

NOTES:

ALL DIMENTIONS ARE IN METER.



MAIN ENT. / INTERVIEW AREA
 KHARTOUM SOUTH
 KHARTOUM STATE

GROUND FLOOR PLAN

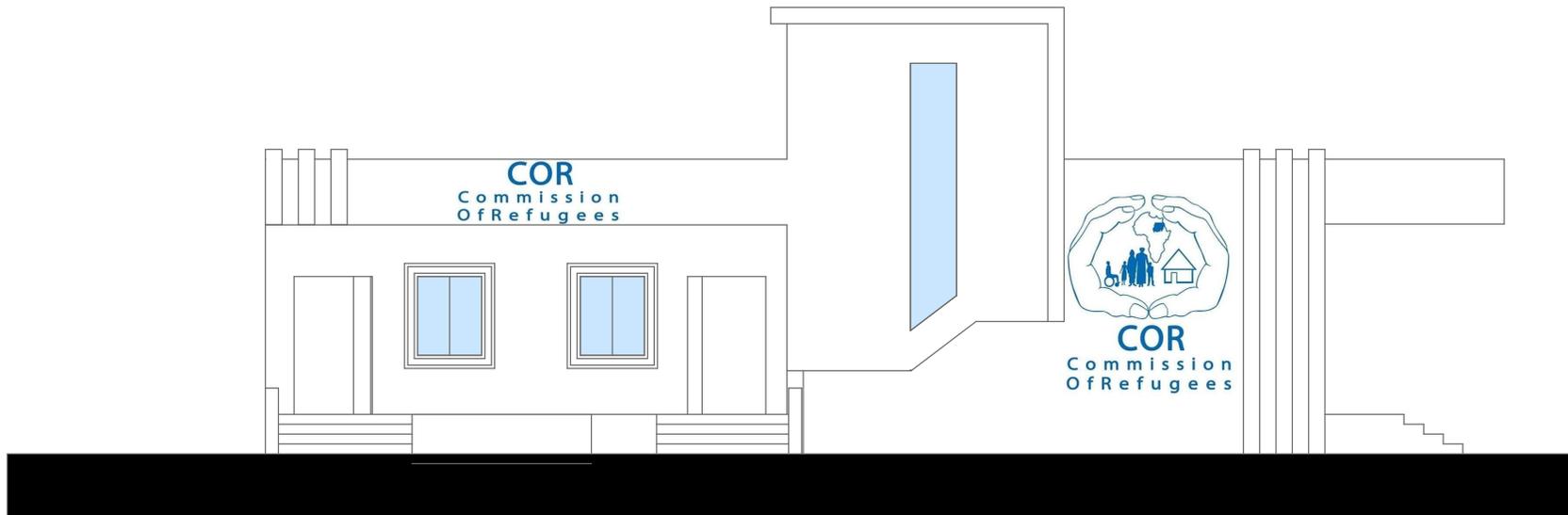
SHEET:
 01

REV.:
 MAY 2021 REV.00

DESIGN & DRAWINGS:



FEEDBACK: BAKERM@UNHCR.ORG



NOTES:

ALL DIMENTIONS ARE IN METER.

PROP. OF:



MAIN ENT./INTERVIEW AREA

**KHARTOUM SOUTH
KHARTOUM STATE**

MAIN ELEVATION

SHEET:

02

REV.:

MAY 2021

REV.00

DESIGN & DRAWINGS:



FEEDBACK: BAKERM@UNHCR.ORG



NOTES:

ALL DIMENSIONS ARE IN METER.

PROP. OF:



MAIN ENT./INTERVIEW AREA

**KHARTOUM SOUTH
KHARTOUM STATE**

VIEW

SHEET:

03

REV.:

MAY 2021

REV.00

DESIGN & DRAWINGS:



FEEDBACK: BAKERM@UNHCR.ORG

STRUCTURAL DRAWINGS

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S-04 Schedule of Columns & Footings

S-05 Footings Reinforcement Details

S-06 Ground Floor (Grade Beam)

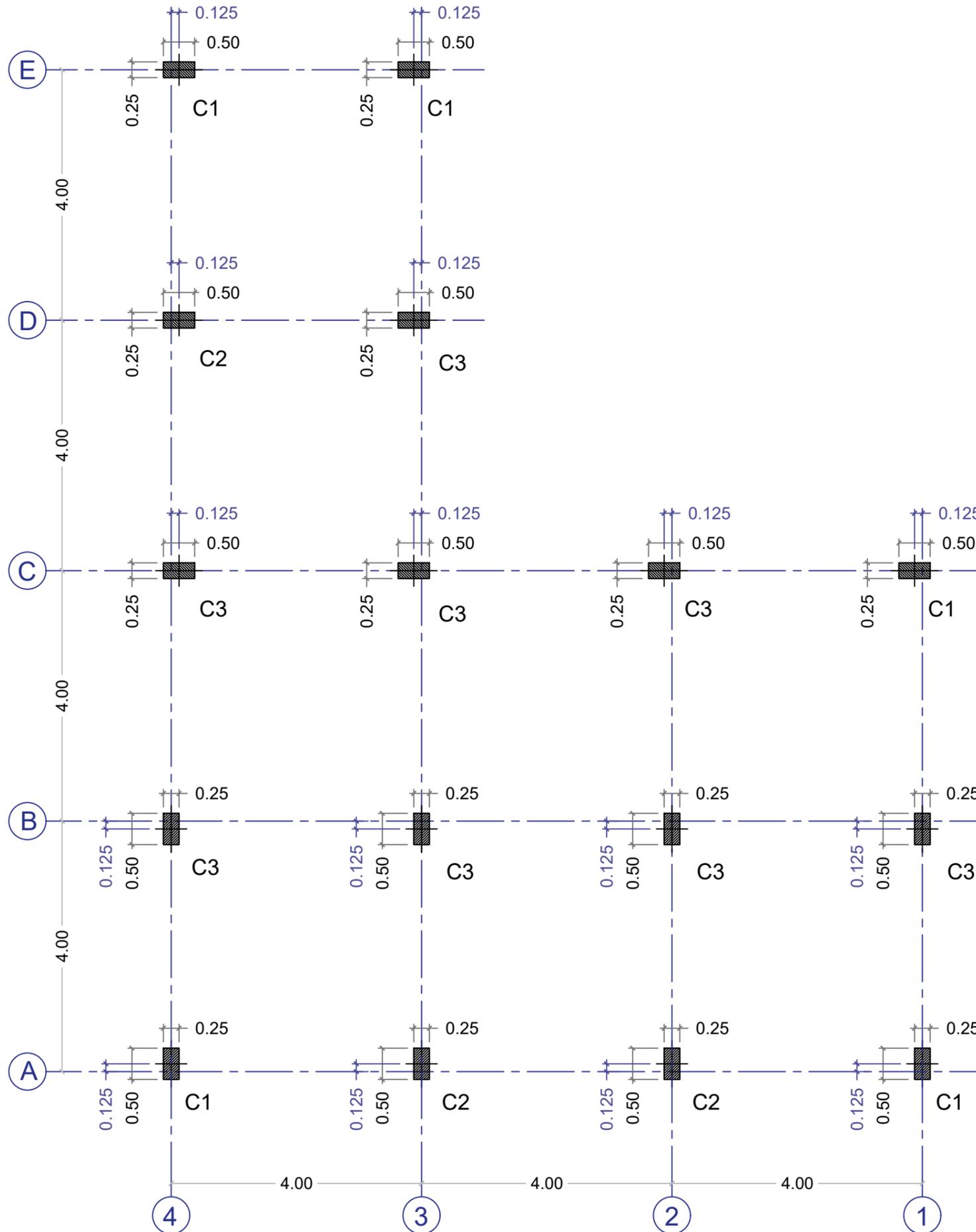
S-07 Ground Cover Slab Reinforcement (bottom)

S-08 Ground Cover Slab Reinforcement (top)

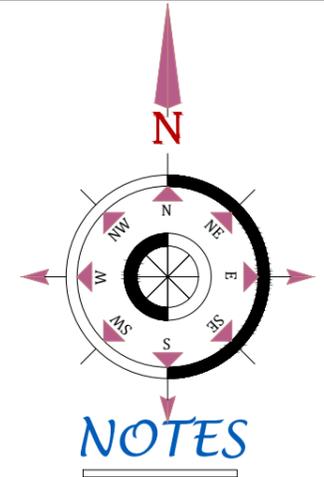
S-09 Section A-A & B-B Details

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Columns Layout at Footings Level



1. Concrete strength shall be taken as 25 N/mm² at 28-days.
2. Max aggregate size shall not exceed 20mm, crushed stone is preferred.
3. W/C water cement ratio 0.45.
4. Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
6. weight of slab concrete = 5.0 KN/m² (thickness of slab = 200 mm).
7. Finishing load = 1.0 KN/m².
8. Bricks used for partitioning shall be of total load of =4.5 KN/m².
9. Live load is = 1.5 KN/m².
- Total Service Load (SL) = 10.5+1.5 (SL) = 12.0 KN/m².
- Total Ultimate Load(uL) = (1.4x10.5)+(1.6x1.5) (UL) = 17.5 KN/m².
10. BS 8110 is used for design.
11. BS 6399 is used for loading requirements and analysis.
12. BS 8004 and BS8001 is used for foundation design.
13. Min. of 10cm of Plain concrete shall be used under footings.
14. All sub-structural works shall be well insulated and protected against water.
15. Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

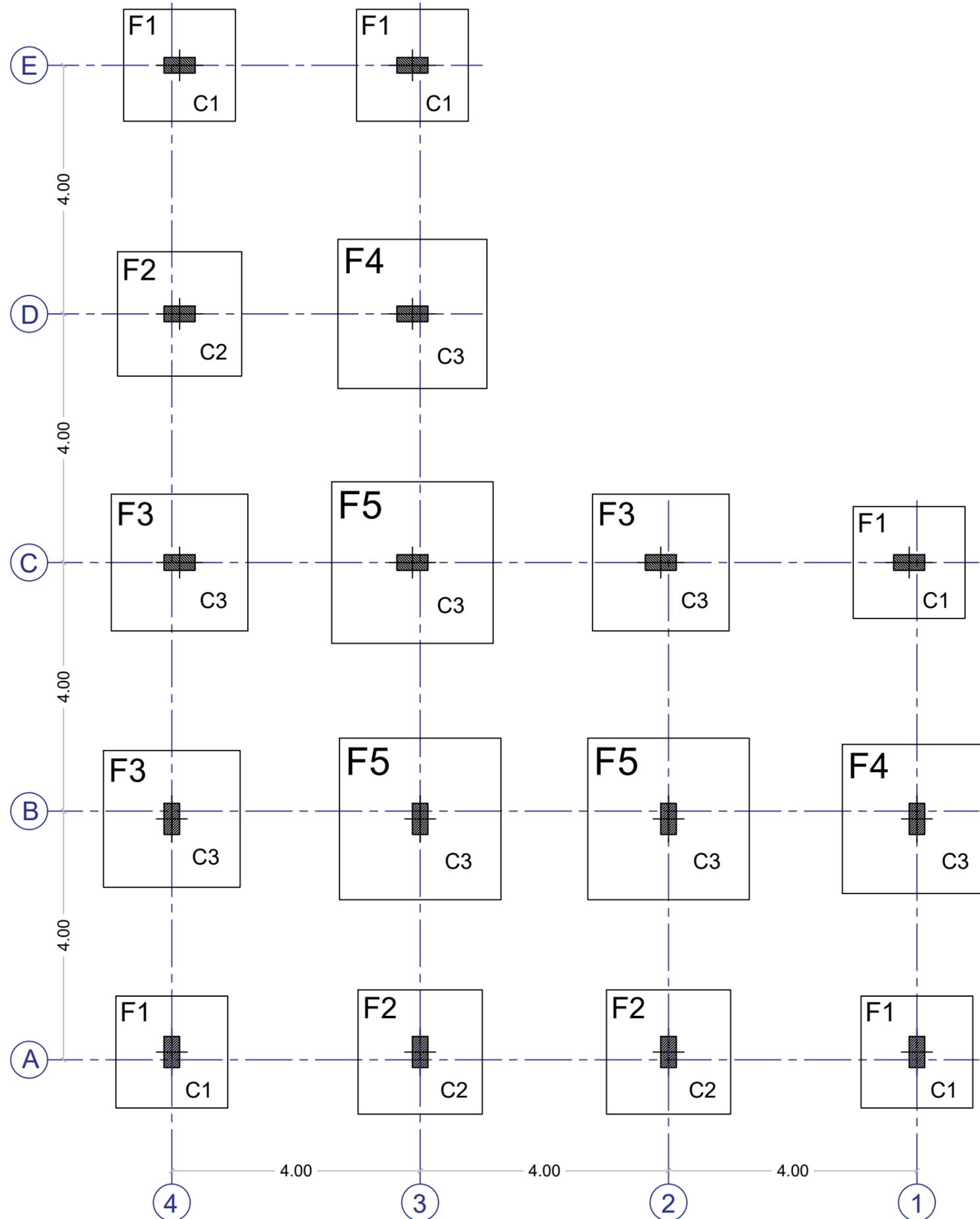
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LOCATION:
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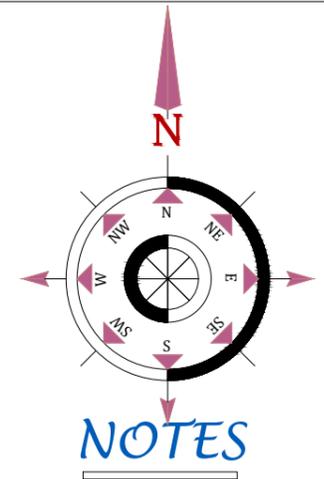
DRAWING TITLE:
Columns Layout at Footings Level

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-01 **DATE:** August - 2021



Footings Layout



- NOTES**
- Concrete strength shall be taken as 25 N/mm² at 28-days.
 - Max aggregate size shall not exceed 20mm, crushed stone is preferred.
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 - Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
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 - Min. of 10cm of Plain concrete shall be used under footings.
 - All sub-structural works shall be well insulated and protected against water.
 - Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

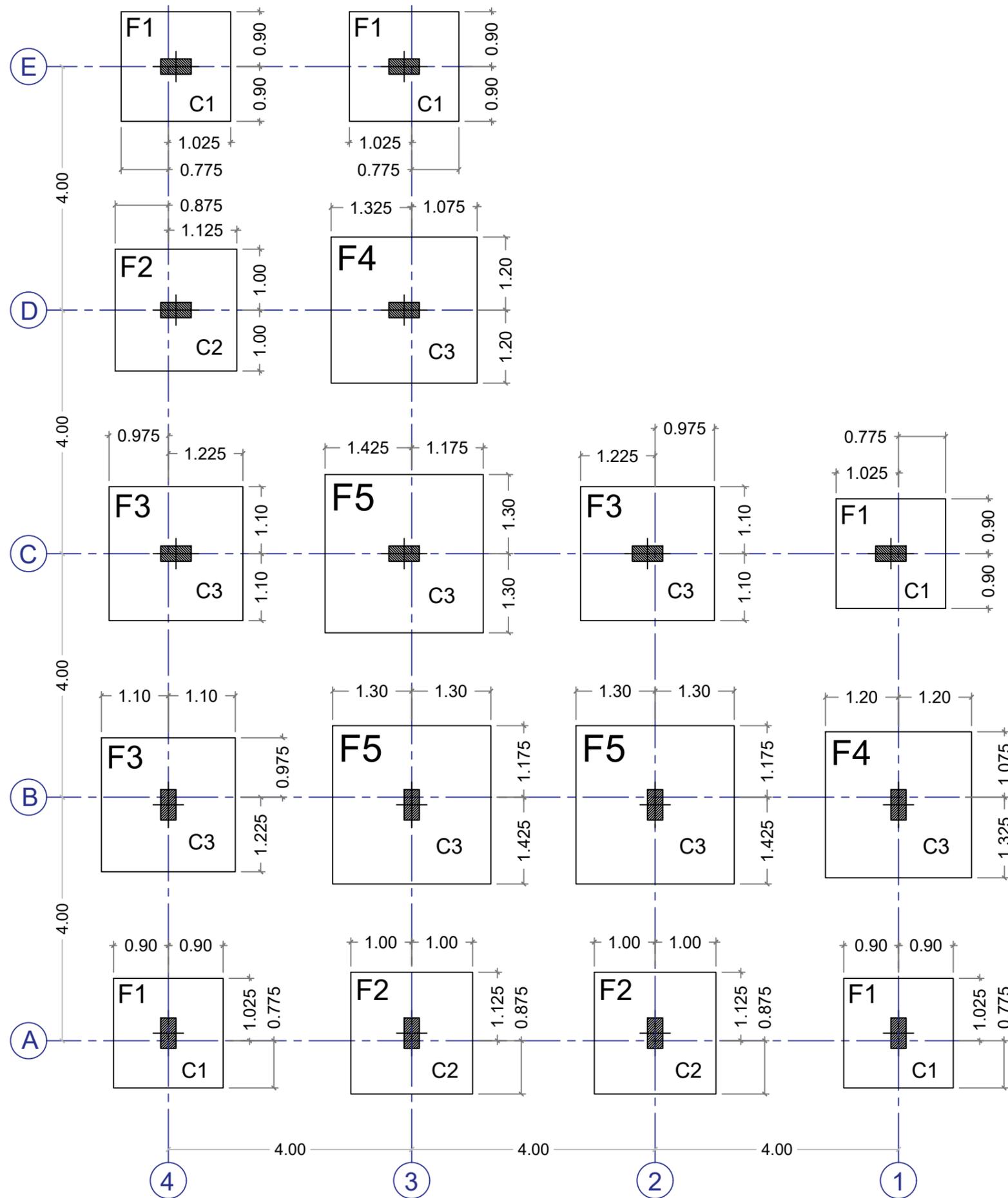
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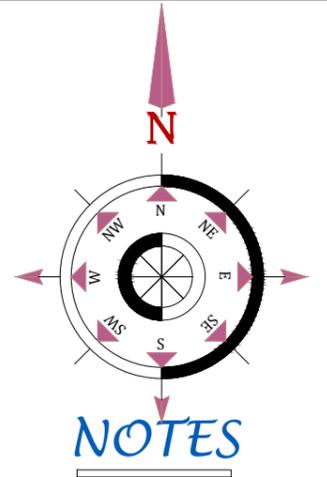
DRAWING TITLE:
Footings Layout

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-02 **DATE:** August - 2021



Footings Dimensions



- NOTES**
1. Concrete strength shall be taken as 25 N/mm² at 28-days.
 2. Max aggregate size shall not exceed 20mm, crushed stone is preferred.
 3. W/C water cement ratio 0.45.
 4. Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
 6. weight of slab concrete = 5.0 KN/m² (thickness of slab = 200 mm).
 7. Finishing load = 1.0 KN/m².
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 14. All sub-structural works shall be well insulated and protected against water.
 15. Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

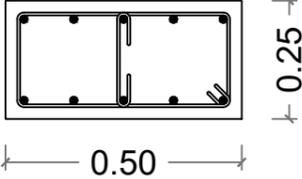
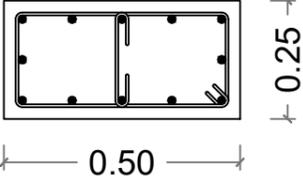
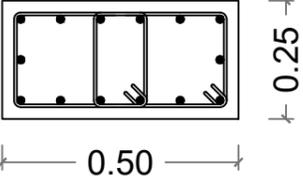
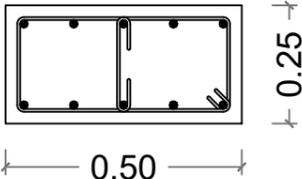
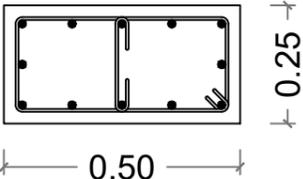
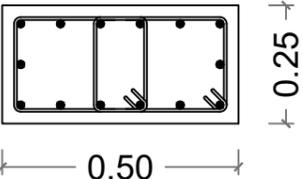
OWNER:

LOCATION:
Khartoum

DRAWING TITLE:
Footings Dimensions

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-03 **DATE:** August - 2021

Concrete Strength $F_{cu} = 25 \text{ N/mm}^2$ - Steel High Tensile $F_y = 460 \text{ N/mm}^2$			
COLUMN	C1	C2	C3
FLOORS			
Short Columns	<p>10T16</p> 	<p>12T16</p> 	<p>14T16</p> 
Ground Floor Columns	<p>10T16</p> 	<p>12T16</p> 	<p>14T16</p> 
<p>ALL Links T8@150 mm</p> <p>Short Columns should not exceed height 3.2 m</p>			

NOTES

- 1- Steel F_y not less than 460 N/mm².
- 2- Concrete F_{cu} should not be less than 25 N/mm² for 28 days strength.
- 3- Max-Aggregate size 20mm for beams & col.s and 30mm for found.s.
- 4- Concrete cover for reinforcement should not be less than 25mm for beams & columns and 50mm for foundations.
- 5- Over laps of steel should not be less than 45 times larger bar size & should always be located within concrete being under compression.
- 6- Construction joints shall be located at one-fifth of span of slabs.
- 7- All Dimensions are in mm.

Schedule of Footings					
TYPE	B	L	D	Reinforcement (bottom)	Reinforcement (top)
F1	1.80	1.80	0.50	T16 @ 150 mm c/c	—————
F2	2.00	2.00	0.50	T16 @ 150 mm c/c	—————
F3	2.20	2.20	0.50	T16 @ 150 mm c/c	—————
F4	2.40	2.40	0.50	T16 @ 150 mm c/c	—————
F5	2.60	2.60	0.50	T16 @ 150 mm c/c	—————

PROJECT:

Residential building

OWNER:

LOCATION:

Khartoum

DRAWING TITLE:

Schedule of Columns & Footings

DESIGN BY:

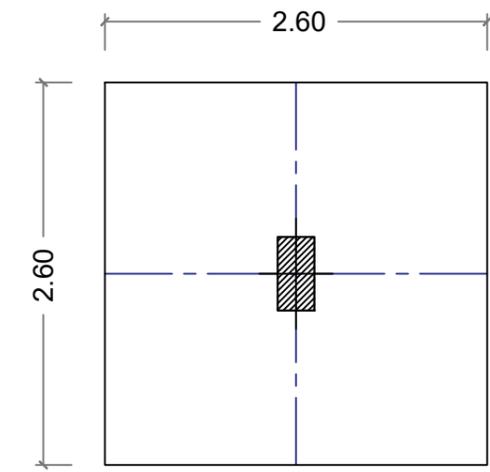
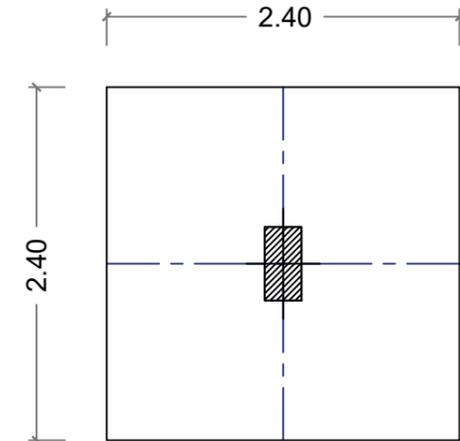
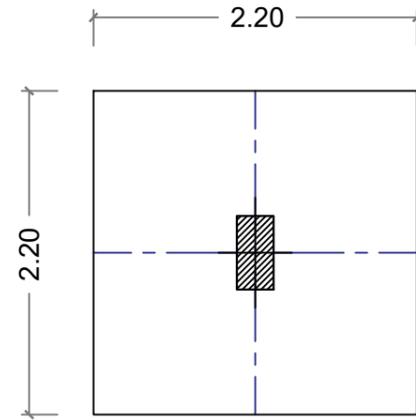
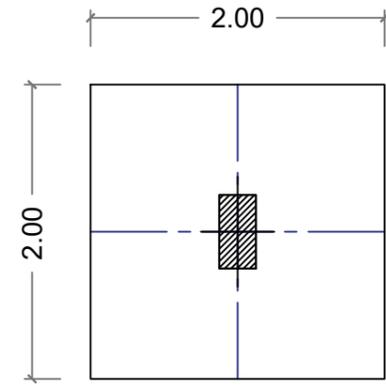
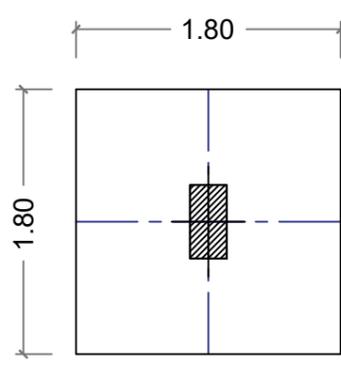
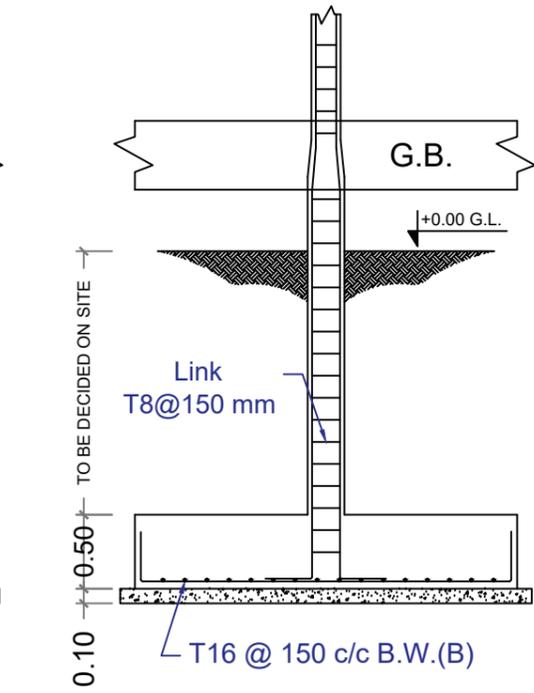
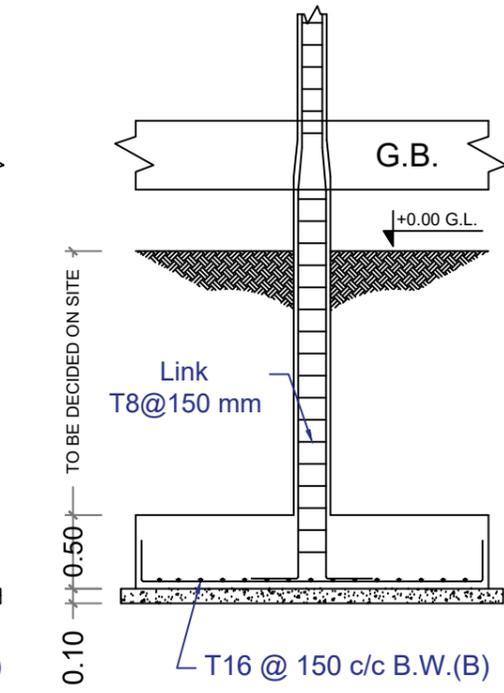
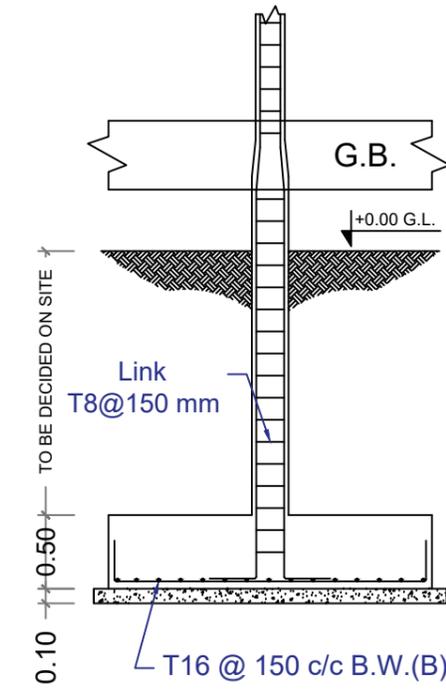
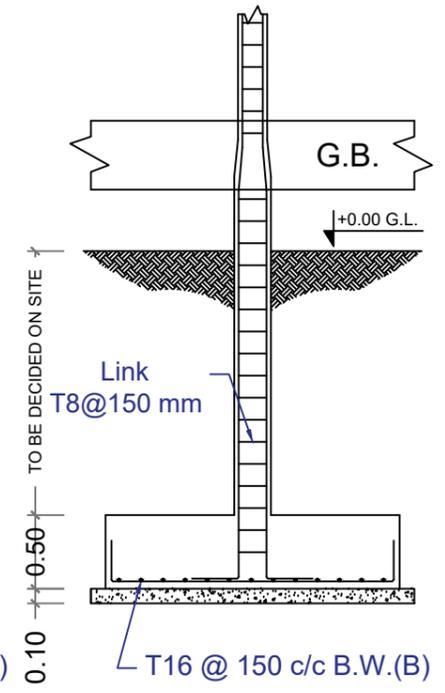
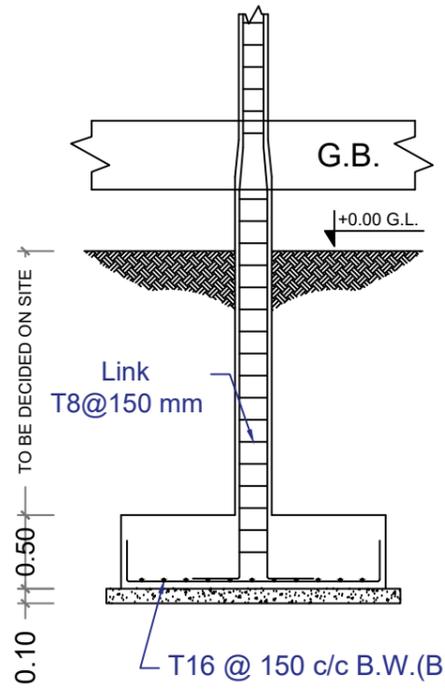
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.

S-04

DATE:

August - 2021



Isolated Footing (F1)

Isolated Footing (F2)

Isolated Footing (F3)

Isolated Footing (F4)

Isolated Footing (F5)

NOTES

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- 3- Max-Aggregate size 20mm for beams & col.s and 30mm for found.s.
- 4- Concrete cover for reinforcement should not be less than 25mm for beams & columns and 50mm for foundations.
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- 6- Construction joints shall be located at one-fifth of span of slabs.
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PROJECT:
Residential building

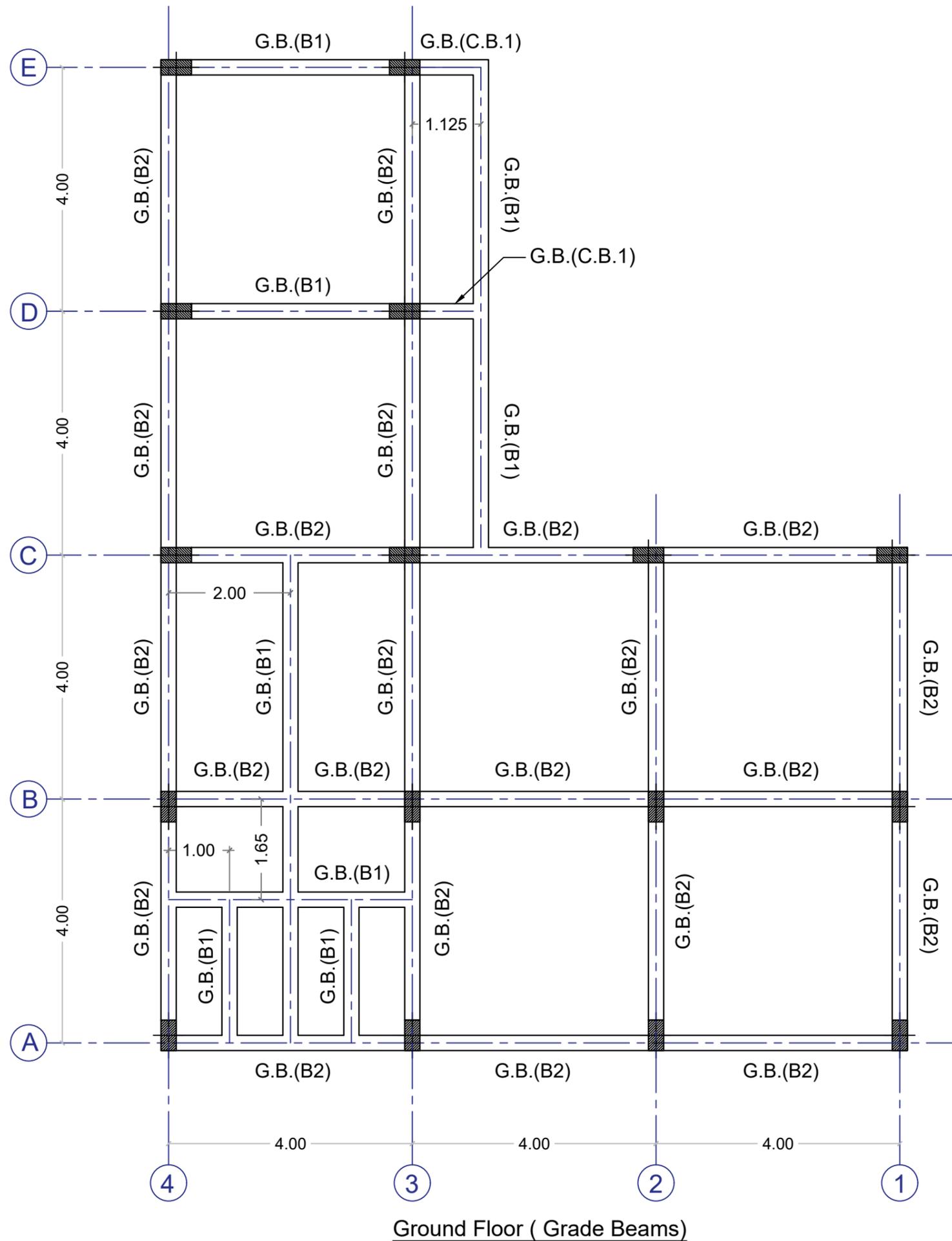
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LOCATION:
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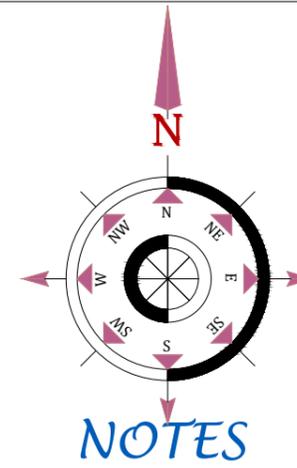
DRAWING TITLE:
Footings Reinforcement Details

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-05
DATE: August - 2021



Ground Floor (Grade Beams)



1. Concrete strength shall be taken as 25 N/mm² at 28-days.
2. Max aggregate size shall not exceed 20mm, crushed stone is preferred.
3. W/C water cement ratio 0.45.
4. Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
6. weight of slab concrete = 5.0 KN/m²
(thickness of slab = 200 mm) .
7. Finishing load = 1.0 KN/m².
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15. Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

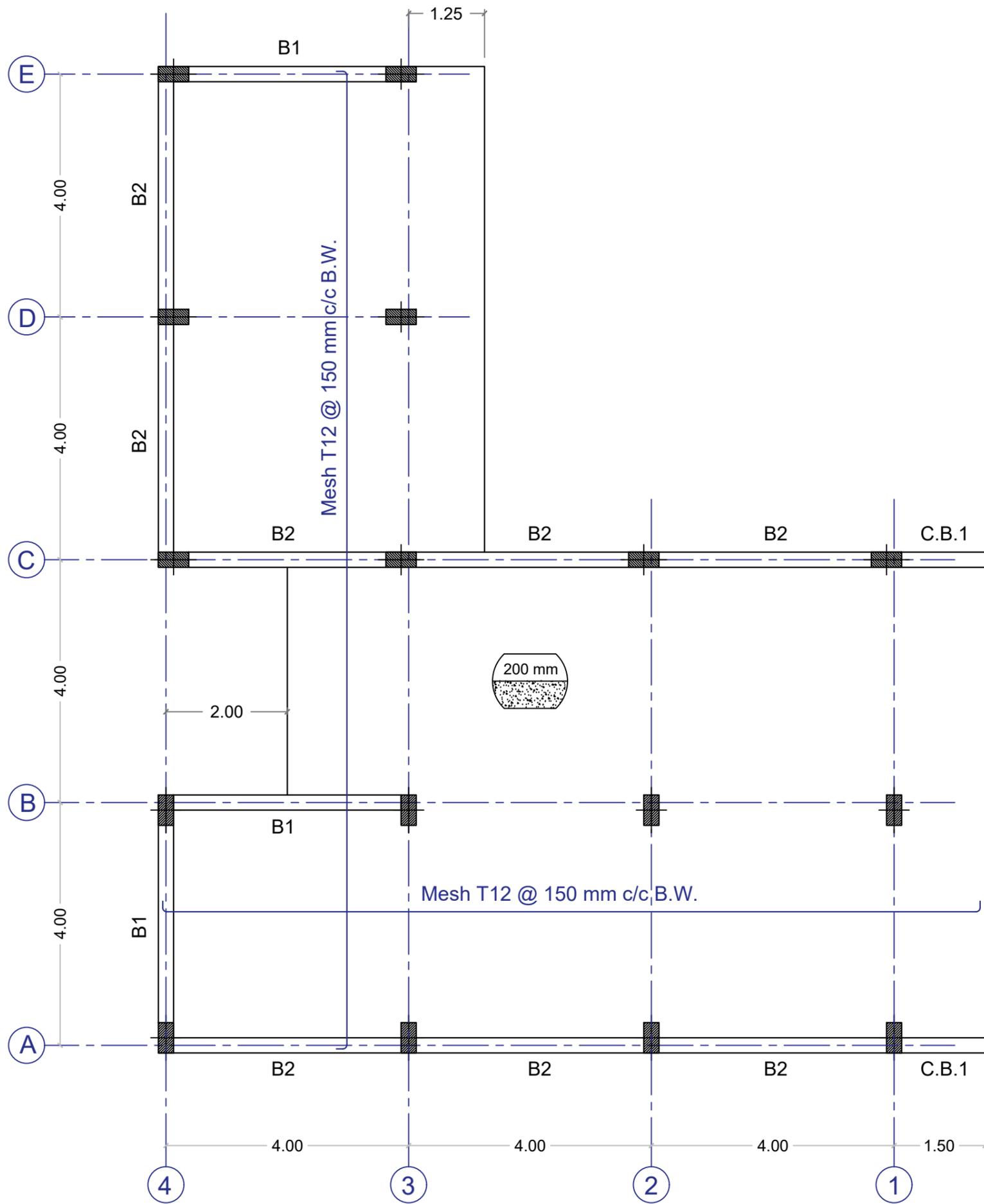
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LOCATION:
Khartoum

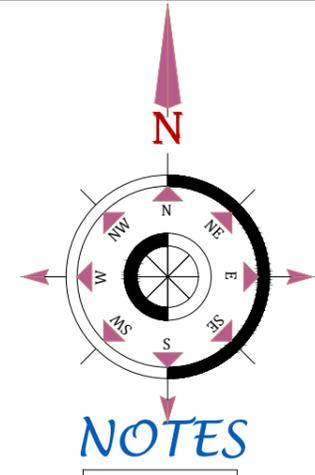
DRAWING TITLE:
Ground Floor (Grade Beams)

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-06 **DATE:** August - 2021



Ground Cover Slab Reinforcement (bottom)



PROJECT:
Residential building

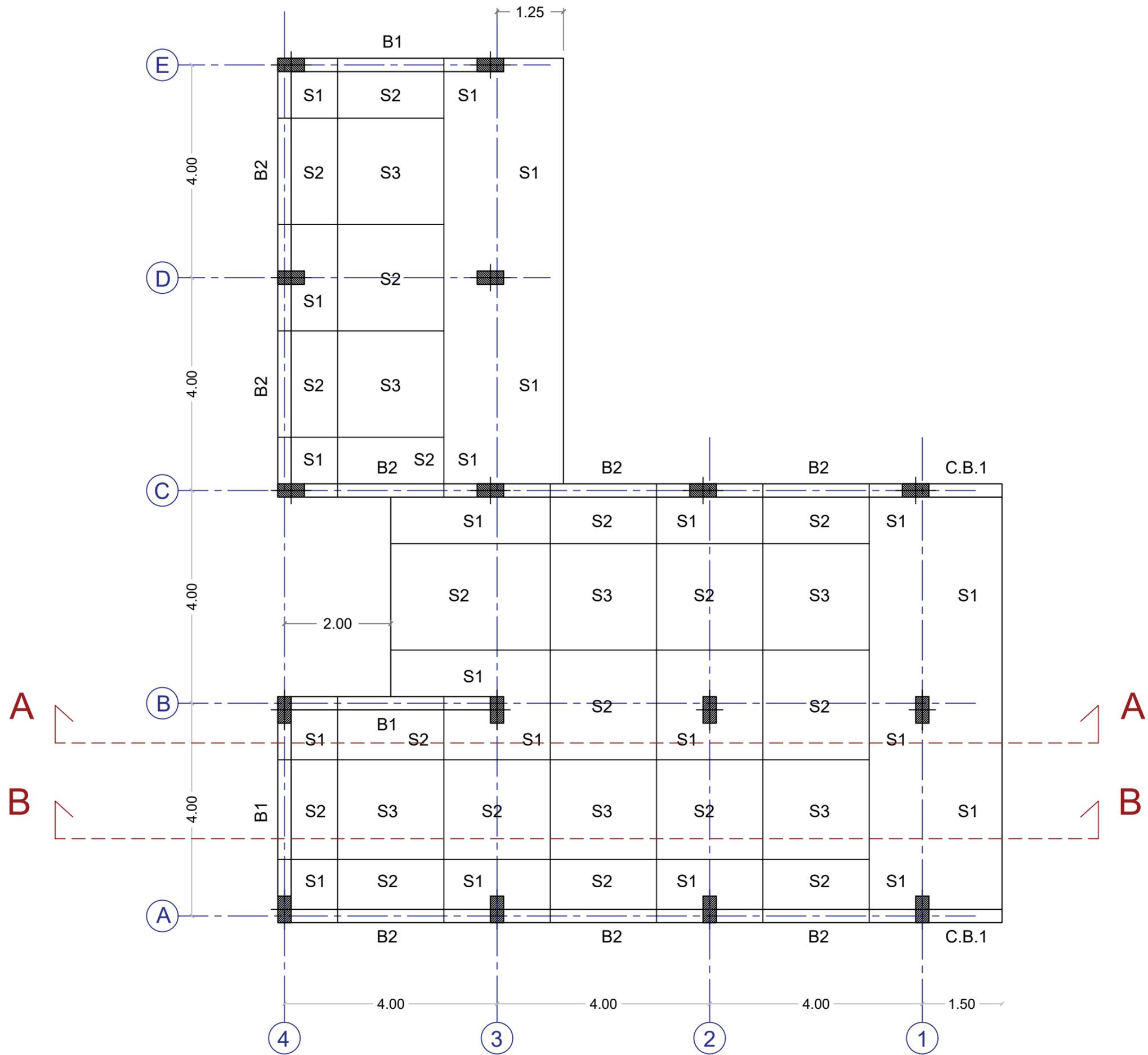
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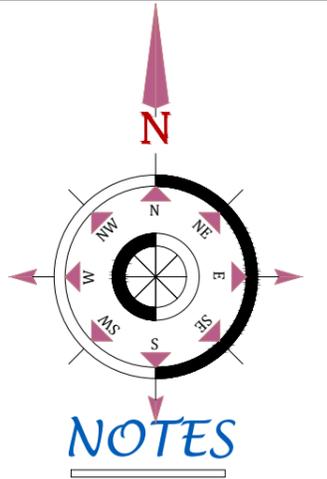
DRAWING TITLE:
Ground Cover Slab Reinforcement (B)

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-07 **DATE:** August - 2021



Ground Cover Slab Reinforcement (top)



- NOTE
- 1) Thickness Of Slab = 200mm.
 - 2) Top Reinforcement
 - S1 T 16 @ 100 mm c/c B.W.
 - S2 T 16 @ 200 mm c/c B.W.
 - S3 T 16 @ 400 mm c/c B.W.
 - 3) Bottom Reinforcement
 - T 12 @ 150 mm c/c B.W.

PROJECT:
Residential building

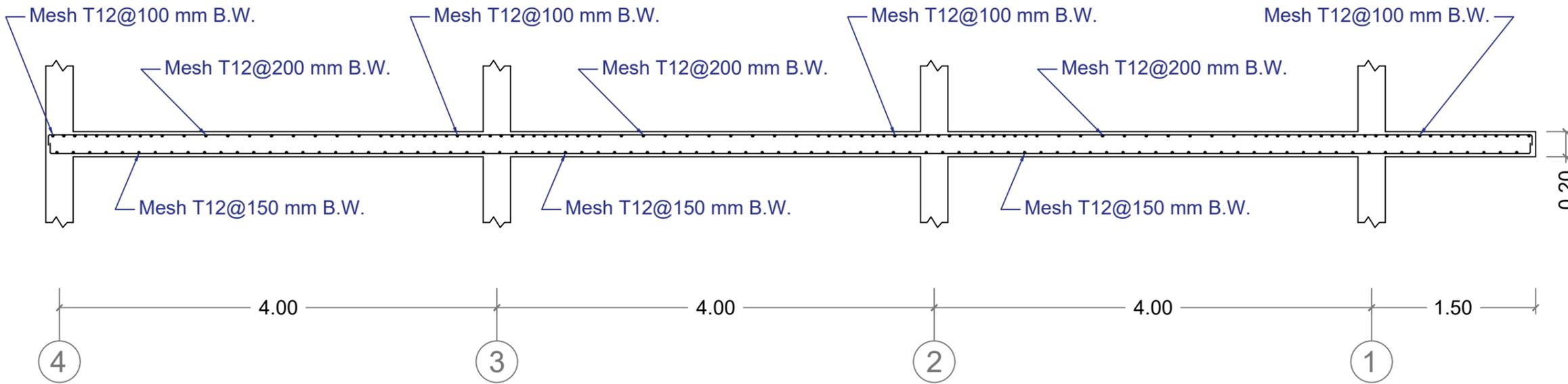
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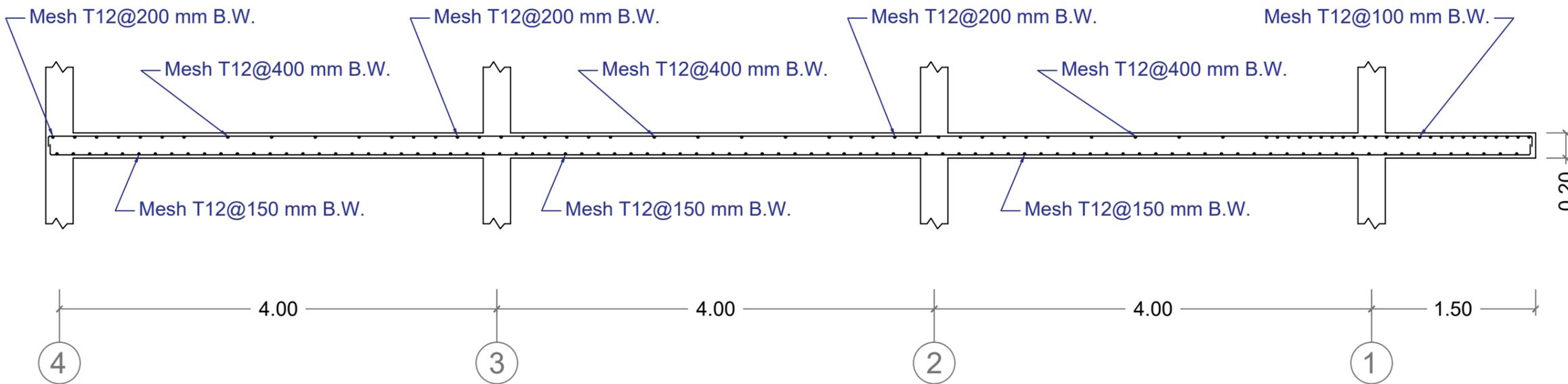
DRAWING TITLE:
Ground Cover Slab Reinforcement (T)

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-08 **DATE:** August - 2021



Section (A-A) at Column Zone



Section (B-B) at Middle Zone

NOTES

- 1- Steel F_y not less than 460 N/mm².
- 2- Concrete F_{cu} should not be less than 25 N/mm² for 28 days strength.
- 3- Max-Aggregate size 20mm for beams & col.s and 30mm for found.s.
- 4- Concrete cover for reinforcement should not be less than 25mm for beams & columns and 50mm for foundations.
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PROJECT:
Residential building

OWNER:

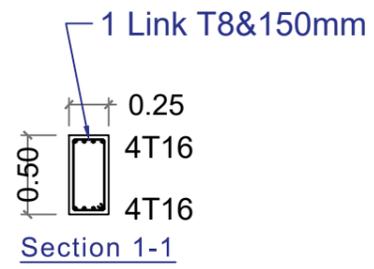
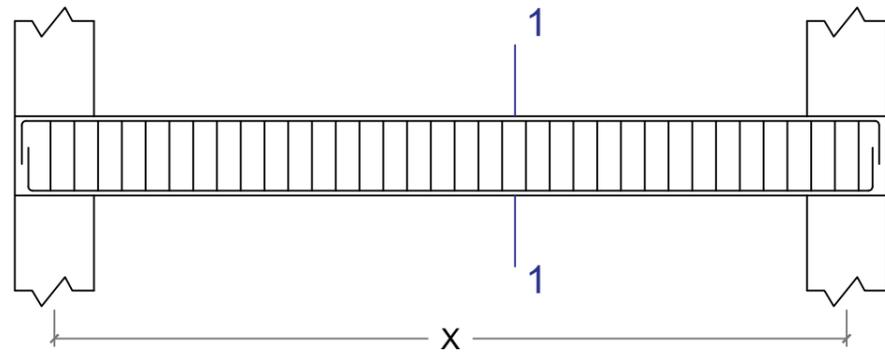
LOCATION:
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Section A-A & B-B Details

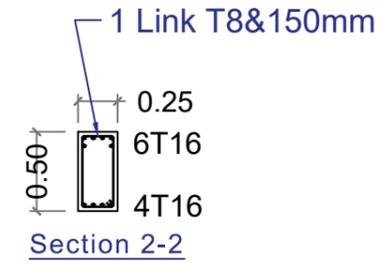
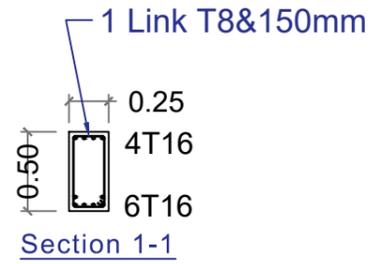
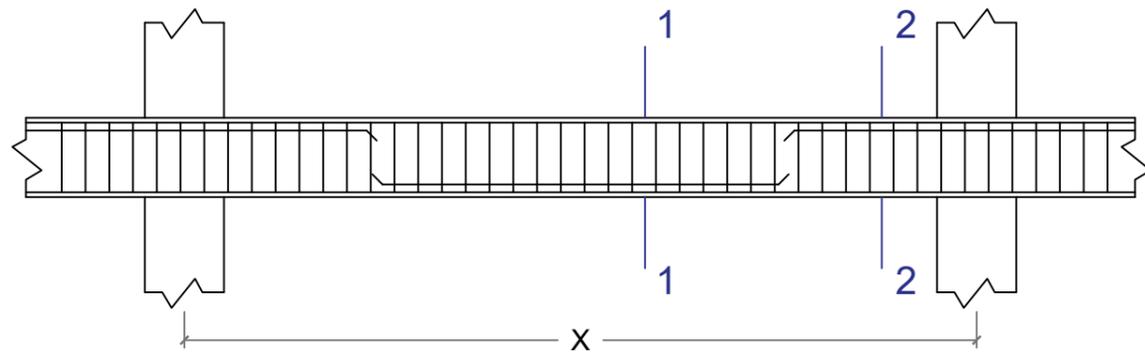
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-09 **DATE:** August - 2021

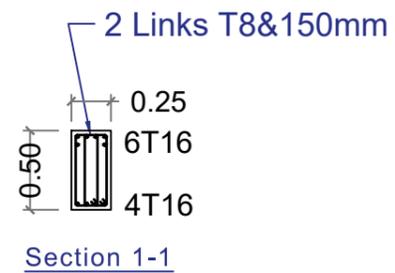
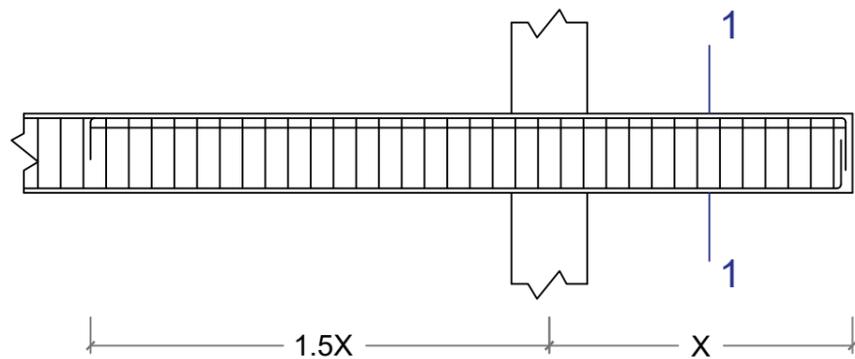
Section (B1):-



Section (B2):-



Section (C.B.1):-



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PROJECT:
Residential building

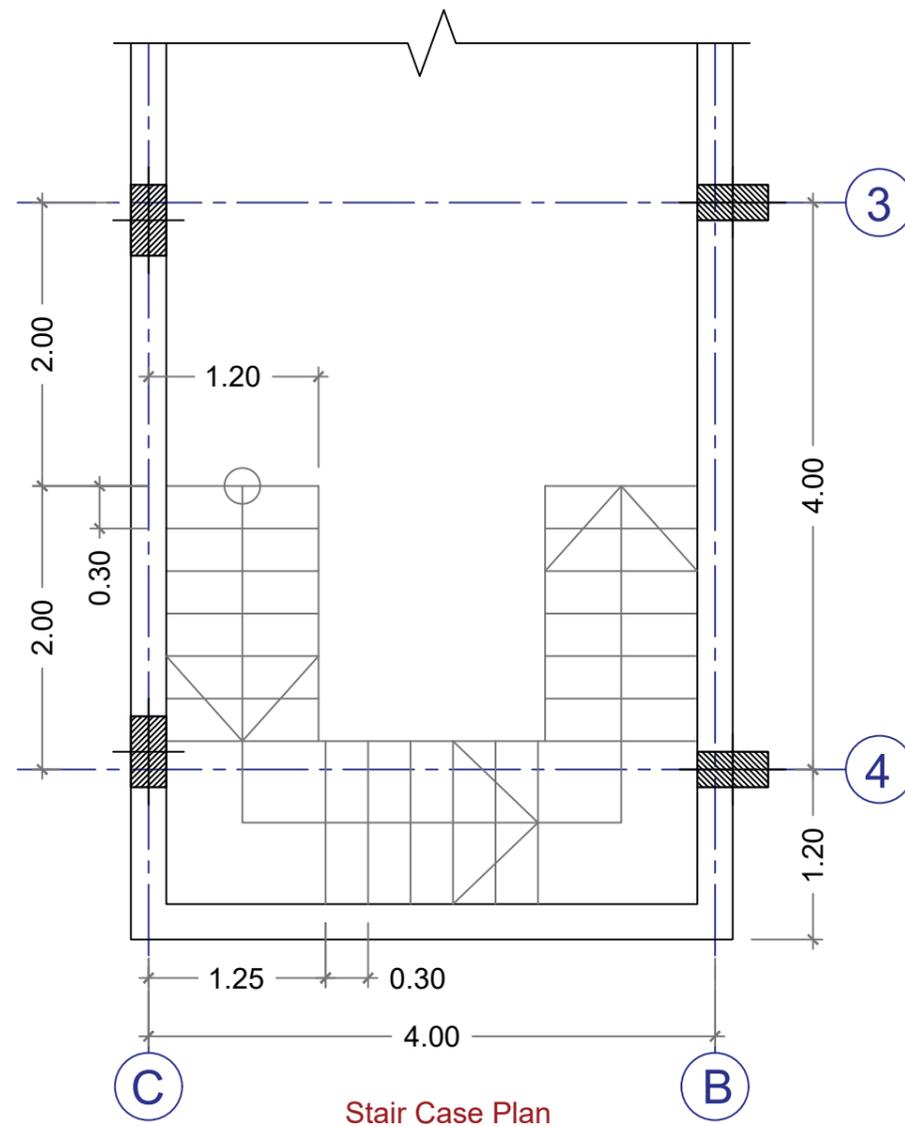
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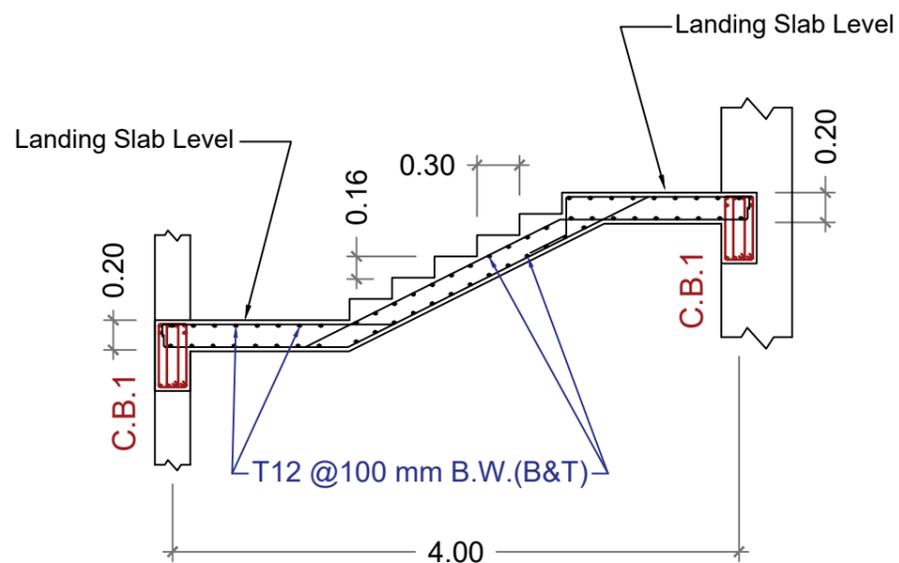
DRAWING TITLE:
Cross Section for Beams

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.: S-10 DATE: August - 2021



Stair Case Plan



Stair Case Reinforcement

NOTES

- 1- Steel F_y not less than 460 N/mm².
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- 6- Construction joints shall be located at one-fifth of span of slabs.
- 7- All Dimensions are in mm.

PROJECT:

Residential building

OWNER:

LOCATION:

Khartoum

DRAWING TITLE:

Stair Case Reinforcement Details

DESIGN BY:

Eng. Mohamed Aldirdeery Gaffer

SHEET NO.

S-11

DATE:

August - 2021