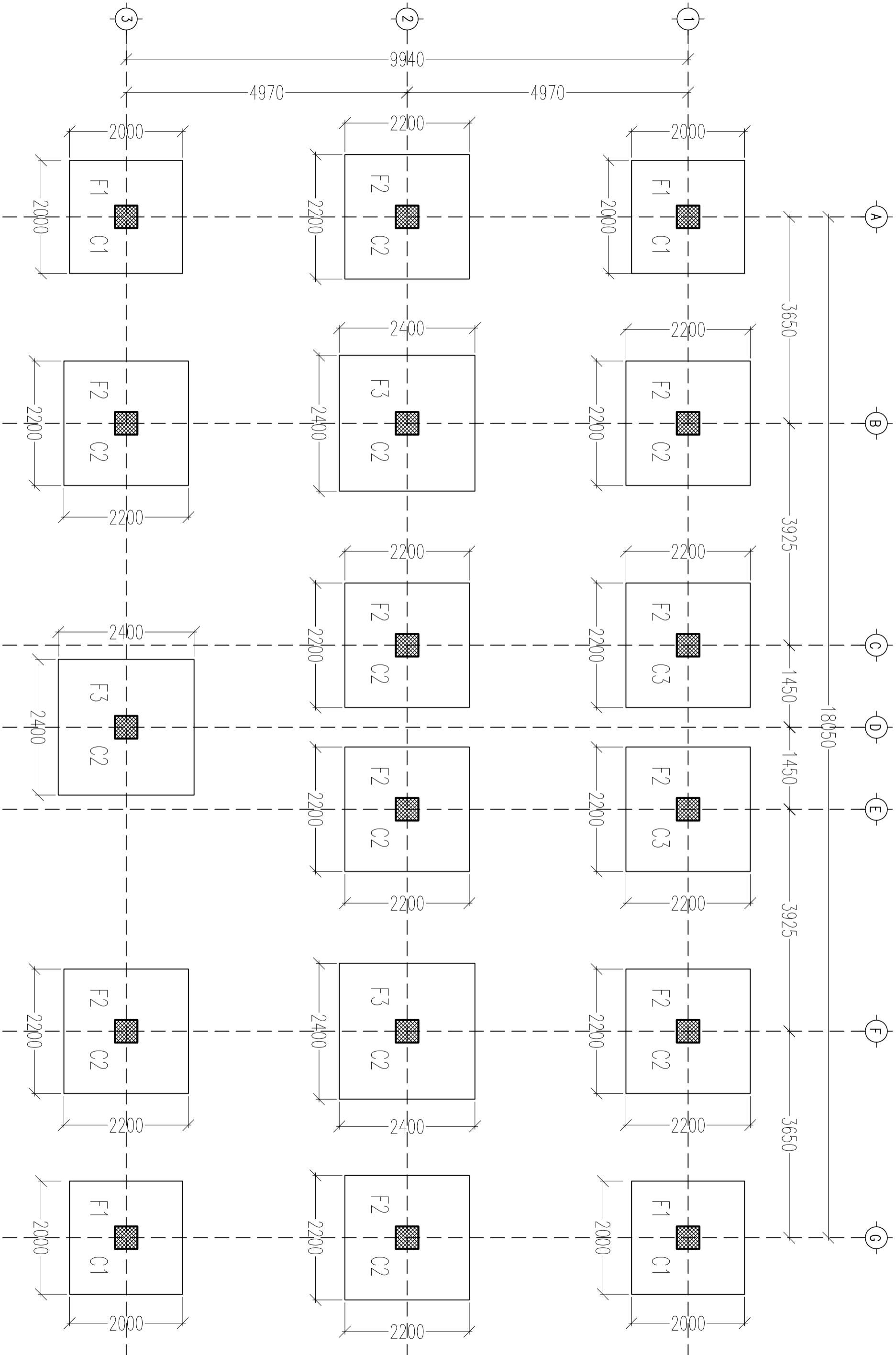
# STRUCTURAL DRAWINGS

## DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA


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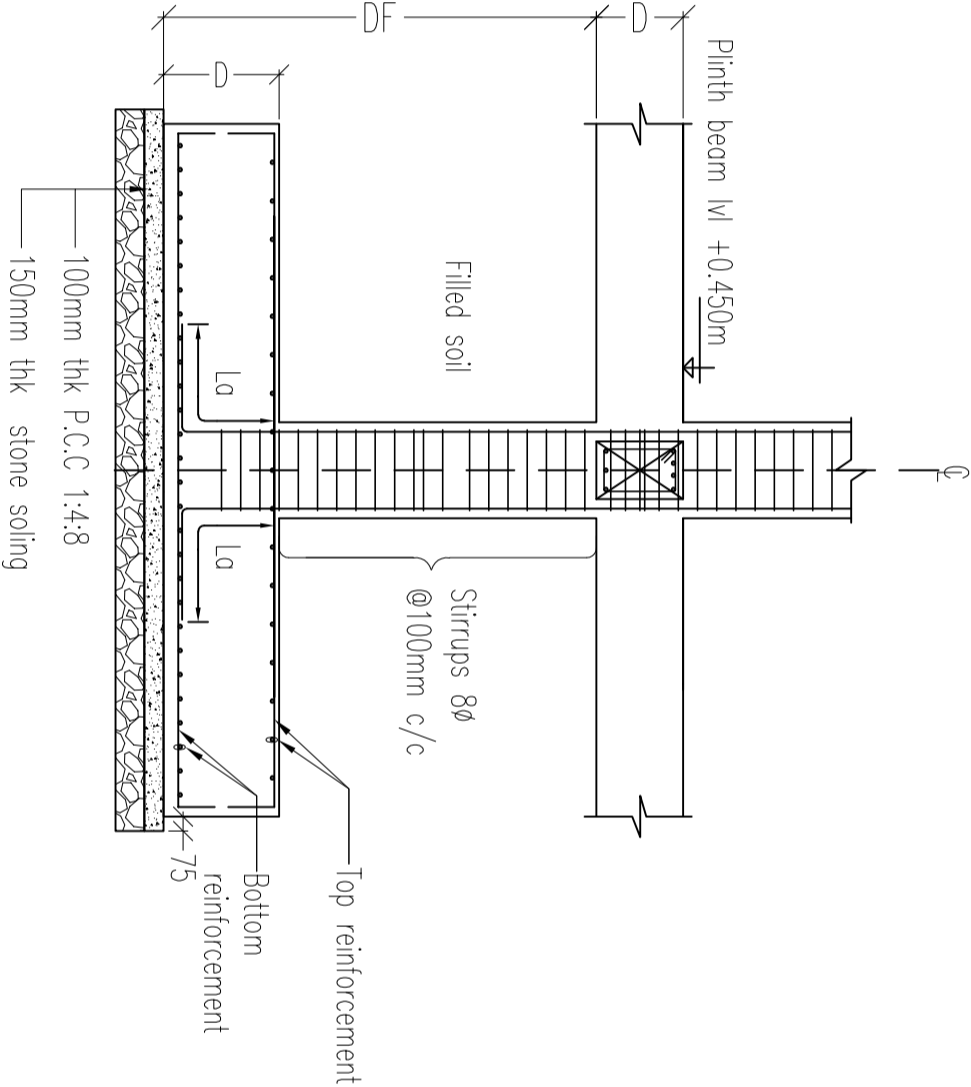
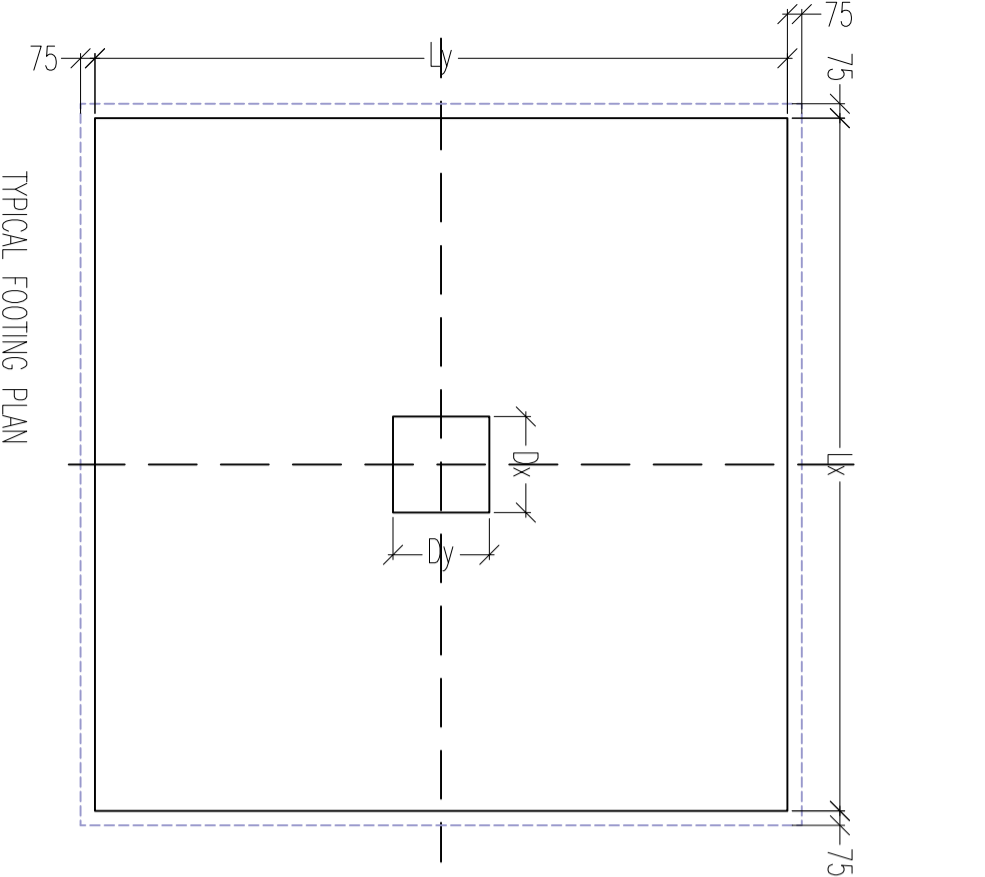
	<b>BHUTAN POWER CORPORATION LIMITED</b>	
TRANSMISSION DEPARTMENT		
PROJECT TITLE	DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA	
DRAWING STATUS	APPROVAL <input checked="" type="checkbox"/>	APPROVED <input type="checkbox"/>
REFERENCE NOTES	1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER	
APPROVED BY	KUNZANG TOBGYE GENERAL MANAGER TD, BPC	
DESIGNED BY	DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	
DRAWING TITLE	COVER PAGE	BPC/TD/TMD/YURMOO/SD
SCALE	DATE	<b>DWG # 00</b>
-	FEBRUARY, 2022	





FOOTING LAYOUT PLAN

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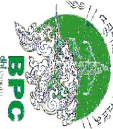
Bar Dia.	Development Length (Ld)	Anchorage Length (La)
12Ø	684	804
16Ø	912	1072
20Ø	1140	1340
25Ø	1425	1675

Material specifications:

- Grade of concrete for RC footing works shall be...M20;
- Grade of steel/rebars for RC beam works shall be...Fe 500 (BSB approved brands);
- Aggregates for all RC works shall be of nominal size...20mm;
- Water fit for drinking shall be used for concrete mix designs;
- Minimum clear cover to the footing reinforcement...50 mm.

SCHEDULE OF FOOTINGS

Sl.No.	FOOTING TYPE	SIZE (Lx x Ly)	COLUMN SIZE (Lx x Ly)	BOTTOM REBAR		TOP REBAR		PAD DEPTH D	FOUNDATION DEPTH Fdn. D
				X	Y	X	Y		
1	F1	2000 x 2000	400x400	16Ø@150C/C	16Ø@150C/C	12Ø@200C/C	12Ø@200C/C	400	1500
2	F2	2200 x 2200	400x400	16Ø@150C/C	16Ø@150C/C	12Ø@200C/C	12Ø@200C/C	450	1500
3	F3	2400 x 2400	400x400	16Ø@120C/C	16Ø@120C/C	12Ø@180C/C	12Ø@180C/C	500	1500



BHUTAN POWER CORPORATION LIMITED

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA

DRAWING STATUS

APPROVAL ☐ APPROVED ☐

REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED  
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APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE


SCALE

DATE

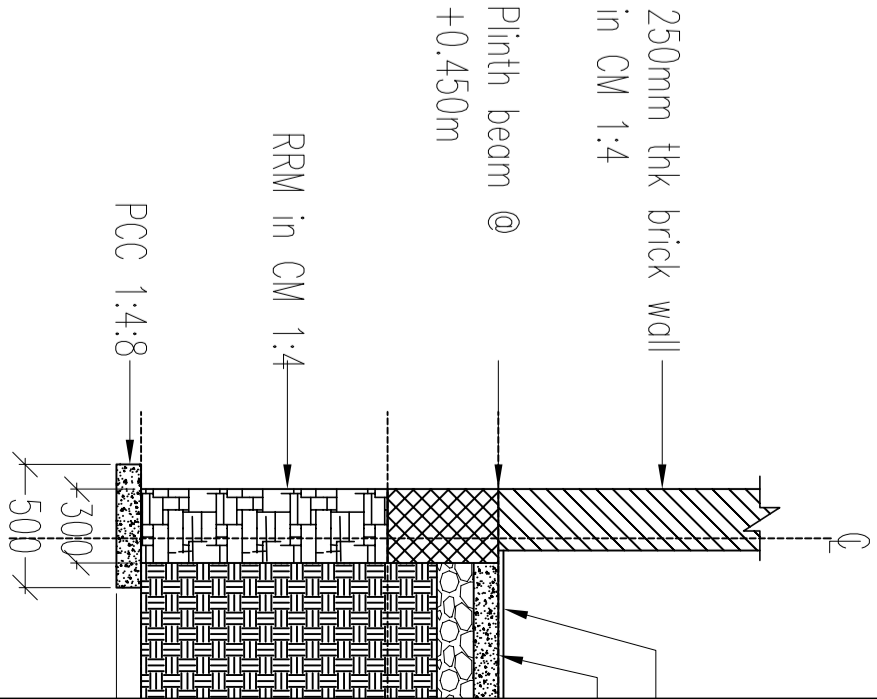
DRAWING NO.

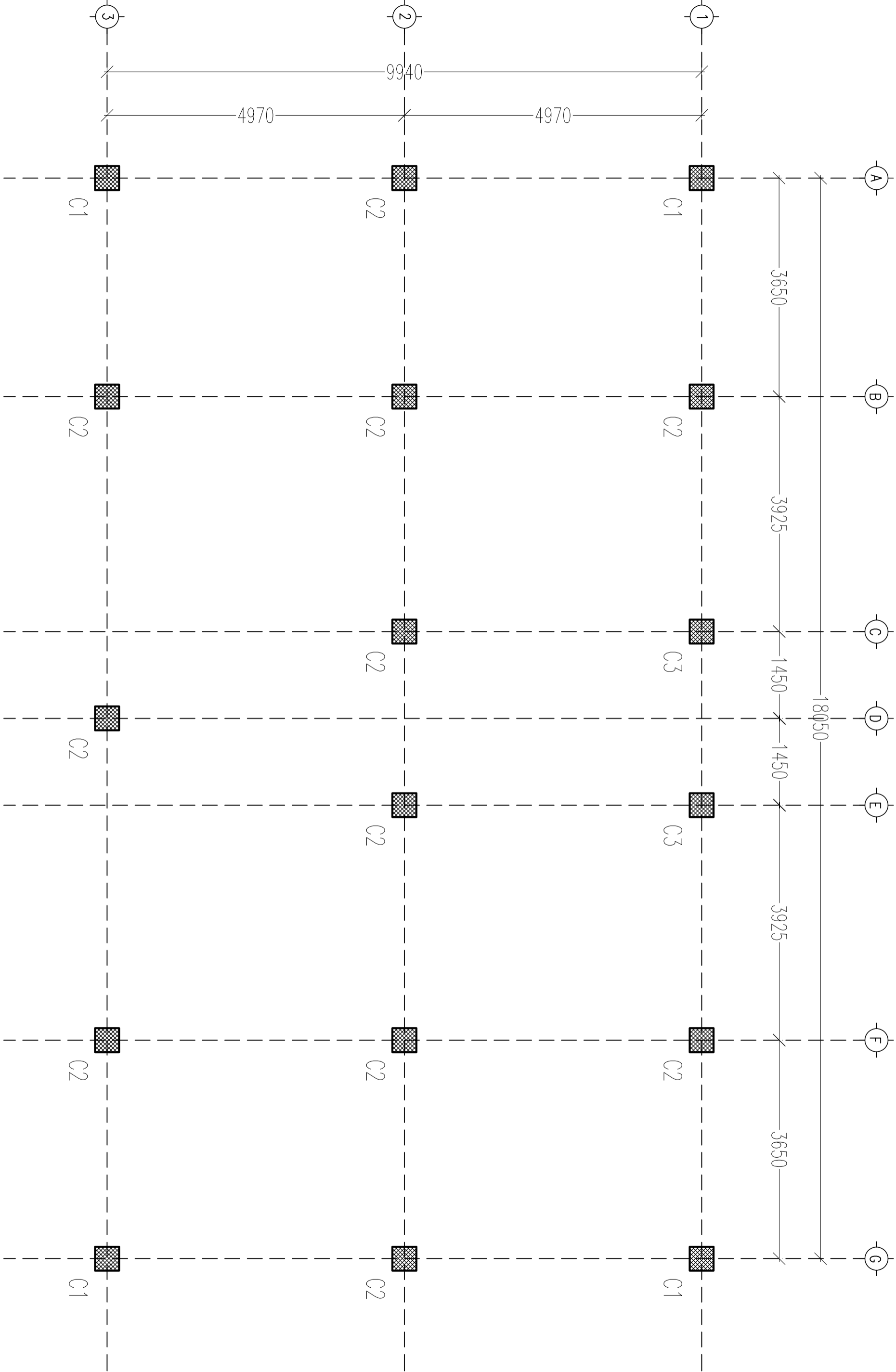
BPC/TD/TMD/YURMOO/SD

DWG # 03


<div><div><div>BHUTAN POWER CORPORATION LIMITED</div><div>TRANSMISSION DEPARTMENT</div></div></div>		<div>PROJECT TITLE</div> <div>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA</div> <div><div>DRAWING STATUS</div><div>APPROVAL <input type="checkbox"/></div><div>APPROVED <input type="checkbox"/></div></div>		<div>REFERENCE NOTES</div> <div>1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER</div>		<div>APPROVED BY</div> <div>KUNZANG TOBGYE GENERAL MANAGER TD, BPC</div>		<div>DESIGNED BY</div> <div>DORJI KINLEY EXECUTIVE ENGINEER TD, BPC</div>		<div>DRAWING TITLE</div> <div>REFER DRAWING</div> <div>SCALE</div> <div>NTS</div>		<div>DRAWING NO.</div> <div>BPC/TD/TMD/YURMOO/SD</div> <div>DWG # 04</div>	
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RRM EXTERNAL WALL





COLUMN LAYOUT PLAN



BHUTAN POWER CORPORATION LIMITED

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA

DRAWING STATUS

APPROVAL

APPROVED

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APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE

REFER DRAWING

SCALE

NTS

DATE

FEBRUARY, 2022

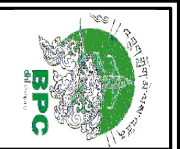
DRAWING NO.

BPC/TD/TMD/YURMOO/SD

DWG # 05







**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE	
DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA	
DRAWING STATUS	APPROVAL <input type="checkbox"/> APPROVED <input type="checkbox"/>

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APPROVED BY
KUNZANG TOBGYE GENERAL MANAGER TD, BPC

DESIGNED BY
DORI KINLEY EXECUTIVE ENGINEER TD, BPC

DRAWING TITLE	
REFER DRAWING	
SCALE	DATE
NTS	FEBRUARY, 2022

DRAWING NO.
BPC/TD/TMD/YURMOO/SD
<b>DWG # 08</b>

## BEAM NOTES:

1. The longitudinal rebar of beam shall be anchored in to the column by length  $L_d$  (anchorage length) of the rebar as specified in the table
2. Stirrups/hoops of 8Ø rebars–135 degrees, with an extension of  $10 \times \phi$ , and it shall be embedded in the confined core of the section
3. Lap splice for tension reinforcement or bottom steel shall not be provided at (a) within a joint, (b) within a distance of  $2d$  from the joint face or (c) within a quarter length of the member
4. The splicing of the compression or top reinforcement shall be provided near or at mid–span of the beam member
5. Not more than 50% of the bars shall be spliced at one section
6. The lap/splice length shall not be less than development length in tension i.e.  $L_d$ , as specified in the table
7. The first stirrup should be provided at the distance of 40mm from the face of the column
8. Stirrups of  $8\phi @ 100\text{mm c/c}$  shall be provided up to the distance of  $2D$  from the column face, where  $D$ = total depth of beam
9. Stirrups of  $8\phi @ 100\text{mm c/c}$  shall be provided throughout the splicing length of reinforcement bar in a member (beam/column etc.)
10. Minimum clear cover to the beam reinforcement shall be 25mm
11. The beam form works shall not be removed till the required strength of concrete is achieved.
12. Sharp bent in main reinforcement bars shall be avoided at lapping & beam–column joint REF DWG. Maximum slope of 1:6 shall be maintained in the bends
13. Lintel/band reinforcement connection provision shall be kept while casting the beam, column, slab
14. Vertical wall reinforcement bars shall be placed while casting the slab particularly for the projected wall/rabssel walls
15. Refer table give for development length,  $L_d$  and anchorage length,  $L_a$
16. Special confining ties shall be provided in the columns of external beam–column joint REF DWG & normal spacing ties in the interior beam–column joint REF DWG
17. Full lap length of rebar shall be provided confining ties & stirrups in column & beam respectively



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

## DESIGN OF STAFF QUARTER (G+2) AT

**YURMOO, TRONGSA**

DRAWING STATUS

APPROVAL

APP

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE  
NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER

TD, BPC

DESIGNED BY

**DORJI KINLEY**  
**EXECUTIVE ENGINEER**

REF DWG

FEBRUARY, 2022

# TITLE

## REFER DRAWING

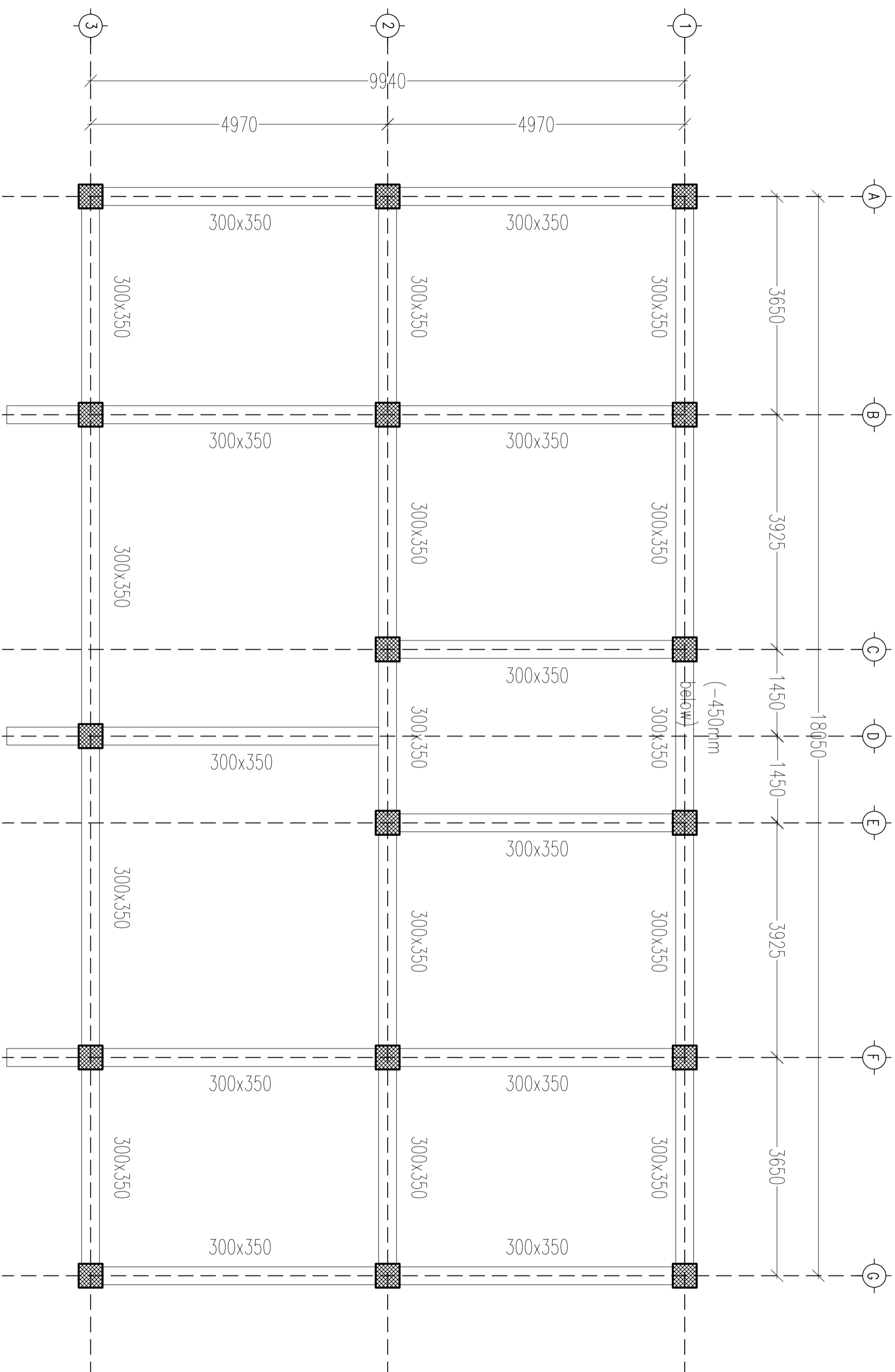
TIME	DATE
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DWG	FEBRUARY, 2022
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D R A W I N G N O.

BPC/TD/TMD/YURMOO/SD

**DWG # 09**







**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

APPROVA

APPROVED

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

1. ALL MEASUREMENTS IN  
OTHERWISE MENTIONED

2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED.

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE  
NOTICE OF THE DESIGNER

APPROVED BY

**KUNZANG TOBGYE**  
GENERAL MANAGER

DESIGNED BY

**DORJI KINLEY**  
EXECUTIVE ENGINEER

DRAWING TITLE

## REFER DRAWING

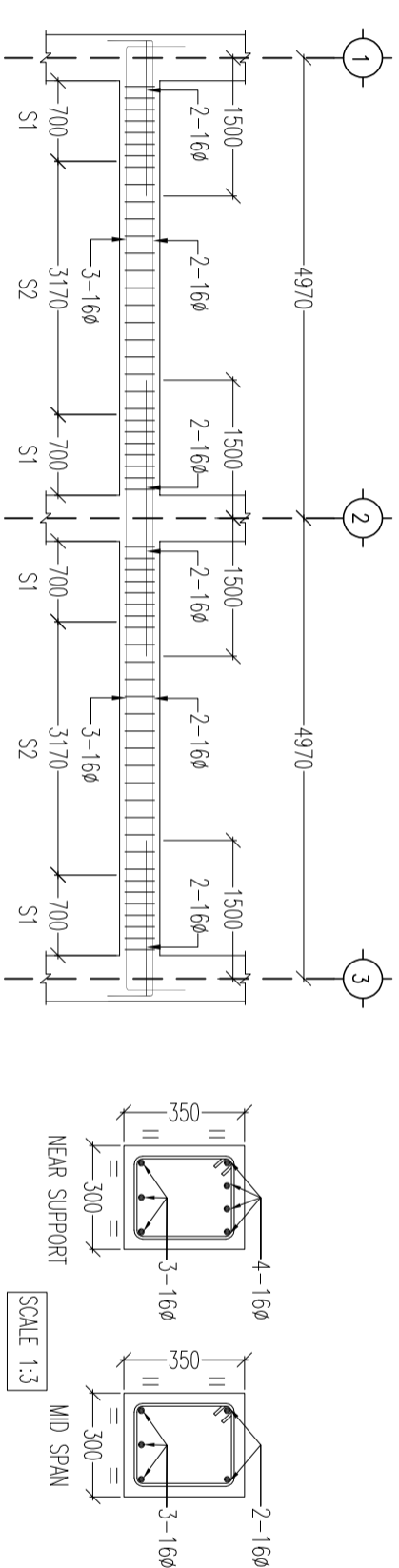
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DATE \_\_\_\_\_

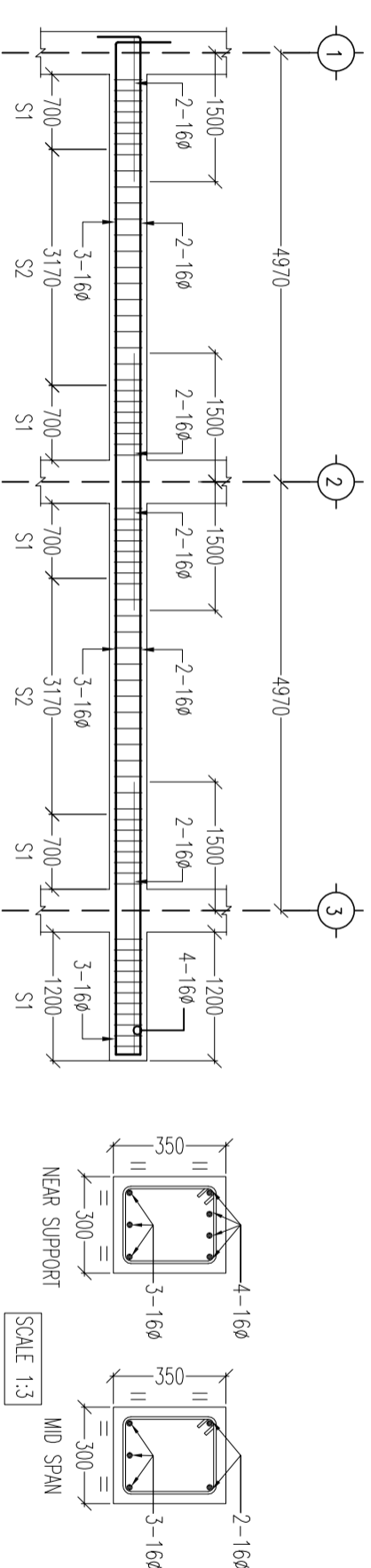
D R A W I N G   N O .

BPC/TD/TMD/YURMOO/SD

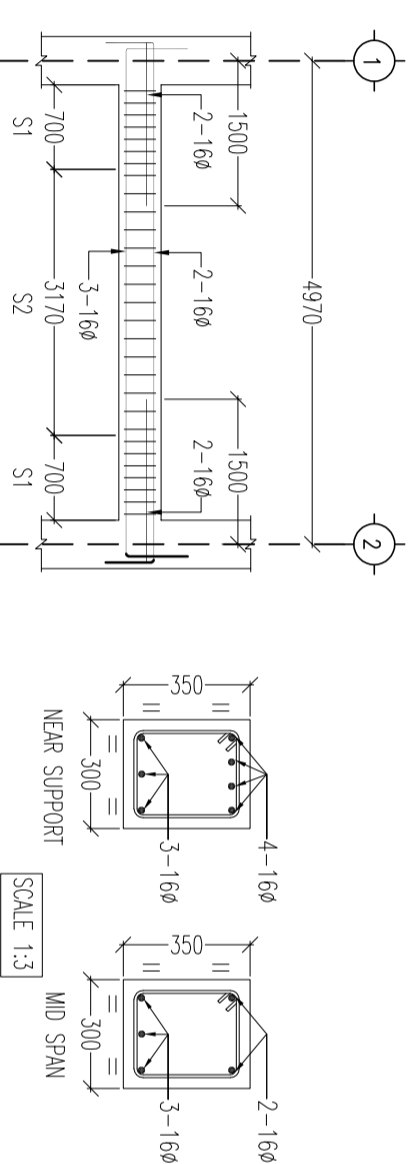
**DWG # 11**



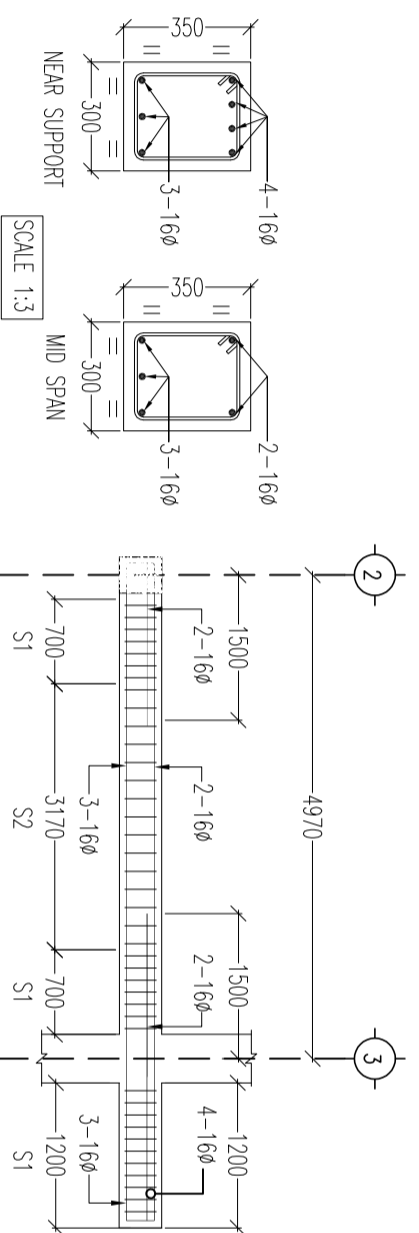
PLINTH BEAM SECTION ALONG GRID - A & G



PLINTH BEAM SECTION ALONG GRID - B &amp; F



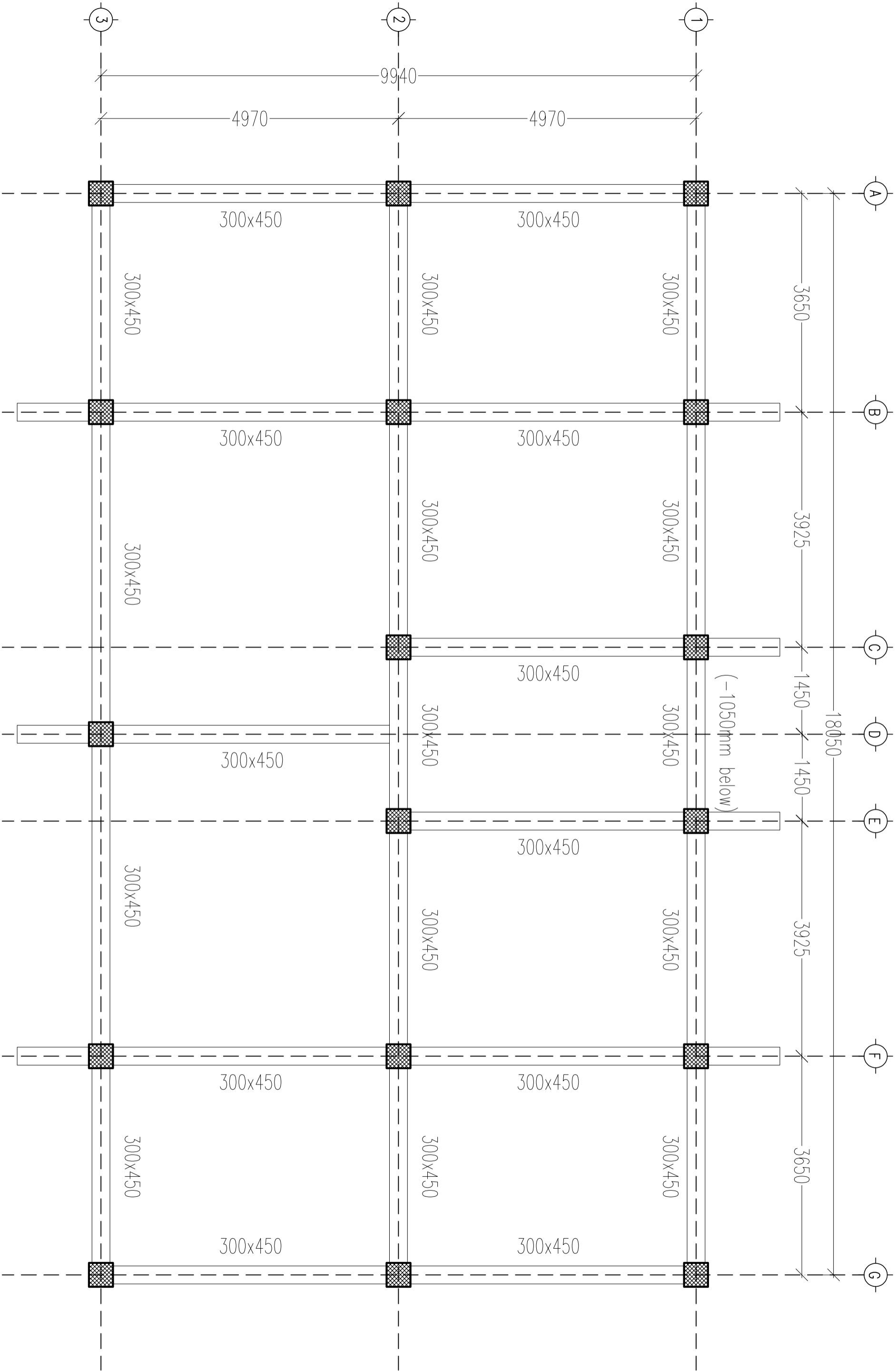
PIN TH BEAM SECTION ALONG GRID - C & E



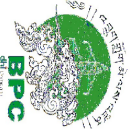
PLINTH BEAM SECTION ALONG GRID - D

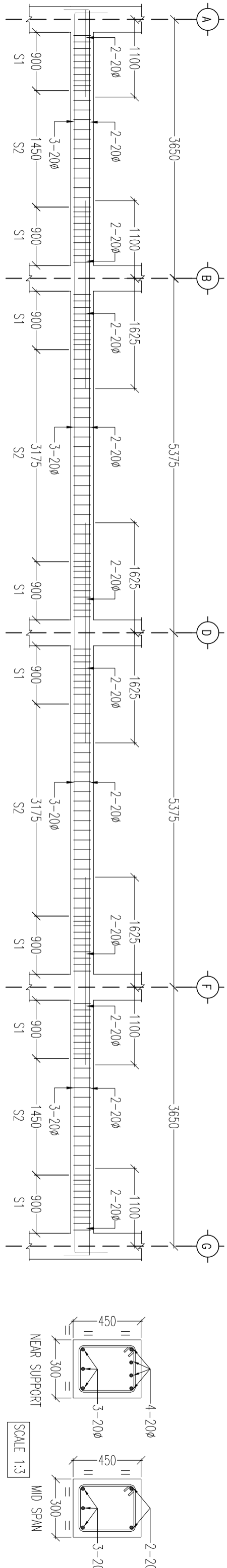
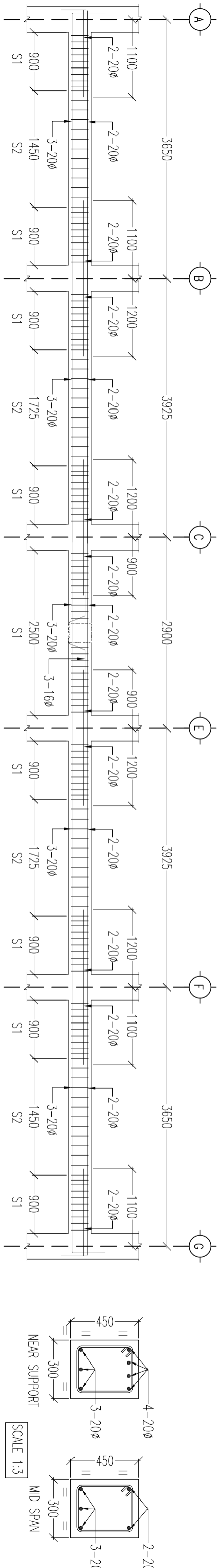
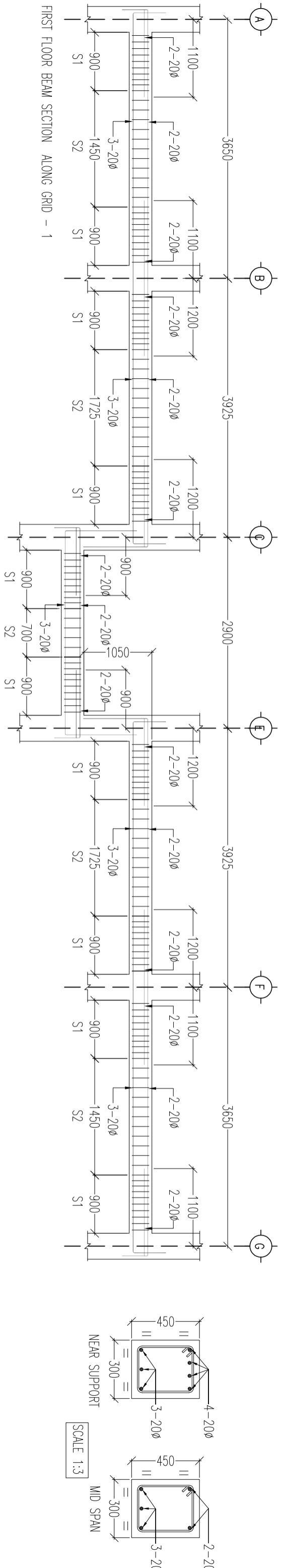
NOTES:-


- S2=L-2S1=8@ 150 C/C
- S1=2D=8@ 100 C/C
- (D- OVERALL DEPTH OF BEAM)
- THE FIRST STIRRUP IS PLACED 50MM FROM THE FACE OF COLUMN



FIRST FLOOR BEAM LAYOUT PLAN AT LVL + 3.60M

		BHUTAN POWER CORPORATION LIMITED			
TRANSMISSION DEPARTMENT		PROJECT TITLE		DRAWING TITLE	
DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA		DESIGNED BY		REFER DRAWING	
DRAWING STATUS		APPROVED BY		DATE	
APPROVAL <input type="checkbox"/>		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		FEBRUARY, 2022	
APPROVED <input type="checkbox"/>		DESIGNED BY		DWG # 12	
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		BPC/TD/TMD/YURMOO/SD	
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED		SCALE			
1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		REF DWG			





**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

APPROVAL ☐ APPROVED ☐

REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN MM UNLESS AND OTHERWISE MENTIONED  
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED  
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE

SCALE

DATE

DRAWING NO.

BPC/TD/TMD/YURMOO/SD

DWG # 13



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

A

A]

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS ANOTHERWISE MENTIONED
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT TO BE USED AS A GUIDE
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY NOTICED BY THE DESIGNER

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

**KUNZANG TOBYE**  
GENERAL MANAGER

DESIGNED BY

**DORJI KINLEY**  
EXECUTIVE ENGINEER  
AND DRG

**DRAWING TITLE**

## REFER DR A W I N G

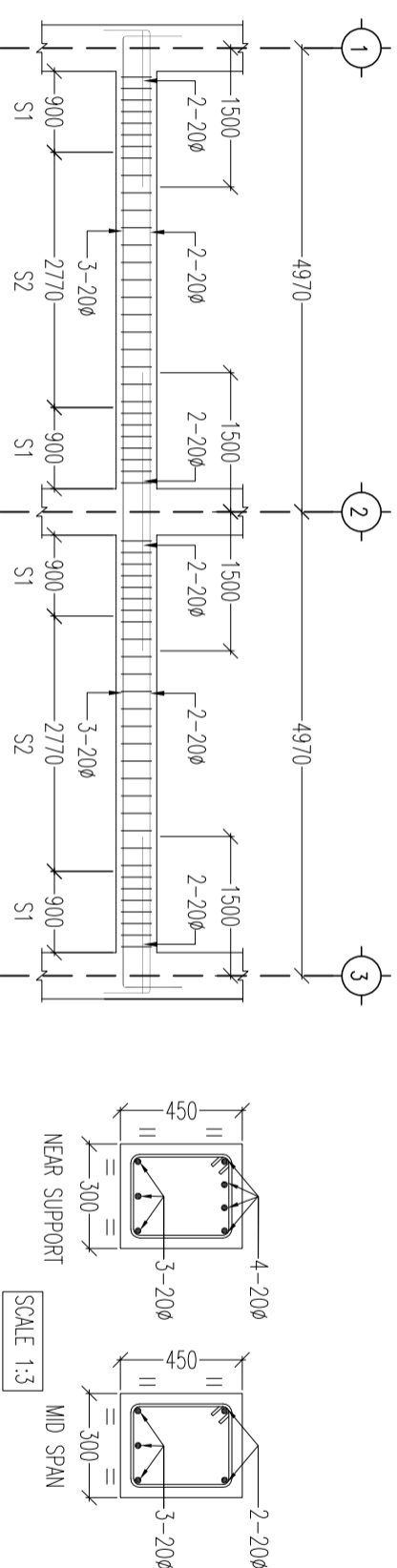
SCALE

DATE \_\_\_\_\_

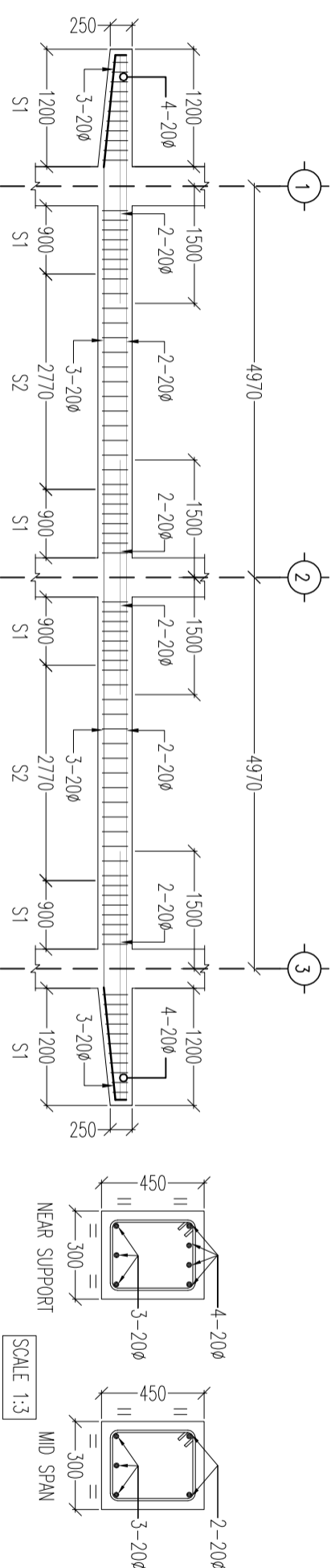
DRAWING NO.

BPC/TD/TMD/YURMOO/SD

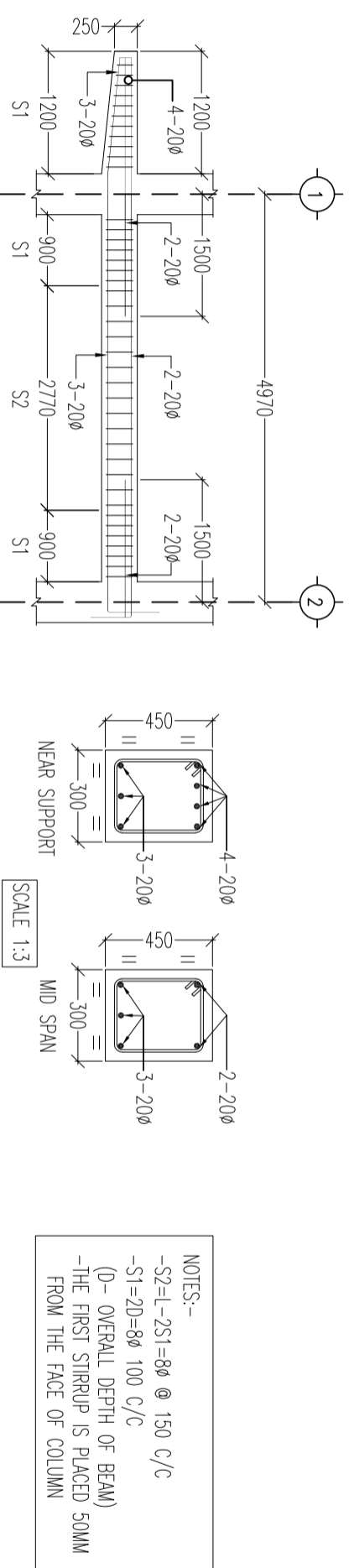
**DWG #14**



FIRST FLOOR BEAM SECTION ALONG GRID - A & G



FIRST FLOOR BEAM SECTION ALONG GRID - B & F



FIRST FLOOR BEAM SECTION ALONG GRID - C & E

NOTES:-

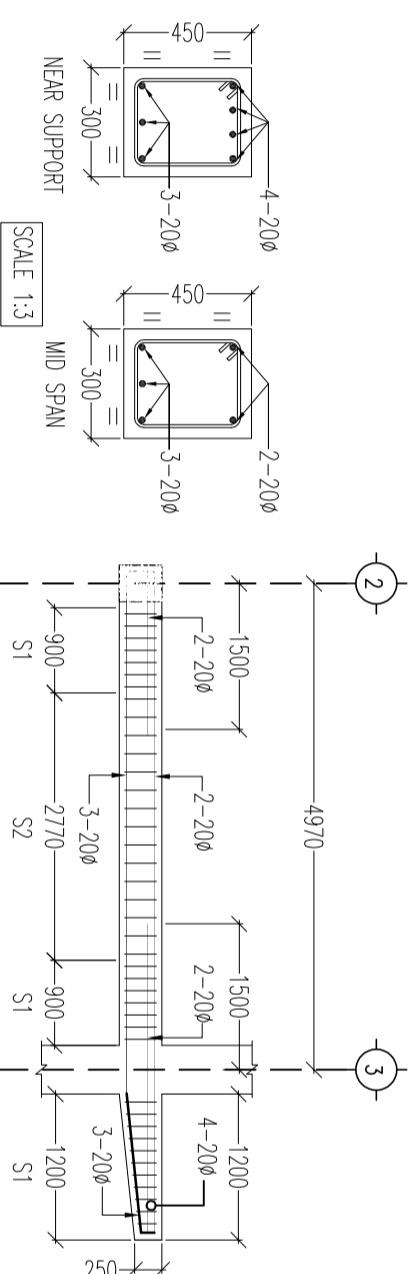
$$-S2=L-2S1=8\theta \text{ @ } 150 \text{ C/C}$$
 $-S1=2D=8\phi \quad 100 \text{ C/C}$ 

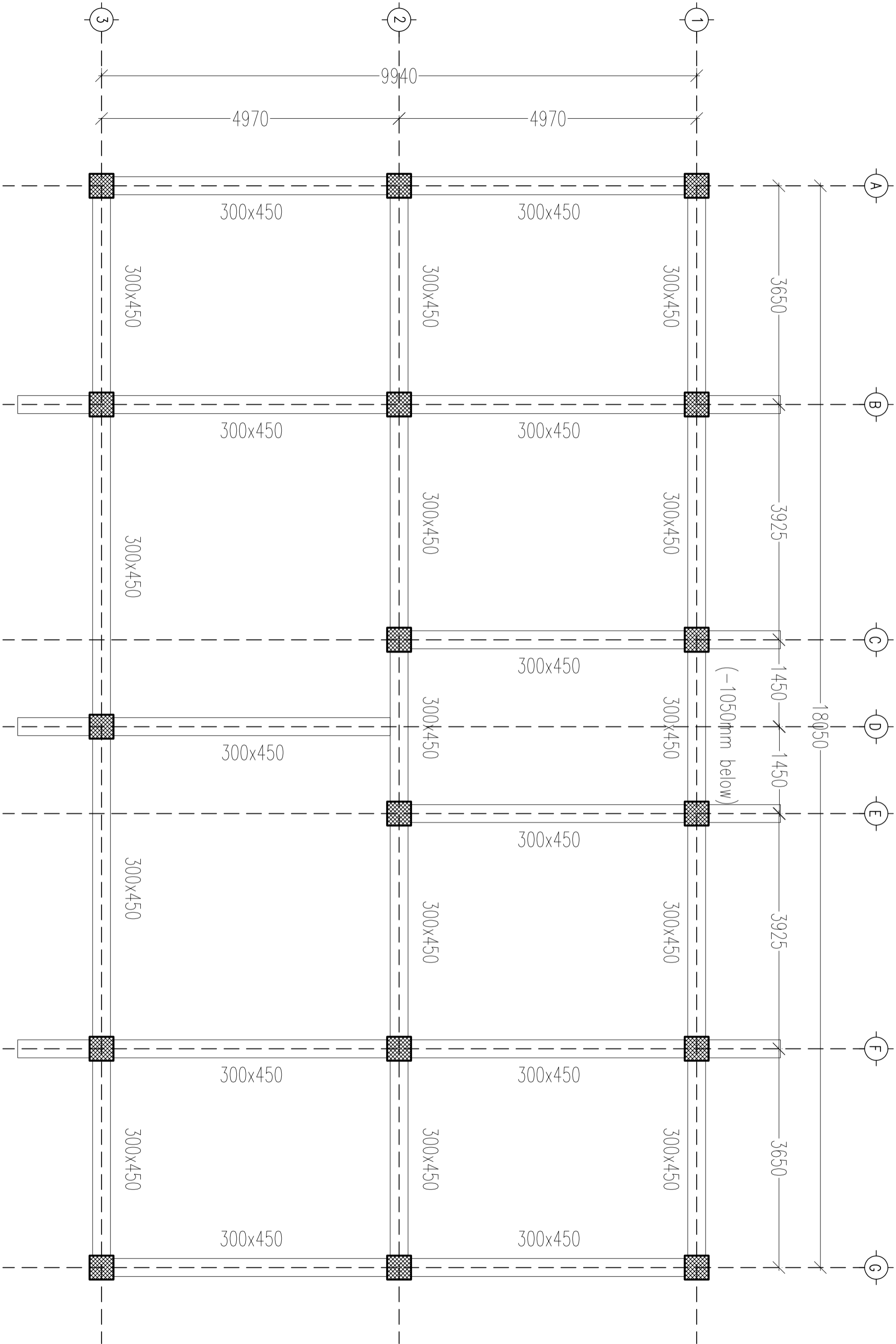
(D- OVERALL DEPTH OF BEAM)

THE FIRST STINKO! IS PLACED JUST BEYOND THE FACE OF COLUMN

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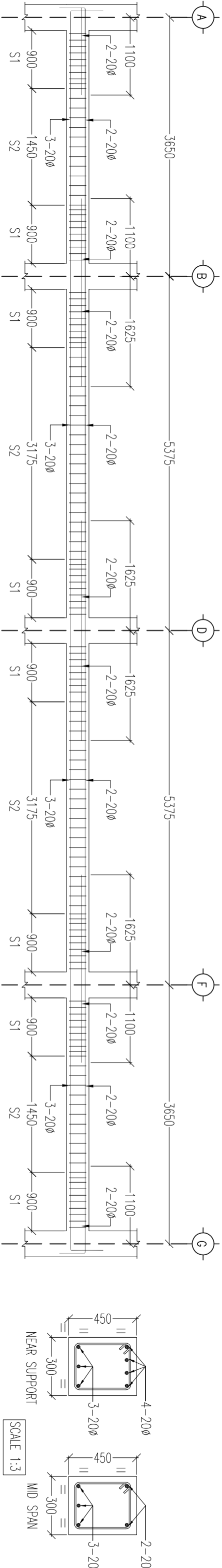
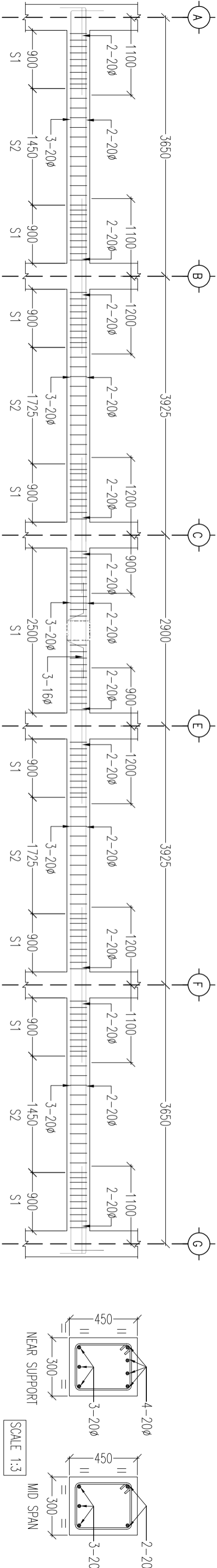
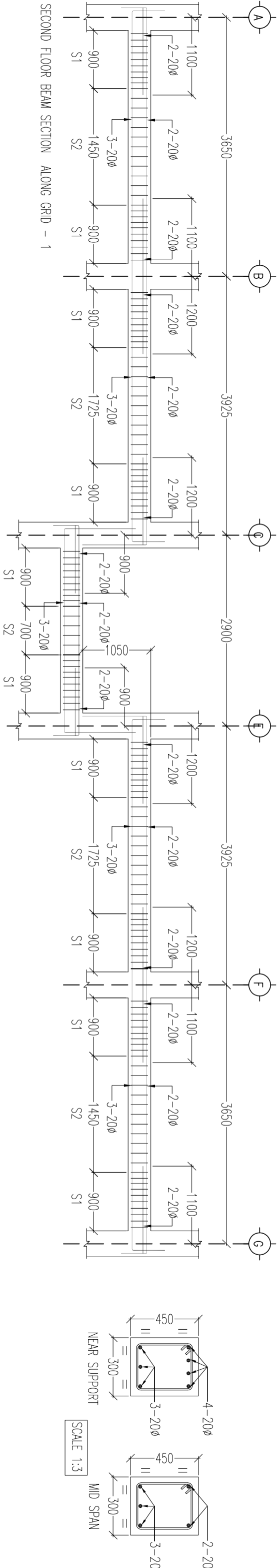
FIRST FLOOR BEAM SECTION ALONG GRID - D






SECOND FLOOR BEAM LAYOUT PLAN AT LVL+ 6.75M

<div><div><div><div><div><div></div><div>BPC</div></div></div><div><div><div></div><div>འབྲུག་གི་འོ་ཤིང་ཁོང་ལྷན་ཁག་</div><div>འབྲུག་ཡུལ་གྱི་འོ་ཤིང་ཁོང་ལྷན་ཁག་</div></div></div></div></div></div>		<div><div><div>BHUTAN POWER CORPORATION LIMITED</div><div>TRANSMISSION DEPARTMENT</div></div></div>												
<div>PROJECT TITLE</div>			<div>REFERENCE NOTES</div>			<div>APPROVED BY</div>			<div>DESIGNED BY</div>		<div>DRAWING TITLE</div>		<div>DRAWING NO.</div>	
<div><div>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA</div></div>			<div>1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED</div>			<div>KUNZANG TOBGYE GENERAL MANAGER TD, BPC</div>			<div>DORJI KINLEY EXECUTIVE ENGINEER TD, BPC</div>		<div>REFER DRAWING</div>		<div>BPC/TD/TMD/YURMOO/SD</div>	
<div><div>DRAWING STATUS</div><div><div>APPROVAL</div><div><input type="checkbox"/></div><div>APPROVED</div><div><input type="checkbox"/></div></div></div>			<div>2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED</div>								<div>SCALE</div> <div>DATE</div>			
<div>3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER</div>									<div>REF DWG</div> <div>FEBRUARY, 2022</div>				<div>DWG # 15</div>	



NOTES:-  
-S2=1-2S1=8Ø @ 150 C/C  
-S1=2D=8Ø 100 C/C  
(D- OVERALL DEPTH OF BEAM)  
-THE FIRST STIRRUP IS PLACED 50MM FROM THE FACE OF COLUMN

	<b>BHUTAN POWER CORPORATION LIMITED</b>																																																																														
	<b>TRANSMISSION DEPARTMENT</b>																																																																														
	<b>PROJECT TITLE</b>																																																																														
	<b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA</b>																																																																														
<b>DRAWING STATUS</b>										<b>REFERENCE NOTES</b>										<b>APPROVED BY</b>										<b>DESIGNED BY</b>										<b>DRAWING TITLE</b>										<b>DRAWING NO.</b>																													
<b>APPROVAL</b> <input type="checkbox"/>										<b>APPROVED</b> <input type="checkbox"/>										1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED										<b>KUNZANG TOBGYE</b> GENERAL MANAGER TD, BPC										<b>DORJI KINLEY</b> EXECUTIVE ENGINEER TD, BPC										<b>REFER DRAWING</b>										<b>BPC/TD/TMD/YURMOO/SD</b>																			
										2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED																														<b>SCALE</b>										<b>DATE</b>																													
										3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER										<input checked="" type="checkbox"/>																														<b>REF DWG</b>										<b>FEBRUARY, 2022</b>										<b>DWG # 16</b>									



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

## DRAWING STATUS

AP

APP

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

OTHERWISE MENTIONED

REID

2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED

APPROVED BY

**KUNZANG TOBGYE**  
GENERAL MANAGER

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
AND DRG

DRAWING TITLE

## REFER DRAWING

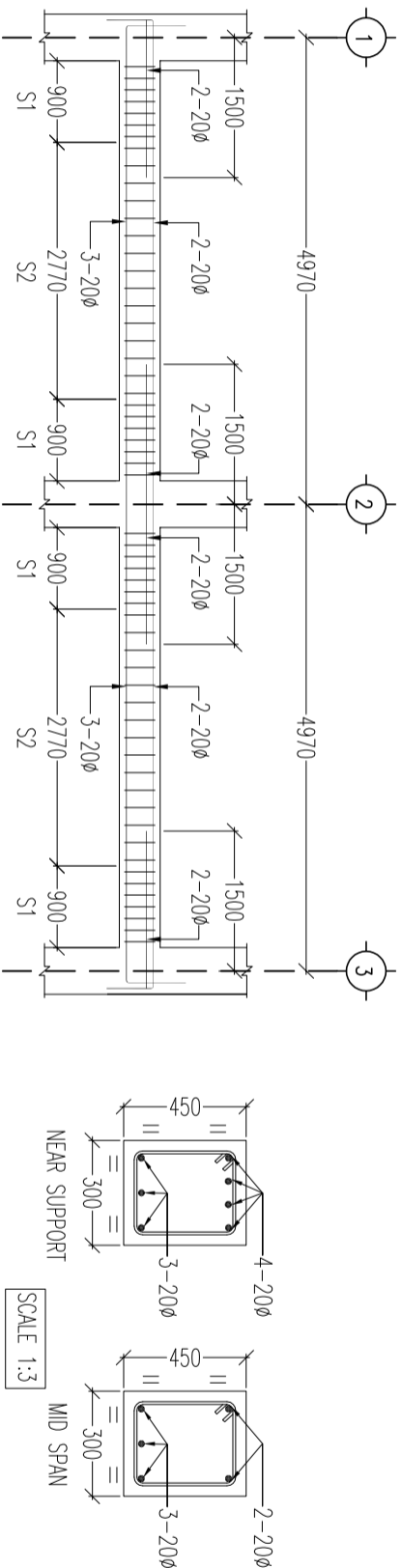
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# DATE

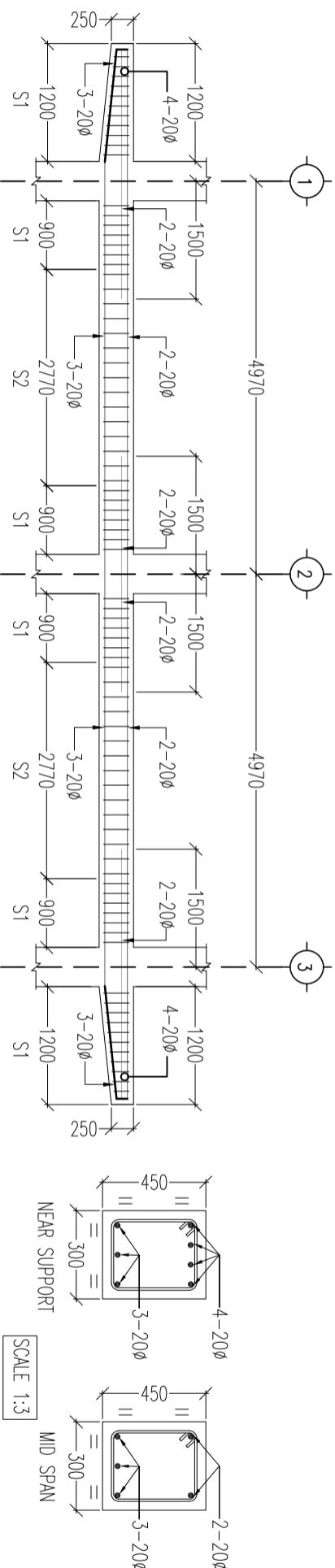
DRAWING NO.

BPC/TD/TMD/YURMOO/SD

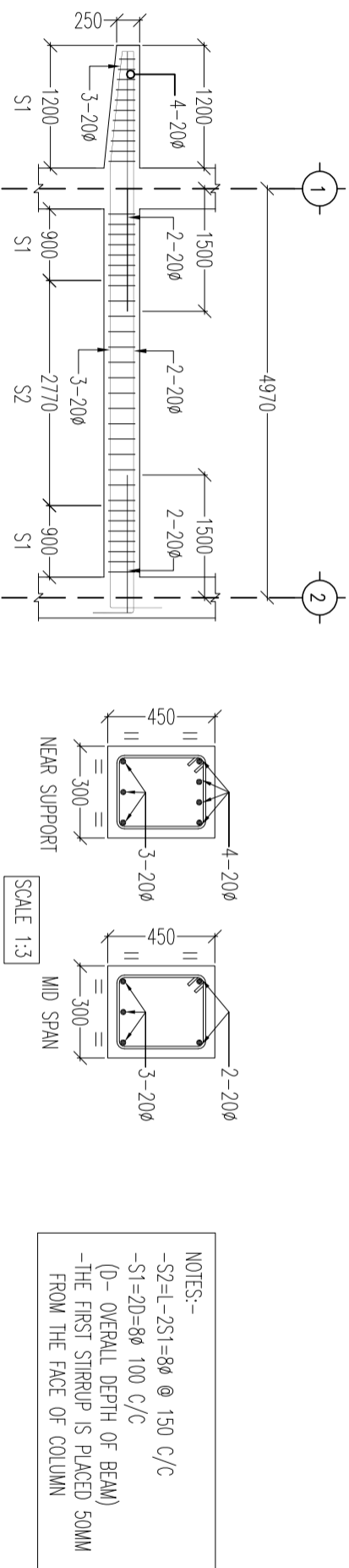
**DWG #17**



SECOND FLOOR BEAM SECTION ALONG GRID - A & G



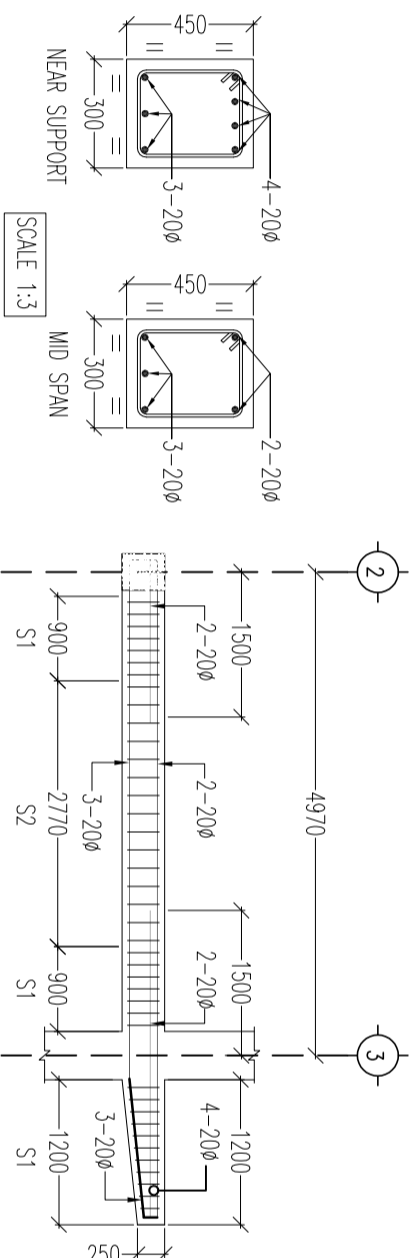
SECOND FLOOR BEAM SECTION ALONG GRID - B & F



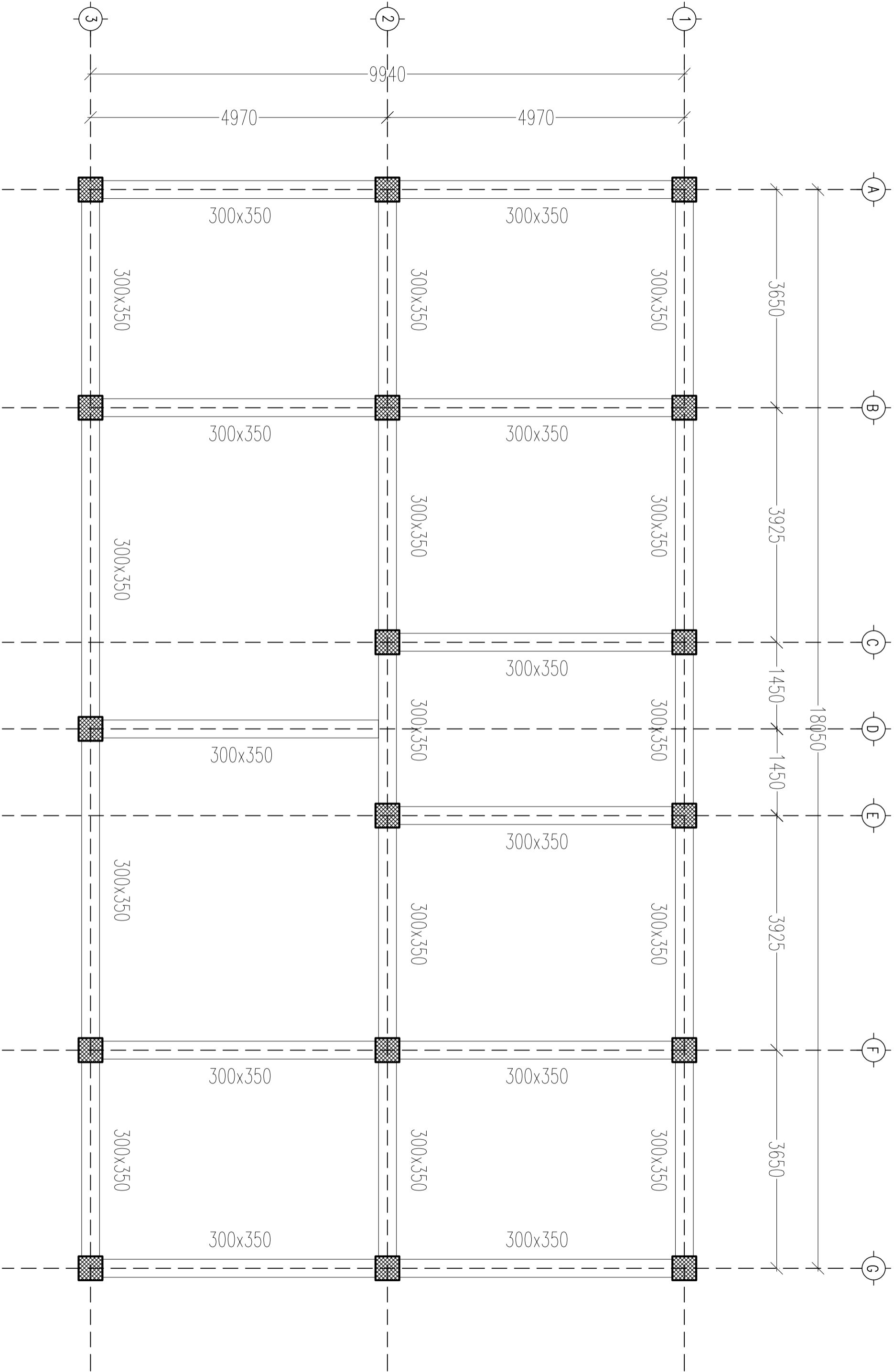
SECOND FLOOR BEAM SECTION ALONG GRID - C & E

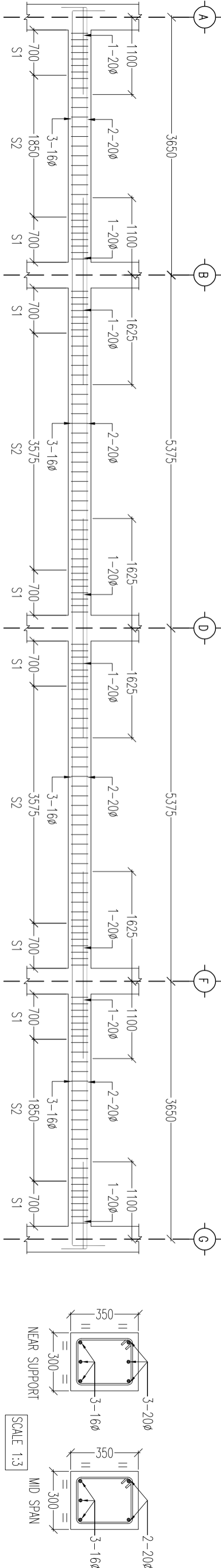
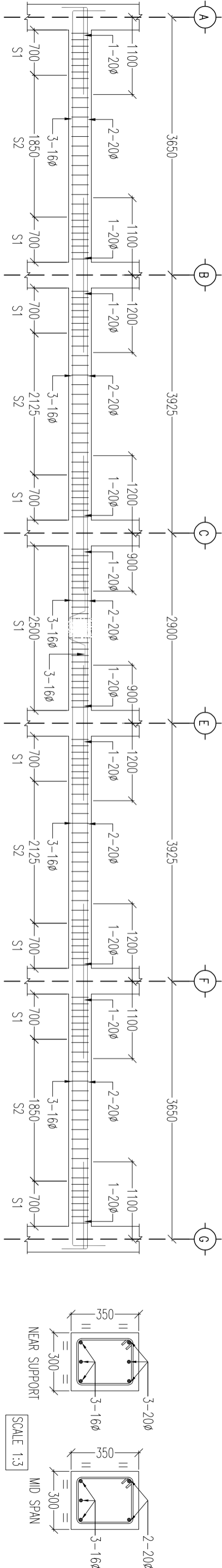
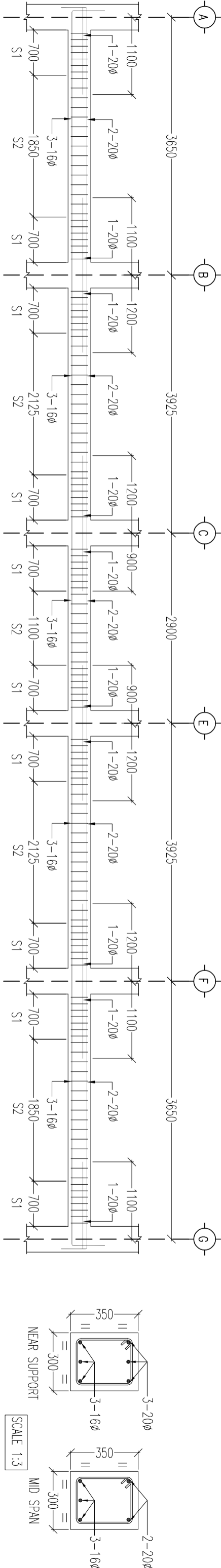
NOTES:-

- S2=L-S1=8Ø @ 150 C/C
- S1=2D=8Ø 100 C/C
- (D- OVERALL DEPTH OF BEAM)
- THE FIRST STIRRUP IS PLACED 50MM FROM THE FACE OF COLUMN

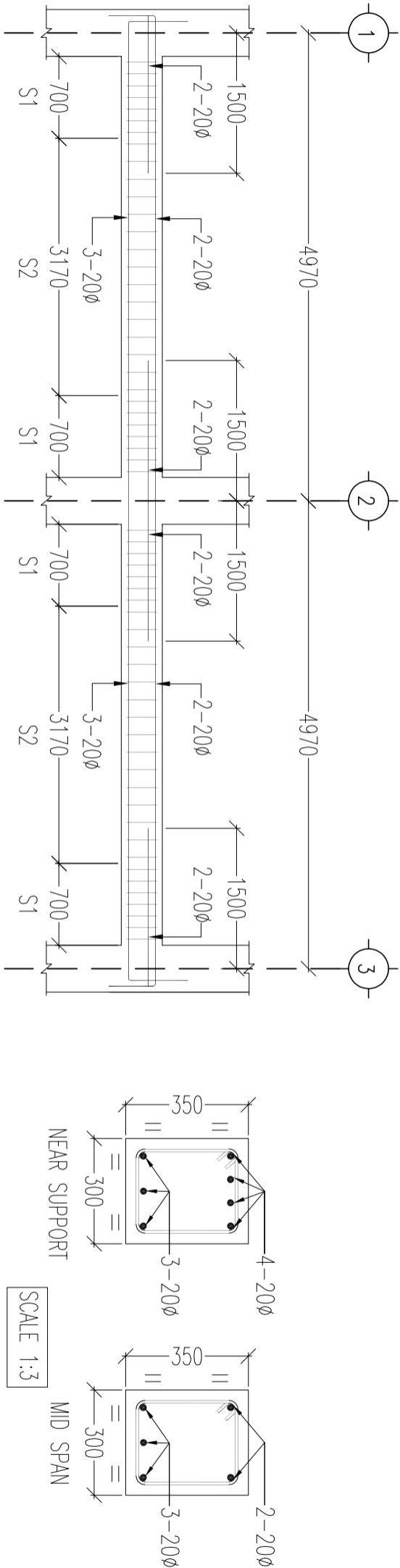


SECOND FLOOR BEAM SECTION ALONG GRID - D

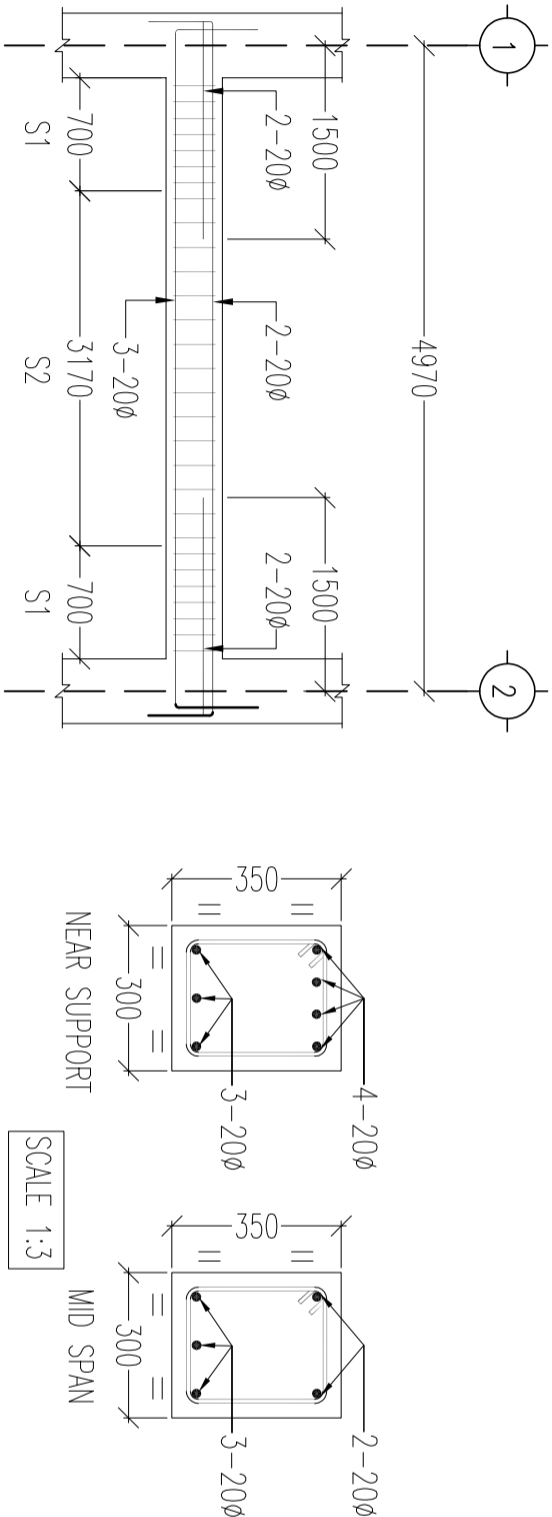




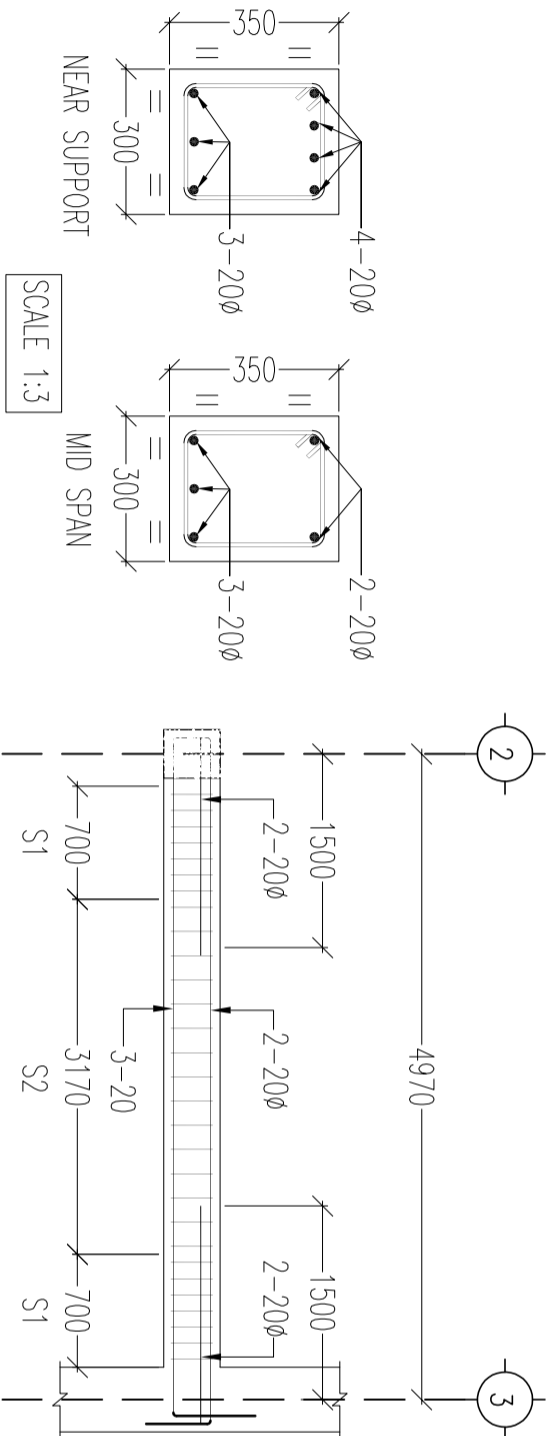
NOTES:-  
-S2=L-2S1=8Ø @ 150 C/C  
-S1=2D=8Ø 100 C/C  
(D- OVERALL DEPTH OF BEAM)  
-THE FIRST STIRRUP IS PLACED 50MM FROM THE FACE OF COLUMN



ROOF BEAM SECTION ALONG GRID – A, B, F & G




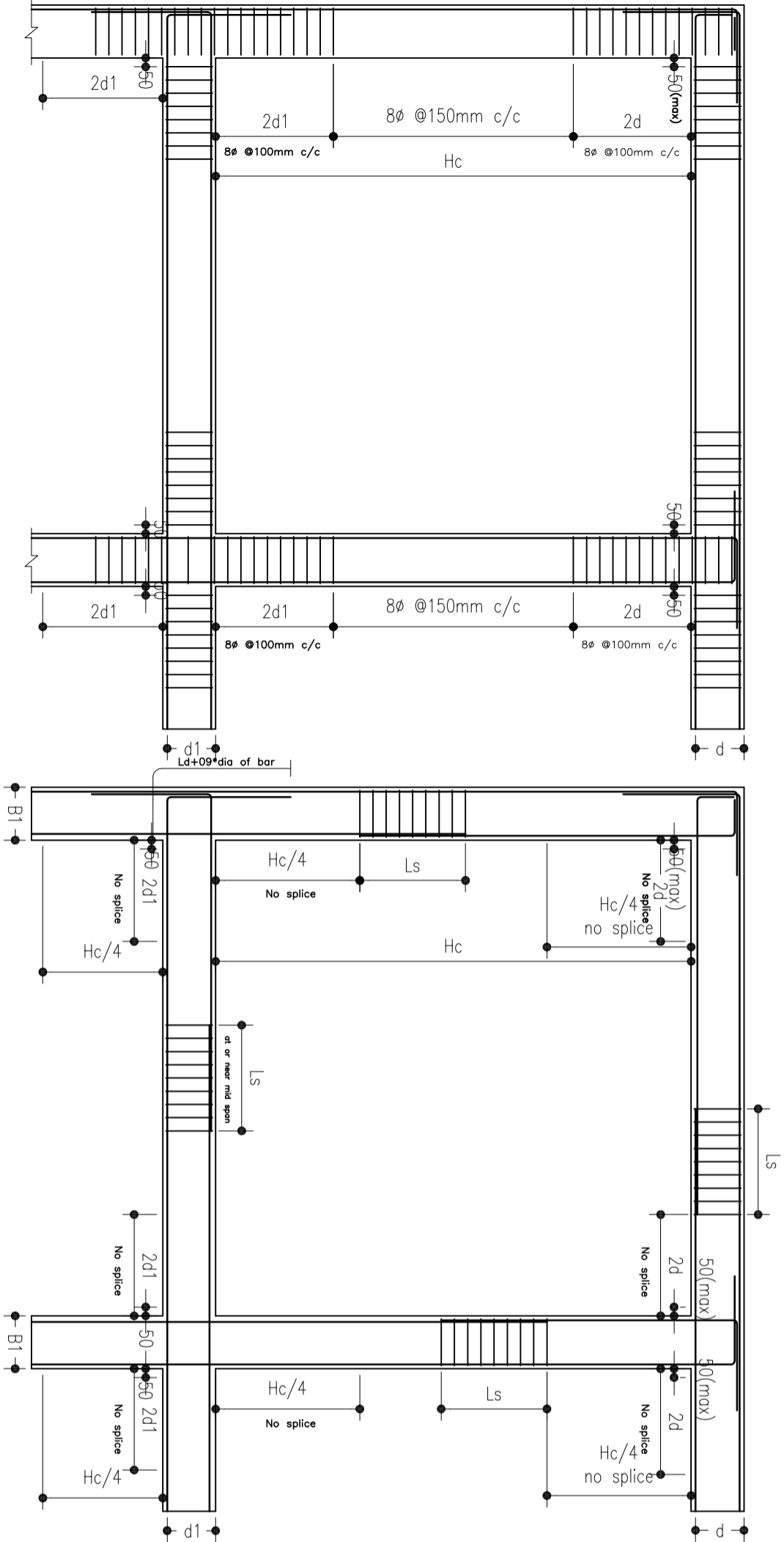
ROOF BEAM SECTION ALONG GRID – C & E




ROOF BEAM SECTION ALONG GRID – D

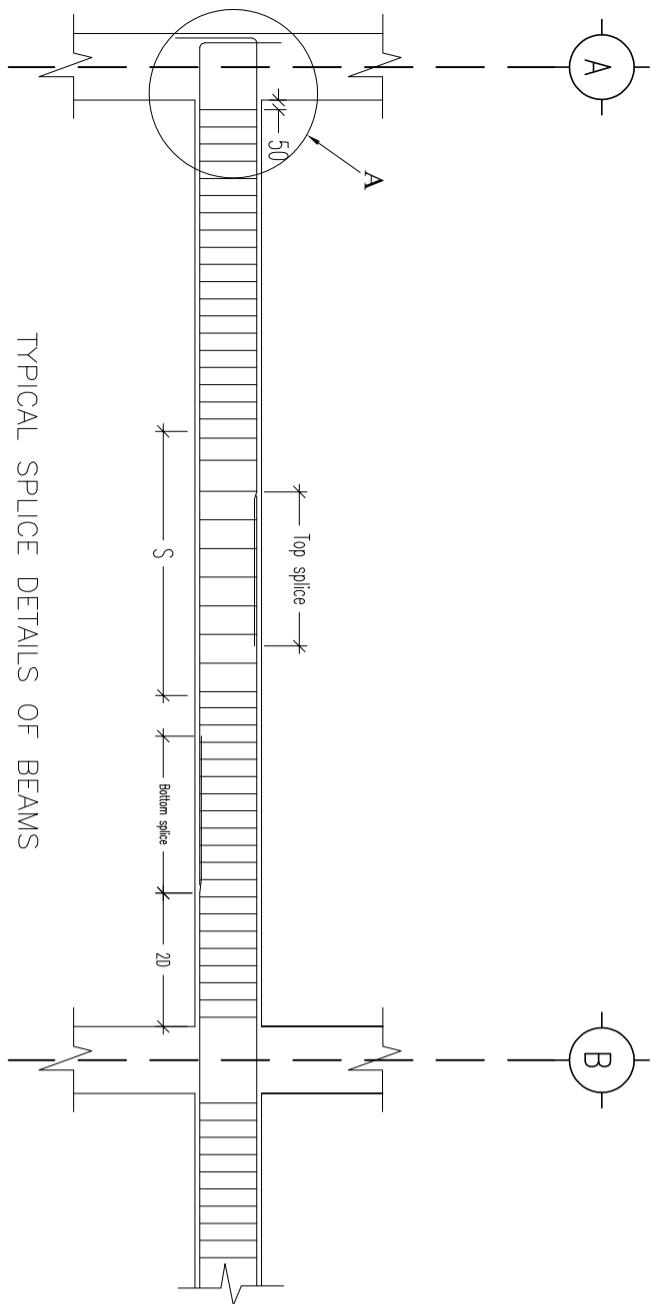
NOTES:-  
-S2=L-2S1=8Ø @ 150 C/C  
-S1=2D=8Ø 100 C/C  
(D- OVERALL DEPTH OF BEAM)  
-THE FIRST STIRRUP IS PLACED 50MM FROM THE FACE OF COLUMN

	<b>BHUTAN POWER CORPORATION LIMITED</b>		<b>PROJECT TITLE</b>		<b>REFERENCE NOTES</b>		<b>APPROVED BY</b>		<b>DESIGNED BY</b>		<b>DRAWING TITLE</b>		<b>DRAWING NO.</b>	
	<b>TRANSMISSION DEPARTMENT</b>		<b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA</b>		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		<b>KUNZANG TOBGYE</b> GENERAL MANAGER TD, BPC		<b>DORJI KINLEY</b> EXECUTIVE ENGINEER TD, BPC		<b>SCALE</b>		<b>DATE</b>	
			<input type="checkbox"/> DRAWING STATUS		<input type="checkbox"/> APPROVAL		<input type="checkbox"/> APPROVED				<b>REF DWG</b>		<b>FEBRUARY, 2022</b>	
											<b>DWG # 20</b>			

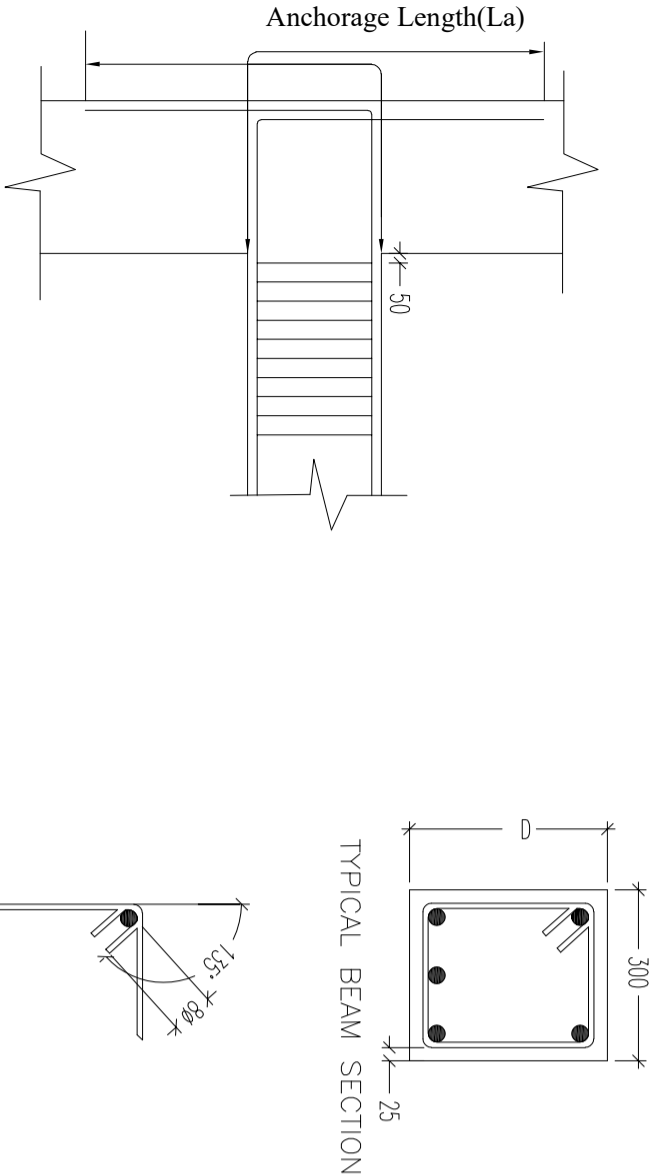


TYPICAL BEAM SPLICE AND ANCHORAGE DETAILS

		<b>BHUTAN POWER CORPORATION LIMITED</b>		PROJECT TITLE		REFERENCE NOTES		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
TRANSMISSION DEPARTMENT		<b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA</b>		DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
DRAWING STATUS		APPROVAL <input type="checkbox"/>		APPROVED <input type="checkbox"/>						SCALE		DATE		DWG # 21	
										REF DWG		FEBRUARY, 2022			



TYPICAL SPLICE DETAILS OF BEAMS

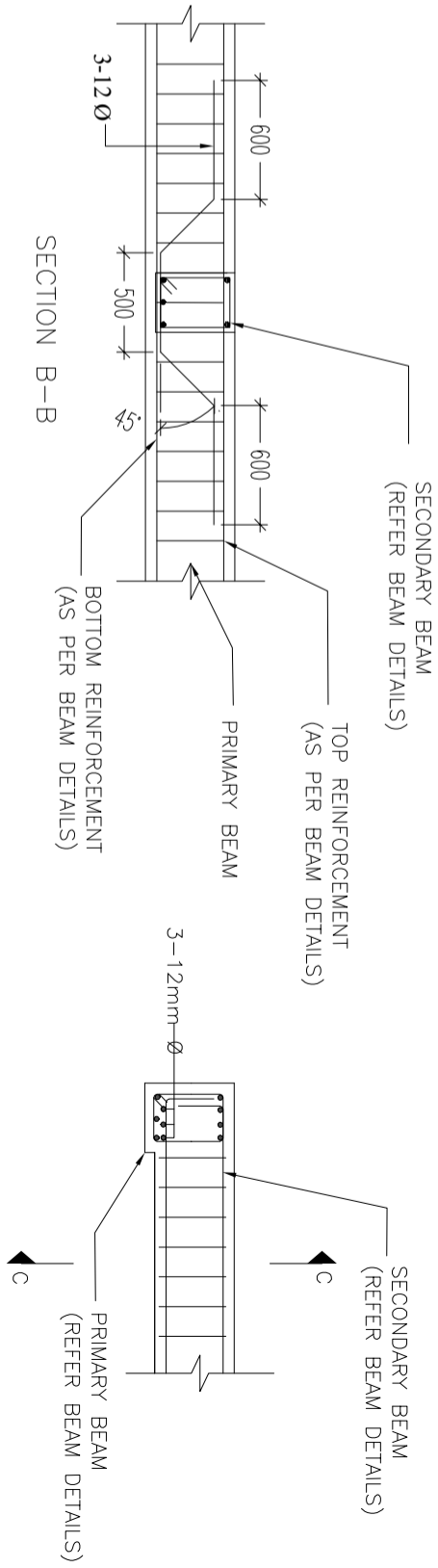


TYPICAL BEAM SECTION

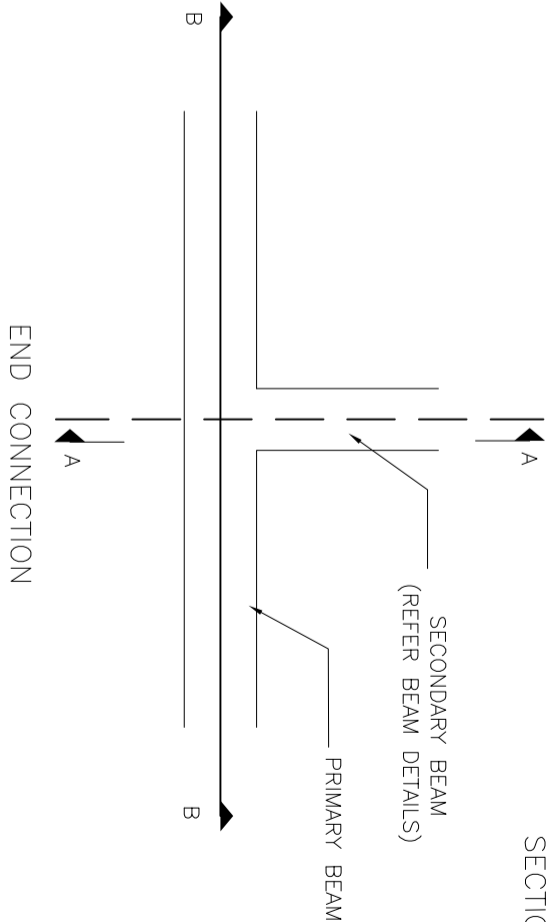
ANCHORAGE DETAILS AT -A

TYPICAL HOOK DETAILS

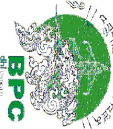
TYPICAL BEAM SPLICE AND ANCHORAGE DETAILS

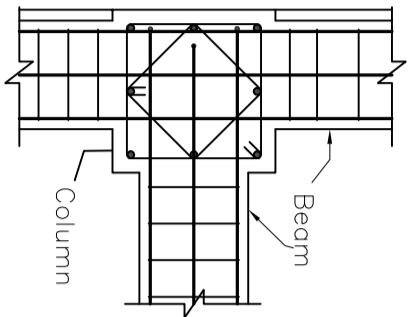


SECTION A-A

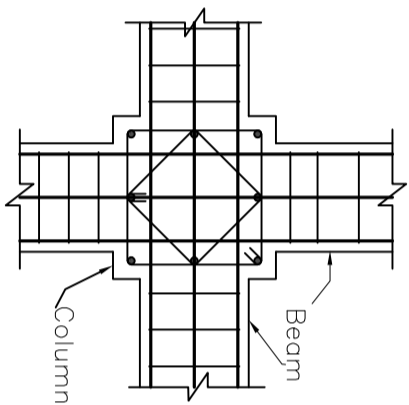


TYPICAL BEAM DETAIL OF SECONDARY BEAM TO PRIMARY BEAM CONNECTION (PLAN)

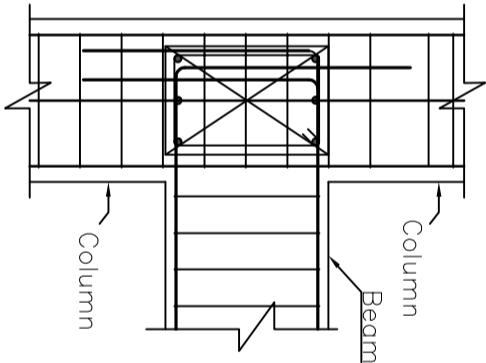
	<b>BHUTAN POWER CORPORATION LIMITED</b>		PROJECT TITLE		REFERENCE NOTES		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
	TRANSMISSION DEPARTMENT		DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
	DRAWING STATUS		APPROVAL		APPROVED		SCALE		DATE		REF DWG		FEBRUARY, 2022	
													DWG # 22	



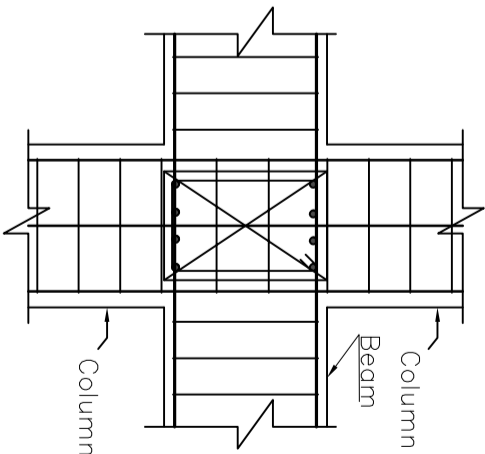
EXTERIOR, COLUMN-BEAM  
JOINT(C/S)



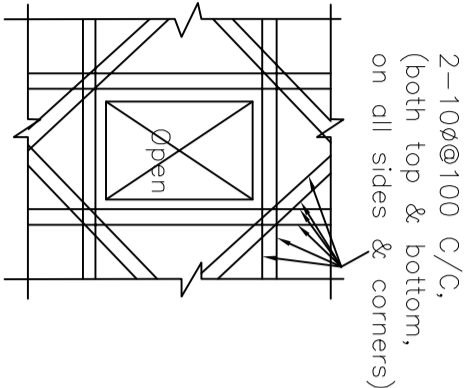
INTERIOR, COLUMN-BEAM  
JOINT(PLAN)



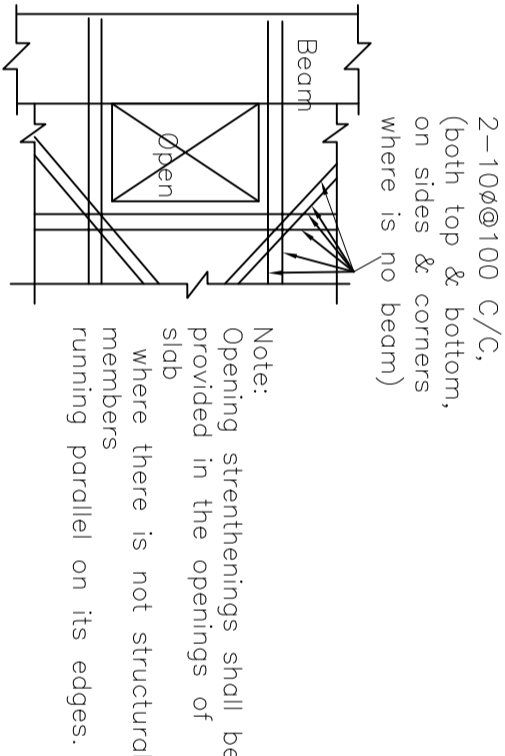
EXTERIOR, COLUMN-BEAM  
JOINT(L/S)



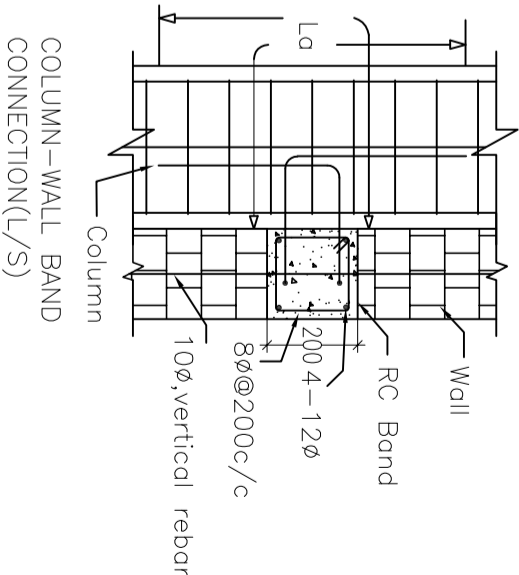
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JOINT(L/S)



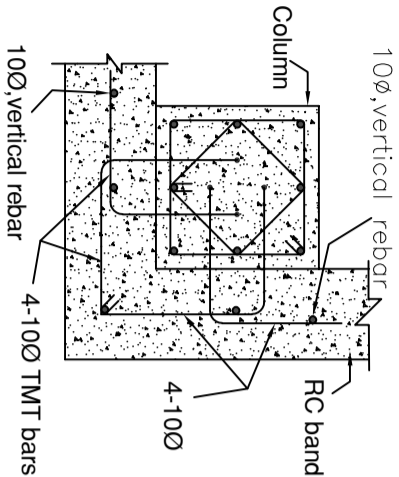
TYPICAL DETAIL FOR OPENING  
IN  
THE MIDDLE OF SLAB/RC WALL



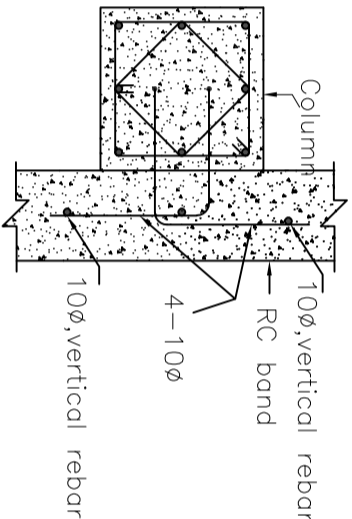
TYPICAL DETAIL FOR OPENING  
NEAR BEAM/COLUMN



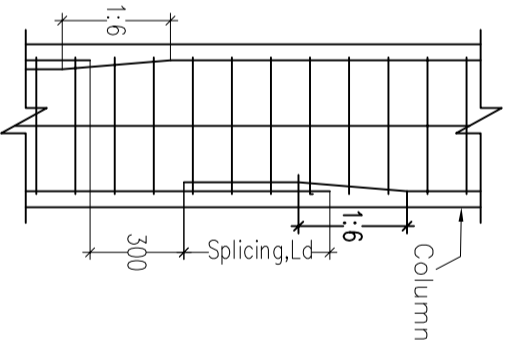
COLUMN-WALL BAND  
CONNECTION(L/S)



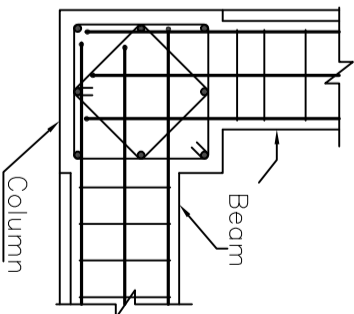
CORNER COLUMN-WALL BAND  
CONNECTION (C/S)



INTERMEDIATE COLUMN-WALL  
BAND CONNECTION(C/S)




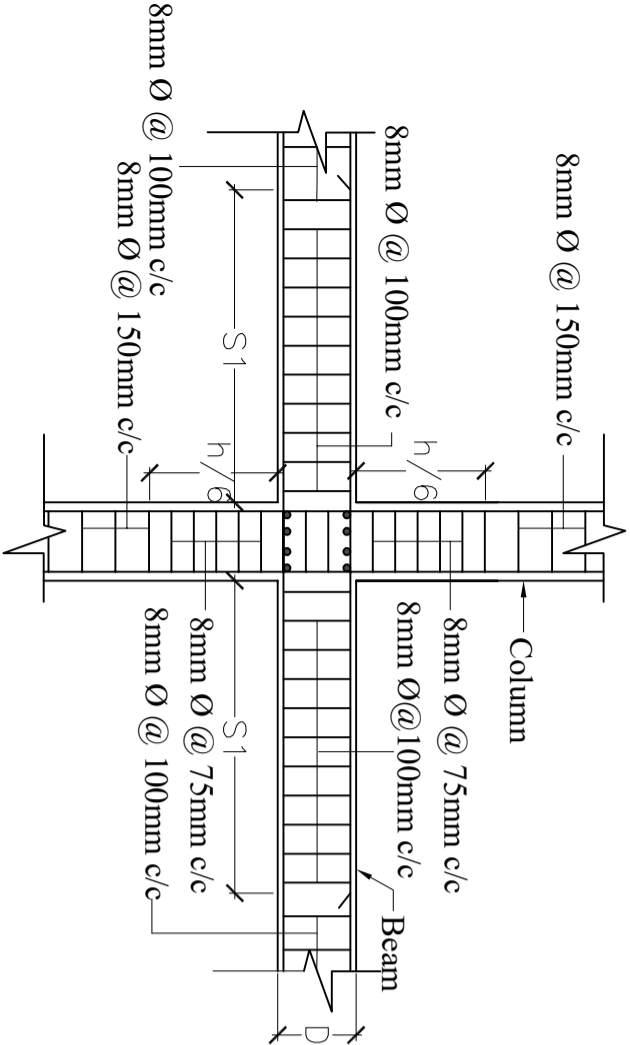
COLUMN LAP SPLICING  
DETAIL(L/S)



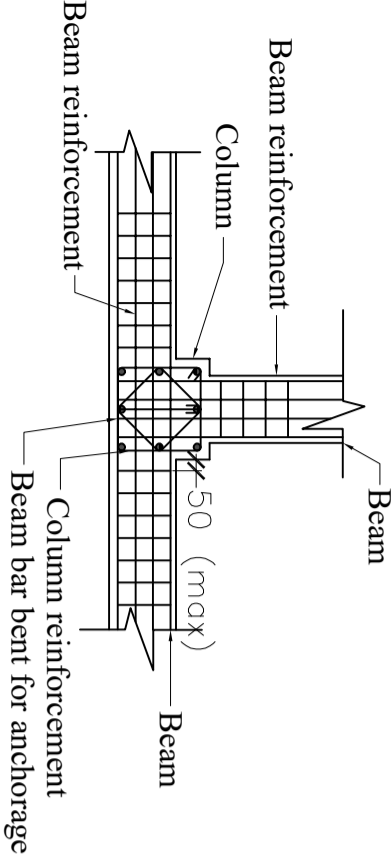
CORNER, COLUMN-BEAM  
JOINT(C/S)

TYPICAL REINFORCEMENT DETAIL IN RC MEMBERS/ ELEMENTS/ JOINTS/ CUTS, ETC.

		<b>BHUTAN POWER CORPORATION LIMITED</b>		TRANSMISSION DEPARTMENT	
PROJECT TITLE		DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA		DRAWING STATUS	
REFERENCE NOTES		APPROVAL		APPROVED	
1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED		3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER	
APPROVED BY		DESIGNED BY		DRAWING TITLE	
KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		BPC/TD/TMD/YURMOO/SD	
SCALE		DATE		DWG # 23	
REF DWG		FEBRUARY, 2022			

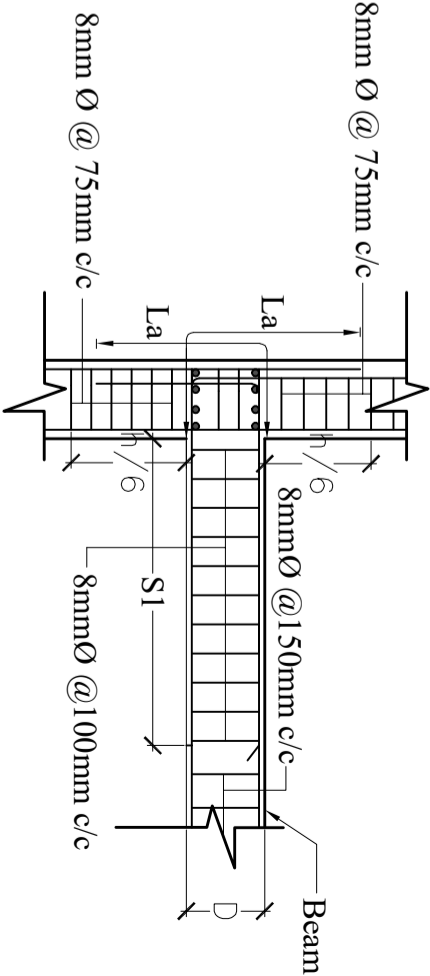


TYPICAL INTERIOR BEAM – COLUMN  
CONNECTION DETAILS ( SIDE VIEW)

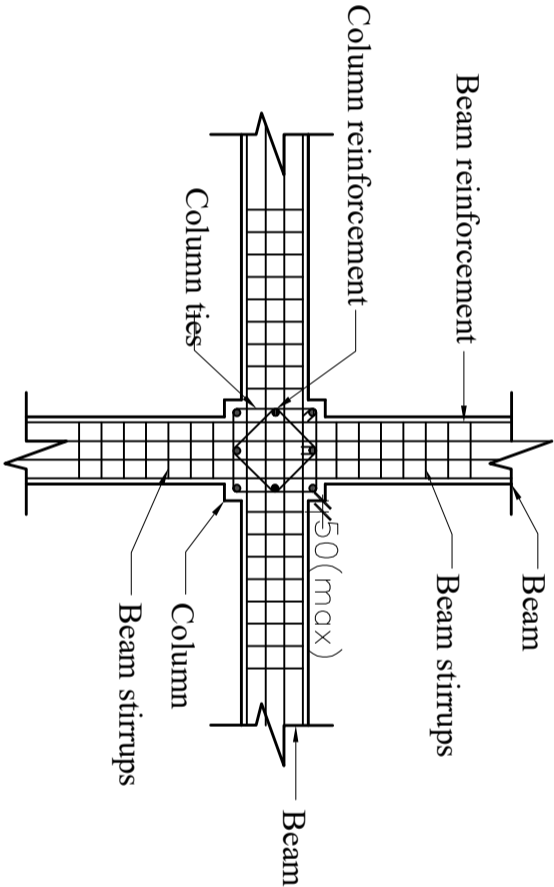


TYPICAL EXTERIOR BEAM – COLUMN  
CONNECTION DETAILS ( PLAN VIEW)  
(SQUARE COLUMN)

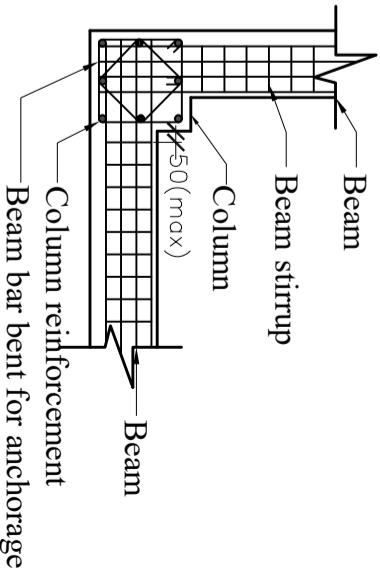
Bar Anchorage length (La) (Minimum length)	
10Ø =	670
12Ø =	805
16Ø =	1075
20Ø =	1340
25Ø =	1625



TYPICAL EXTERIOR BEAM – COLUMN  
CONNECTION DETAILS ( SIDE VIEW)




TYPICAL INTERIOR BEAM – COLUMN  
CONNECTION DETAILS ( PLAN VIEW)  
(COLUMN)



TYPICAL EXTERIOR BEAM – COLUMN  
CONNECTION DETAILS ( PLAN VIEW)  
(SQUARE COLUMN)

BEAM COLUMN CONNECTION DETAILS

<div><div><b>BPC</b> Bhutan Power Corporation of Bhutan</div></div>		<div><b>BHUTAN POWER CORPORATION LIMITED</b></div> <div>TRANSMISSION DEPARTMENT</div>											
PROJECT TITLE		REFERENCE NOTES											
DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm (UNLESS AND OTHERWISE MENTIONED) 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER											
DRAWING STATUS		APPROVAL <input type="checkbox"/>		APPROVED <input type="checkbox"/>		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
						KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
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										REF DWG		FEBRUARY, 2022	
												<b>DWG # 24</b>	



## PROJECT TITLE

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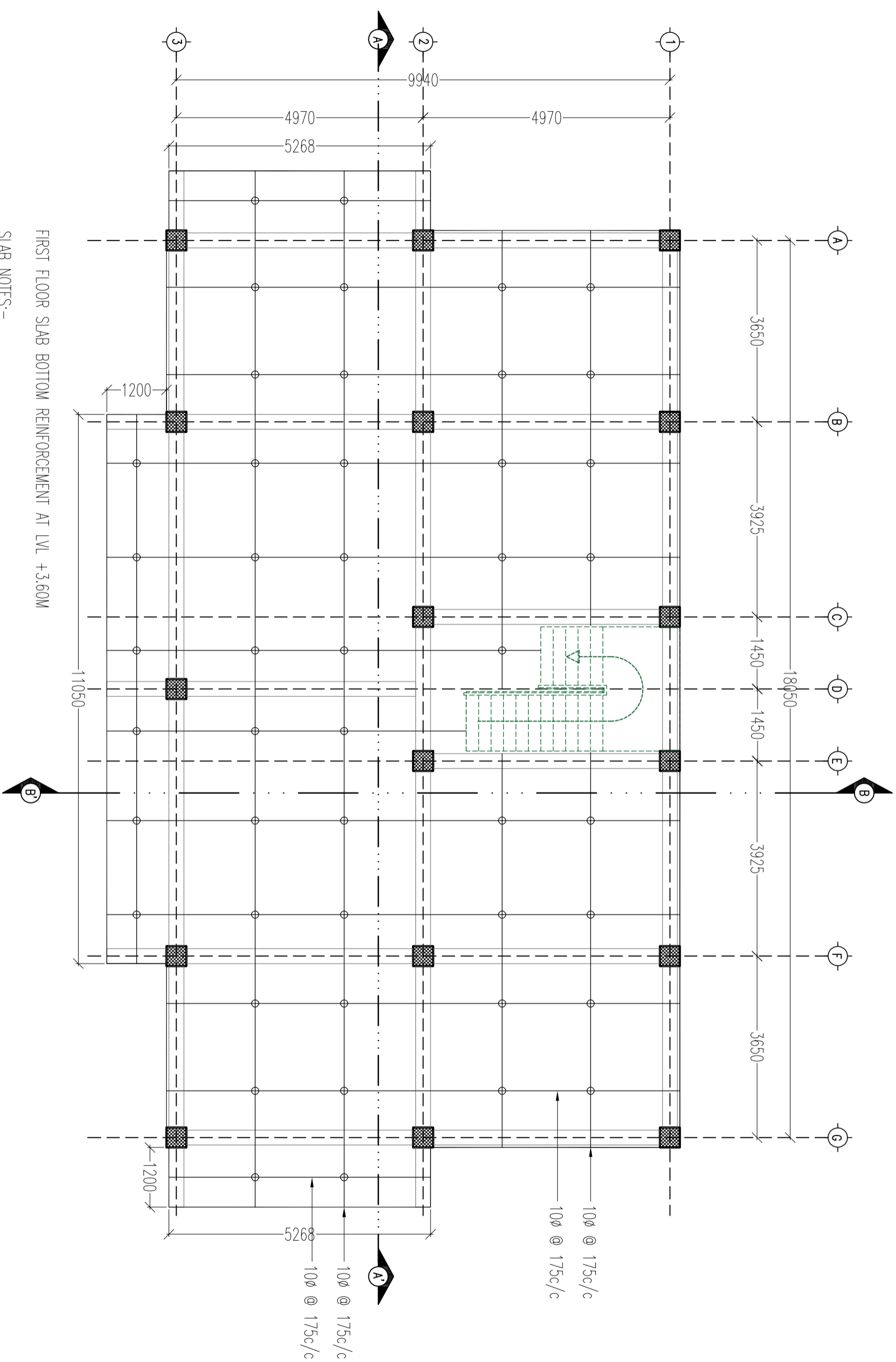
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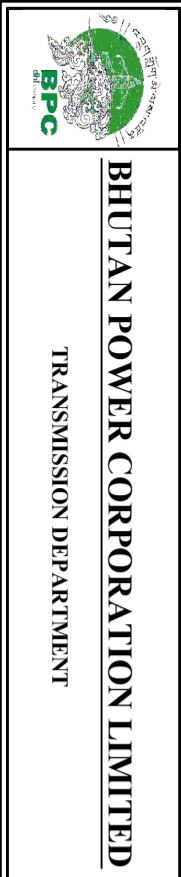
**YURMOO, TRONGSA**

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PROJECT TITLE		REFERENCE NOTES		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD  <b>DWG # 25</b>	
		2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED									
		3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER									
DRAWING STATUS		APPROVAL <input type="checkbox"/>	APPROVED <input checked="" type="checkbox"/>					SCALE		DATE	
								REF DWG		FEBRUARY, 2022	





PROJECT TITLE	
DESIGN OF STAFF QUARTER (G+2) AT YUMMOO, TRONGSA	
DRAWING STATUS	<div> <div>APPROVAL</div> <div> <input type="checkbox"/> </div> </div> <div> <div>APPROVED</div> <div> <input type="checkbox"/> </div> </div>

REFERENCE NOTES
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2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

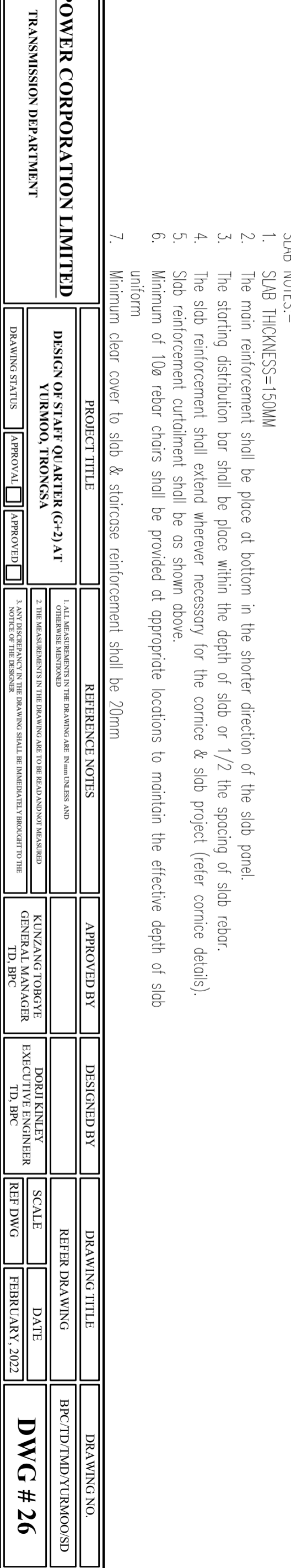
APPROVED BY
KUNZANG TOBGYE GENERAL MANAGER TD, BPC

DESIGNED BY
DORJI KINLEY EXECUTIVE ENGINEER TD, BPC

DRAW
REFEED
SCALE
REF DWG

WING TITLE  
R DRAWING  
DATE  
FEBRUARY, 2022

DRAWING NO.  
BPC/TD/TMD/YURMOO/SD  
**DWG # 26**





**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

## DESIGN OF STAFF QUARTER (G+2) AT

**YURMOO, TRONGSA**

DRAWING STATUS

APM

AP

VED

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

3 THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER

DESIGNED BY

**DORJI KINLEY**  
EXECUTIVE ENGINEER

DRAWING TITLE

## REFER DRAWING

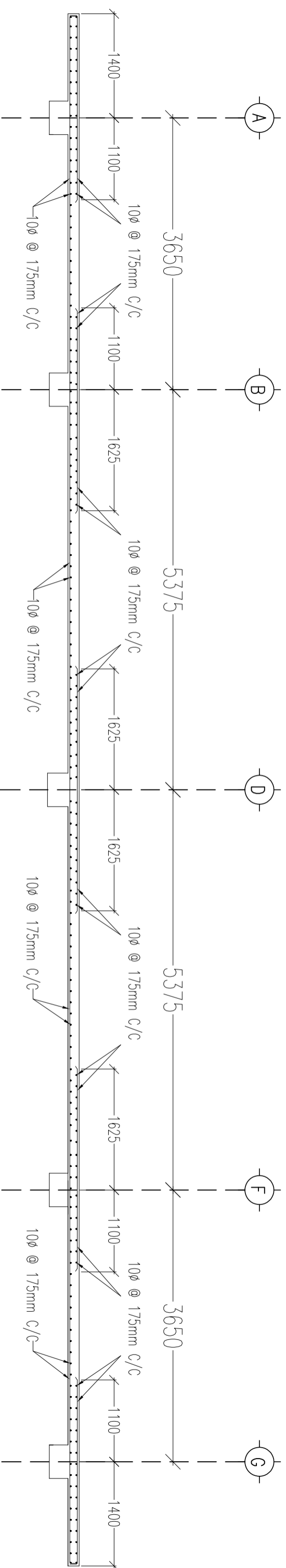
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DATE \_\_\_\_\_

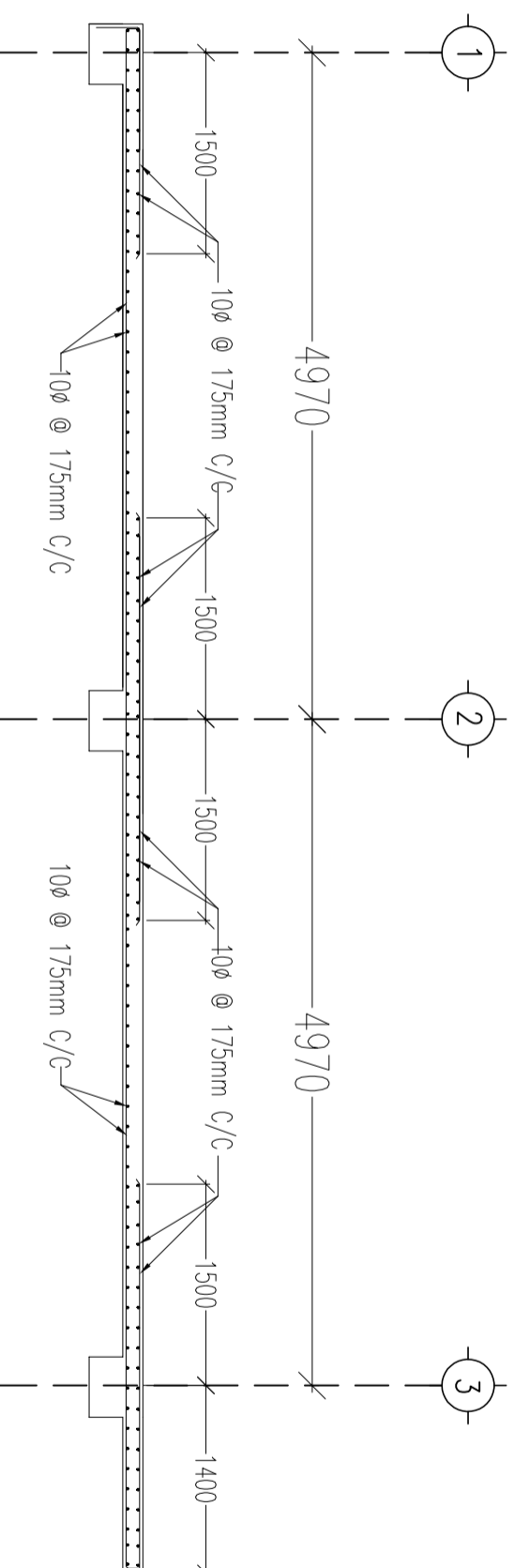
D R A W I N G N O.

BPC/TD/TMD/YURMOO/SD

**DWG # 27**

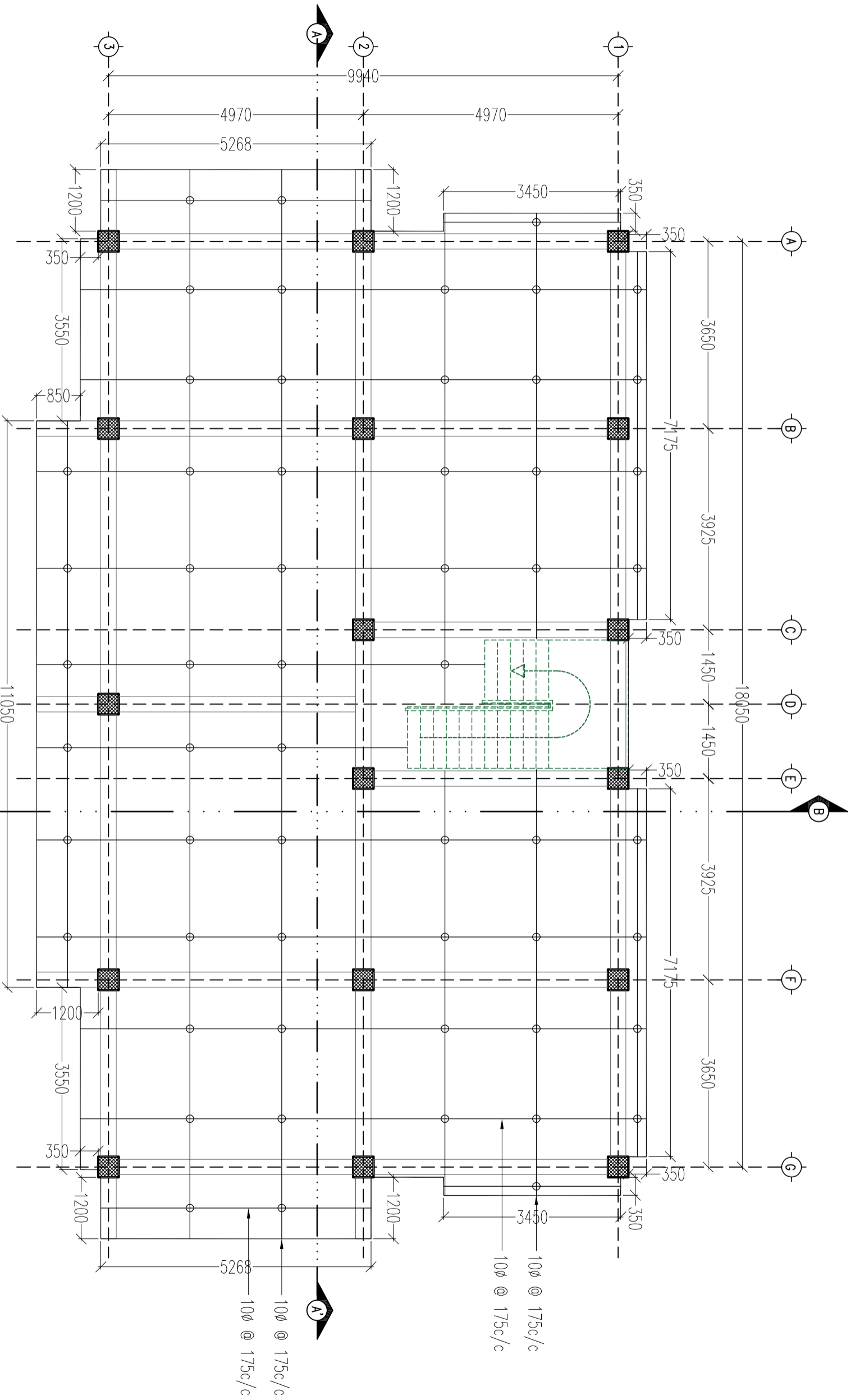


SECTION A-A



SECTION B-B

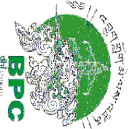
## SLAB SECTION DETAILS FOR FIRST FLOOR SLAB



SECOND FLOOR SLAB BOTTOM REINFORCEMENT AT LVL +6.75M

SLAB NOTES:-

1. SLAB THICKNESS=150MM
2. The main reinforcement shall be place at bottom in the shorter direction of the slab panel.
3. The starting distribution bar shall be place within the depth of slab or 1/2 the spacing of slab rebar.
4. The slab reinforcement shall extend wherever necessary for the cornice & slab project (refer cornice details).
5. Slab reinforcement curtailment shall be as shown above.
6. Minimum of 10Ø rebar chairs shall be provided at appropriate locations to maintain the effective depth of slab uniform
7. Minimum clear cover to slab & staircase reinforcement shall be 20mm
8. Slab reinforcement shall be extended wherever necessary for the cornice projects (refer cornice rebar detail)



BHUTAN POWER CORPORATION LIMITED

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA

DRAWING STATUS

APPROVAL ☐ APPROVED ☐

REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED  
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED  
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE

REFER DRAWING

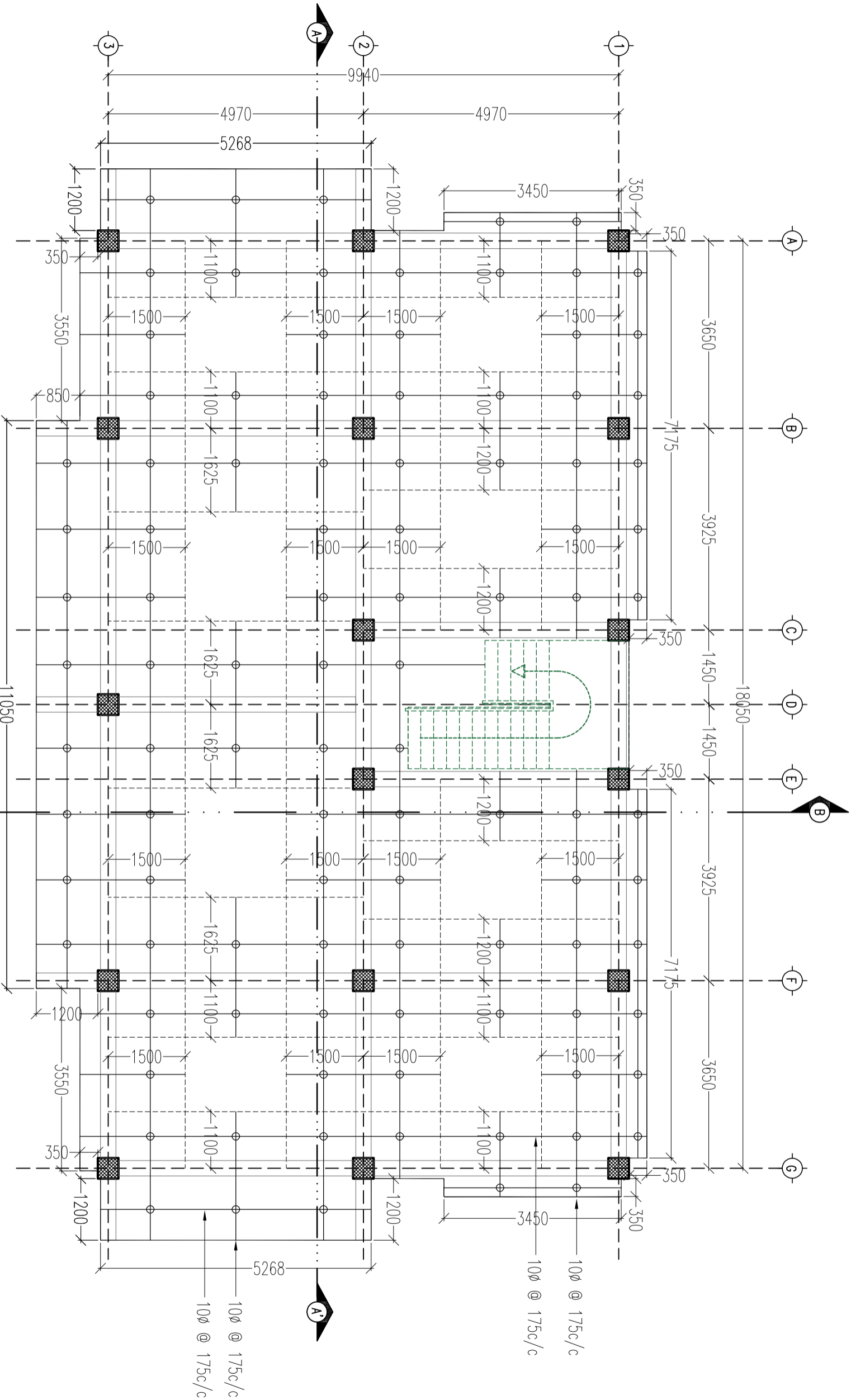
SCALE

DATE

DRAWING NO.

BPC/TD/TMD/YURMOO/SD

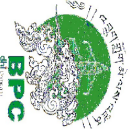
DWG # 28



SECOND FLOOR SLAB TOP REINFORCEMENT AT LVL +6.75M

SLAB NOTES:-

1. SLAB THICKNESS=150MM
2. The main reinforcement shall be place at bottom in the shorter direction of the slab panel.
3. The starting distribution bar shall be place within the depth of slab or 1/2 the spacing of slab rebar.
4. The slab reinforcement shall extend wherever necessary for the cornice & slab project (refer cornice details).
5. Slab reinforcement curtailment shall be as shown above.
6. Minimum of 10Ø rebar chairs shall be provided at appropriate locations to maintain the effective depth of slab uniform
7. Minimum clear cover to slab & staircase reinforcement shall be 20mm



BHUTAN POWER CORPORATION LIMITED

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA

DRAWING STATUS

APPROVAL

APPROVED

REFERENCE NOTES

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2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED  
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE

SCALE

REFER DRAWING

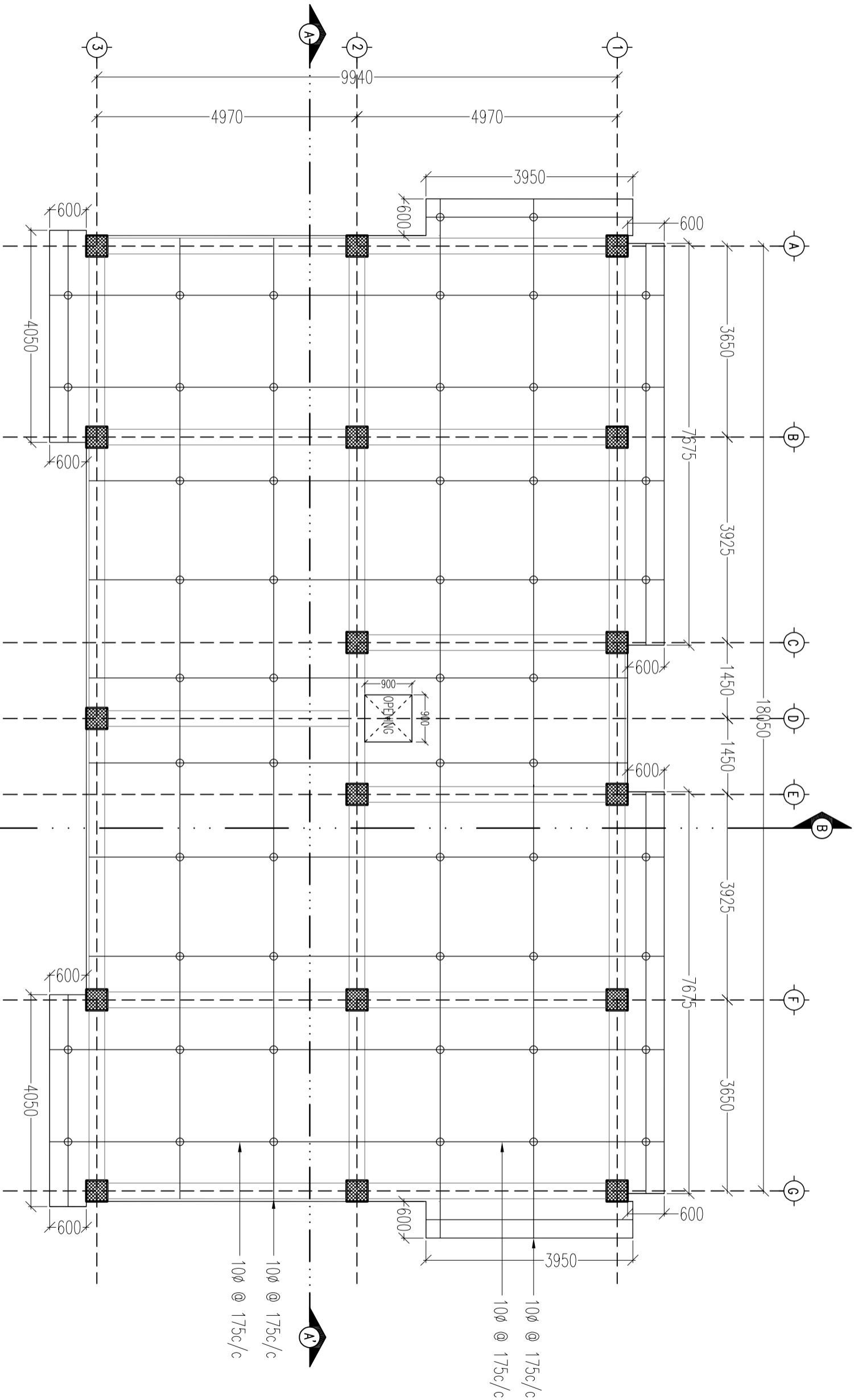
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DRAWING NO.

BPC/TD/TMD/YURMOO/SD

DWG # 29

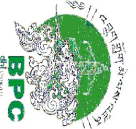




ROOF FLOOR SLAB BOTTOM REINFORCEMENT AT LVL +9.90M

SLAB NOTES:-

- 1. SLAB THICKNESS=150MM
- 2. The main reinforcement shall be place at bottom in the shorter direction of the slab panel.
- 3. The starting distribution bar shall be place within the depth of slab or 1/2 the spacing of slab rebar.
- 4. The slab reinforcement shall extend wherever necessary for the cornice & slab project (refer cornice details).
- 5. Slab reinforcement curtailment shall be as shown above.
- 6. Minimum of 10Ø rebar chairs shall be provided at appropriate locations to maintain the effective depth of slab uniform
- 7. Minimum clear cover to slab & staircase reinforcement shall be 20mm



BHUTAN POWER CORPORATION LIMITED

TRANSMISSION DEPARTMENT

PROJECT TITLE

DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA

DRAWING STATUS

APPROVAL ☐ APPROVED ☐

REFERENCE NOTES

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2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED  
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

DORJI KINLEY  
EXECUTIVE ENGINEER  
TD, BPC

DRAWING TITLE

SCALE

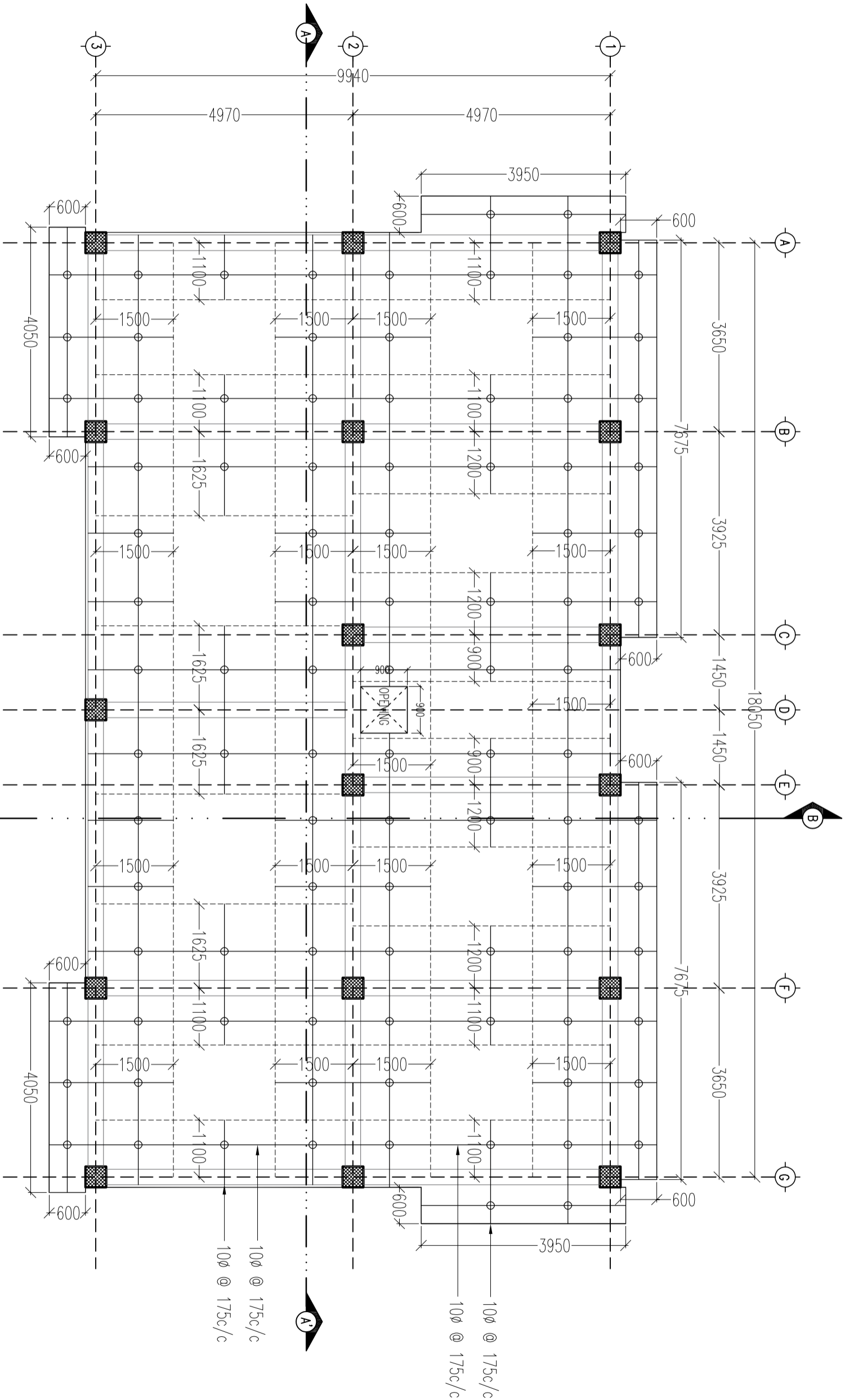
REFER DRAWING

DATE

DRAWING NO.

BPC/TD/TMD/YURMOO/SD

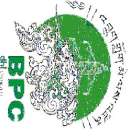
DWG # 31



ROOF FLOOR SLAB TOP REINFORCEMENT AT LVL +9.90M

SLAB NOTES:-

1. SLAB THICKNESS=150MM
2. The main reinforcement shall be place at bottom in the shorter direction of the slab panel.
3. The starting distribution bar shall be place within the depth of slab or 1/2 the spacing of slab rebar.
4. The slab reinforcement shall extend wherever necessary for the cornice & slab project (refer cornice details).
5. Slab reinforcement curtailment shall be as shown above.
6. Minimum of 10Ø rebar chairs shall be provided at appropriate locations to maintain the effective depth of slab uniform
7. Minimum clear cover to slab & staircase reinforcement shall be 20mm

		<b>BHUTAN POWER CORPORATION LIMITED</b>		<b>PROJECT TITLE</b>		<b>REFERENCE NOTES</b>		<b>APPROVED BY</b>		<b>DESIGNED BY</b>		<b>DRAWING TITLE</b>		<b>DRAWING NO.</b>	
<b>TRANSMISSION DEPARTMENT</b>		<b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA</b>		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
<b>DRAWING STATUS</b>		<b>APPROVAL</b> <input type="checkbox"/> <b>APPROVED</b> <input type="checkbox"/>		3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER								<b>SCALE</b>		<b>DATE</b>	
												<b>REF DWG</b>		<b>FEBRUARY, 2022</b>	
														<b>DWG # 32</b>	





**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

API

APP

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER  
TD, BPC

DESIGNED BY

**DORJI KINLEY**  
**EXECUTIVE ENGINEER**  
**TD, BPC**

DRAFTING TITLE

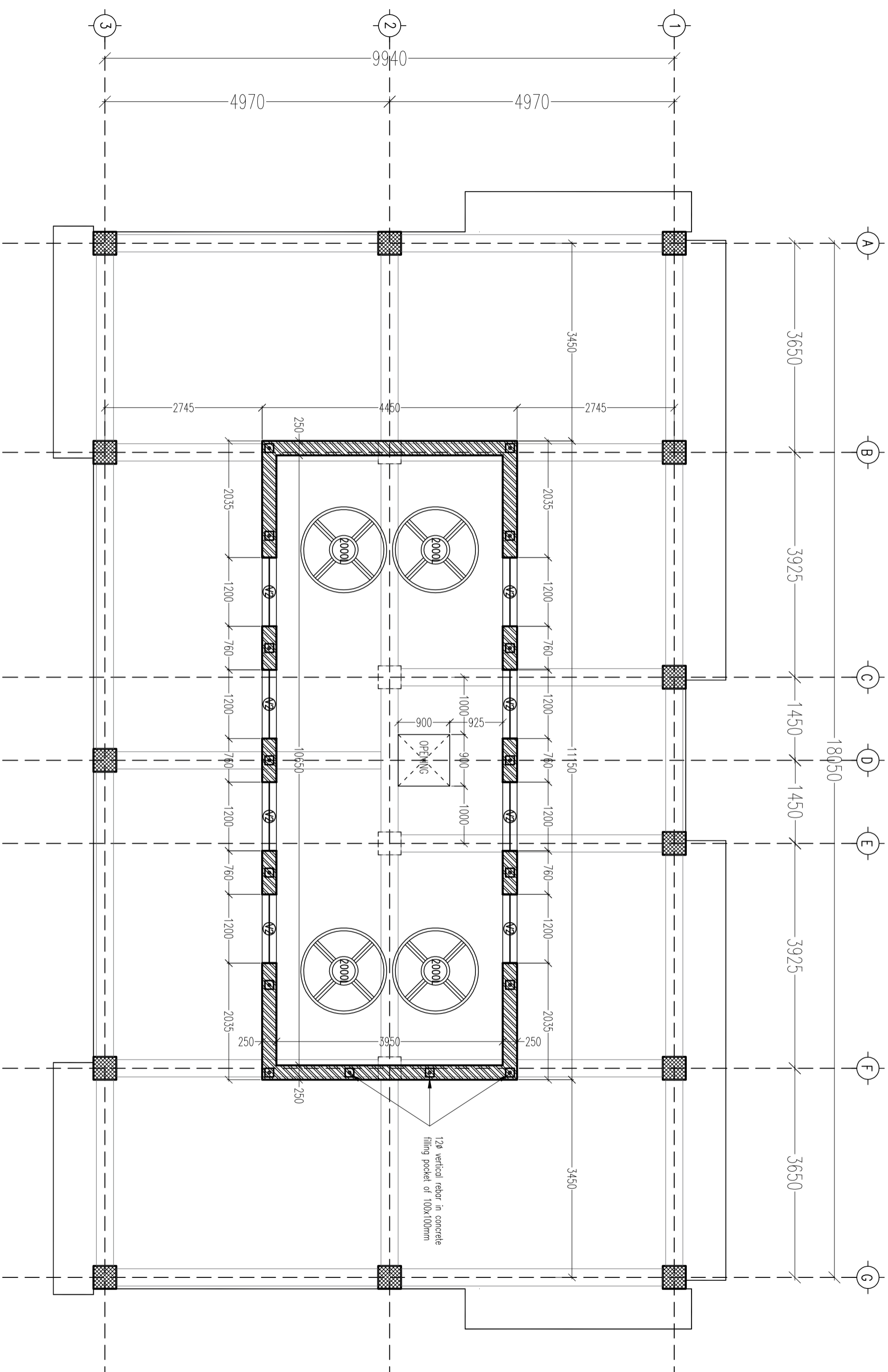
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DATE	DATE
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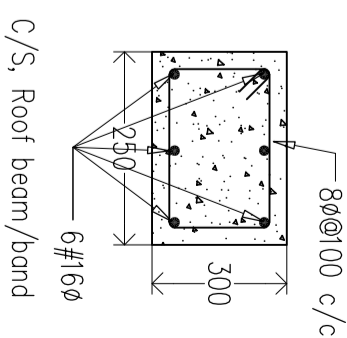
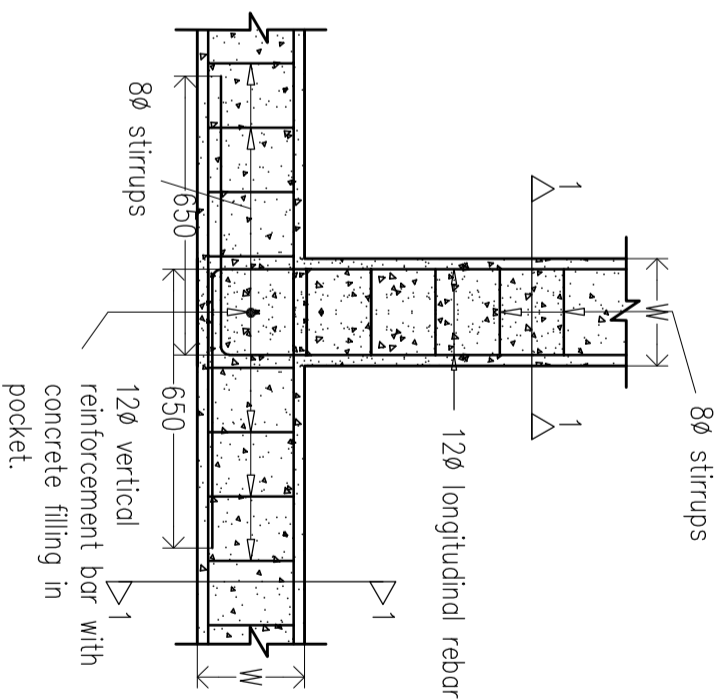
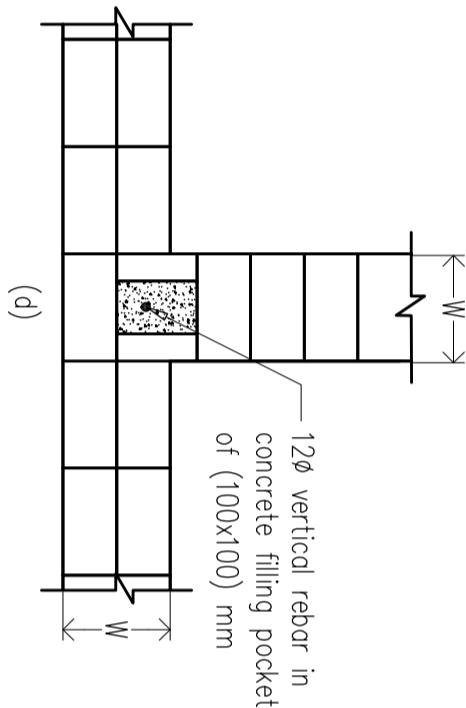
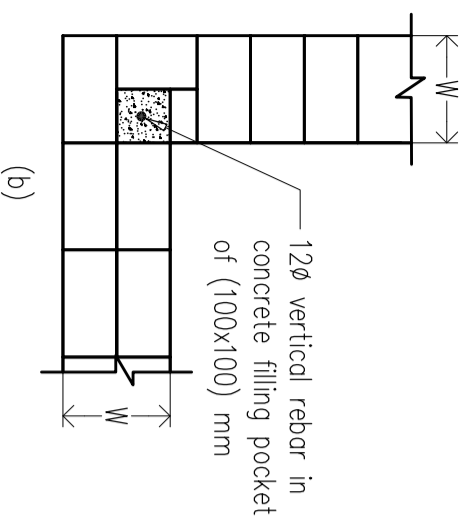
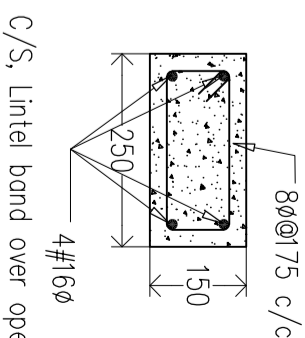
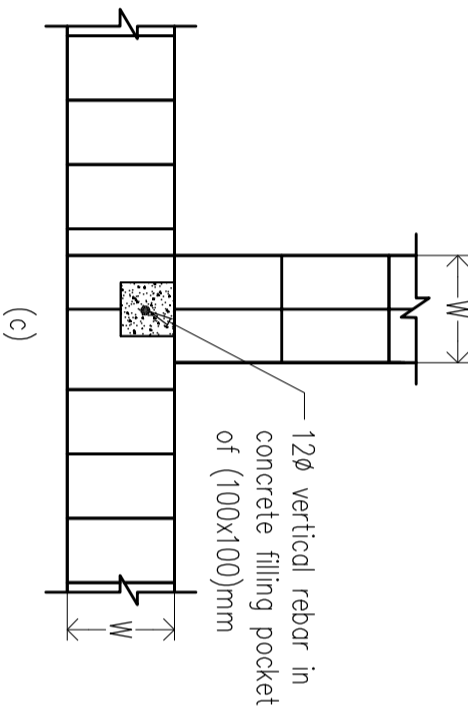
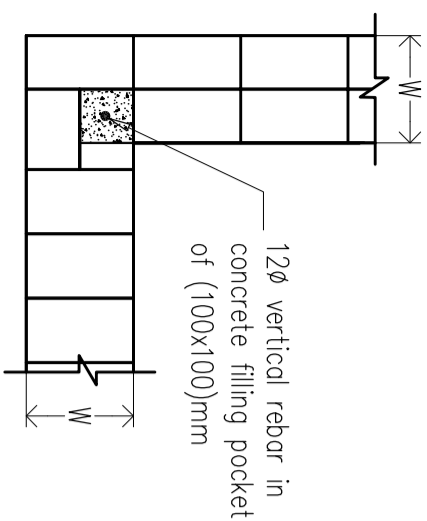
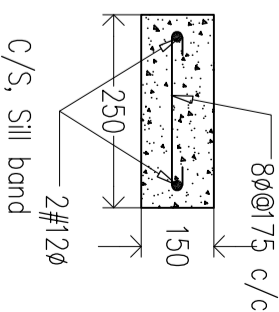
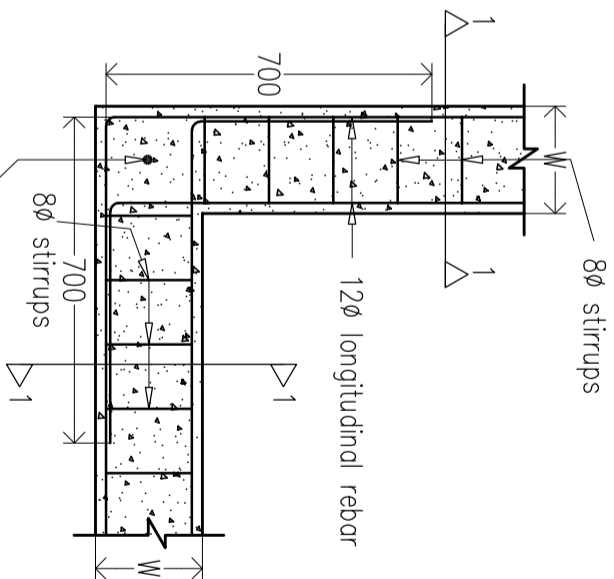
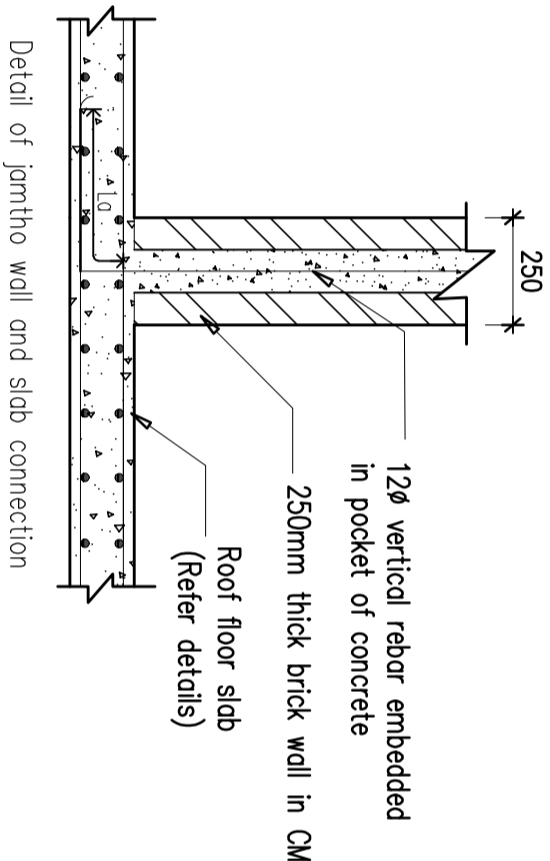
D R A W I N G N O.

BPC/TD/TMD/YURMOO/SD

**DWG # 34**



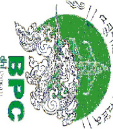
- Note:
1. RC bands shall continue all around the walls.
  2. Vertical rebar shall be properly anchored in roof slab & shall continue through the band till the roof band.
  3. M20 concrete (1:1.5:3) shall be used for all RC works.
  4. The band shall be of the full width of the wall thick thickness as specified in the section details.
  5. The band shall be provided at sill level, lintel level and roof level.
  6. Clear cover of 25mm shall be provided for the rebars.
  7. Steel grade of Fe 500(TMT) shall be used. (BSB approved brands only)

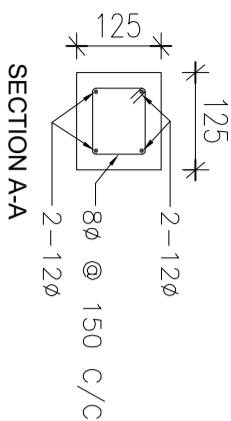
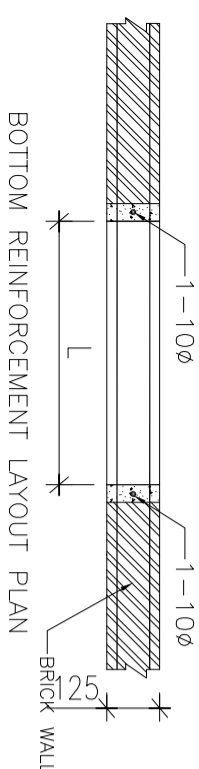
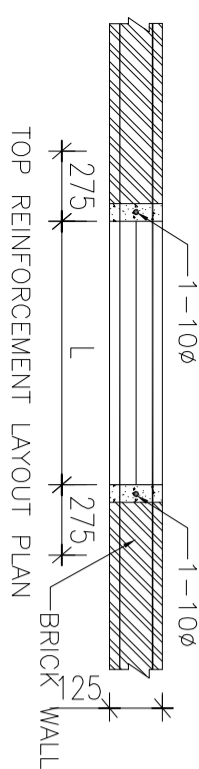
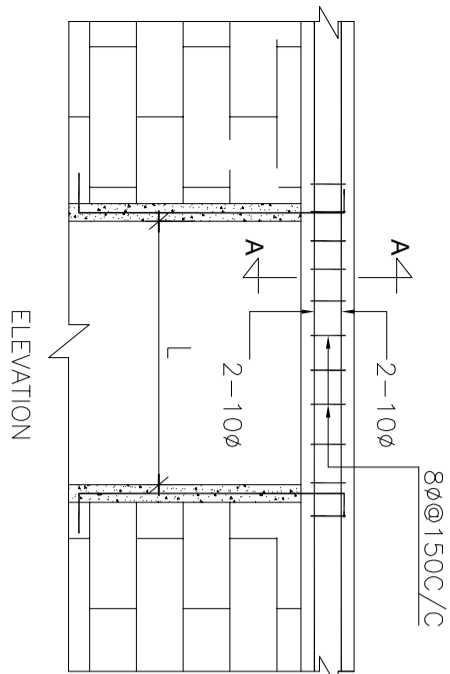


(a) and (b), alternate courses of brick/stone masonry wall at L-junctions (typical)

(c) and (d), alternate courses of brick/stone masonry wall at T-junctions (typical)

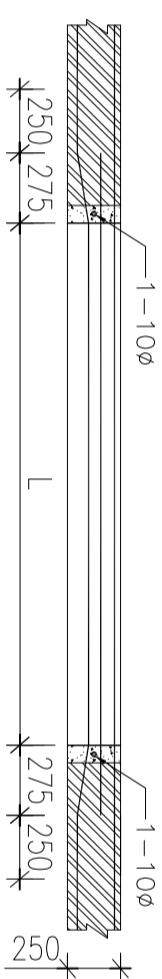
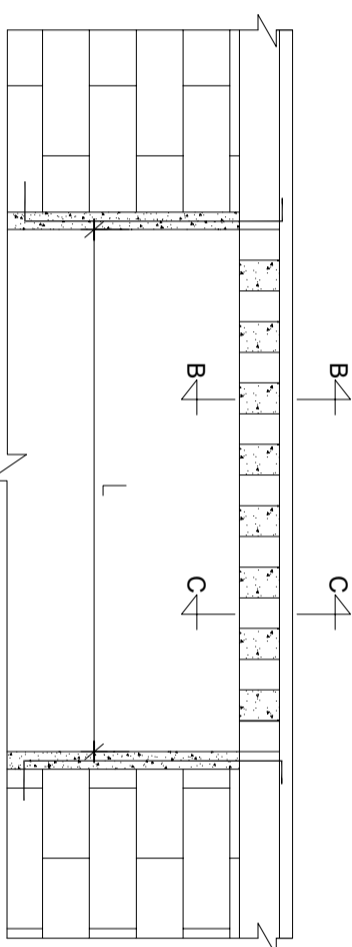
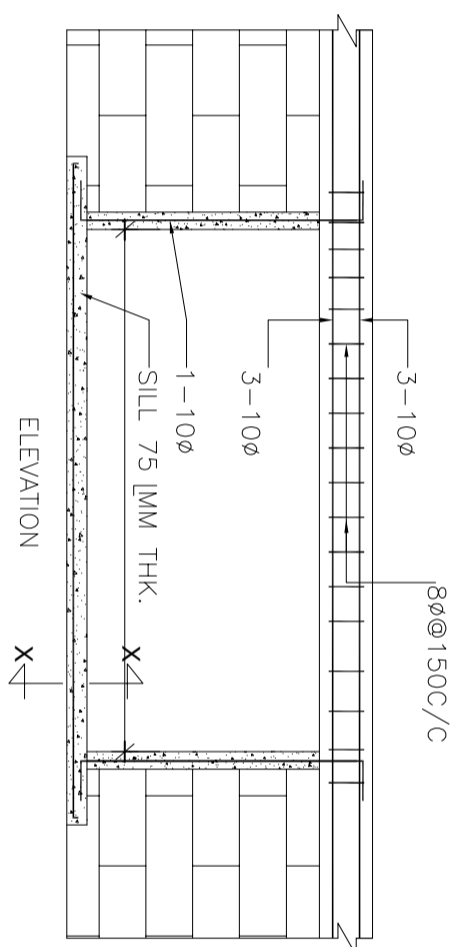
Details of band reinforcement at T-junctions

	<b>BHUTAN POWER CORPORATION LIMITED</b>		TRANSMISSION DEPARTMENT				
PROJECT TITLE		REFERENCE NOTES		APPROVED BY	DESIGNED BY	DRAWING TITLE	
DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONCSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		KUNZANG TOBGYE GENERAL MANAGER TD, BPC	DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	REFER DRAWING	BPC/TD/TMD/YURMOO/SD
DRAWING STATUS		APPROVAL		APPROVED	SCALE	DATE	DWG # 35

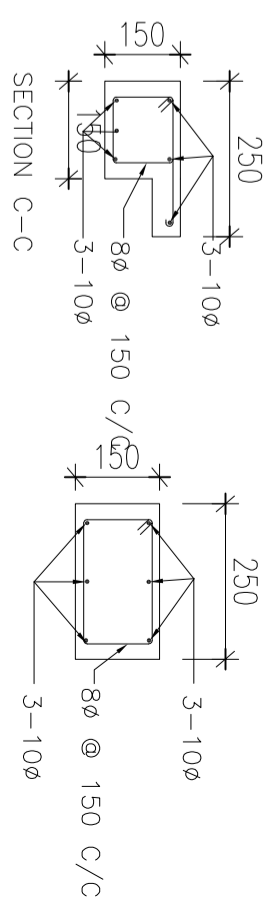


LINTEL DETAILS FOR 125MM THICK. WALL

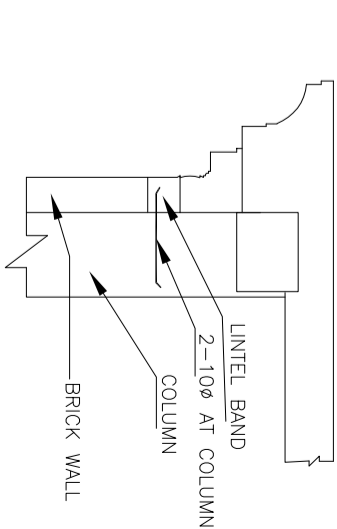
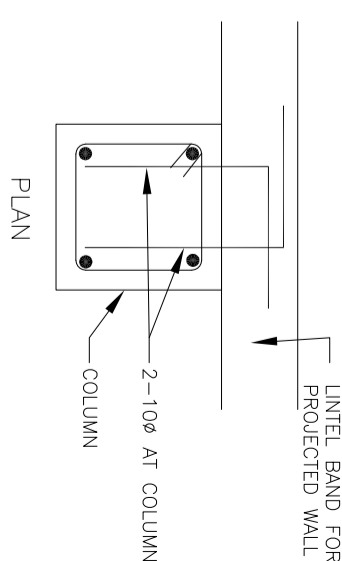
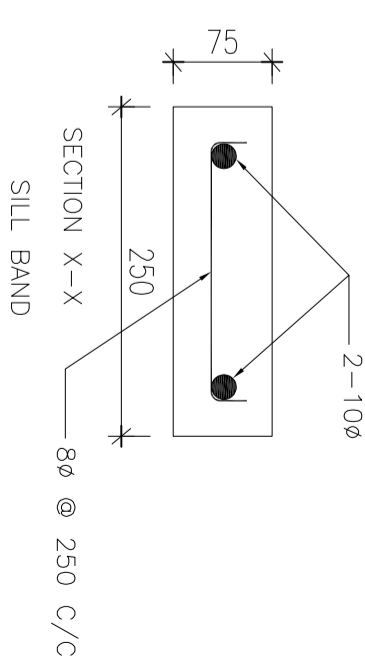
NOTE:  
LINTEL SHOULD BE PROVIDED AROUND THE MAIN WALL



LINTEL DETAIL FOR 250 MM THICK. WALL

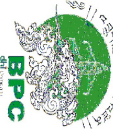


LINTEL SECTION DETAILS FOR 250mm THICK WALL



TYPICAL ANCHORAGE DETAILS FOR  
LINTEL BAND FOR PROJECTED WALL

# INTERNAL CUT LINTEL/LINTEL BEAM DETAILS OVER OPENING

	<b>BHUTAN POWER CORPORATION LIMITED</b>		PROJECT TITLE		REFERENCE NOTES		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
TRANSMISSION DEPARTMENT			DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		KUNZANG TOBGYE GENERAL MANAGER TD, BPC		DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
			DRAWING STATUS				APPROVAL		APPROVED		SCALE		DATE	
											REF DWG		FEBRUARY, 2022	
													DWG # 36	



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

## DESIGN OF STAFF QUARTER (G+2) AT

**YURMOO, TRONGSA**

DRAWING STATUS

APPROVAL

APPROVED

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

**2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED**

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

KUNZANG TOBGYE  
GENERAL MANAGER

DESIGNED BY

**DORJI KINLEY**  
EXECUTIVE ENGINEER  
ED. PROJ.

DRAFTING TITLE

## REFER DRAWING

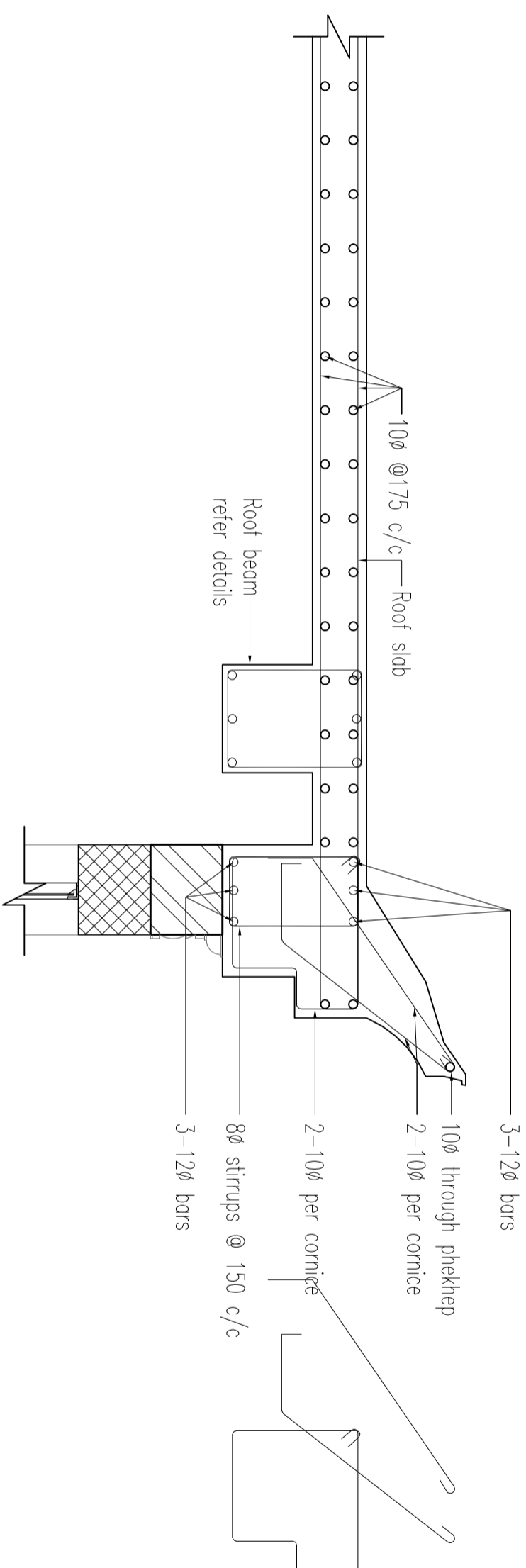
SCALE

DATA

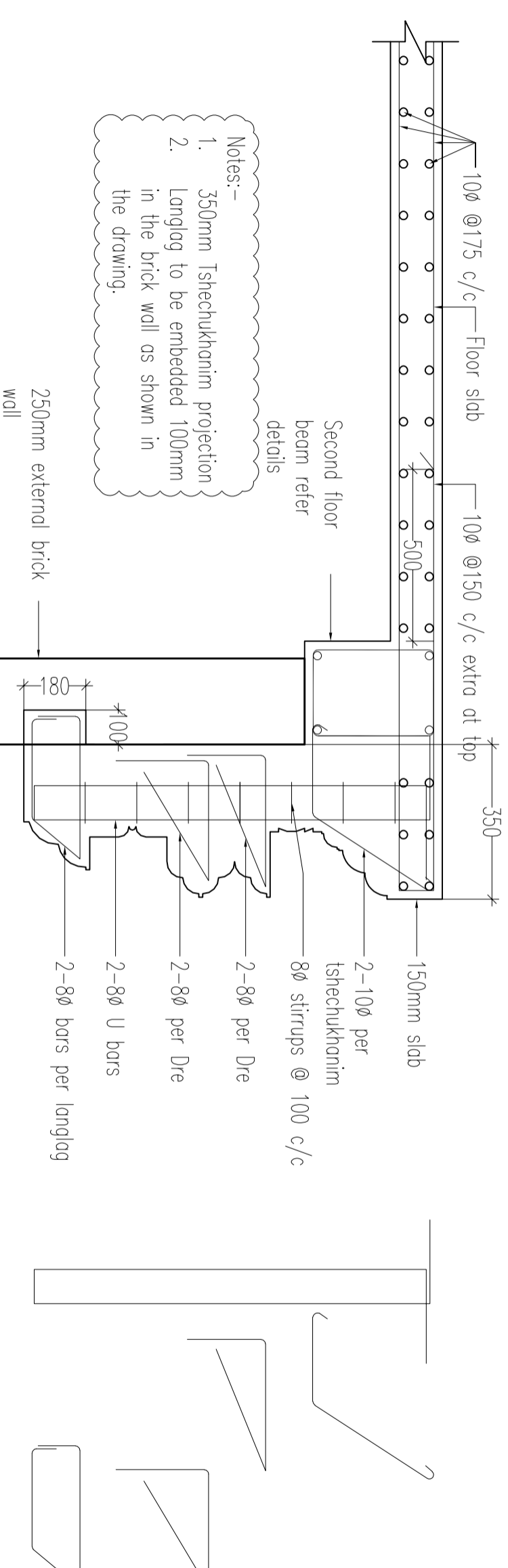
D R A W I N G N O.

BPC/TD/TMD/YURMOO/SD

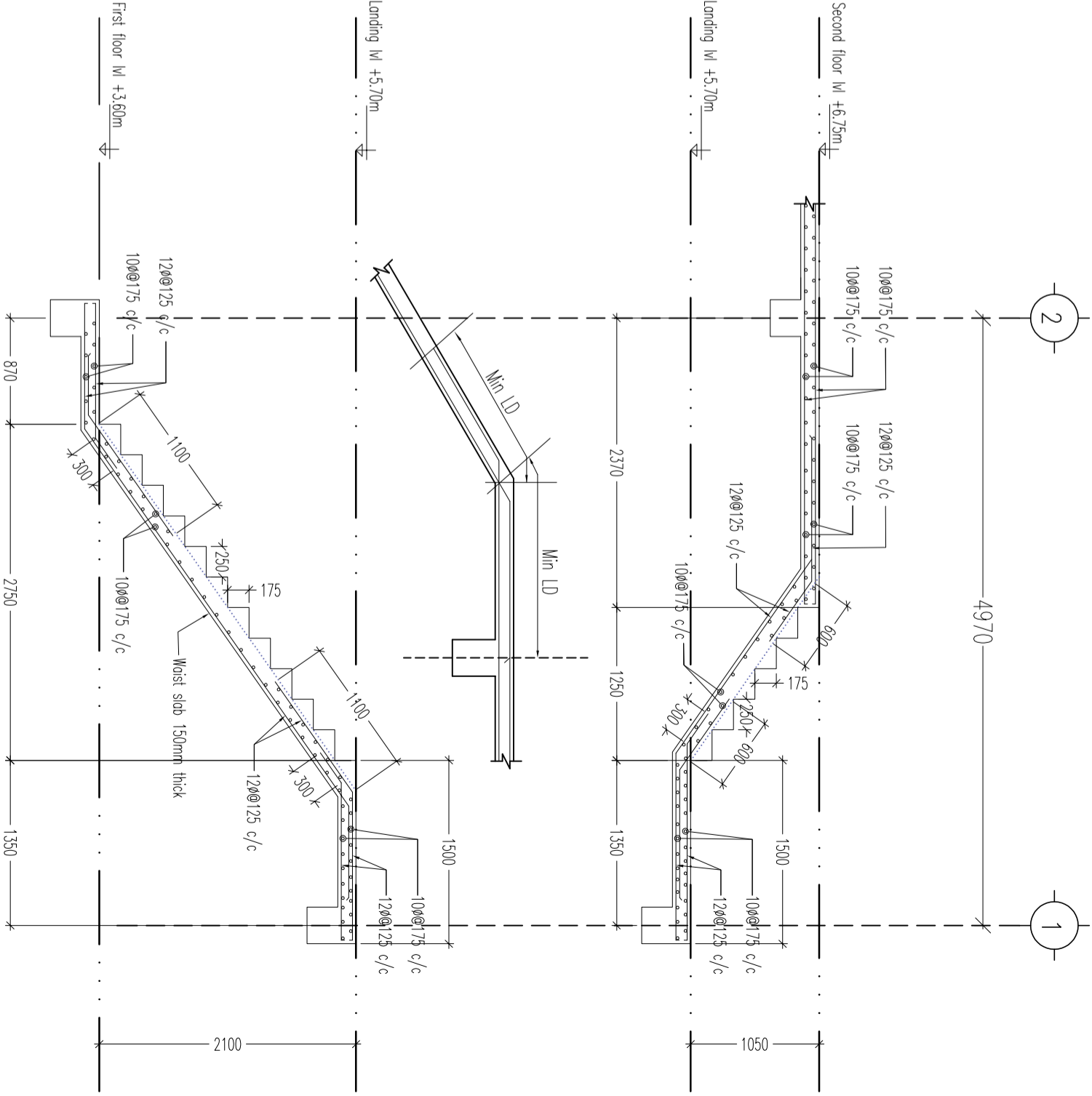
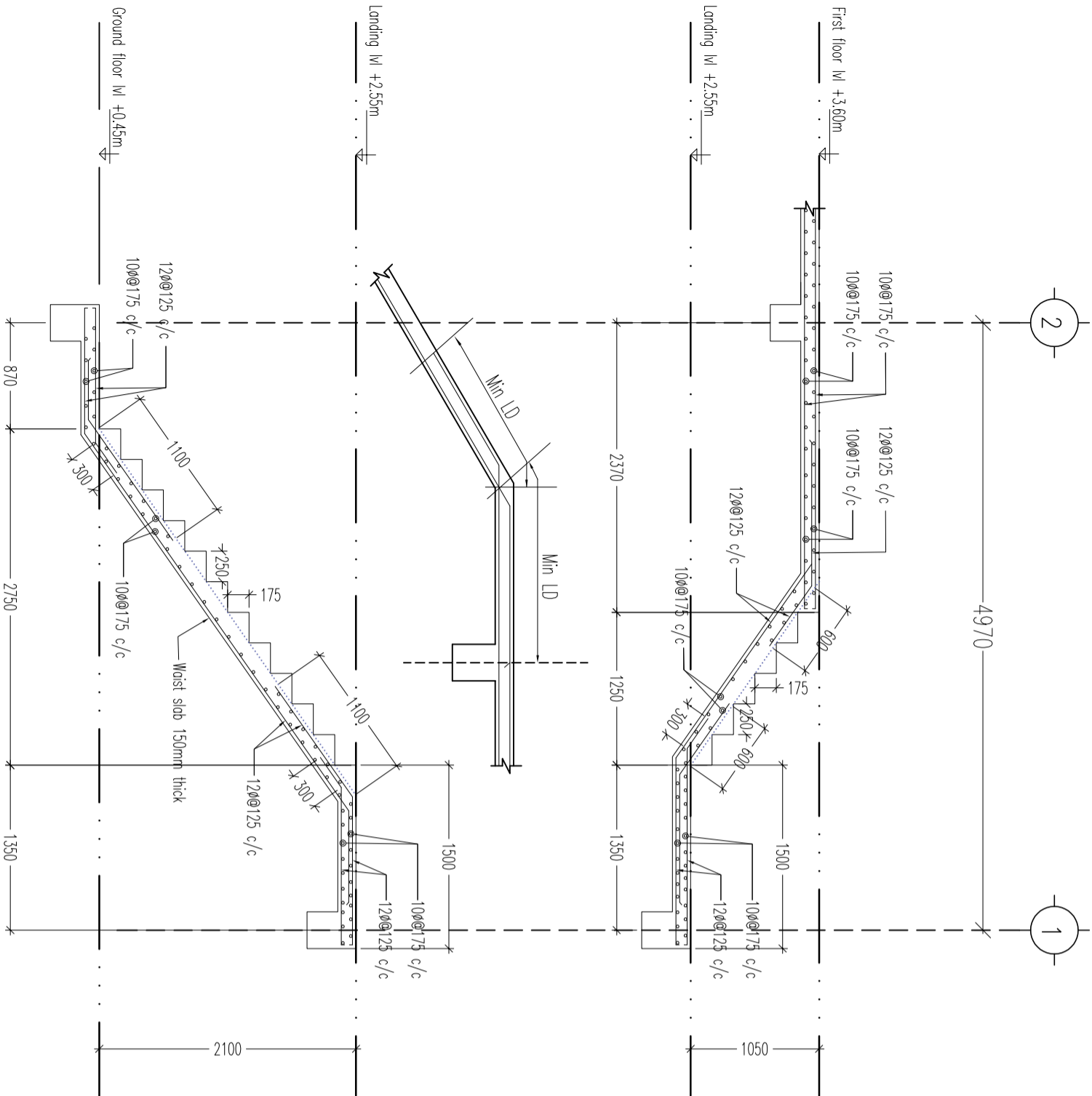
**DWG # 37**




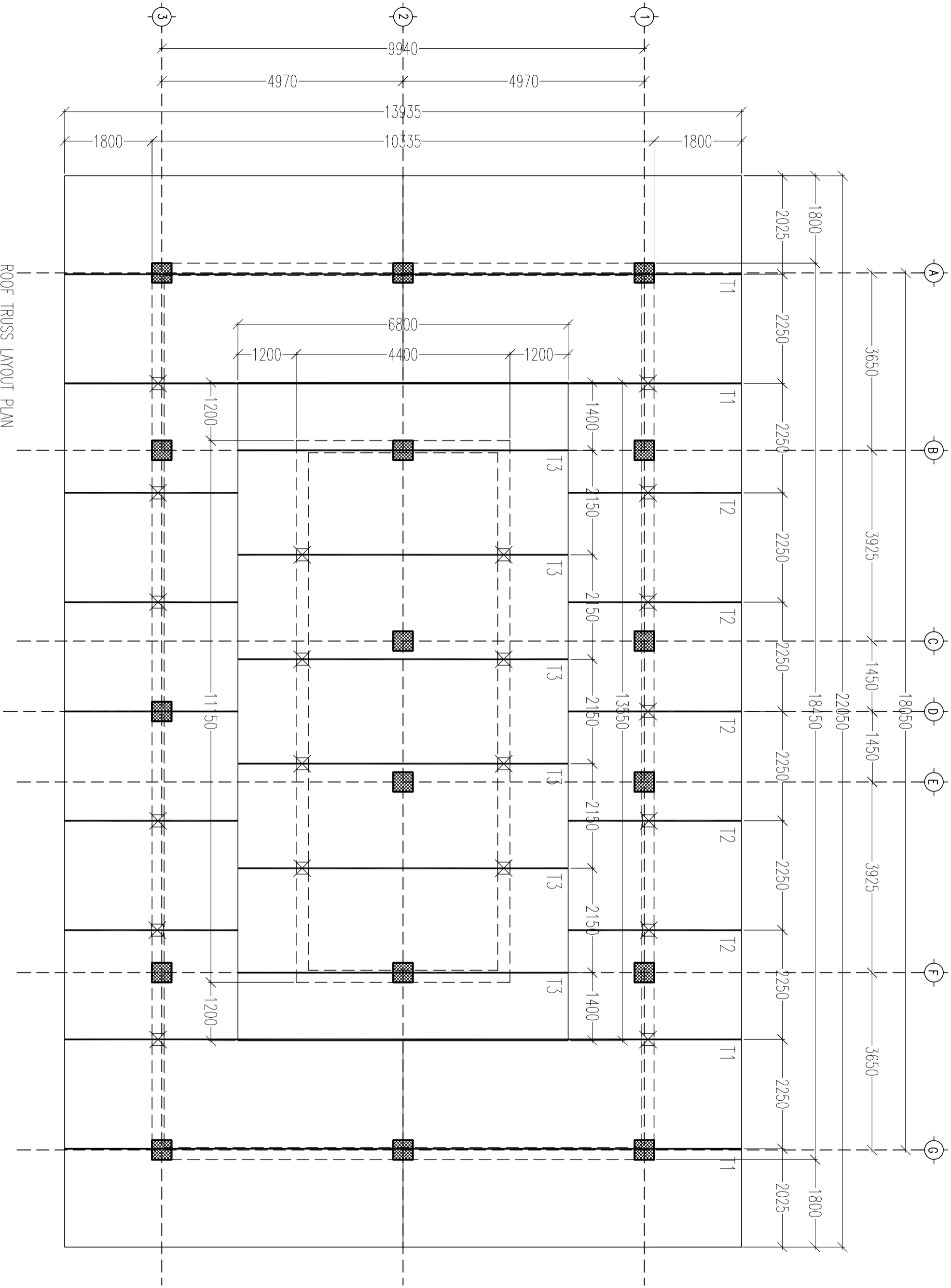
## CORNICE DETAILS AT ROOF LEVEL



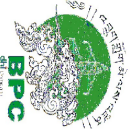
CORNICE DETAIL AT SECOND FLOOR LEVEL

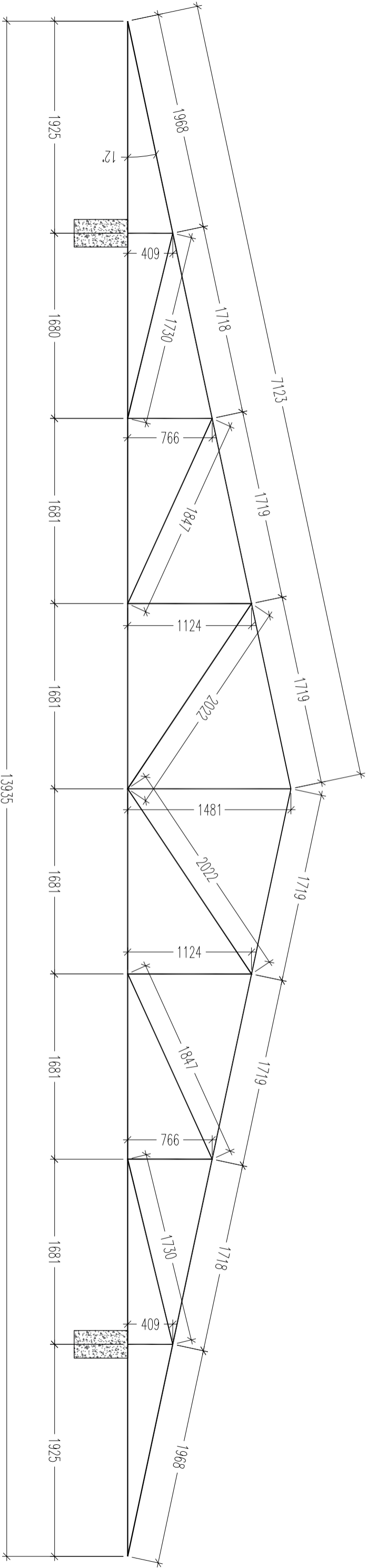


<div><div><b>BPC</b> Bhutan Power Corporation Limited</div></div>		<div><b>BHUTAN POWER CORPORATION LIMITED</b></div> <div><b>TRANSMISSION DEPARTMENT</b></div>													
<div>PROJECT TITLE</div>		<div>REFERENCE NOTES</div>													
<div>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA</div>		<div>1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED</div> <div>2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED</div> <div>3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER</div>													
<div>DRAWING STATUS</div>		<div>APPROVAL</div>		<div>APPROVED</div>		<div>KUNZANG TOBGYE GENERAL MANAGER TD, BPC</div>		<div>DORJI KINLEY EXECUTIVE ENGINEER TD, BPC</div>		<div>DRAWING TITLE</div>		<div>DRAWING NO.</div>			
		<div><input type="checkbox"/></div>		<div><input type="checkbox"/></div>						<div>SCALE</div>		<div>REFER DRAWING</div>		<div>BPC/TD/TMD/YURMOO/SD</div>	
										<div>DATE</div>				<div>DWG # 38</div>	
										<div>FEBRUARY, 2022</div>					



ROOF TRUSS LAYOUT PLAN

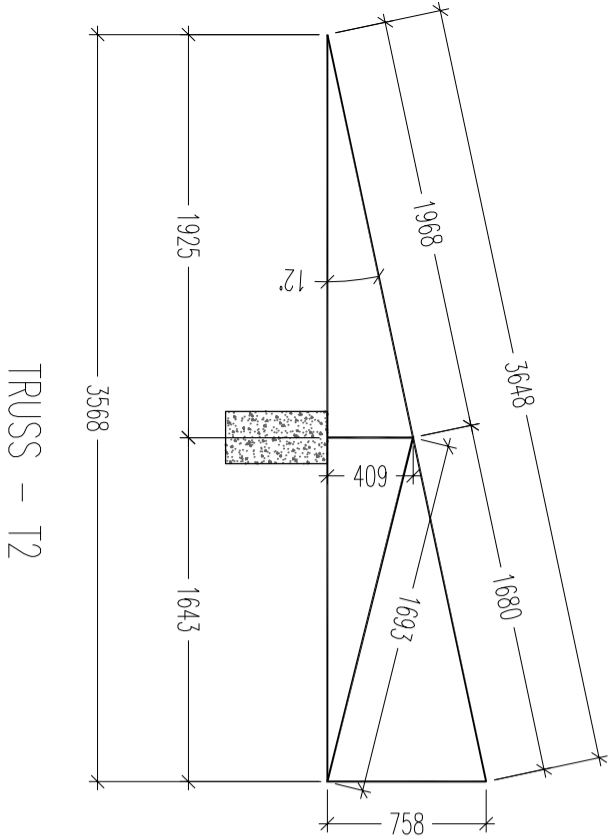
	BHUTAN POWER CORPORATION LIMITED					
	TRANSMISSION DEPARTMENT					
	PROJECT TITLE	DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA				
	DRAWING STATUS	APPROVAL <input type="checkbox"/> APPROVED <input type="checkbox"/>				
REFERENCE NOTES		APPROVED BY	DESIGNED BY	DRAWING TITLE		DRAWING NO.
1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		KUNZANG TOBGYE GENERAL MANAGER TD, BPC	DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	REFER DRAWING		BPC/TD/TMD/YURMOO/SD
2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED				SCALE	DATE	
3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER				REF DWG	FEBRUARY, 2022	
DWG # 39						



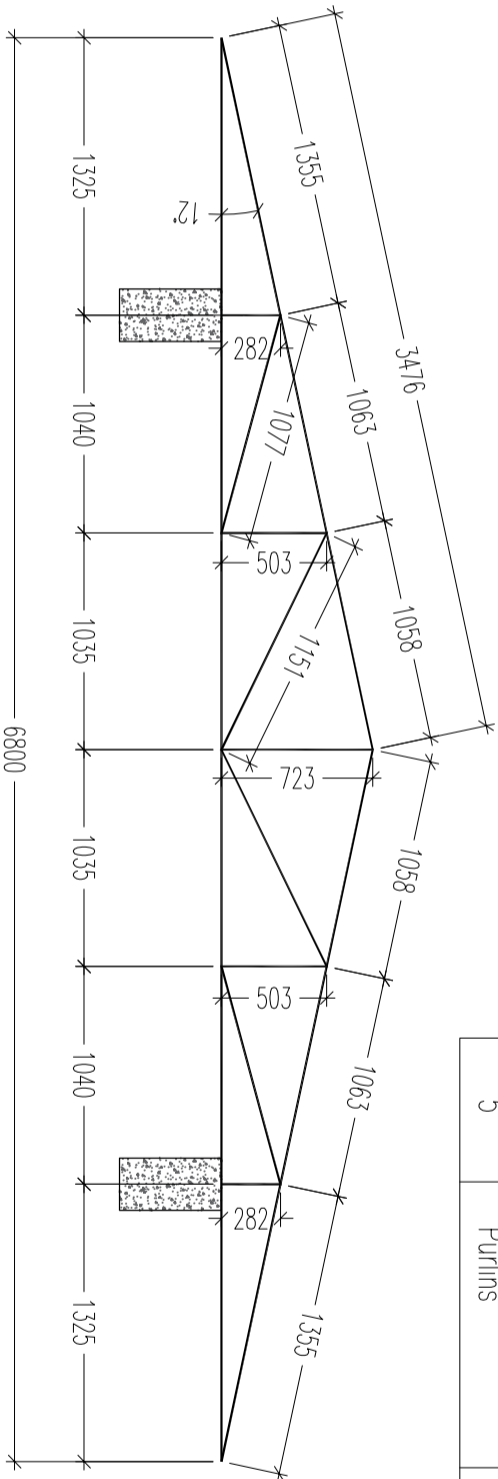
TRUSS – T1

TRUSS MEMBER SIZES

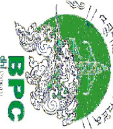
Sl. No	MEMBERS	SIZE
1	Bottom Chords	60.3mm OD, 3.65mm thick, 5.10kg/m
2	Rafters	60.3mm OD, 3.65mm thick, 5.10kg/m
3	Vertical struts	48.3mm OD, 3.25mm thick, 3.61kg/m
4	Inclined struts	48.3mm OD, 3.25mm thick, 3.61kg/m
5	Purlins	60.3mm OD, 3.65mm thick, 5.10kg/m @ 1000c/c

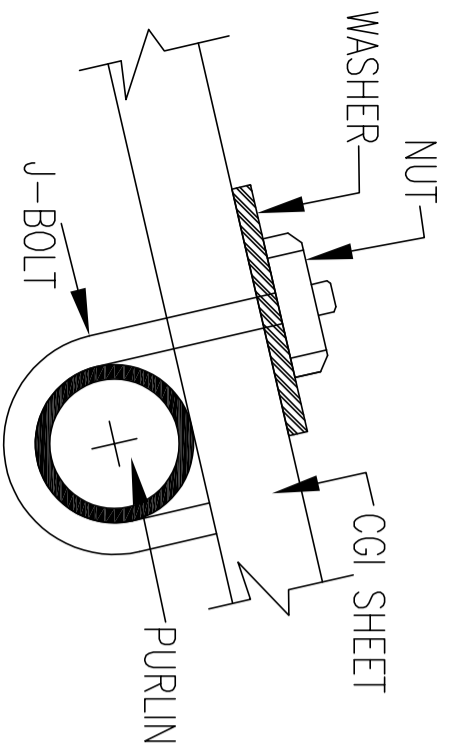


TRUSS – T2

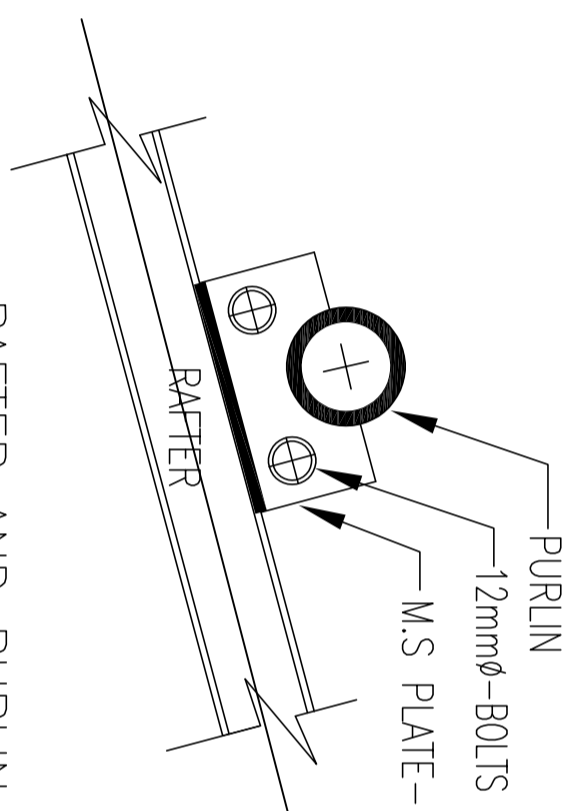


TRUSS – T3

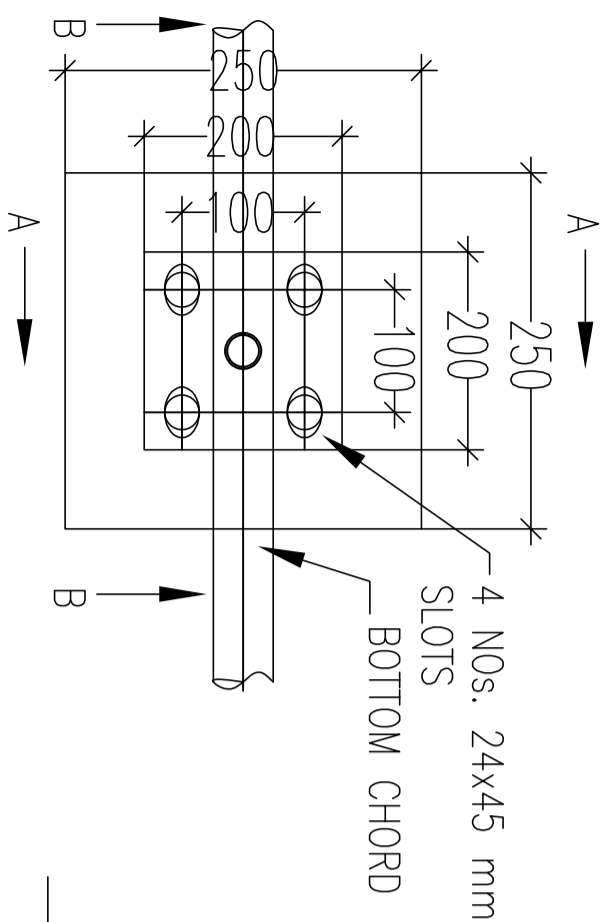
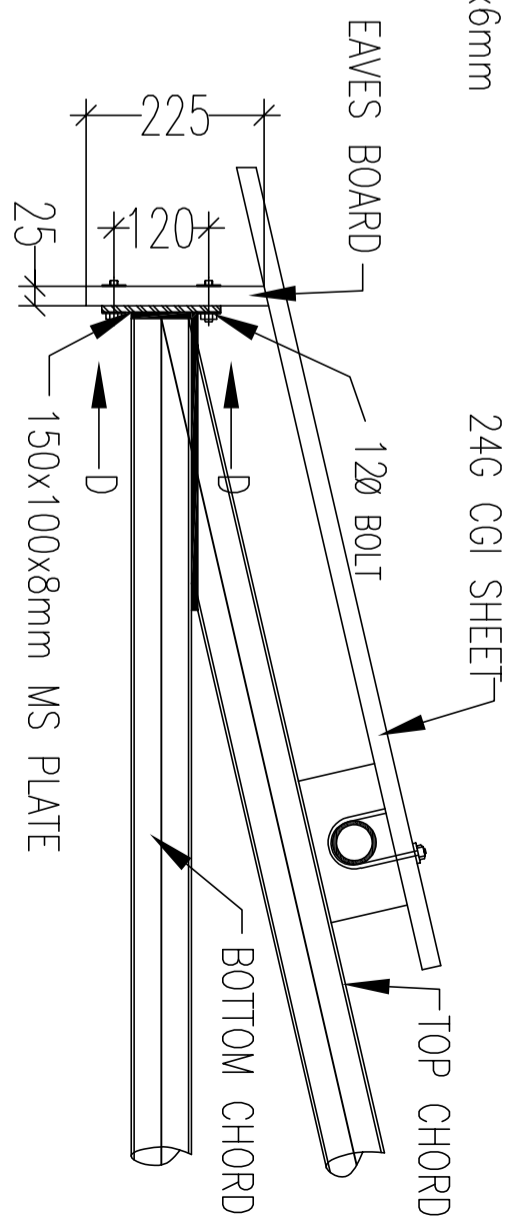
	<b>BHUTAN POWER CORPORATION LIMITED</b>	
TRANSMISSION DEPARTMENT		
PROJECT TITLE	DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA	
REFERENCE NOTES	1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER	
APPROVED BY	DESIGNED BY	DRAWING TITLE
KUNZANG TOBGYE GENERAL MANAGER TD, BPC	DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	BPC/TD/TMD/YURMOO/SD
SCALE	DATE	<b>DWG # 40</b>
REF DWG	FEBRUARY, 2022	
DRAWING STATUS	APPROVAL <input type="checkbox"/>	APPROVED <input type="checkbox"/>



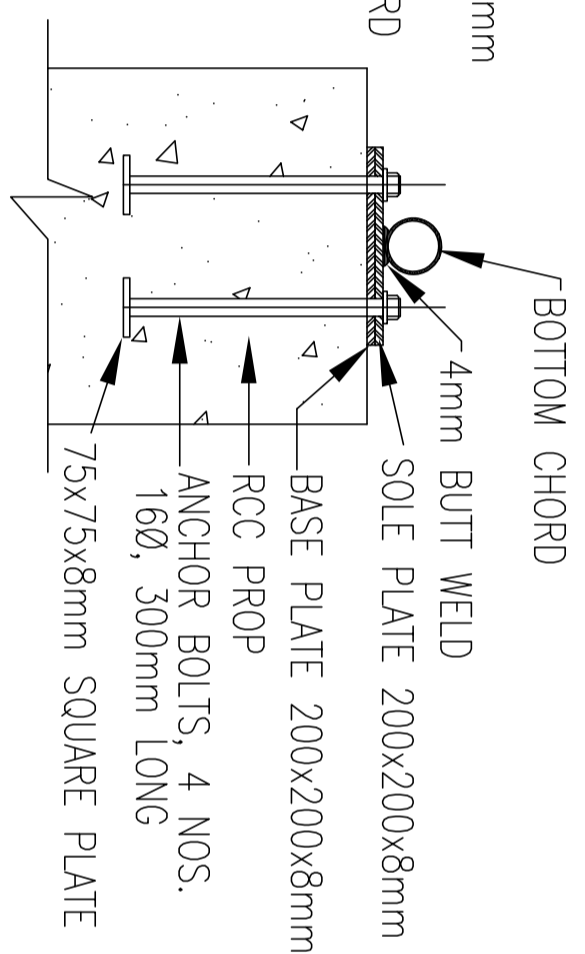
CONNECTION OF CGI SHEET TO PURLIN



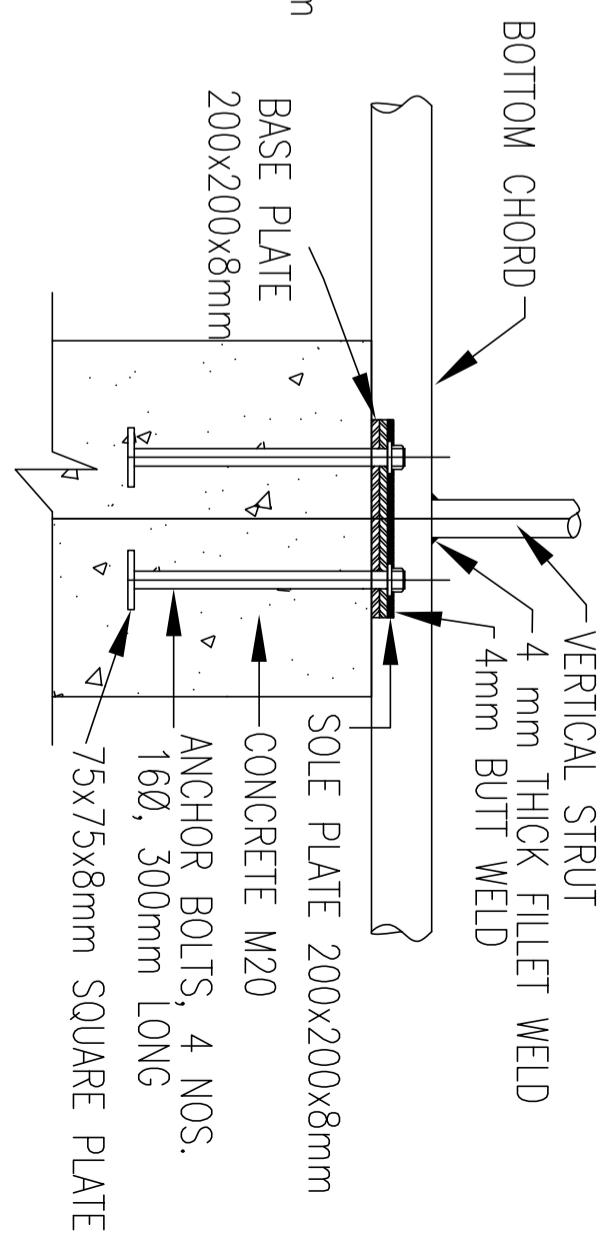
RAFTER AND PURLIN CLEAT JOINING DETAILS




TRUSS HOLDING DOWN DETAILS

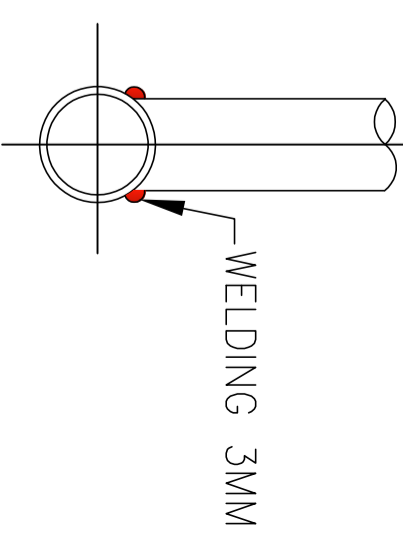
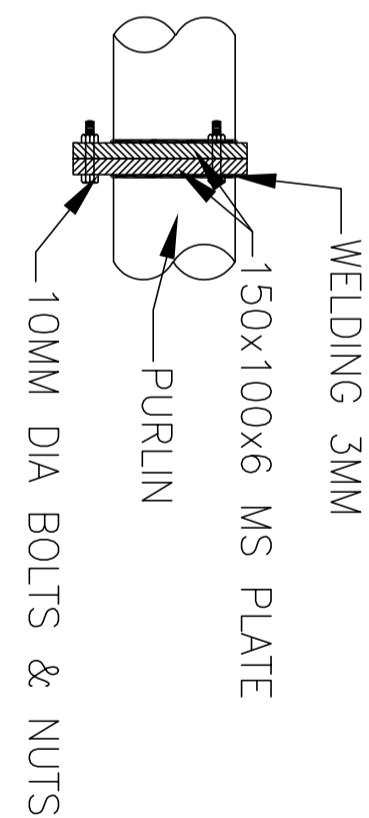
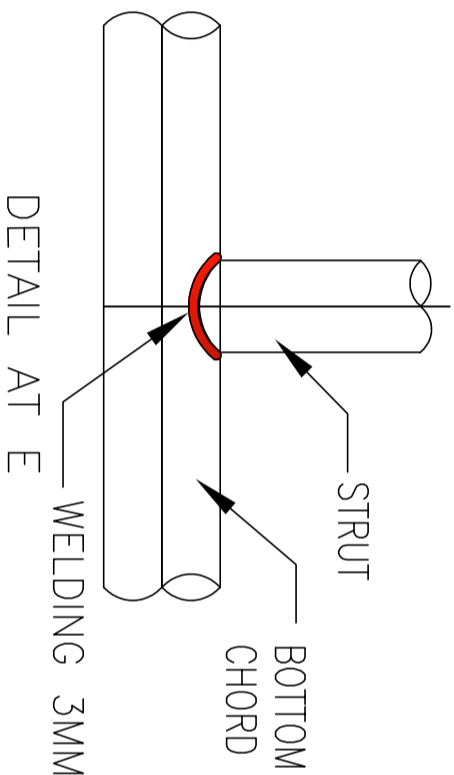
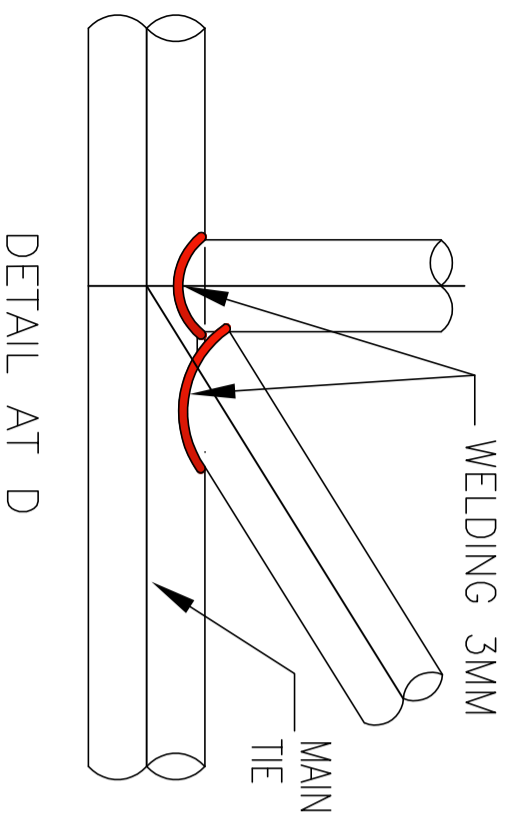
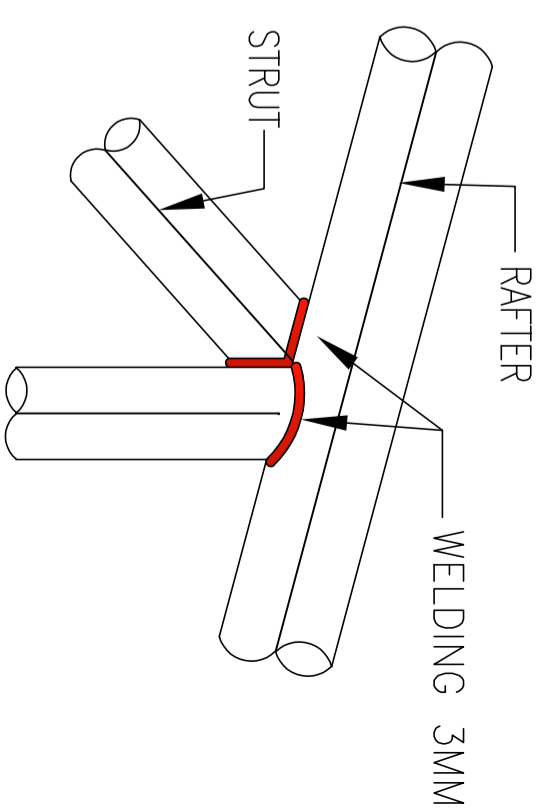
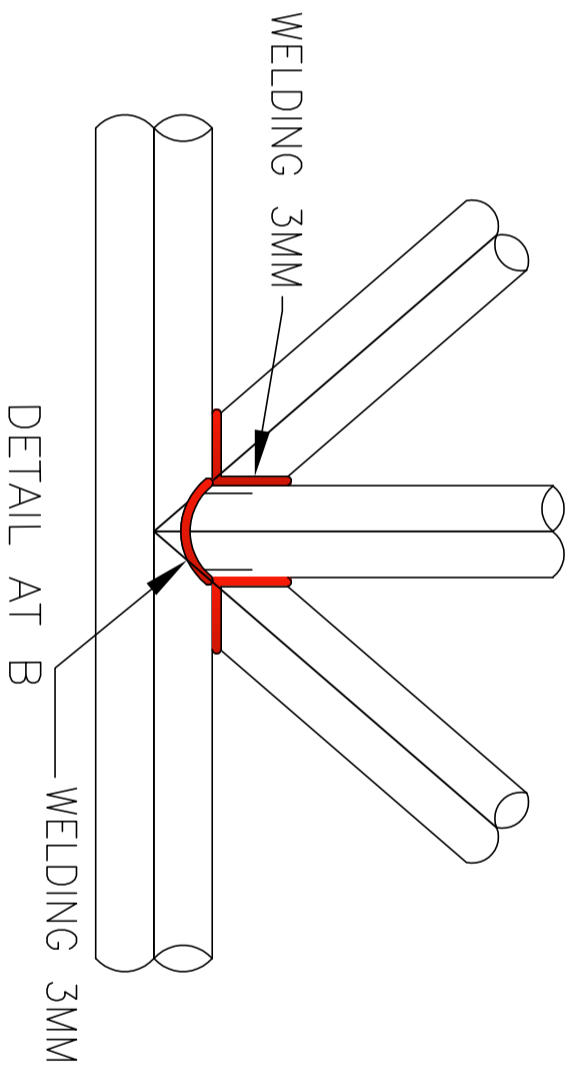
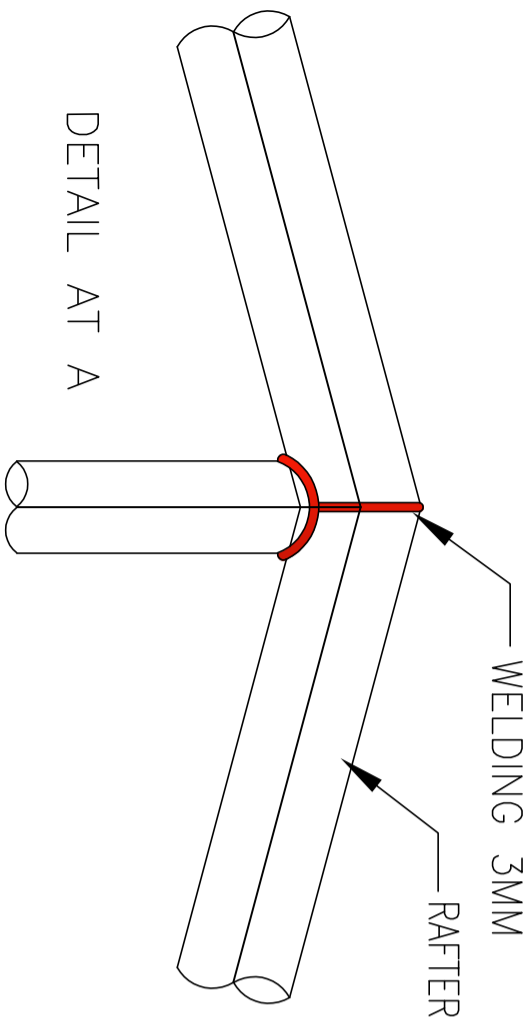


SECTION A-A

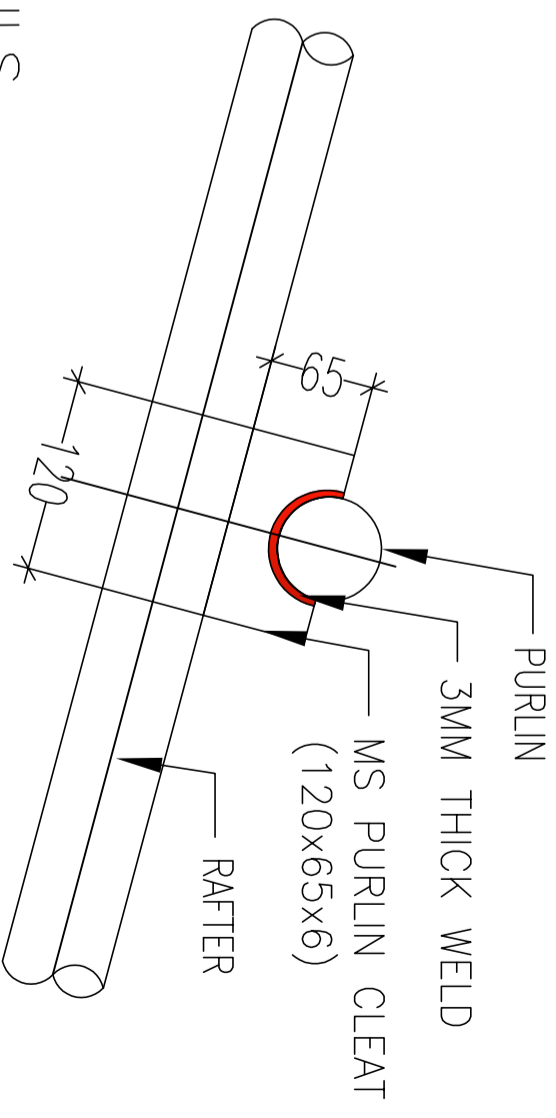
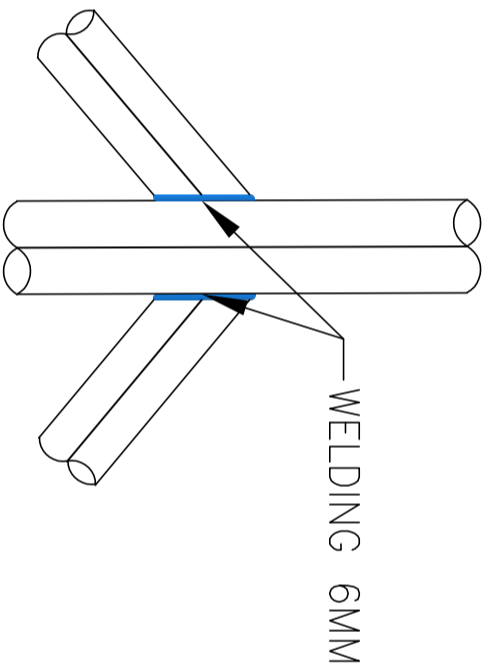
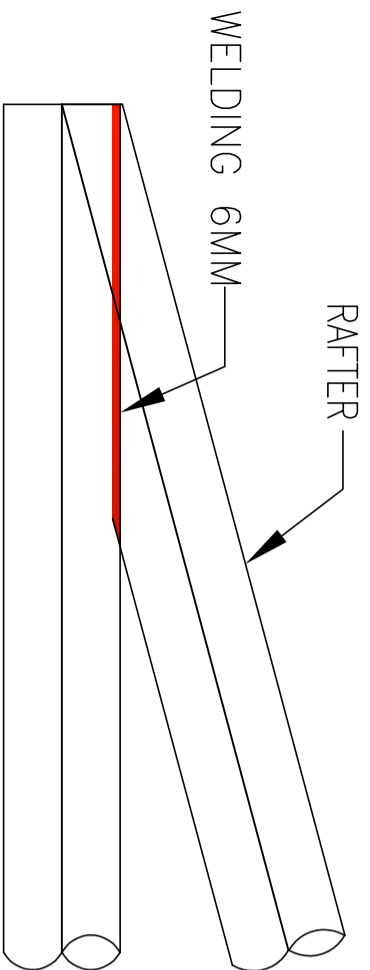


SECTION B-B


<div><div><b>BPC</b> Bhutan Power Corporation Limited</div></div>		<div><b>BHUTAN POWER CORPORATION LIMITED</b></div>									
<div>TRANSMISSION DEPARTMENT</div>											
<div>PROJECT TITLE</div>		<div>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA</div>									
<div>DRAWING STATUS</div>		<div>APPROVAL <input type="checkbox"/></div>		<div>APPROVED <input type="checkbox"/></div>							
		<div>REFERENCE NOTES</div>									
		<div>1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED</div>									
		<div>2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED</div>									
		<div>3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER</div>									
<div>APPROVED BY</div>		<div>DESIGNED BY</div>		<div>DRAWING TITLE</div>		<div>DRAWING NO.</div>					
<div>KUNZANG TOBGYE GENERAL MANAGER TD, BPC</div>		<div>DORJI KINLEY EXECUTIVE ENGINEER TD, BPC</div>		<div>REFER DRAWING</div>		<div>BPC/TD/TMD/YURMOO/SD</div>					
		<div>SCALE</div>		<div>DATE</div>		<div>DWG # 41</div>					
		<div>REF DWG</div>		<div>FEBRUARY, 2022</div>							

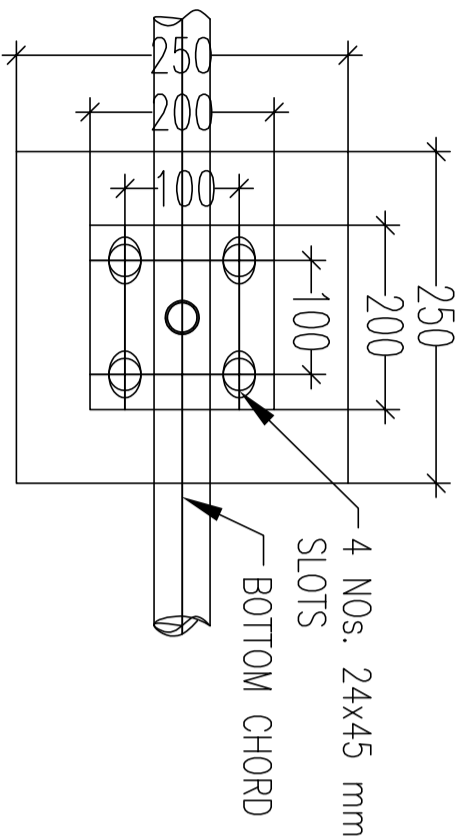


TYPICAL PURLIN & RAFTER JOINERY DETAIL

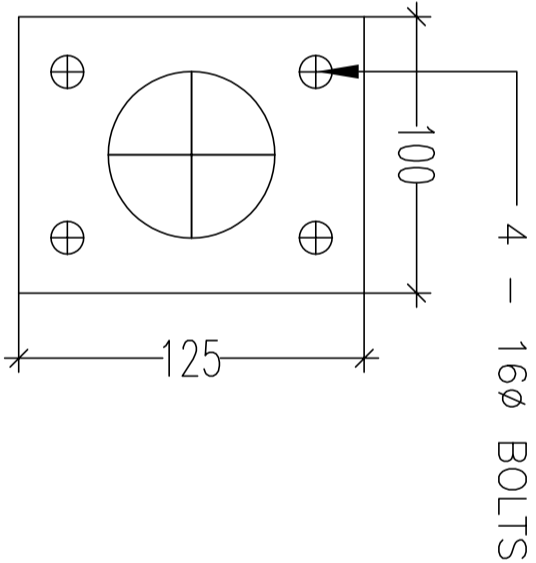


## TYPICAL TRUSS JOINERY DETAILS

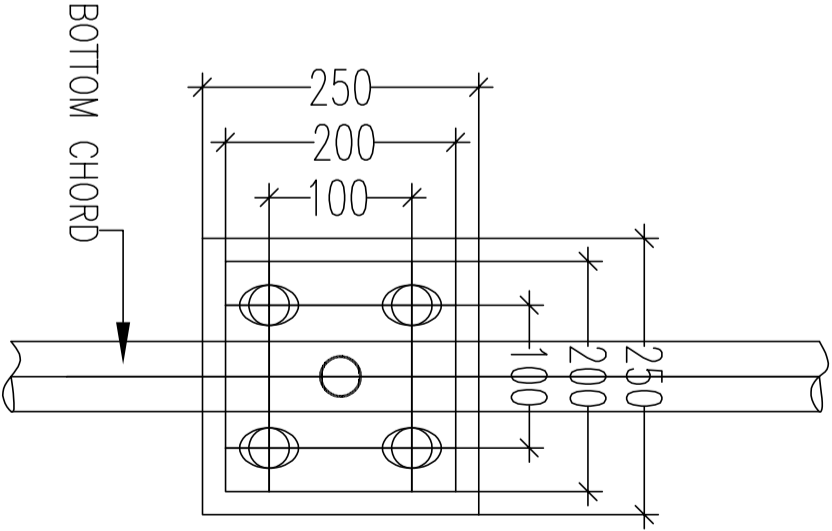
<div><div><b>BPC</b> Bhutan Power Corporation</div></div>		<b>BHUTAN POWER CORPORATION LIMITED</b>									
<b>TRANSMISSION DEPARTMENT</b>											
<b>PROJECT TITLE</b>		<b>REFERENCE NOTES</b>									
<b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA</b>		1. ALL MEASUREMENTS IN THE DRAWING ARE IN MM UNLESS AND OTHERWISE MENTIONED									
		2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED									
		3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER									
<b>DRAWING STATUS</b>		<b>APPROVAL</b>		<input type="checkbox"/>		<b>APPROVED</b>		<input type="checkbox"/>		<b>APPROVED BY</b>	
										<b>DESIGNED BY</b>	
										<b>DORJI KINLEY</b> EXECUTIVE ENGINEER TD, BPC	
										<b>DRAWING TITLE</b>	
										<b>BPC/TD/TMD/YURMOO/SD</b>	
										<b>SCALE</b>	
										<b>DATE</b>	
										<b>REF DWG</b>	
										<b>FEBRUARY, 2022</b>	
										<b>DWG # 42</b>	



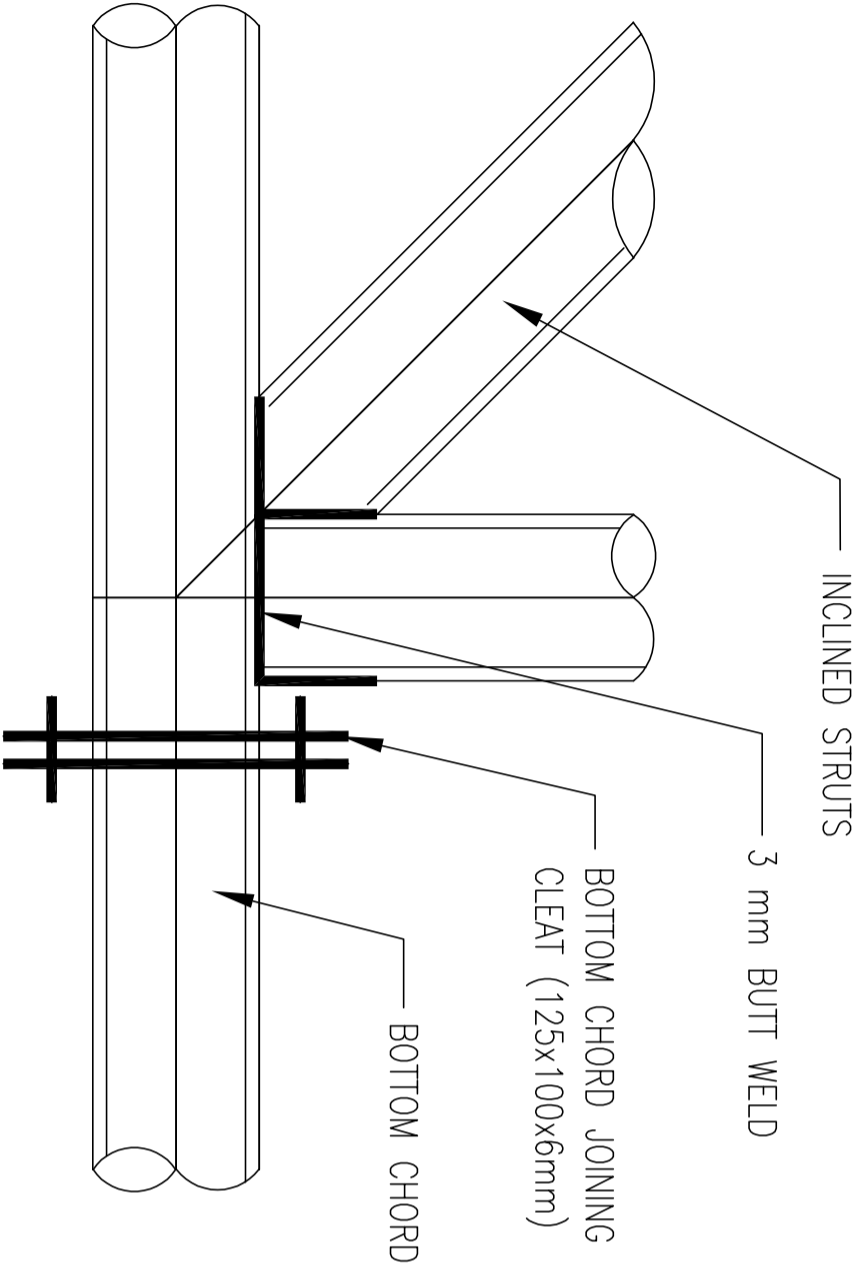
TRUSS HOLD-DOWN IN X DIRECTION



BOTTOM CHORD JOINING PLATE/CLEAT




TRUSS HOLD-DOWN IN Y DIRECTION

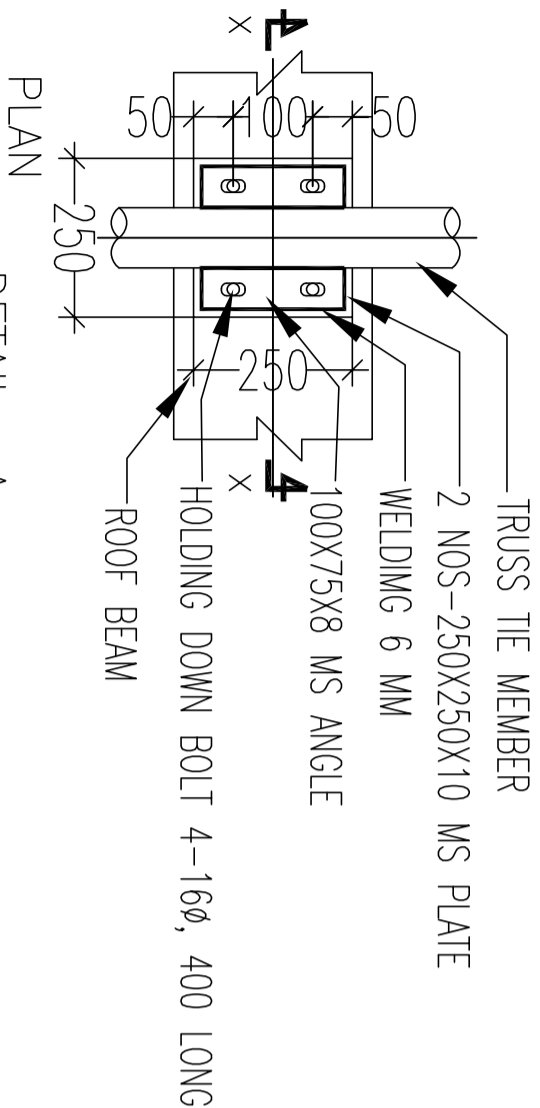


BOTTOM CHORD JOINING DETAILS

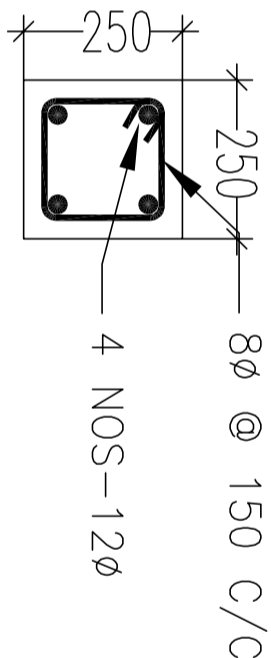
- NOTE:
1. ALL THE SECTION DETAILS WILL BE SAME AS SHOWN BY SECTIONS A-A & B-B
  2. THE PURLINS ARE SPACED AT 1200mm C/C

- NOTES (FOR ROOF TRUSS):
1. THE GUSSET PLATES ARE MS PLATE OF DIFFERENT THICKNESS AND DESIGN CONFIRMS TO IS 806:1968
  2. WELDING SHALL CONFORM TO IS:816
  3. ALL ELECTRODES SHALL CONFORM TO IS:814 (PART-1).
  4. ALL M.S. BOLTS & NUTS SHALL CONFORM TO IS:5369,IS:5370,IS:5371,IS:5372/IS:5374
  5. WASHERS SHALL CONFORM TO IS:5369,IS:5370,IS:5372/IS:5374
  6. HOLE SIZE = DIA OF BOLT + 1.5mm.
  7. ALL STRUCTURES AFTER FABRICATION SHALL BE PAINTED ANTI-CORROSIVE PAIRF DWG.
  8. ALL STRUCTURAL STEEL CONTACT SURFACES SHALL BE CLEANED OF ANY RUST, OIL, GREASE etc. BEFORE WELDING/PAINTING.
  9. WRITTEN DIMENSIONS SHALL BE FOLLOWED & DOUBT MUST BE CLARIFIED BEFORE EXECUTION OF THE WORK.
  10. FABRICATION AND ERECTION WORK SHALL BE CARRIED OUT AS CHECKED BY ENGINEER-IN-CHARGE.

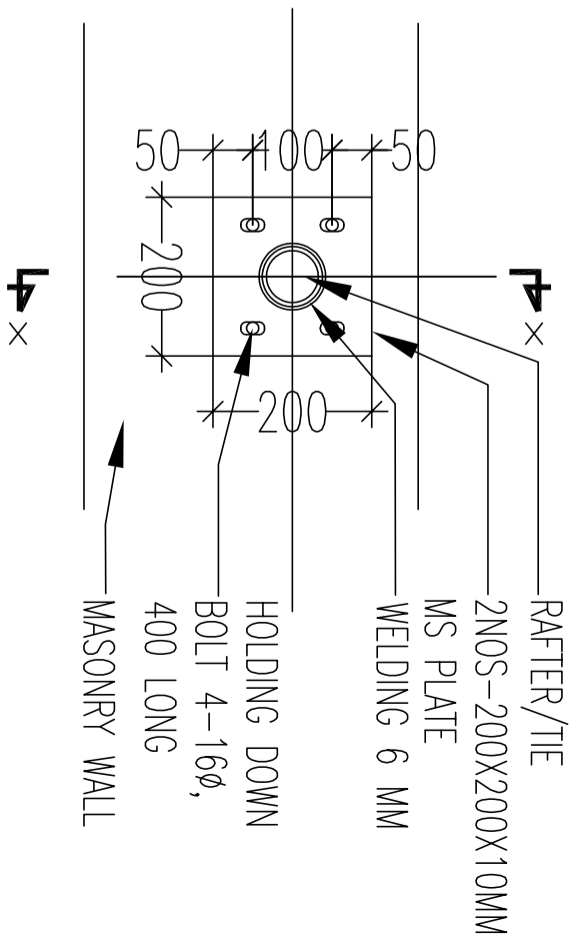
	<b>BHUTAN POWER CORPORATION LIMITED</b> TRANSMISSION DEPARTMENT		PROJECT TITLE <b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA</b>		REFERENCE NOTES 1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		APPROVED BY KUNZANG TOBGYE GENERAL MANAGER TD, BPC	DESIGNED BY DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	DRAWING TITLE REFER DRAWING	SCALE REF DWG	DATE FEBRUARY, 2022 <b>DWG # 43</b>
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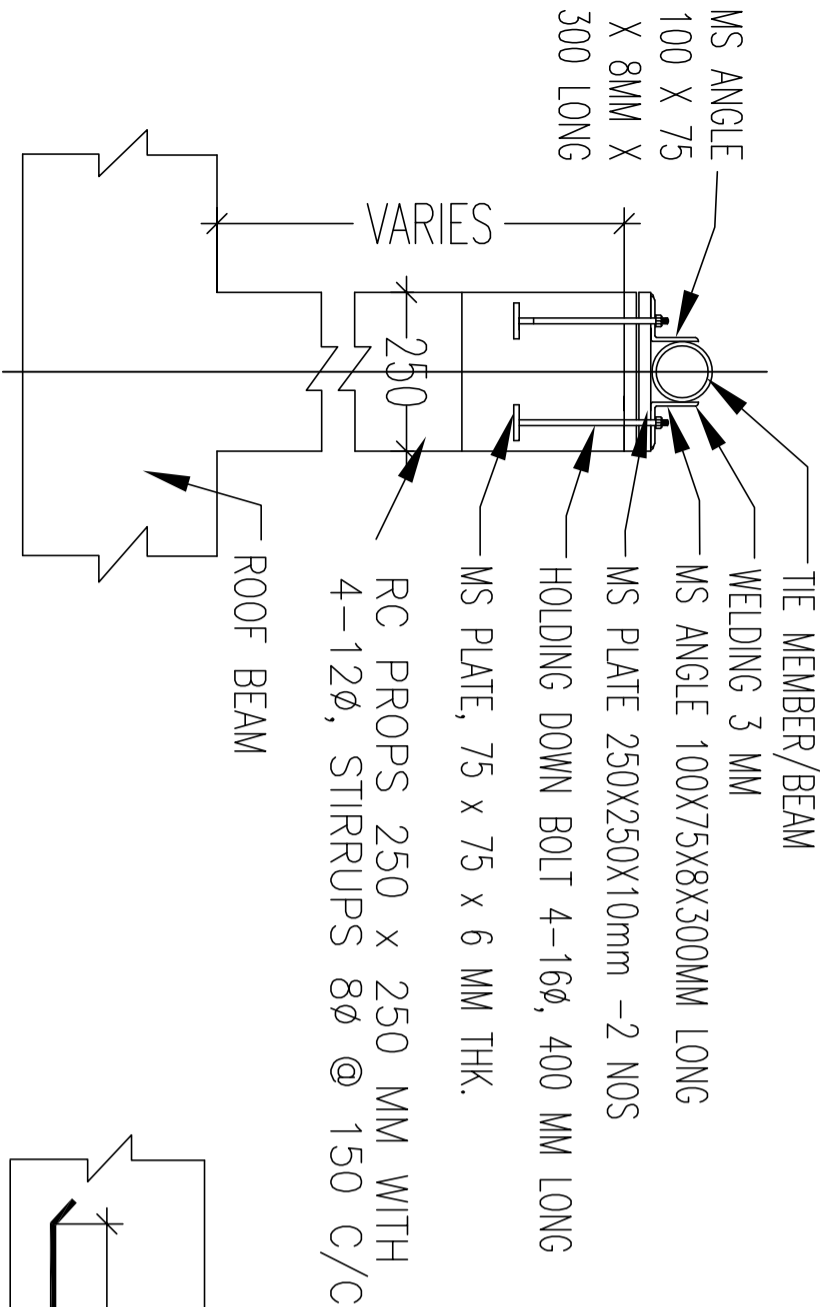
DETAIL -A



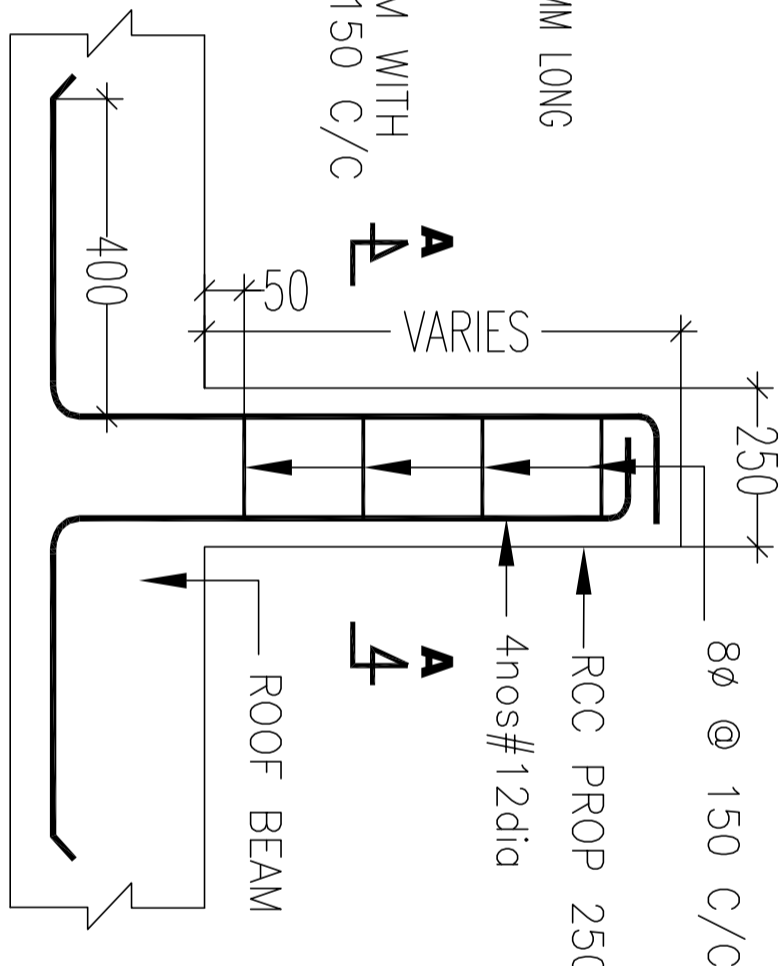
SECTION A-A



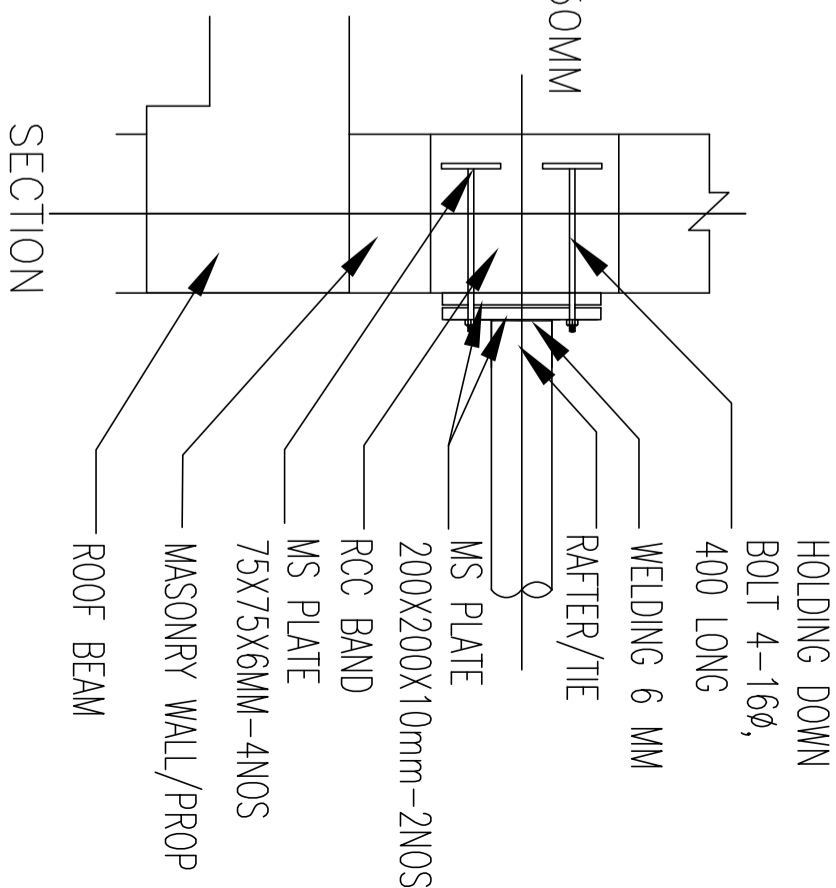
ELEVATION




SECTION X-X



DETAILS OF RCC PROP



ANCHORAGE DETAILS ON WALLS/BAND

	<b>BHUTAN POWER CORPORATION LIMITED</b> TRANSMISSION DEPARTMENT		PROJECT TITLE <b>DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TIRONGSA</b>		REFERENCE NOTES 1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED 2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED 3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER		APPROVED BY KUNZANG TOBGYE GENERAL MANAGER TD, BPC	DESIGNED BY DORJI KINLEY EXECUTIVE ENGINEER TD, BPC	DRAWING TITLE REFER DRAWING SCALE DATE	DRAWING NO. BPC/TD/TMD/YURMOO/SD <b>DWG # 44</b>
--	--	--	---	--	--	--	---	--	---	--



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

APPR

11

APPROVED

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER

APPROVED BY

**KUNZANG TOBGYE**  
**GENERAL MANAGER**  
**TD, BPC**

DESIGNED BY

**DORJI KINLEY**  
**EXECUTIVE ENGINEER**  
**TD, BPC**

DRAWING TITLE

## REFER DRAWING

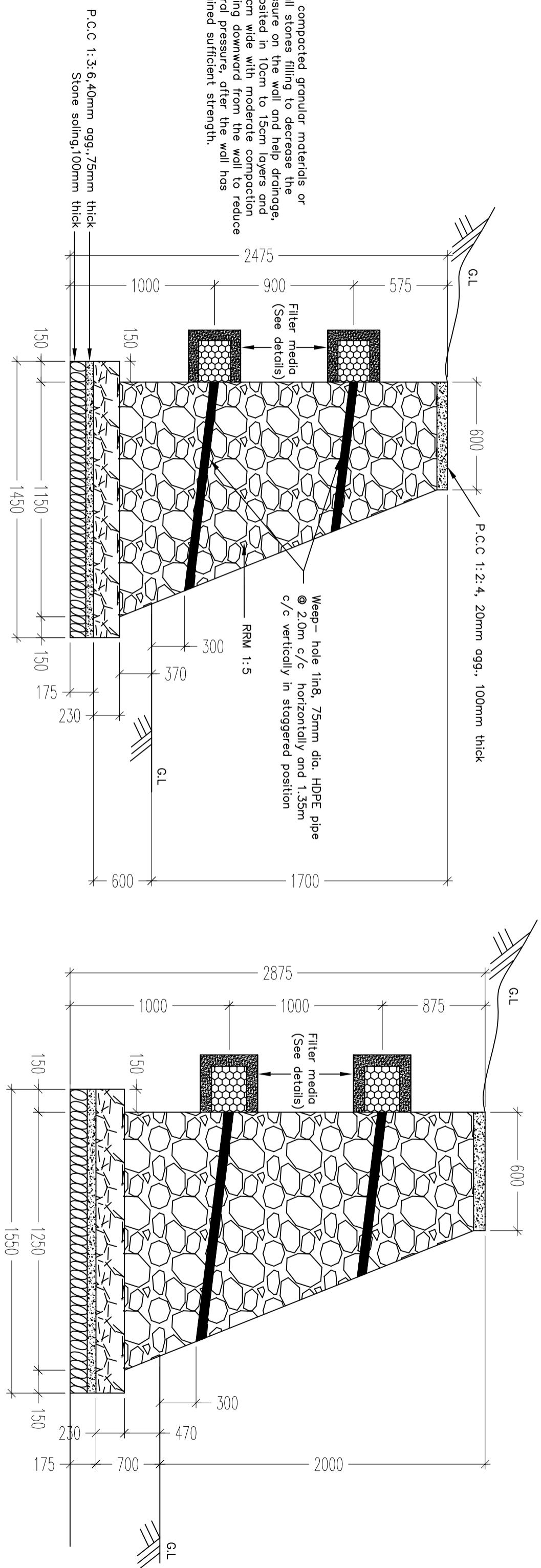
SCALE	DATE
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REF DWG FEBRUAR

DRAWING NO.

BPC/TD/TMD/YURMOO/SD

**DWG # 45**



RETAINING WALL 1.7M HEIGHT

RETAINING WALL 2M HEIGHT



**BHUTAN POWER CORPORATION LIMITED**

TRANSMISSION DEPARTMENT

PROJECT TITLE

# DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TRONGSA

DRAWING STATUS

APPROVA

APPROVED

## REFERENCE NOTES

1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED

2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED.

3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGNER

APPROVED BY

**KUNZANG TOBGYE**  
GENERAL MANAGER

DESIGNED BY

**DORJI KINLEY**  
EXECUTIVE ENGINEER  
TD PRG

DRAFTING TITLE

## REFER DRAWING

SCALE	DATE
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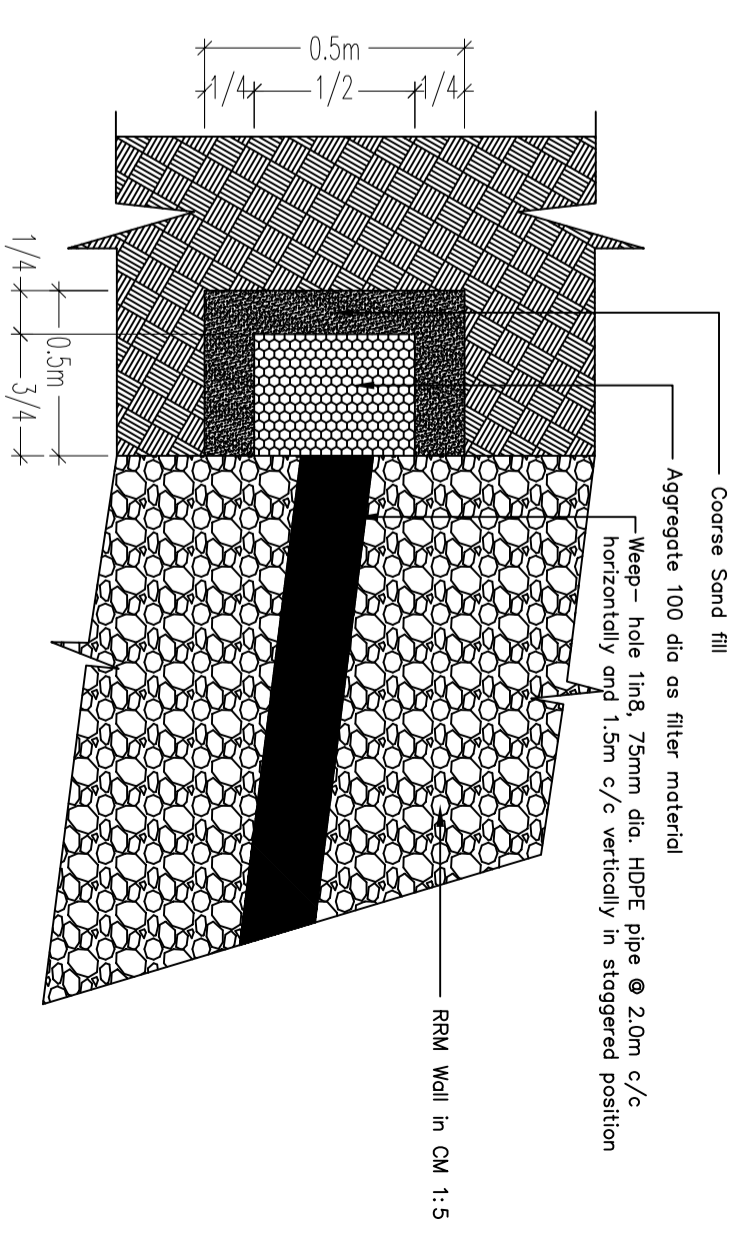
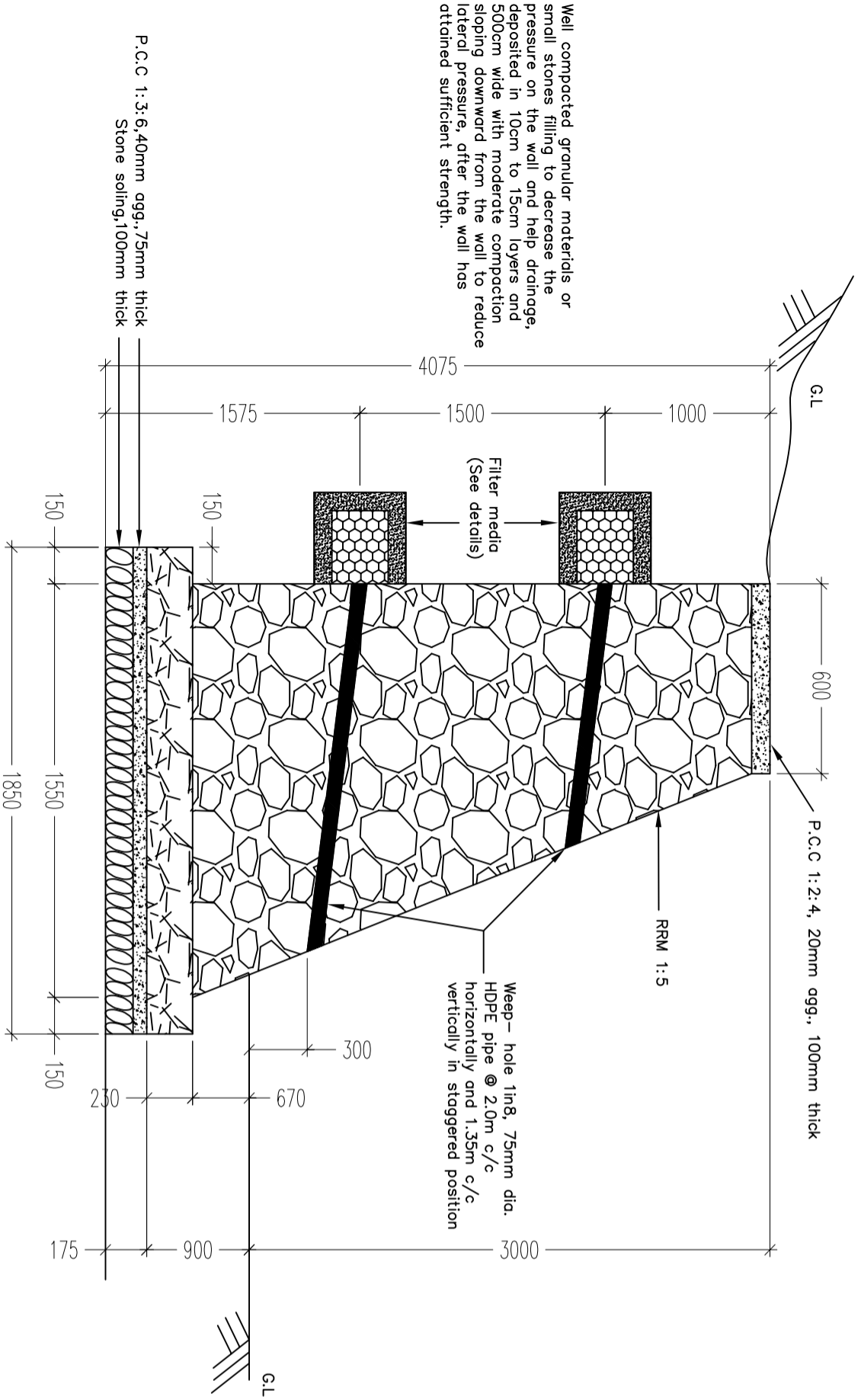
## REF DW

FEBRUARY, 2022

DRA WING NO.

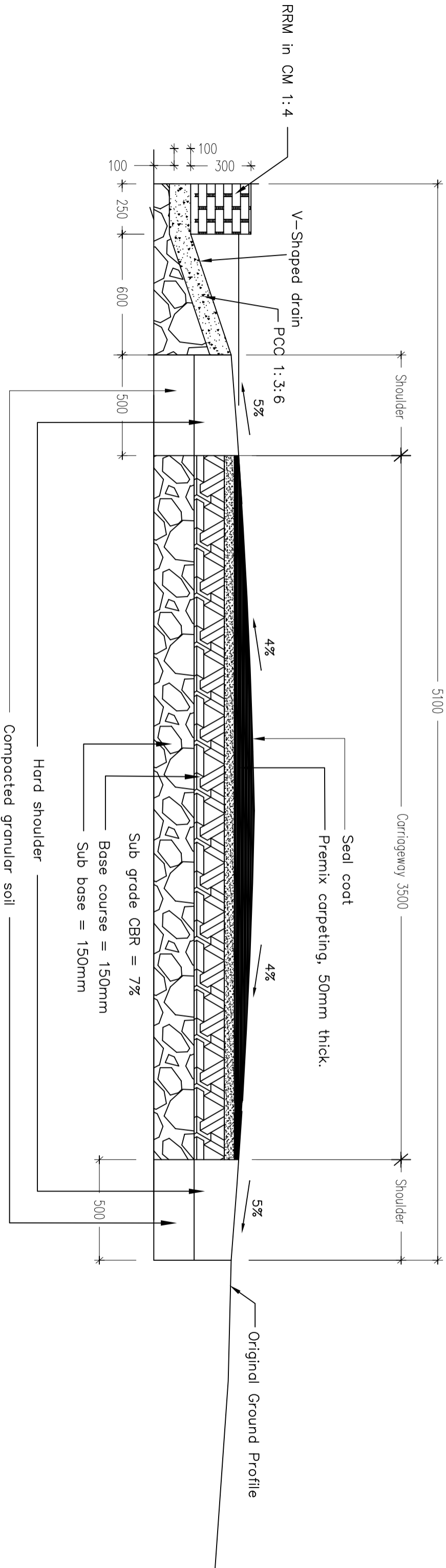
BPC/TD/TMD/YURMOO/SD

**DWG # 46**



Well compacted granular materials or small stones filling to decrease the pressure on the wall and help drainage, deposited in 10cm to 15cm layers and 500cm wide with moderate compaction sloping downward from the wall to reduce lateral pressure, after the wall has attained sufficient strength.

FILTER 0.50Mx0.50Mx0.50M LAID @ WEEP HOLES



TYPICAL CROSS SECTION OF BITUMEN ROAD AND PARKING

<div><div><div><div><div><div><span></span></div><div>BPC</div></div></div><div><div><div><span></span></div><div>འབྲུག་གི་འཕུལ་ཁུངས་ལྷན་ཁག་</div><div>འབྲུག་ཡུལ་གྱི་འཕུལ་ཁུངས་ལྷན་ཁག་</div></div></div></div></div></div>		<div><div><div><div><div><div><span></span></div><div>BHUTAN POWER CORPORATION LIMITED</div></div></div><div><div><div><span></span></div><div>TRANSMISSION DEPARTMENT</div></div></div></div></div></div>		PROJECT TITLE		REFERENCE NOTES		APPROVED BY		DESIGNED BY		DRAWING TITLE		DRAWING NO.	
		DESIGN OF STAFF QUARTER (G+2) AT YURMOO, TROMGSA		1. ALL MEASUREMENTS IN THE DRAWING ARE IN mm UNLESS AND OTHERWISE MENTIONED		KUNZANG TOBGYE GENERAL MANAGER TD, BPC				DORJI KINLEY EXECUTIVE ENGINEER TD, BPC		REFER DRAWING		BPC/TD/TMD/YURMOO/SD	
DRAWING STATUS		APPROVAL <input type="checkbox"/> APPROVED <input type="checkbox"/>		2. THE MEASUREMENTS IN THE DRAWING ARE TO BE READ AND NOT MEASURED								SCALE		DATE	
				3. ANY DISCREPANCY IN THE DRAWING SHALL BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE DESIGNER								REF DWG		FEBRUARY, 2022	
														DWG # 47	