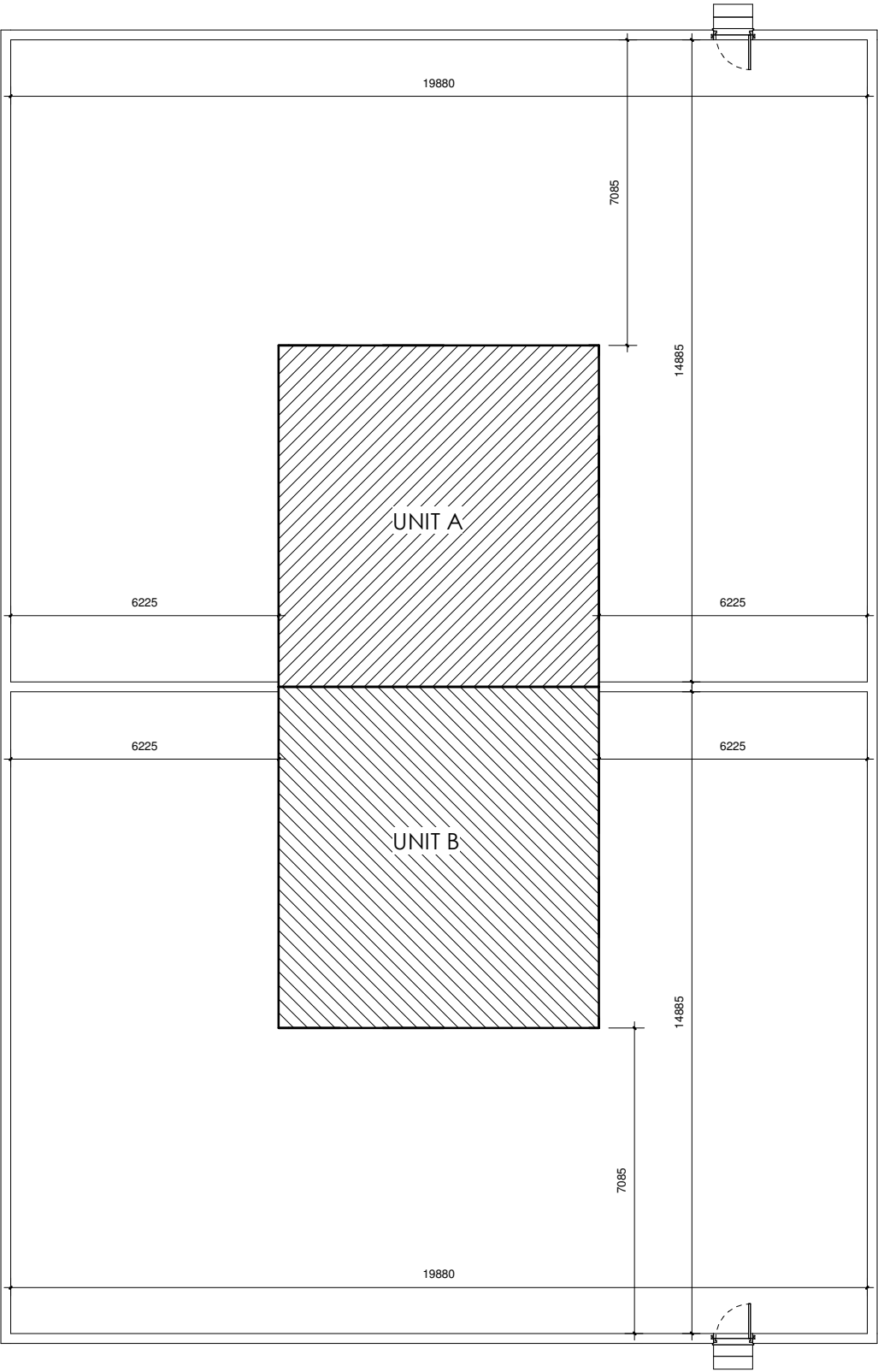


**HOMES FOR NGARANNAM,
TEACHERS'
ACCOMMODATION
MAFA LGA, BORNO.**

ISSUED FOR TENDER

JUNE 2021



1 SITE LAYOUT
1 : 150

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestation on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

3.3

CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

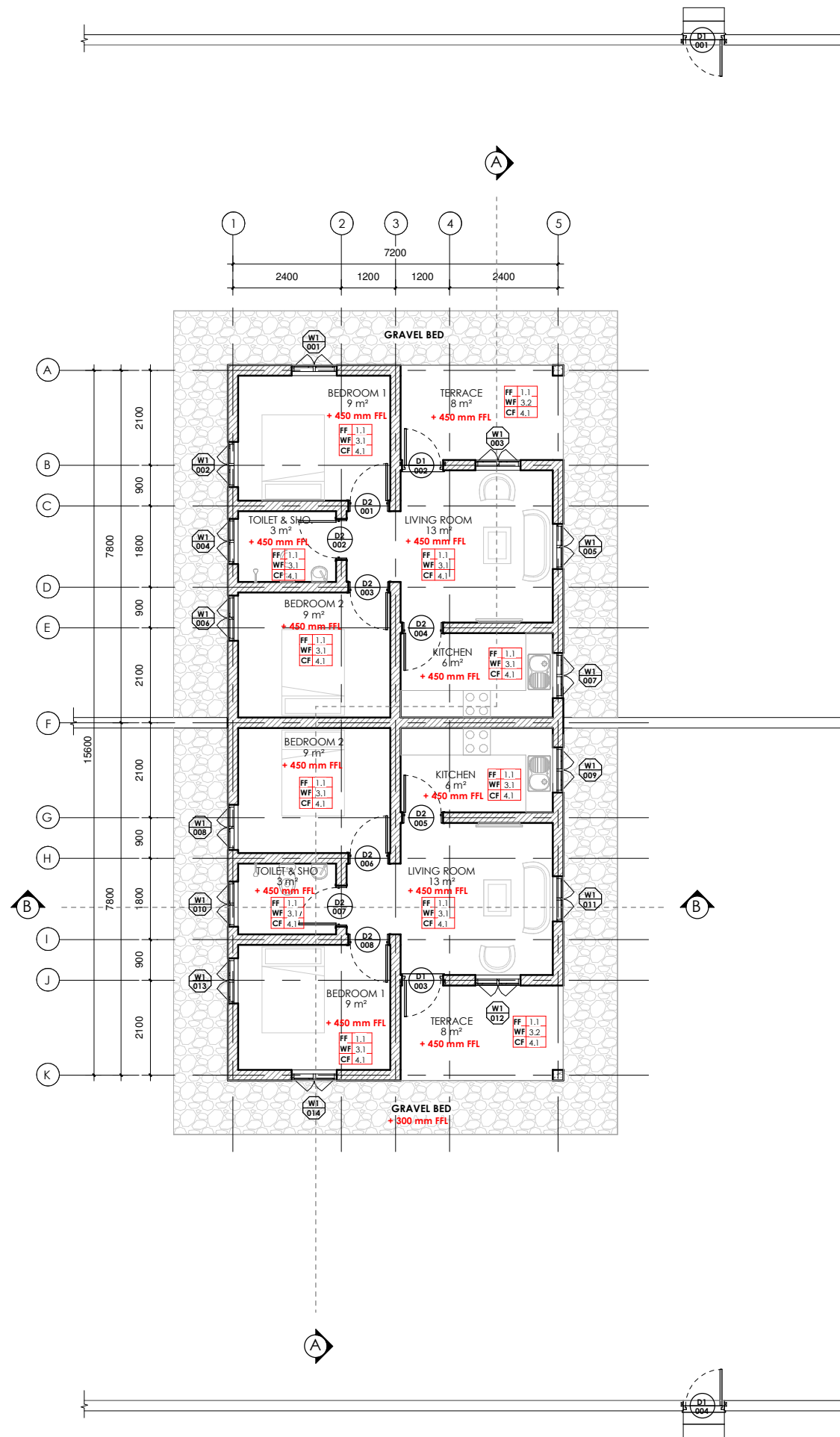
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

BUILDING SITE PLAN

Scale: 1 : 150

Date: JUNE, 2021

Drwg. No.
A435-09-102



1 GROUND FLOOR PLAN
1 : 125

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestation on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

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CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

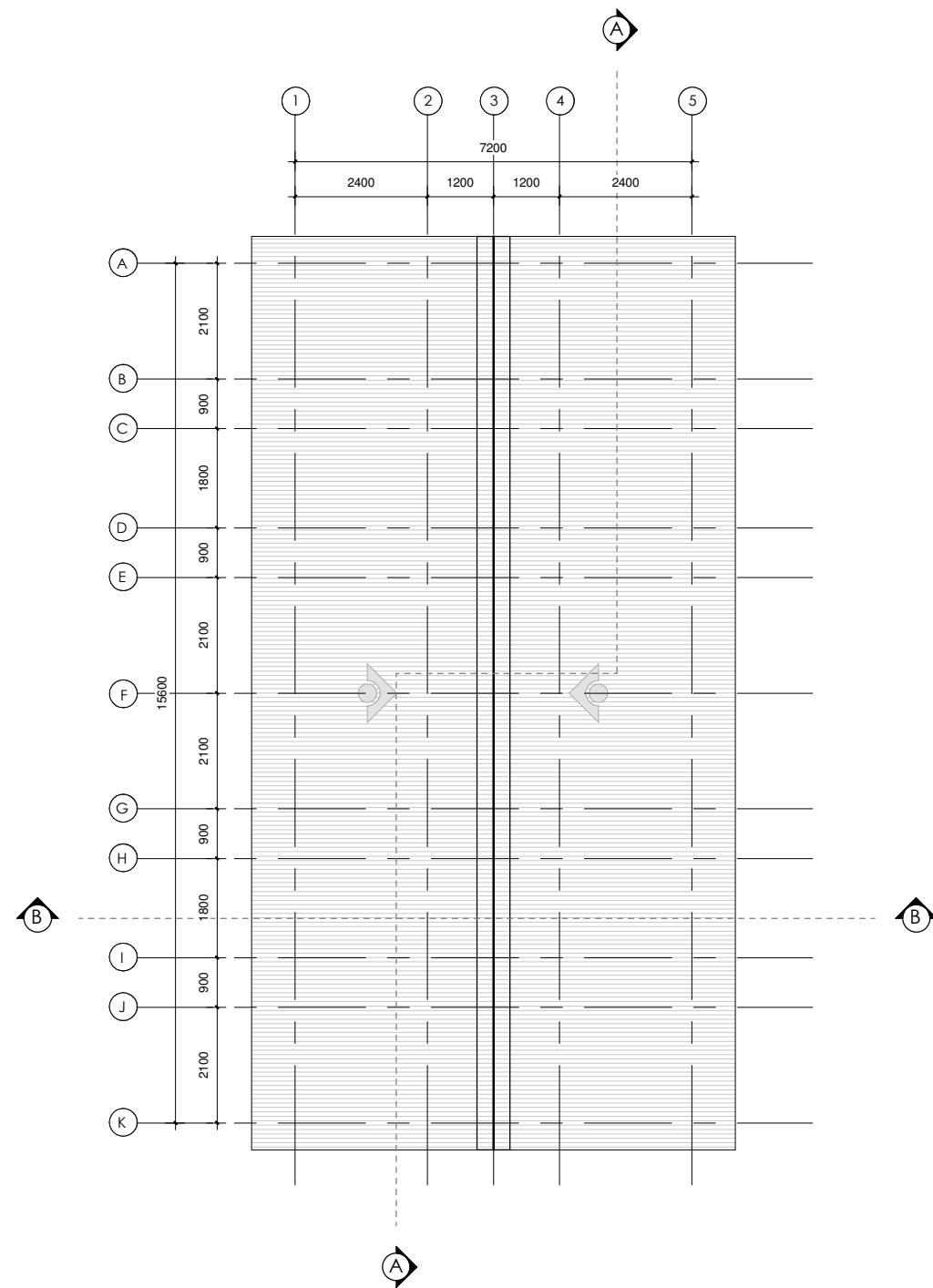
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

TEACHERS' ACCOMODATION
GROUND FLOOR PLAN

Scale: 1 : 125

Date: JUNE, 2021

Drwg. No.
A435-09-201



1 ROOF PLAN
1 : 125

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestation on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

3.3

CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

TEACHERS' ACCOMMODATION
ROOF PLAN

Scale: 1 : 125

Date: JUNE, 2021

Drwg. No.
A435-09-202

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestion on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

3.3

CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

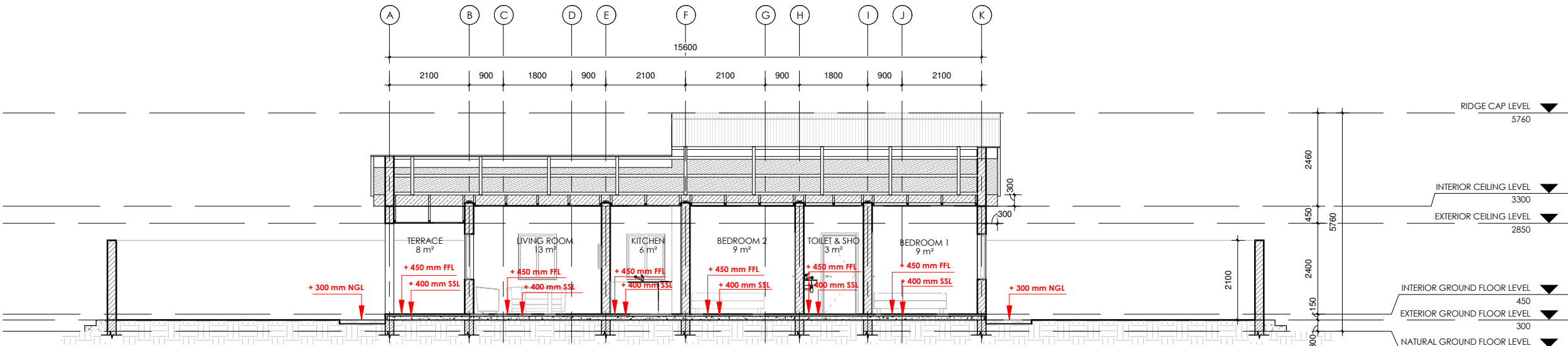
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

TEACHERS' ACCOMMODATION
SECTION A-A
SECTION B-B

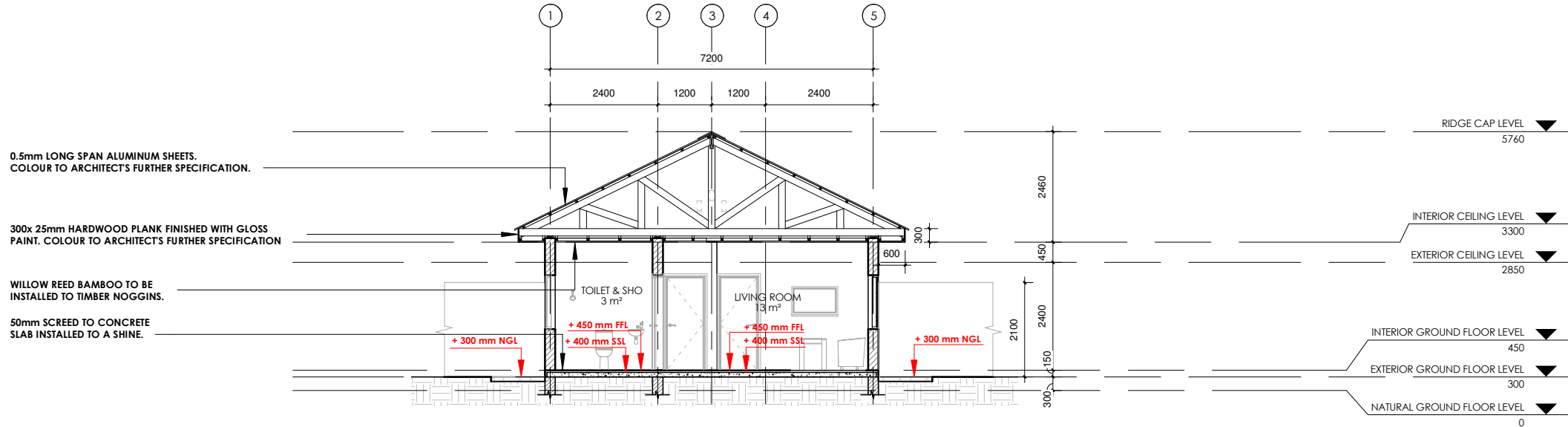
Scale: 1 : 125

Date: JUNE, 2021

Drwg. No.
A435-09-203



1 SECTION A-A
1 : 125



2 SECTION B-B
1 : 125

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestation on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

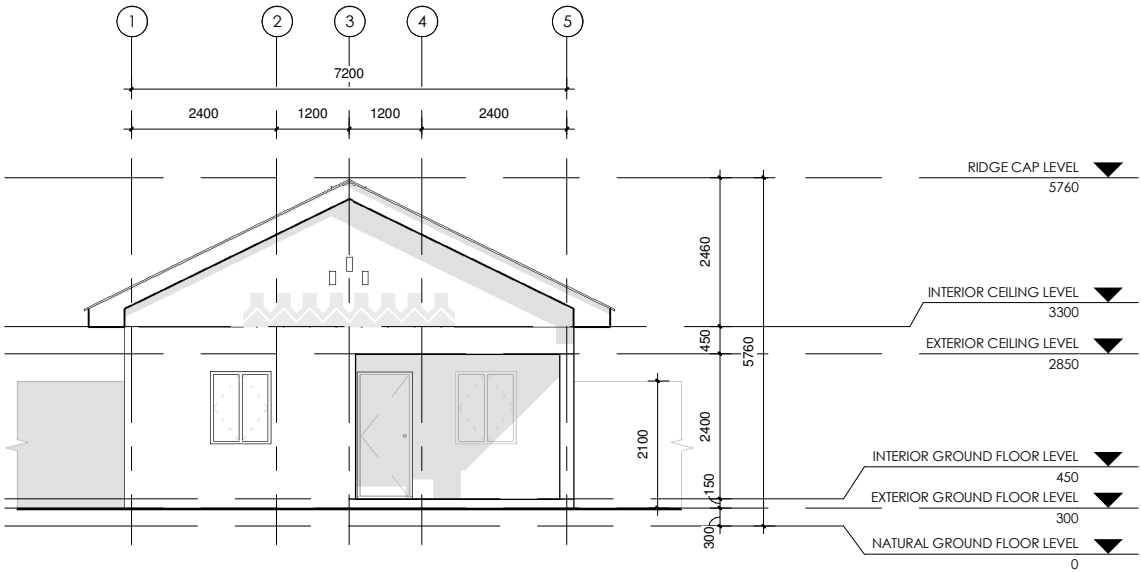
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

TEACHERS' ACCOMMODATION
FRONT ELEVATION
REAR ELEVATION

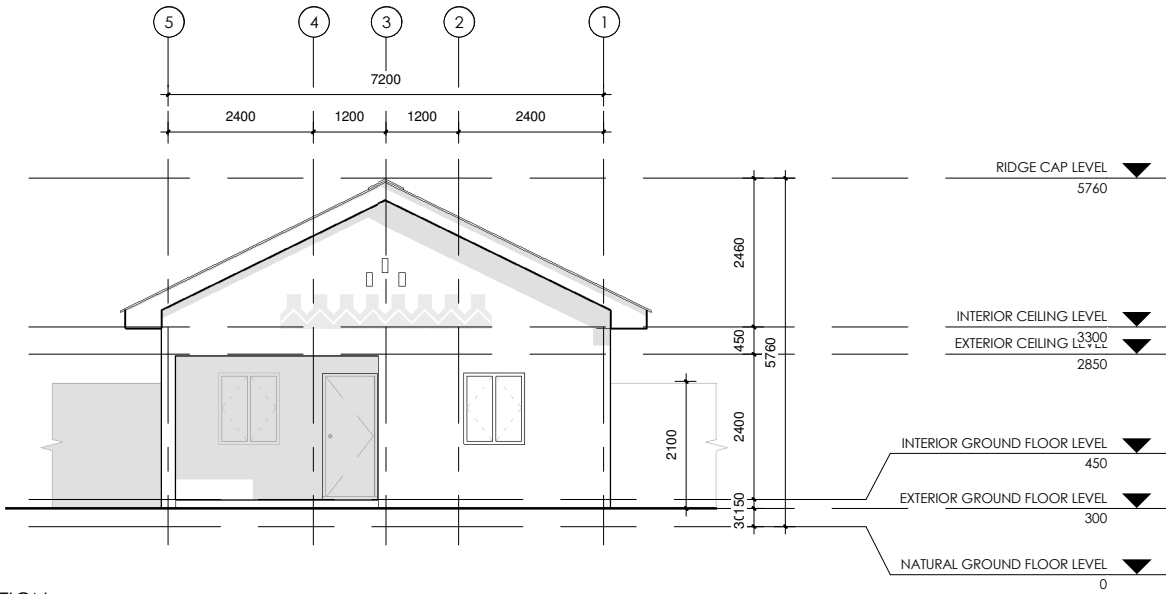
Scale: 1 : 125

Date: JUNE, 2021

Drwg. No.
A435-09-204



1 FRONT ELEVATION
1 : 125



2 REAR ELEVATION
1 : 125

NOTE

Figured dimension must be taken in preference dimensions.

Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.

All timber to be pressure-treated with anti-fungal and anti-infestion on approved treatment.

All Internal Doors to have 25mm undercut to avoid internal pressure build up

ISSUED FOR TENDER

SPECIFICATION

FLOOR FINISH - FF

FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.

WALL FINISH - WF

WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.

3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS

12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.

CEILING FINISH - CF

CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.

ROOF FINISH - RF

RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.

FASCIA BOARD - FB

FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION

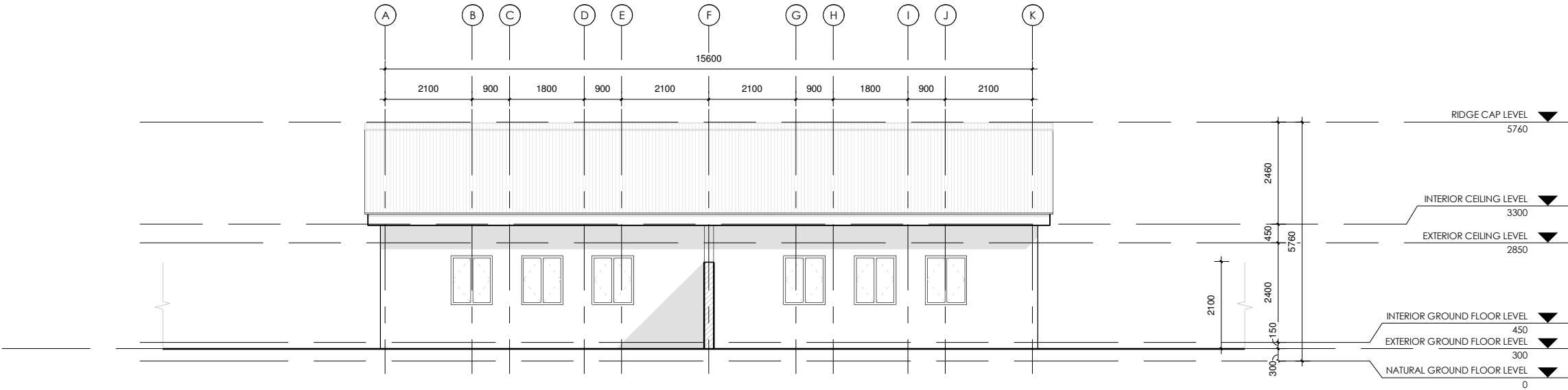
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

TEACHERS' ACCOMMODATION
RIGHT ELEVATION
LEFT ELEVATION

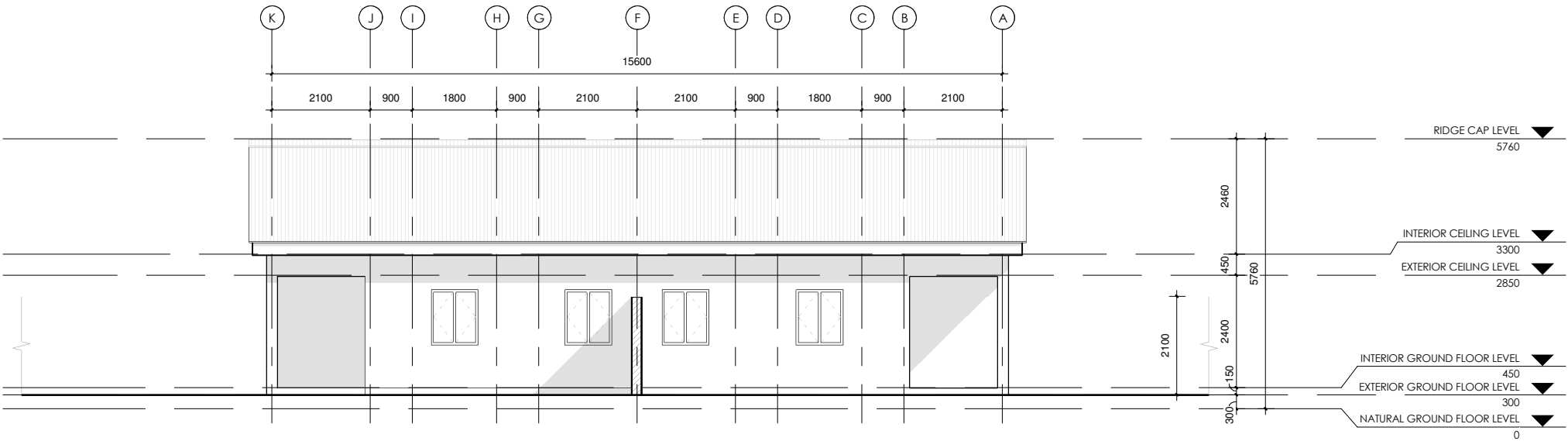
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Date: JUNE, 2021

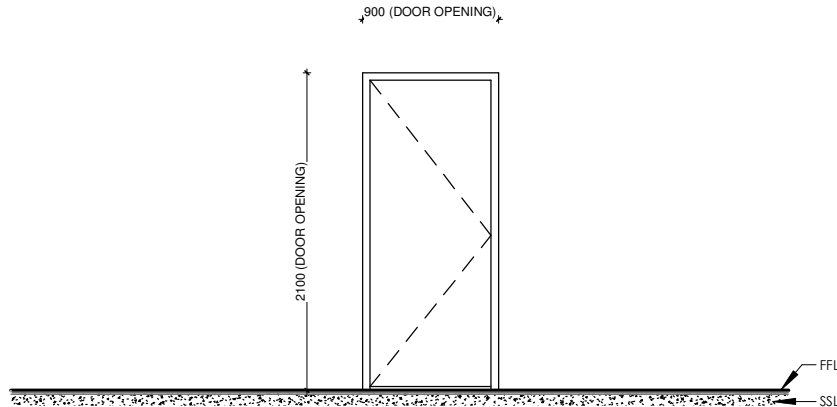
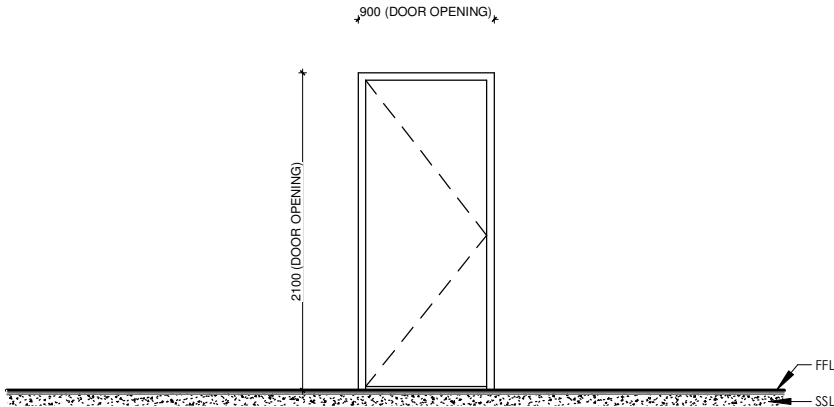
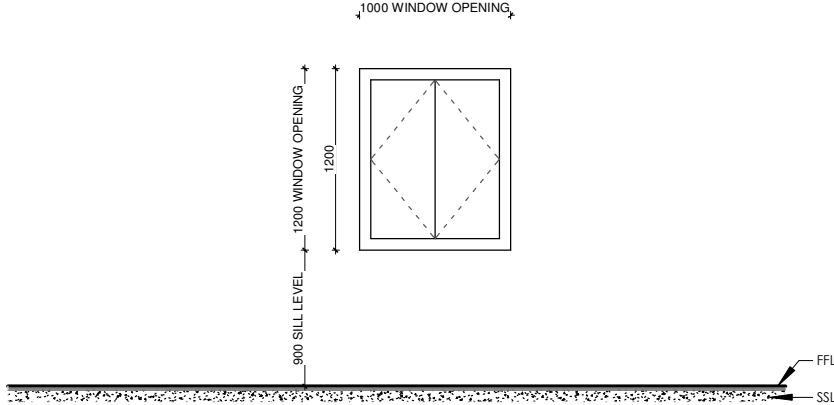
Drwg. No.
A435-09-205



1 RIGHT ELEVATION
1 : 125



2 LEFT ELEVATION
1 : 125

<div></div> <div></div>				<div><h2>NOTE</h2><p>Figured dimension must be taken in preference dimensions.</p><p>Contractor, sub-contractors and suppliers must verify all dimension on site before commencing any work or making any shop drawing.</p><p>All timber to be pressure-treated with anti-fungal and anti-infestation on approved treatment.</p><p>All Internal Doors to have 25mm undercut to avoid internal pressure build up</p></div>	
				ISSUED FOR TENDER	
				SPECIFICATION	
				FLOOR FINISH - FF	
				FF 1.1 50mm SCREED TO CONCRETE SLAB INSTALLED TO A SHINE.	
				WALL FINISH - WF	
				WF 3.1 12mm CEMENT SCREED FINISH WITH TWO COATS OF SHEEN FINISH PAINT. COLOUR TO ARCHITECT'S FUTHER SPECIFICATION.	
				3.2 CEMENT, LATERITE AND SAND (1:2) TYROLEAN RENDER; 12MM THICK IN TWO COATS	
				12mm CEMENT SCREED FINISH WITH WEATHER PROOF PAINT TO ARCHITECT'S FURTHER SPECIFICATIONS AND ARTIST MURAL.	
				3.3	
				CEILING FINISH - CF	
				CF 4.1 WILLOW REED BAMBOO TO BE INSTALLED TO TIMBER NOGGINS.	
				ROOF FINISH - RF	
				RF 5.1 0.5mm LONG SPAN ALUMINUM SHEETS. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION.	
				FASCIA BOARD - FB	
				FB 6.1 300x 25mm HARDWOOD PLANK FINISHED WITH GLOSS PAINT. COLOUR TO ARCHITECT'S FURTHER SPECIFICATION	
<div></div>				HOMES FOR NGARANNAM, MAFA LGA, BORNO.	
ITEM NO.	W1				
QUANTITY	14				
LOCATION	W1 / 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014 ALL ROOMS				
DESCRIPTION	1000mm BY 1200mm DOUBLE LEAF OUTWARD SWING METAL WINDOW HAVING 50mm BY 50mm SQUARE METAL PROFILE FRAME, WITH 2mm BY 275mm WIDE METAL SHEETS AT 4 INTERVALS SEPARATED BY 45mm METAL MESH, ALL WELDED TO WINDOW FRAME FINISHED WITH ANTIRUST PAINT WITH COLOUR TO ARCHITECTS FURTHER SPECIFICATION			TEACHERS' ACCOMMODATION DOOR AND WINDOW SCHEDULE	
				Scale: 1 : 50	
				Date: JUNE, 2021	
				Drwg. No. A435-09-601	

STRUCTURAL DESIGN

UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

PROPOSED DEVELOPMENT AT NGARANNAM, MAFA, BORNO STATE.

DESIGN BY: C. A OLORUNDARE

GENERAL NOTES

- 1
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S DRAWINGS.
- 2
- SAFE GROUND PRESSURE ASSUMED IS 150 KN/m2.
- 3
- 75mm CONC. BLINDING TO BE PROVIDED.
- 4
- MINIMUM DEPTH OF FOUNDATION TO BE 1200mm.
- 5
- USE CONCRETE NOMINAL MIX 1:3:6 FOR BLINDING.
- 6
- CONC. CUBE STRENGTH OF 1:2:4 MIX FOR OTHER REINF. CONC. AT 28 DAYS
- 7
- HIGH YIELD REINF. OF CHARACTERISTIC STRENGTH OF AT LEAST 410 N/mm2.
- 8
- COVER TO MAIN REINFORCEMENTS TO BE 15mm IN SLAB, 25mm IN BEAM, 40mm IN COLUMNS AND 50mm IN FOUNDATIONS .
- 9
- ALL DIMENSIONS ARE IN (MM).
- 10
- NO CONCRETE WORK SHALL BE CARRIED OUT UNTIL ALL STEEL REINFORCEMENT AND FORMWORK FOR CONCRETE SECTIONS MUST HAVE BEEN CHECKED AND CORRECT BY THE ENGINEER.
- 11
- ENGINEERS SHALL **NOT** BE HELD RESPONSIBLE FOR JOBS **NOT** SUPERVISED BY THEM.

GENERAL NOTES.

- REINFORCED CONCRETE**
- DESIGN IS TO BS 8110
 - CONCRETE GRADES ARE TO BE AS FOLLOWS WITH FIGURES IN BRACKET DENOTING MAXIMUM SIZE AGGREGATE:
-FOUNDATION 30(25)
-COLUMNS 30(20)
-BEAMS & SLABS 30(20)
 - UNLESS OTHERWISE INDICATED, REINFORCEMENT SHALL BE HIGH YIELD STEEL (TYPE 2), DENOTED BY 'Y', HAVING CHARACTERISTIC STRENGTH NOT LESS THAN 410N/MM2
 - COVER TO REINFORCEMENT SHALL BE THE
FOUNDATION: 50MM(BOTTOM)/75MM(SIDES)
COLUMNS: 25MM
BEAMS: 25MM
SLABS: 20MM
 - DRAWINGS MUST BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS AND IN CASE OF ANY DISCREPANCY REFER TO THE DESIGN ENGINEER FOR CLARIFICATION.
 - DIMENSIONS ARE IN MILLIMETRE(MM) AND MUST NOT BE SCALED AT ANY TIME.
 - FOUNDATION WAS DESIGNED FOR AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 150KN/M2
 - THIS DESIGN ENGINEER WILL NOT TAKE RESPONSIBILITY FOR ANY JOB NOT SUPERVISED BY HIM.

- BLOCKWORK**
- HOLLOW BLOCK WALLS BELOW GROUND SLAB LEVEL ARE TO BE FILLED WITH MASS CONCRETE. BACK FILLING IS TO BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES.
 - THE WALL THICKNESS OF THE BLOCKS SHOULD NOT BE MORE THAN 25MM.
 - THE MAXIMUM CRUSHING STRENGTH OF THE HOLLOW BLOCK IS TO BE 20N/MM OF GROSS AREA OF BLOCK AT 28 DAYS.
 - BLOCKWORK TIES BETWEEN BLOCKWORK WALL AND COLUMNS/STATIONS ARE TO BE PROVIDED AT EVERY COURSE. TIES TO BE 6MM BAR STRAPS 700MM LONG INTO THE BLOCKWORK.
 - MAXIMUM POUR HEIGHT FOR ALL FILLED BLOCK BLOCKWORK TO BE 2 COURSES AT A TIME.
 - ALL SERVICE PIPES SHALL ONLY BE PUT INSIDE BLOCKWORK AFTER DUE CONSULTATION WITH STRUCTURAL ENGINEERS. PUTTING SERVICE PIPES INSIDE LOAD BEARING BLOCKWORK CORNERS MUST BE AVOIDED.

No.	Revision/Notes.	Date.
1.	Issued for Tender	

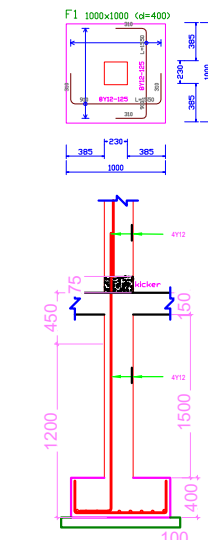
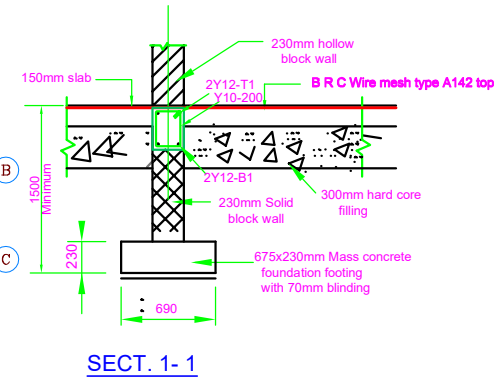
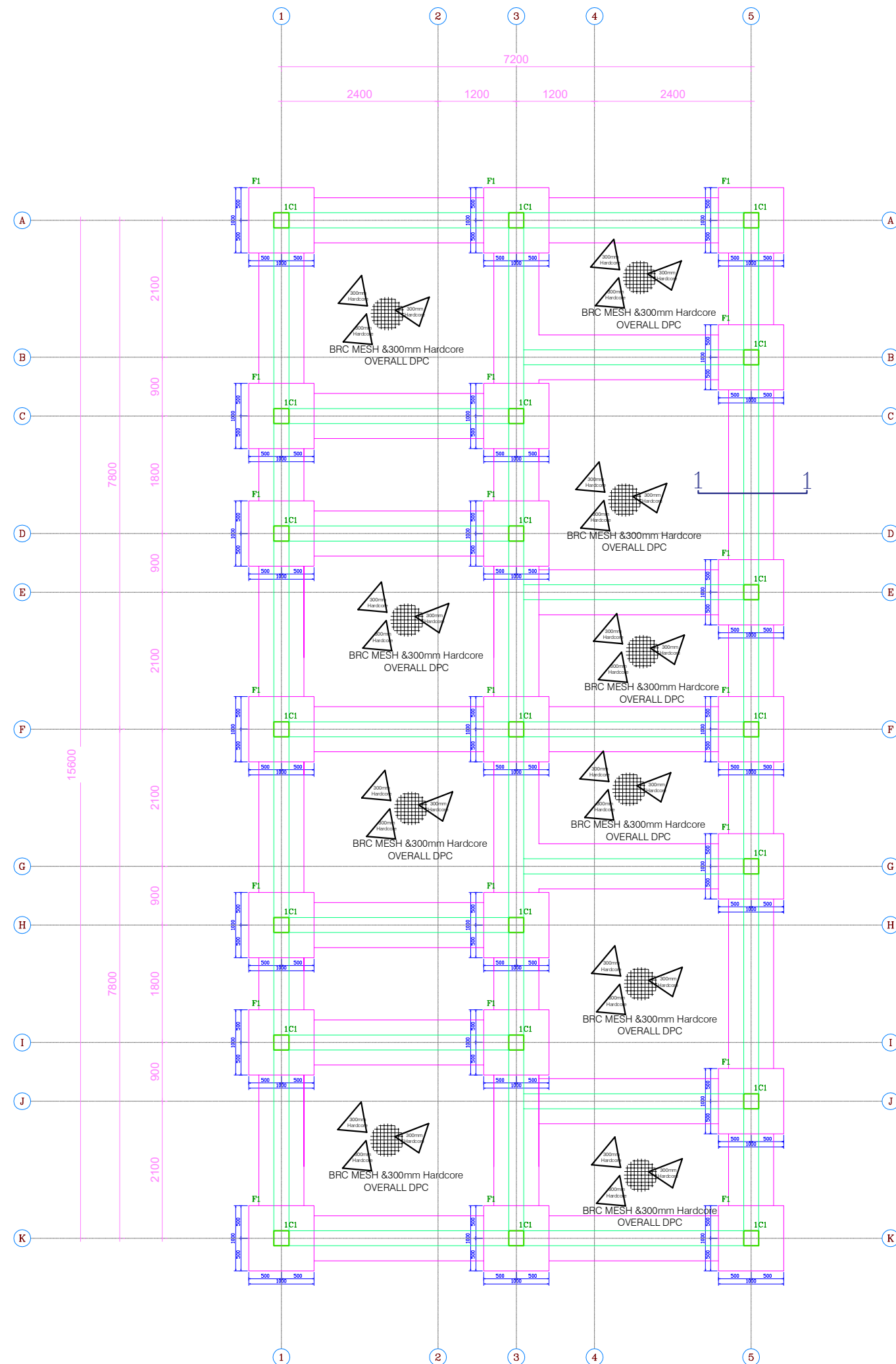
CHRISTOPHER Olorundare
STRUCTURAL ENGINEER
UNDP CONSULTANT

Project.

HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
GENERAL NOTE

DESIGN	C, A Olorundare	SHEET No.
CHECKED		A1
CAD		
DATE	MARCH, 2021	
		Scale: 1:50



COLUMN BASE
DETAILS NO. 21

GENERAL NOTES.

REINFORCED CONCRETE

- DESIGN IS TO BS 8110
- CONCRETE GRADES ARE TO BE AS FOLLOWS WITH FIGURES IN BRACKET DENOTING MAXIMUM SIZE AGGREGATE:
 - FOUNDATION 30(25)
 - COLUMNS 30(20)
 - BEAMS & SLABS 30(20)
- UNLESS OTHERWISE INDICATED, REINFORCEMENT SHALL BE HIGH YIELD STEEL (TYPE 2), DENOTED BY 'Y', HAVING CHARACTERISTIC STRENGTH NOT LESS THAN 410N/MM²

- COVER TO REINFORCEMENT SHALL BE THE FOLLOWING:
 - FOUNDATION: 50MM (BOTTOM) 75MM (SIDES)
 - COLUMNS: 25MM
 - BEAMS: 25MM
 - SLABS: 20MM
- DRAWINGS MUST BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS AND IN CASE OF ANY DISCREPANCY REFER TO THE DESIGN ENGINEER FOR CLARIFICATION.
- DIMENSIONS ARE IN MILLIMETRE (MM) AND MUST NOT BE SCALED AT ANY TIME.
- FOUNDATION WAS DESIGNED FOR AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 150K/M²
- THIS DESIGN ENGINEER WILL NOT TAKE RESPONSIBILITY FOR ANY JOB NOT SUPERVISED BY HIM.

BLOCKWORK

- HOLLOW BLOCKWORKS BELOW GROUND SLAB LEVEL ARE TO BE FILLED WITH MASS CONCRETE. BACK FILLING IS TO BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES.
- THE WALL THICKNESS OF THE BLOCKS SHOULD NOT BE MORE THAN 25MM.
- THE MAXIMUM CRUSHING STRENGTH OF THE HOLLOW BLOCK IS TO BE 20N/MM² OF GROSS AREA OF BLOCK AT 28 DAYS.
- BLOCKWORK TIES BETWEEN BLOCKWORK WALL AND COLUMNS/STANTIONS ARE TO BE PROVIDED AT EVERY COURSE. TIES TO BE 6MM BAR STRAPS 700MM LONG INTO THE BLOCKWORK.
- MAXIMUM POUR HEIGHT FOR ALL FILLED BLOCK BLOCKWORK TO BE 2 COURSES AT A TIME.
- ALL SERVICE PIPES SHALL ONLY BE PUT INSIDE BLOCKWORK AFTER DUE CONSULTATION WITH STRUCTURAL ENGINEERS. PUTTING SERVICE PIPES INSIDE LOAD BEARING BLOCKWORK CORNERS MUST BE AVOIDED.

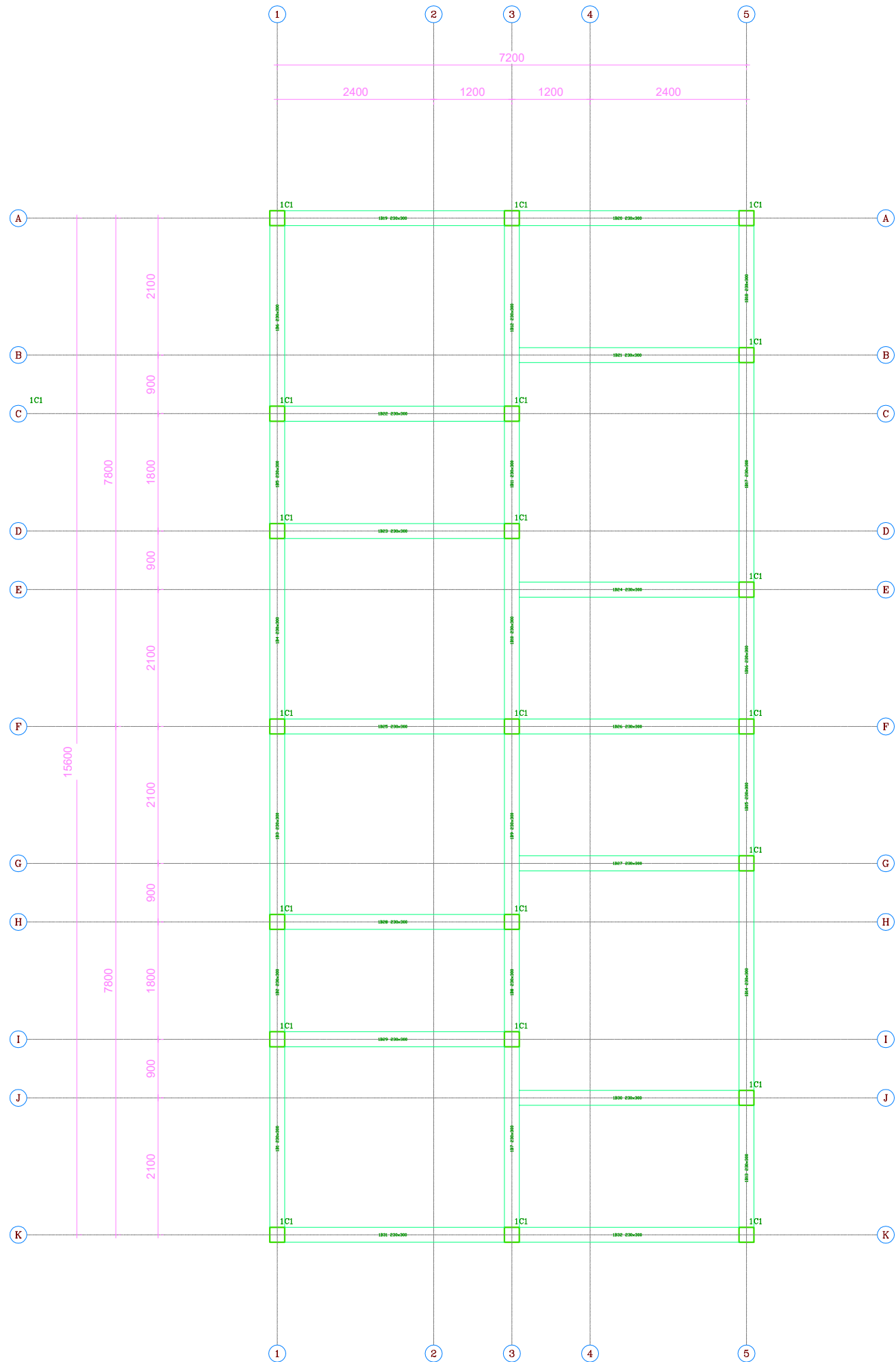
No.	Revision/Notes.	Date.
1.	Issued for Tender	

CHRISTOPHER OLORUNDARE
STRUCTURAL ENGINEER
UNDP CONSULTANT

Project.
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
FOUNDATION DETAILS

DESIGN	C, A OLORUNDARE	SHEET No.
CHECKED		01
CAD		Scale: 1:50
DATE	MARCH, 2021	



GROUND & ROOF LAYOUT

GENERAL NOTES.

REINFORCED CONCRETE

- DESIGN IS TO BS 8110
- CONCRETE GRADES ARE TO BE AS FOLLOWS WITH FIGURES IN BRACKET DENOTING MAXIMUM SIZE AGGREGATE:
 - FOUNDATION 30(25)
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 - BEAMS & SLABS 30(20)
- UNLESS OTHERWISE INDICATED, REINFORCEMENT SHALL BE HIGH YIELD STEEL(TYPE 2), DENOTED BY 'Y', HAVING CHARACTERISTIC STRENGHT NOT LESS THAN 410N/MM2

- COVER TO REINFORCEMENT SHALL BE THE

FOUNDATION:
50MM(BOTTOM)75MM(SIDES)

COLUMNS: 25MM

BEAMS: 25MM

SLABS: 20MM

- DRAWINGS MUST BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS AND IN CASE OF ANY DISCREPANCY REFER TO THE DESIGN ENGINEER FOR CLARIFICATION.

- DIMENSIONS ARE IN MILLIMETRE(MM)

- ANDMUST NOT BE SCALED AT ANY TIME.

- FOUNDATION WAS DESIGNED FOR AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 150KN/M2

- THIS DESIGN ENGINEER WILL NOT TAKE RESPONSIBILITY FOR ANY JOB NOT SUPERVISED BY HIM.

BLOCKWORK

- HOLLOW BLOCKWALLS BELOW GROUND SLAB LEVEL ARE TO BE FILLED WITH MASS CONCRETE. BACK FILLING IS TO BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES.

- THE WALL THICKNESS OF THE BLOCKS SHOULD NOT BE MORE THAN 25MM.

- THE MAXIMUM CRUSHING STRENGTH OF THE HOLLOW BLOCK IS TO BE 20N/MM OF GROSS AREA OF BLOCK AT 28 DAYS.

- BLOCKWORK TIES BETWEEN BLOCKWORK WALL AND COLUMNS/STANTIONS ARE TO BE PROVIDED AT EVERY COURSE. TIES TO BE 6MM BAR STRAPS 700M LONG INTO THE BLOCKWORK.

- MAXIMUM POUR HEIGHT FOR ALL FILLED BLOCK BLOCKWORK TO BE 2 COURSES AT A TIME.

- ALL SERVICE PIPES SHALL ONLY BE PUT INSIDE BLOCKWALL AFTER DUE CONSULTATION WITH STRUCTURAL ENGINEERS. PUTTING SERVICE PIPES INSIDE LOAD BEARING BLOCKWORK CORNERS MUST BE AVOIDED.

No.	Revision/Notes.	Date.
1.	Issued for Tender	

CHRISTOPHER OLORUNDARE
STRUCTURAL ENGINEER
UNDP CONSULTANT

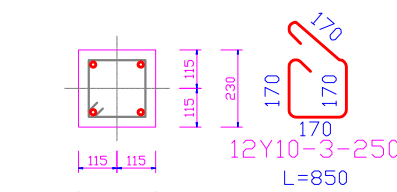
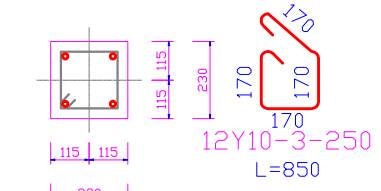
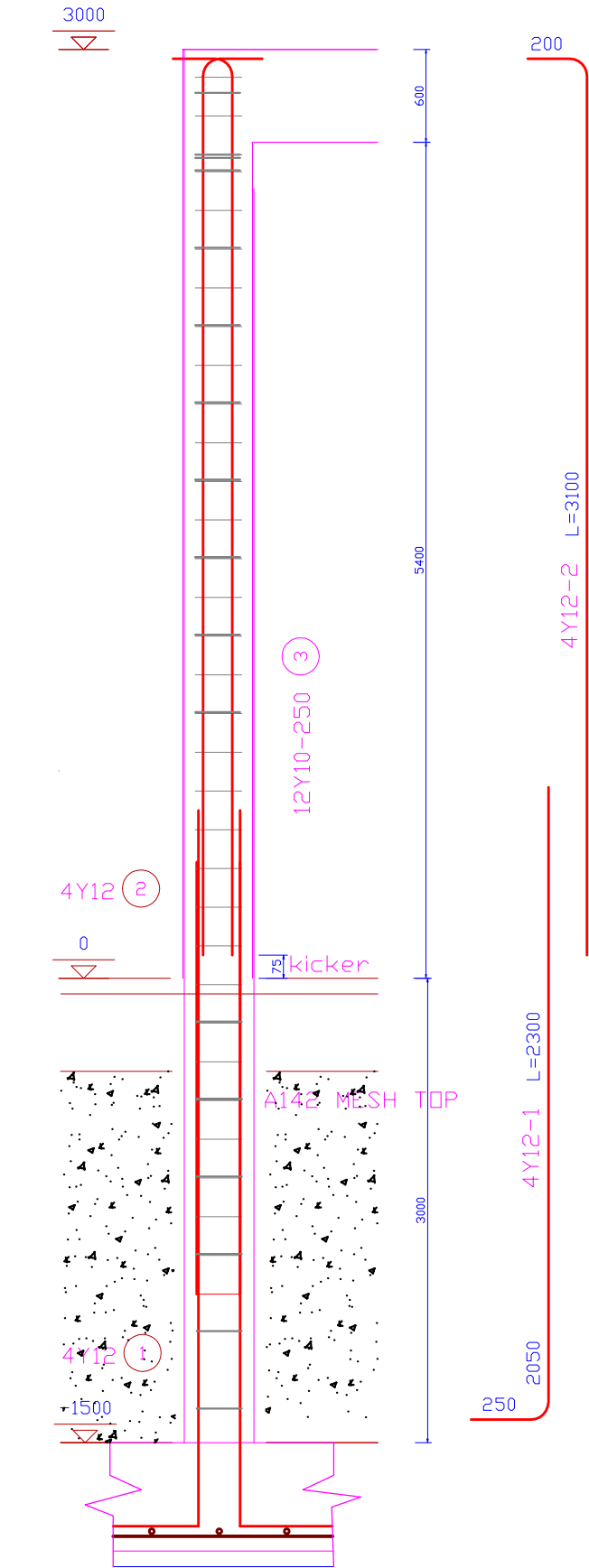
Project.

**HOMES FOR NGARANNAM,
MAFA LGA, BORNO.**

Drawing Title.

GROUND & ROOF LAYOUT

DESIGN	C, A OLORUNDARE	SHEET No.
CHECKED		02
CAD		
DATE	MARCH, 2021	
		Scale: 1:50



COLUMN TYPES
AND DETAILS NO. 21

GENERAL NOTES.

- REINFORCED CONCRETE**
- DESIGN IS TO BS 8110
 - CONCRETE GRADES ARE TO BE AS FOLLOWS WITH FIGURES IN BRACKET DENOTING MAXIMUM SIZE AGGREGATE:
 - FOUNDATION 30(25)
 - COLUMNS 30(20)
 - BEAMS & SLABS 30(20)
 - UNLESS OTHERWISE INDICATED, REINFORCEMENT SHALL BE HIGH YIELD STEEL (TYPE 2), DENOTED BY 'Y', HAVING CHARACTERISTIC STRENGTH NOT LESS THAN 410N/MM²
 - COVER TO REINFORCEMENT SHALL BE THE FOLLOWING:
 - FOUNDATION: 50MM (BOTTOM) 75MM (SIDES)
 - COLUMNS: 25MM
 - BEAMS: 25MM
 - SLABS: 20MM
 - DRAWINGS MUST BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS AND IN CASE OF ANY DISCREPANCY REFER TO THE DESIGN ENGINEER FOR CLARIFICATION.
 - DIMENSIONS ARE IN MILLIMETRE (MM) AND MUST NOT BE SCALED AT ANY TIME.
 - FOUNDATION WAS DESIGNED FOR AN ASSUMED ALLOWABLE SOIL BEARING PRESSURE OF 150KN/M²
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- BLOCKWORK**
- HOLLOW BLOCK WALLS BELOW GROUND LEVEL ARE TO BE FILLED WITH MASS CONCRETE. BACK FILLING IS TO BE CARRIED OUT SIMULTANEOUSLY ON BOTH SIDES.
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 - ALL SERVICE PIPES SHALL ONLY BE PUT INSIDE BLOCKWORK AFTER DUE CONSULTATION WITH STRUCTURAL ENGINEERS. PUTTING SERVICE PIPES INSIDE LOAD BEARING BLOCKWORK CORNERS MUST BE AVOIDED.

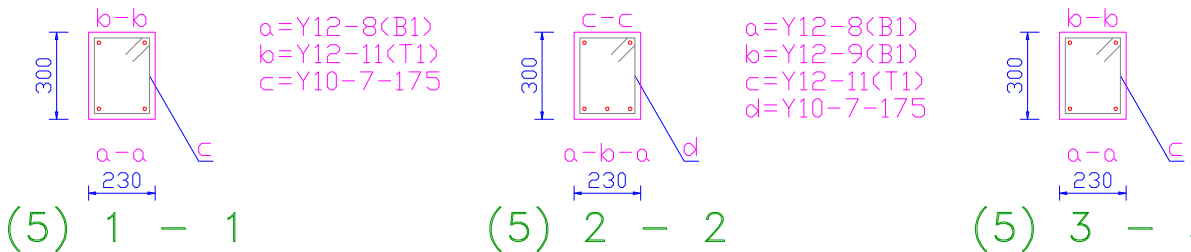
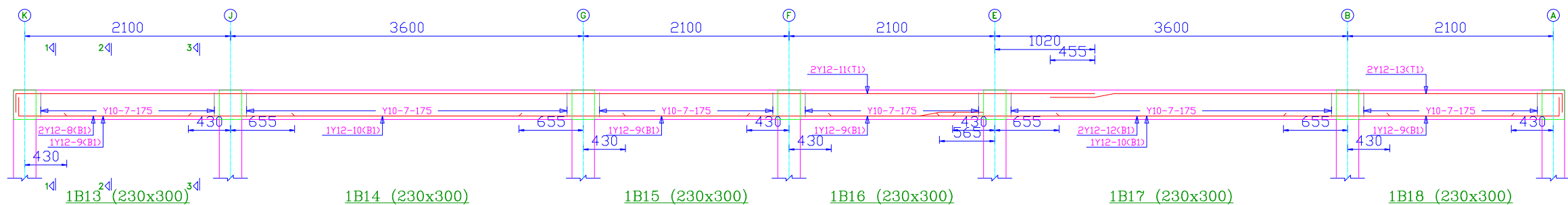
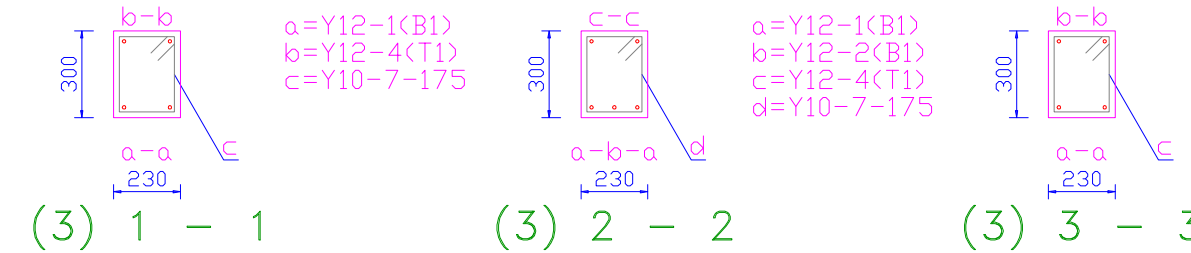
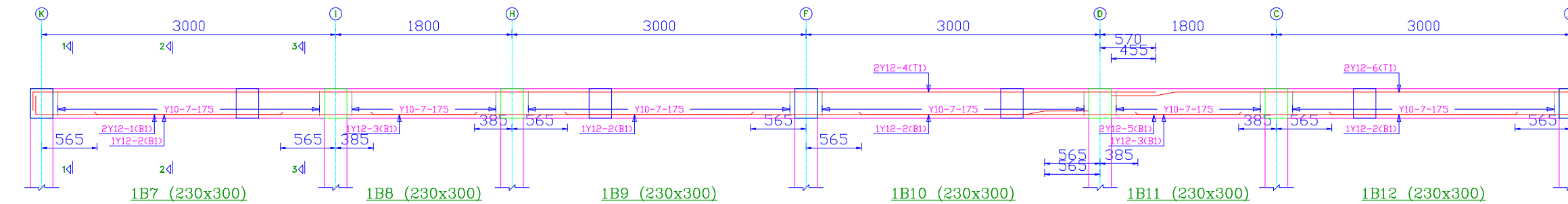
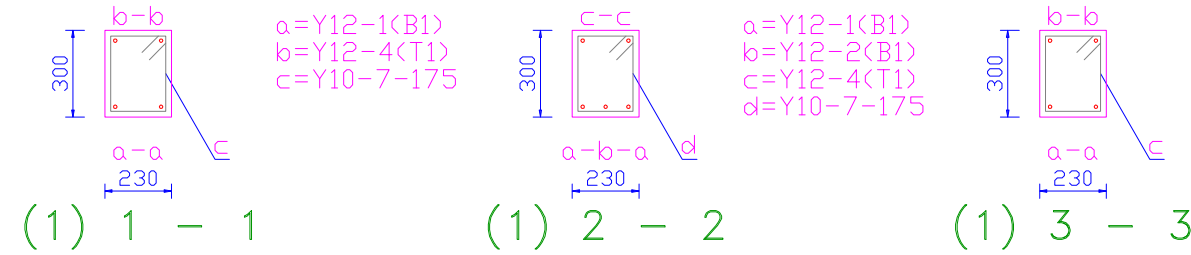
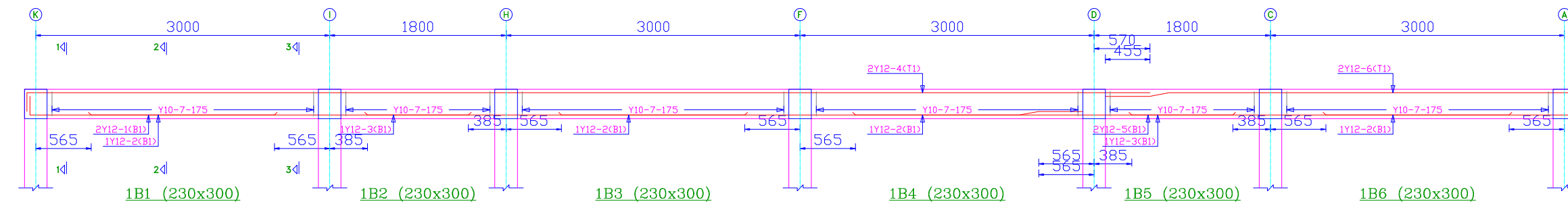
No.	Revision/Notes.	Date.
1.	Issued for Tender	

CHRISTOPHER OLORUNDARE
STRUCTURAL ENGINEER
UNDP CONSULTANT

Project.
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
COLUMN DETAILS

DESIGN	C, A OLORUNDARE	SHEET No.
CHECKED		03
CAD		
DATE	MARCH, 2021	
		Scale: 1:50



ROOF BEAM DETAILS

GENERAL NOTES.

- DESIGN IS TO BS 8110
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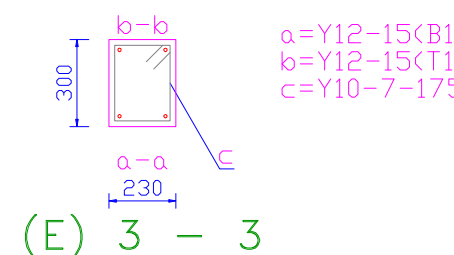
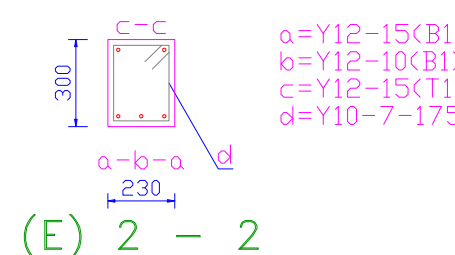
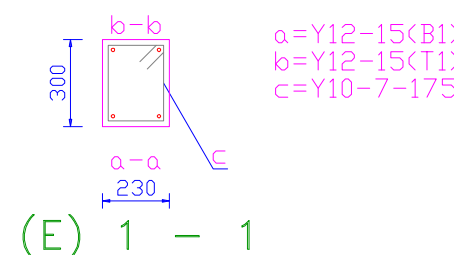
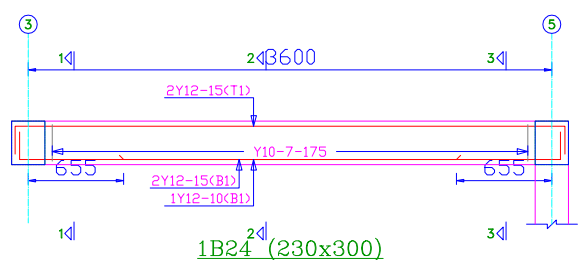
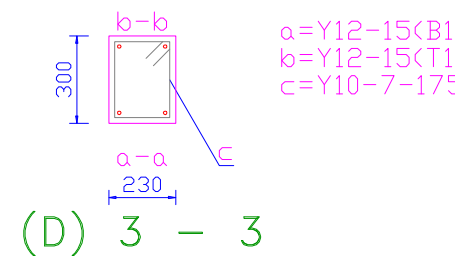
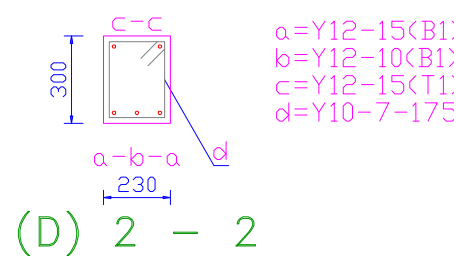
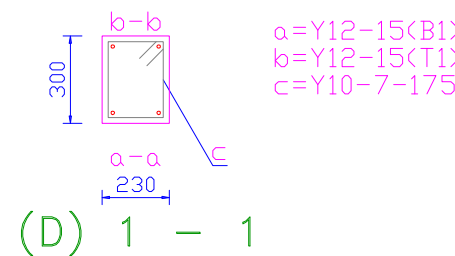
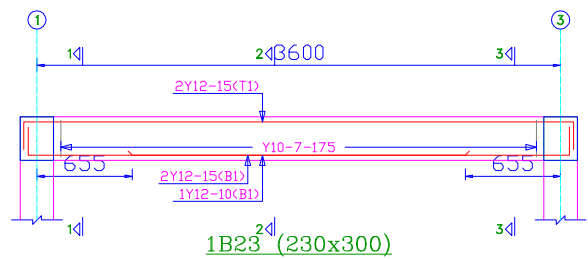
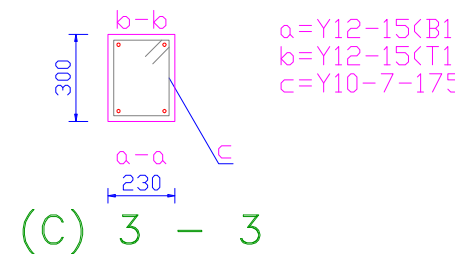
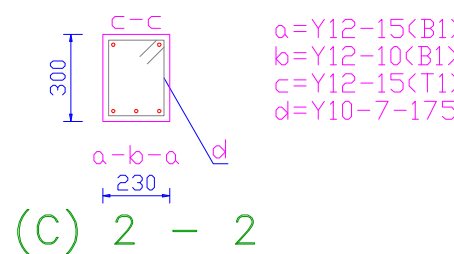
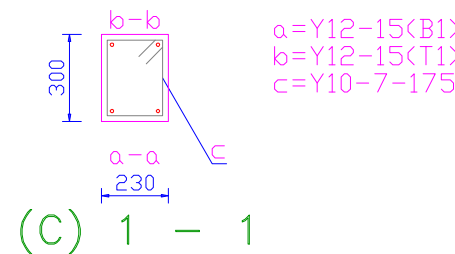
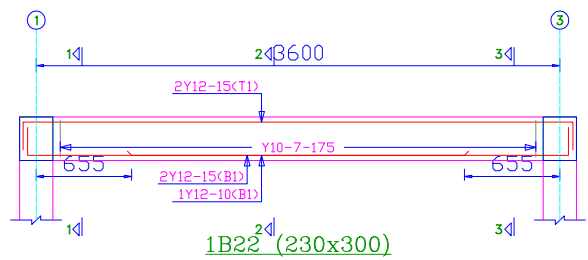
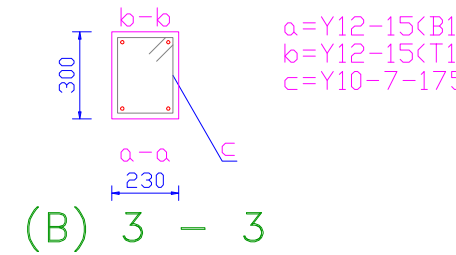
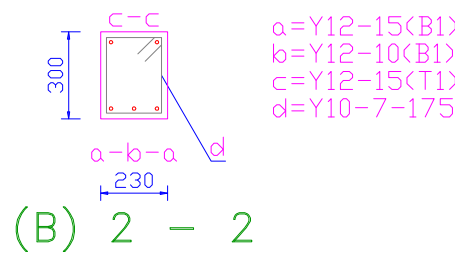
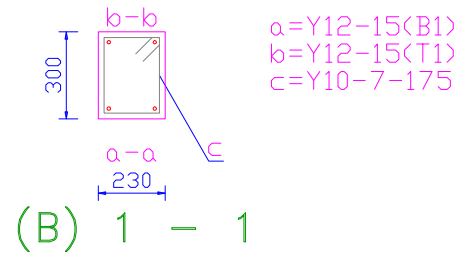
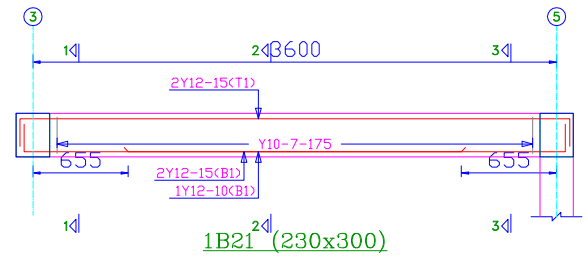
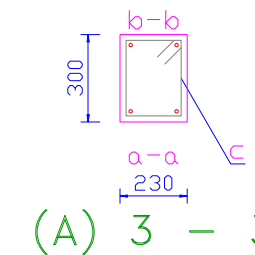
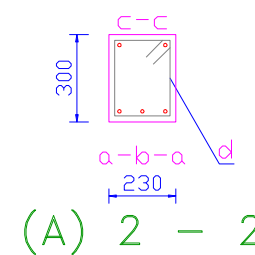
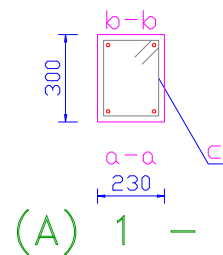
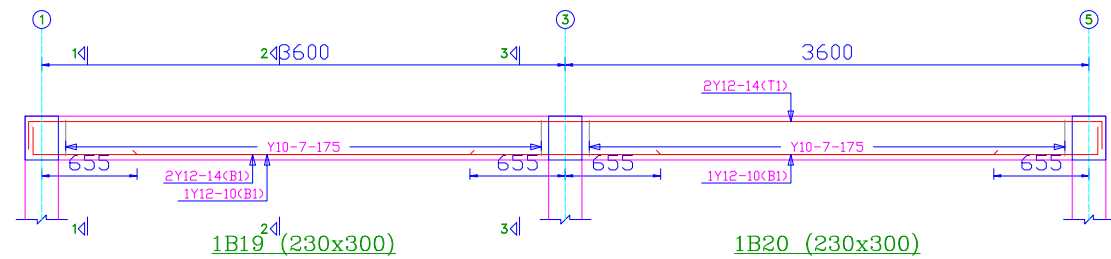
No.	Revision/Notes.	Date.
1.	Issued for Tender	

CHRISTOPHER OLORUNDARE
STRUCTURAL ENGINEER
UNDP CONSULTANT

Project.
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
BEAM R.BAR DETAILS

DESIGN	C, A OLORUNDARE	SHEET No.
CHECKED		04
CAD		Scale: 1:50
DATE	MARCH, 2021	



ROOF BEAM DETAILS CONT.

GENERAL NOTES.

REINFORCED CONCRETE

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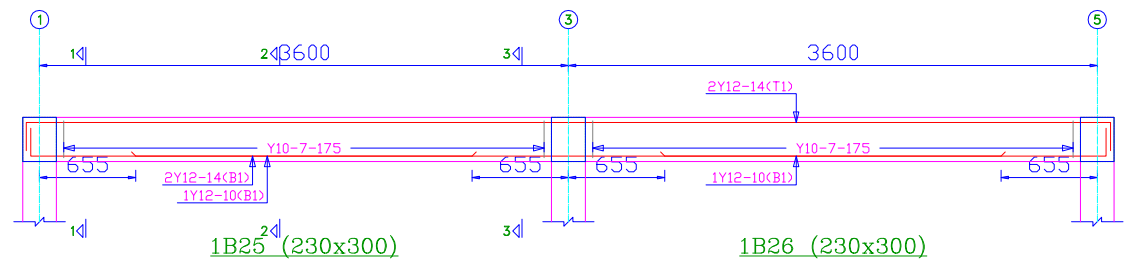
No.	Revision/Notes.	Date.
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CHRISTOPHER OLORUNDARE
STRUCTURAL ENGINEER
UNDP CONSULTANT

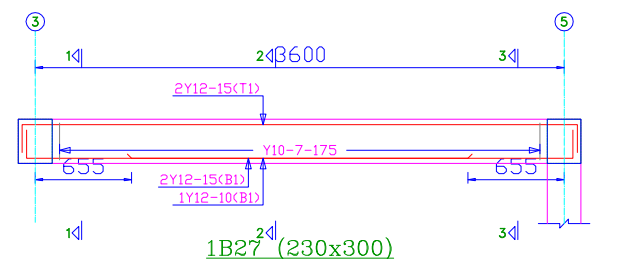
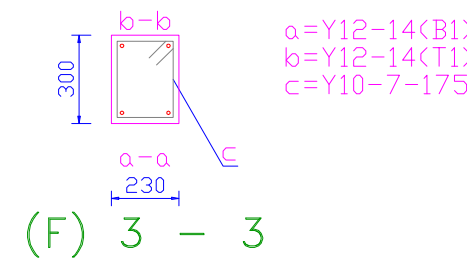
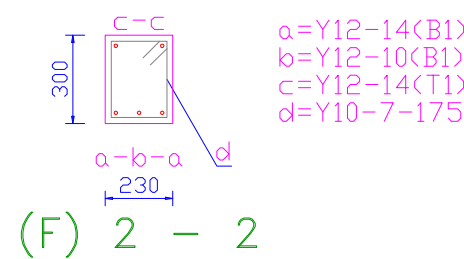
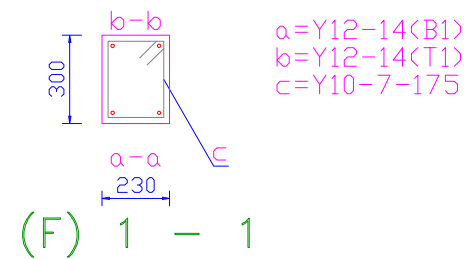
Project.
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
BEAM R.BAR DETAILS

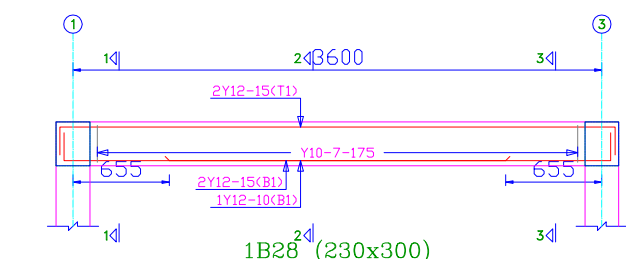
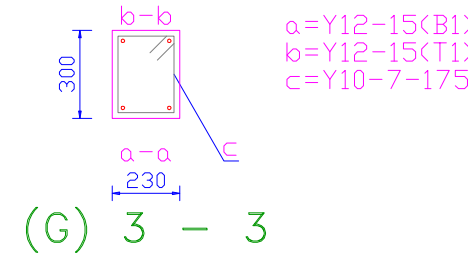
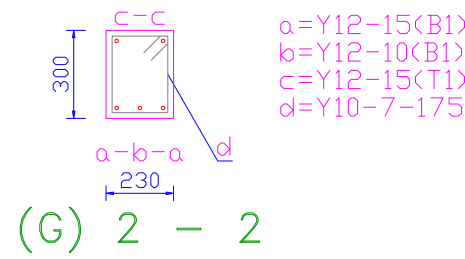
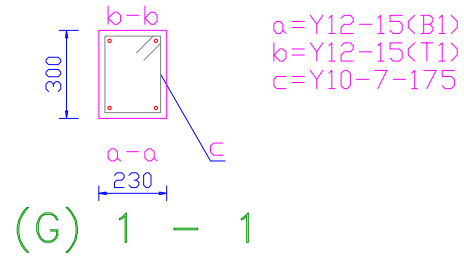
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CHECKED		05
CAD		
DATE	MARCH, 2021	
		Scale: 1:50



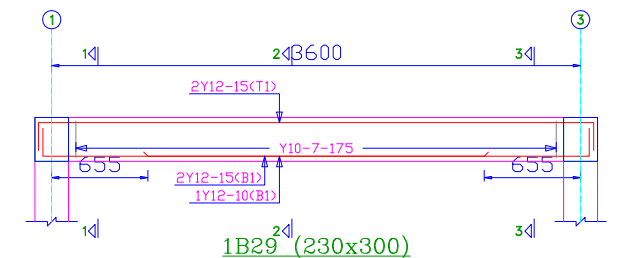
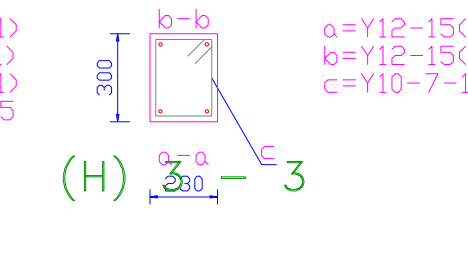
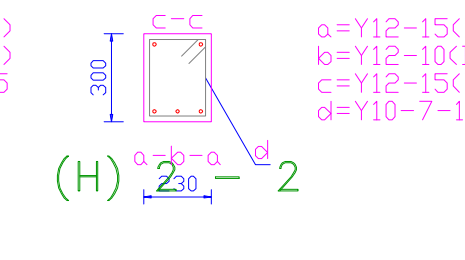
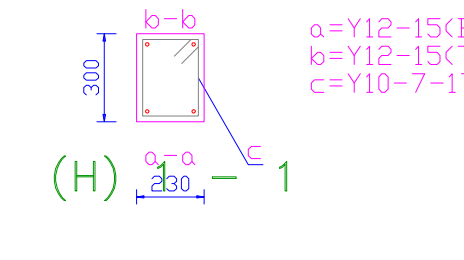
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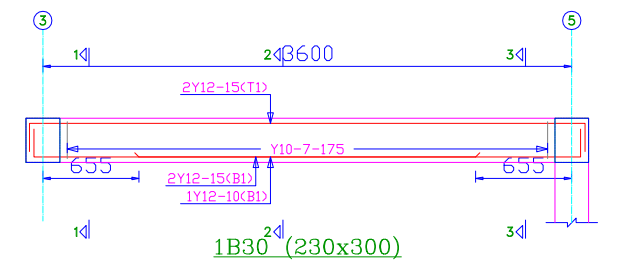
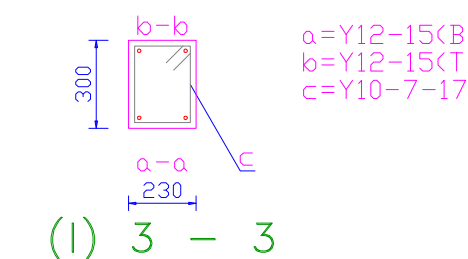
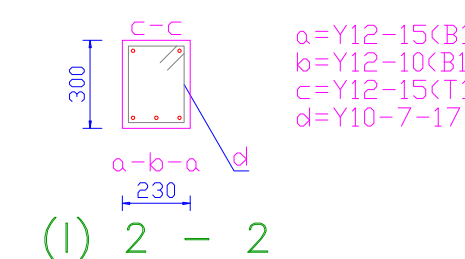
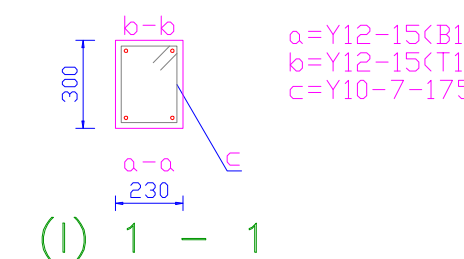
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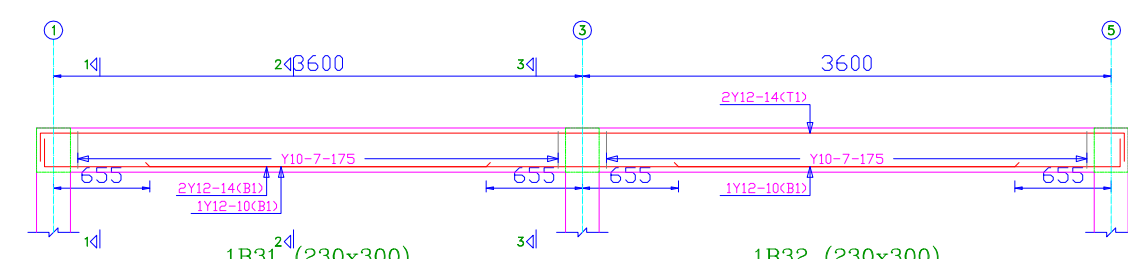
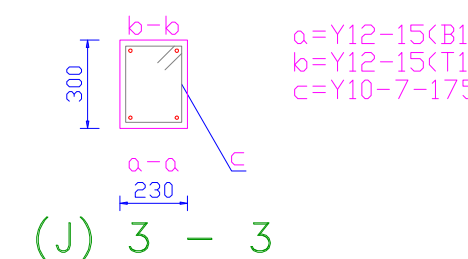
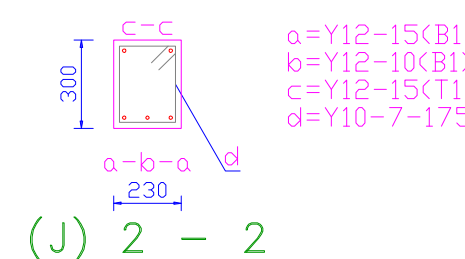
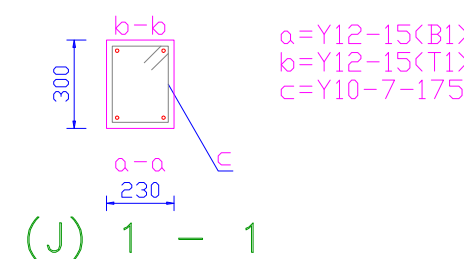
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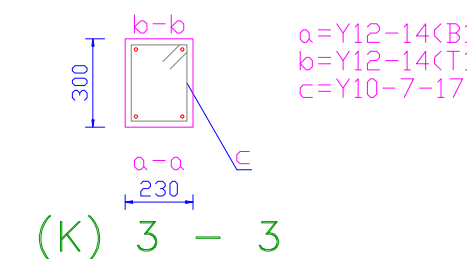
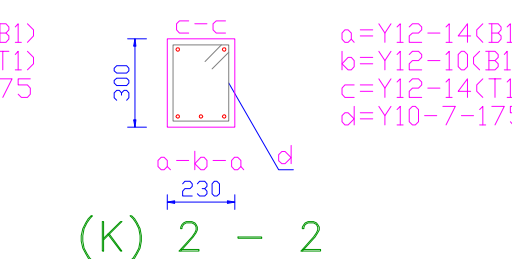
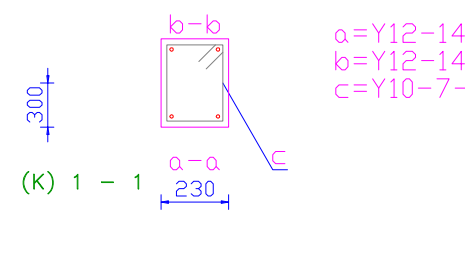
1B29 (230x300)



1B30 (230x300)



1B31 (230x300)



ROOF BEAM DETAILS CONT.

GENERAL NOTES.

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No.	Revision/Notes.	Date.
1.	Issued for Tender	

CHRISTOPHER OLORUNDARE
 STRUCTURAL ENGINEER
 UNDP CONSULTANT

Project.
HOMES FOR NGARANNAM,
MAFA LGA, BORNO.

Drawing Title.
BEAM R.BAR DETAILS

DESIGN	C, A OLORUNDARE	SHEET No.
CHECKED		06
CAD		
DATE	MARCH, 2021	
		Scale: 1:50