



DDRRC

TECHNICAL DRAWINGS & SPECIFICATIONS



SUDAN
Empowered lives.

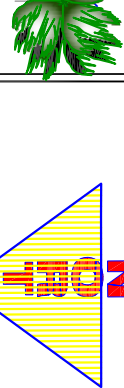
Project Name:

Completion and Rehabilitation of School in Mayo

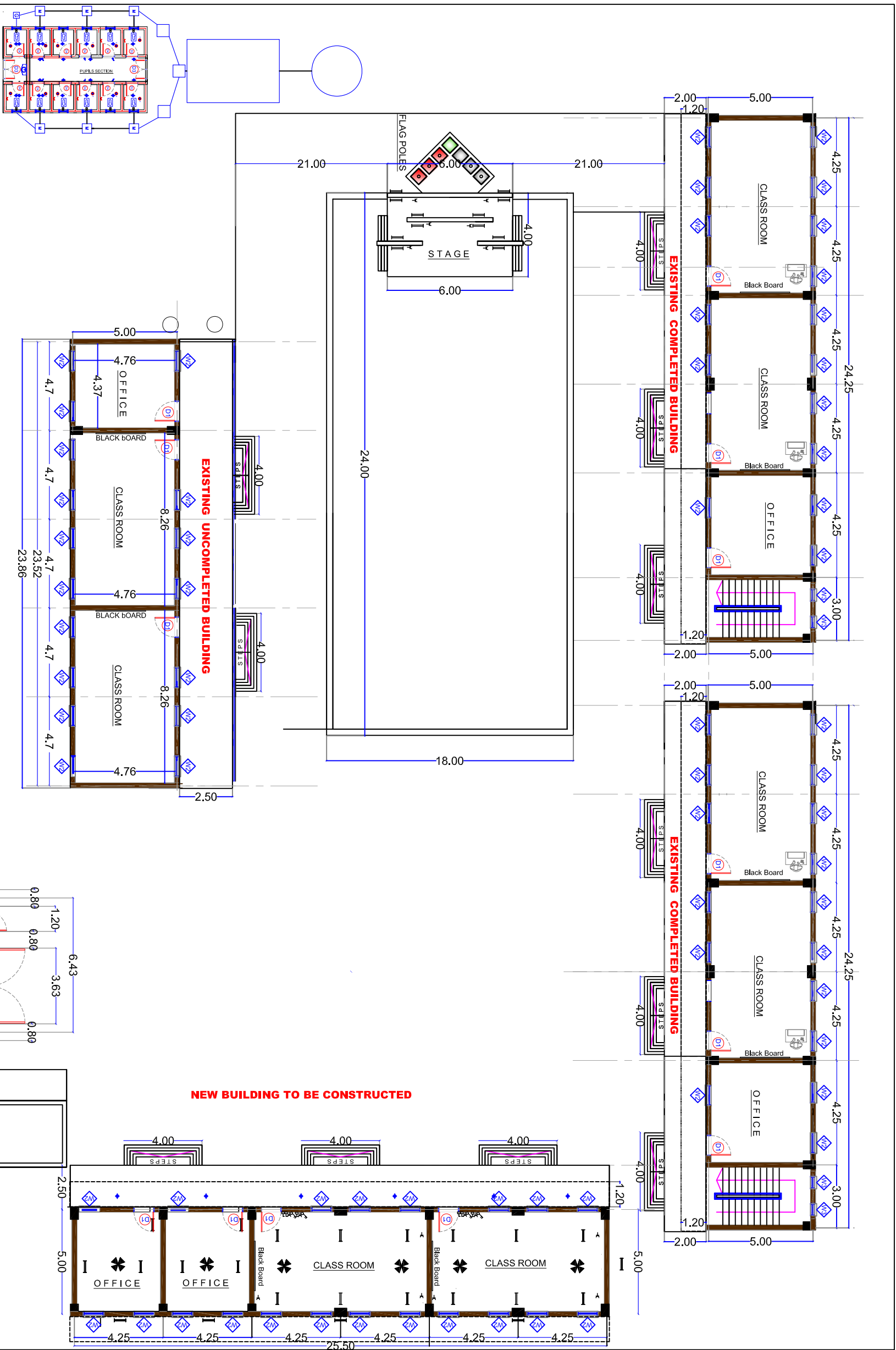
Location:

*Elyarmok SQr Mayo Area -Jabal Awlia Locality
Khartoum State*

Jan 2019



ELYARMOK
BASIC SCHOOL FOR GIRLS
BLOCK #7- PLOT # 223



AREA = 2400 SQ.M.

MASTER PLAN

Scale 1:200 A3

Content :
Architectural Design
MASTER PLAN

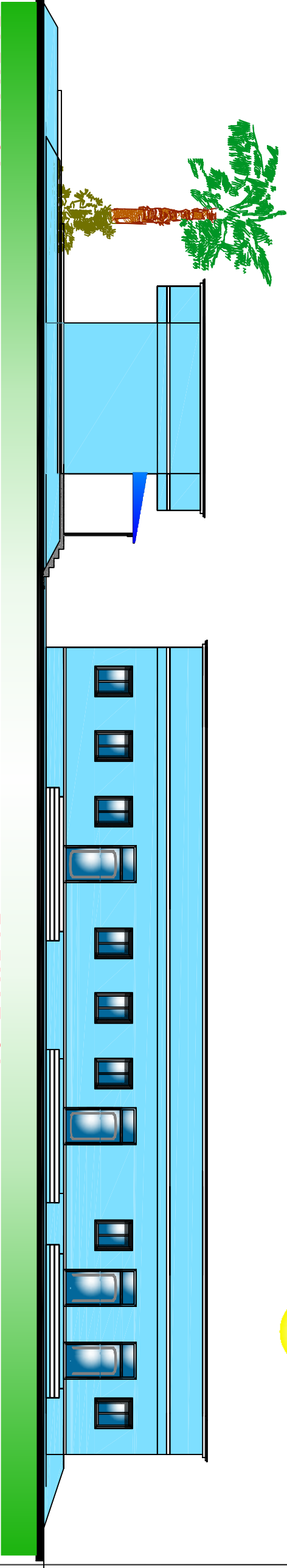
Design By :
Engineering Unit

Jan.
2019

Drawn By :
Engineering Unit

A1

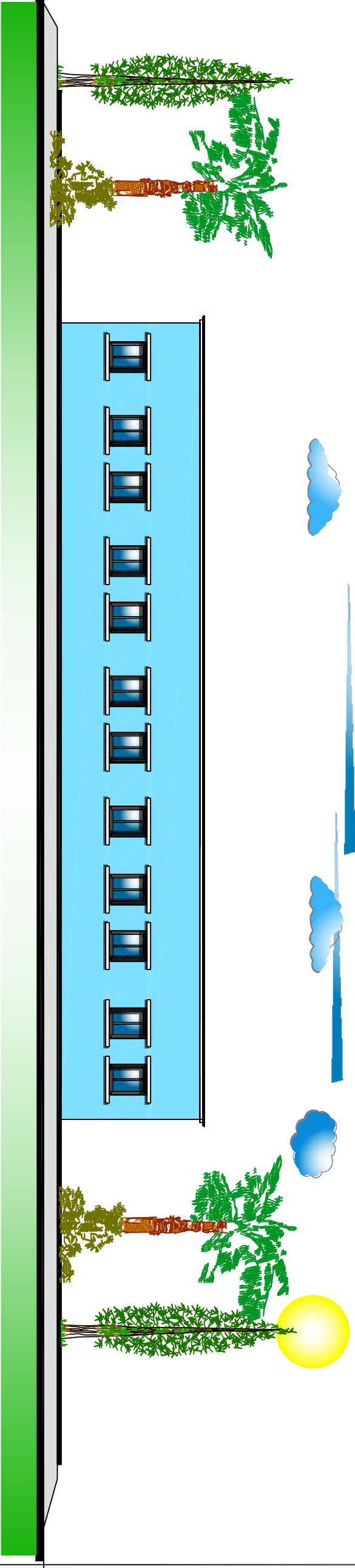
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4-ALL DIMENSIONS IN M. UNLESS NOTED OTHERWISE.



ELEVATION

Front Main View

Scale 1:150 A3



ELEVATION

Back Side View

Scale 1:150 A3

Basic School Building
Structural Design

Property of:
Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

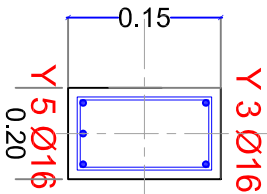
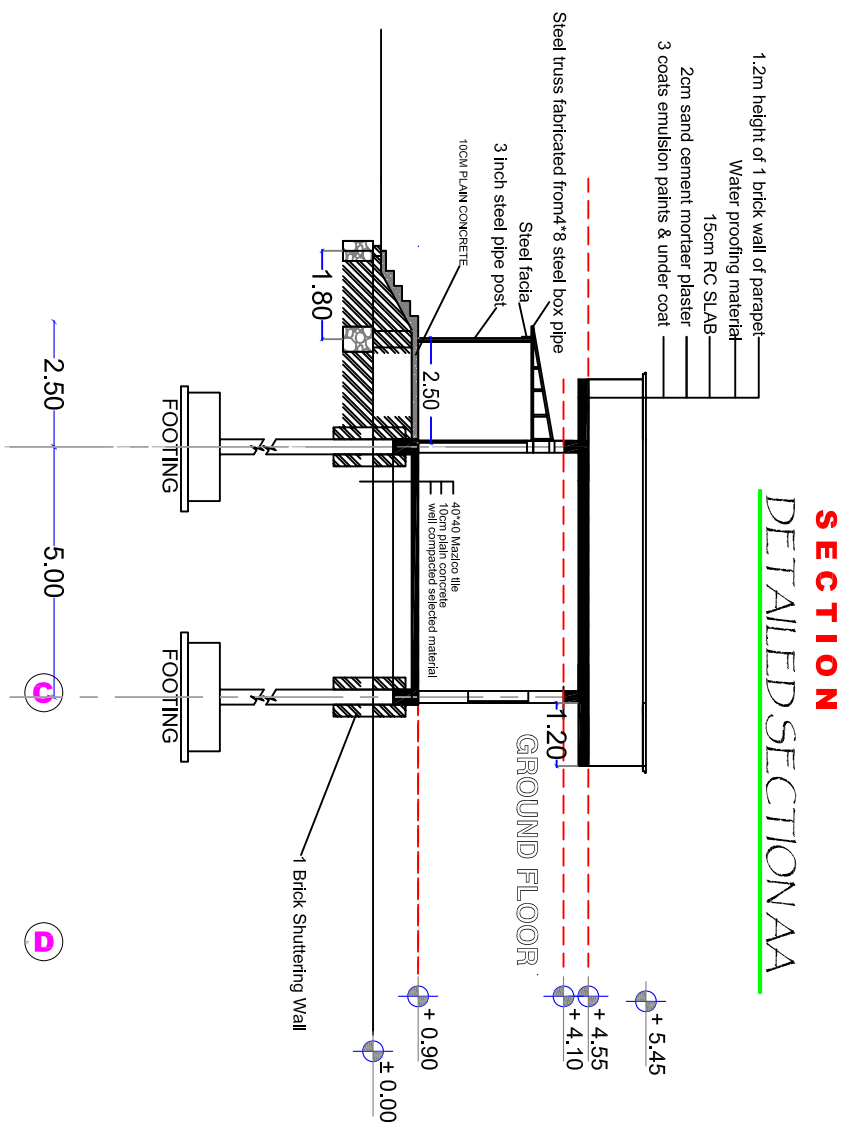
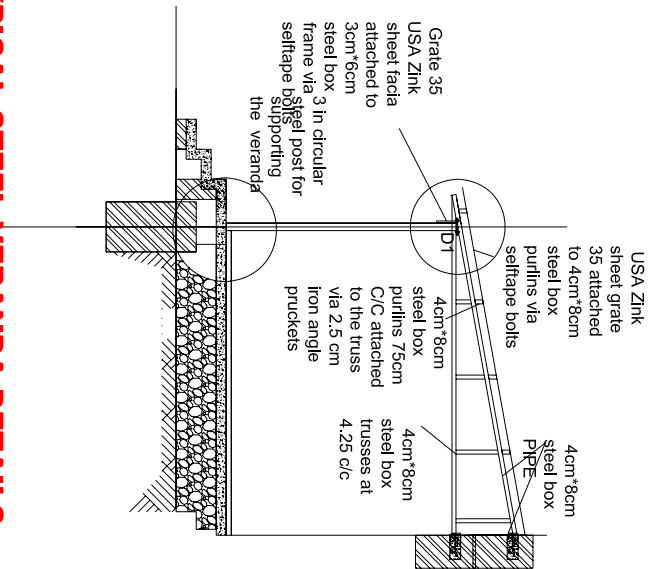
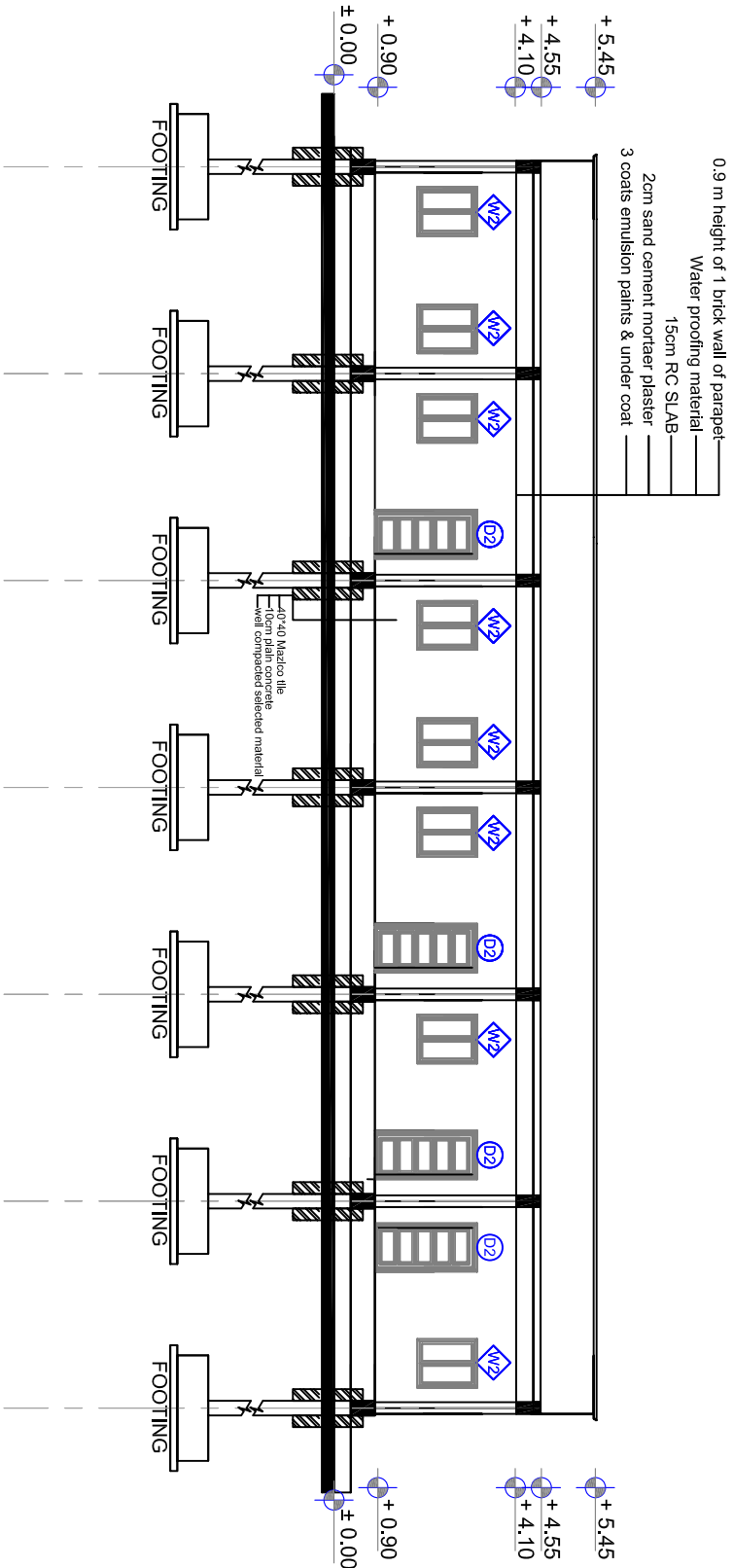
Project Name:
Completion of Yarmoc Basic school for girls

Content : Architectural Design
Elevations

Re - Design By :
Engineering Unit
Jan 2018

Drawn By:
Engineering Unit

A2



GENERAL:
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1 3
1 CLASSES & OFFICES

1 1
2 BATHROOM

1 3
1 MAIN CORRIDORS & STAIRCASES

NOTE:
1- ALL SKIRTING FLUSH WITH PLASTERING
2- SKIRTING H. = 10 CM

Basic School Building
Structural Design

Property of:
Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

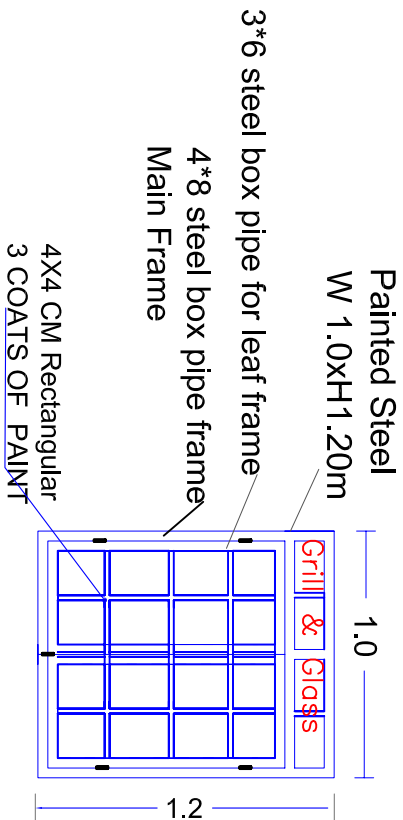
Project Name:
Completion of Yarmoc Basic school for girls

Content :
Architectural Design
Sections

Design By :
Engineering Unit
Jan 2018

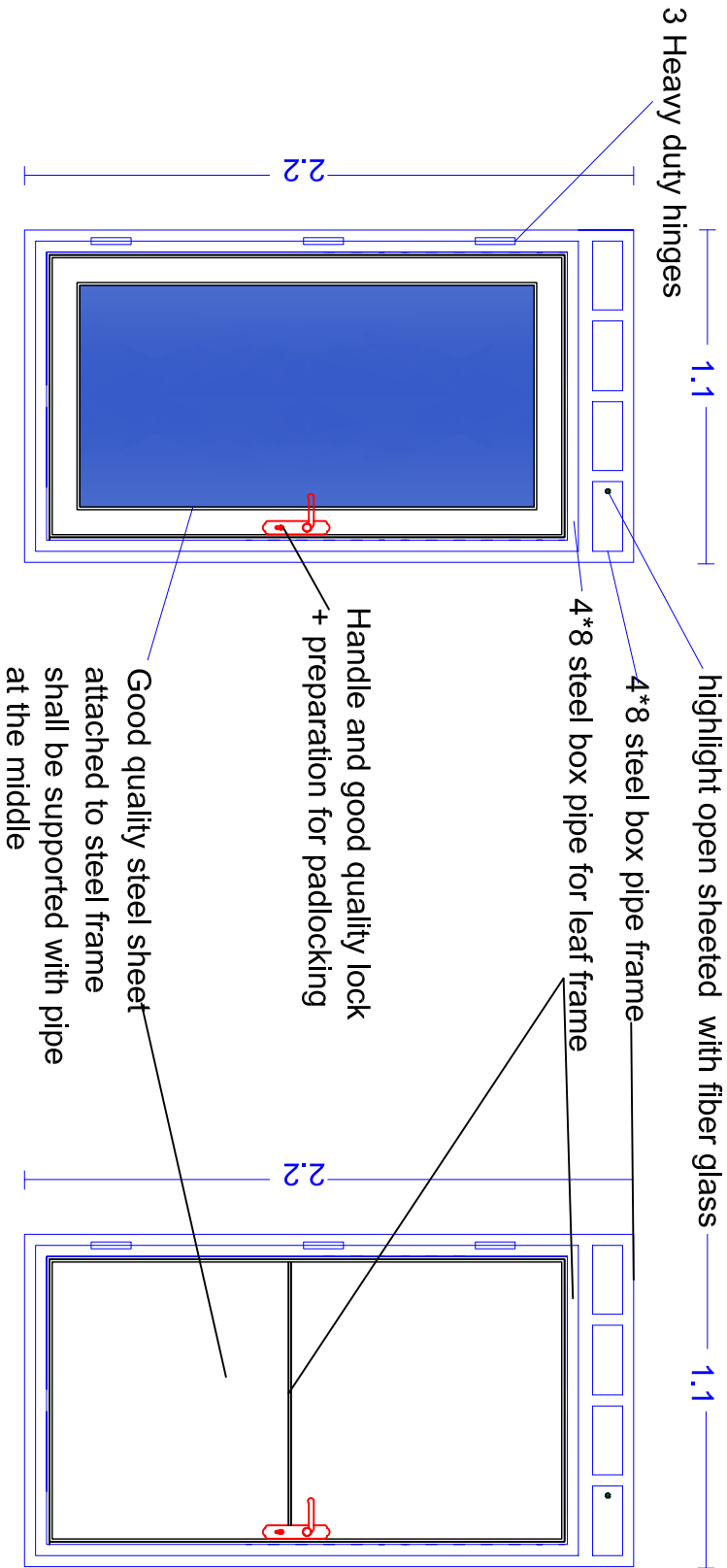
Drawn By:
Engineering Unit

A3



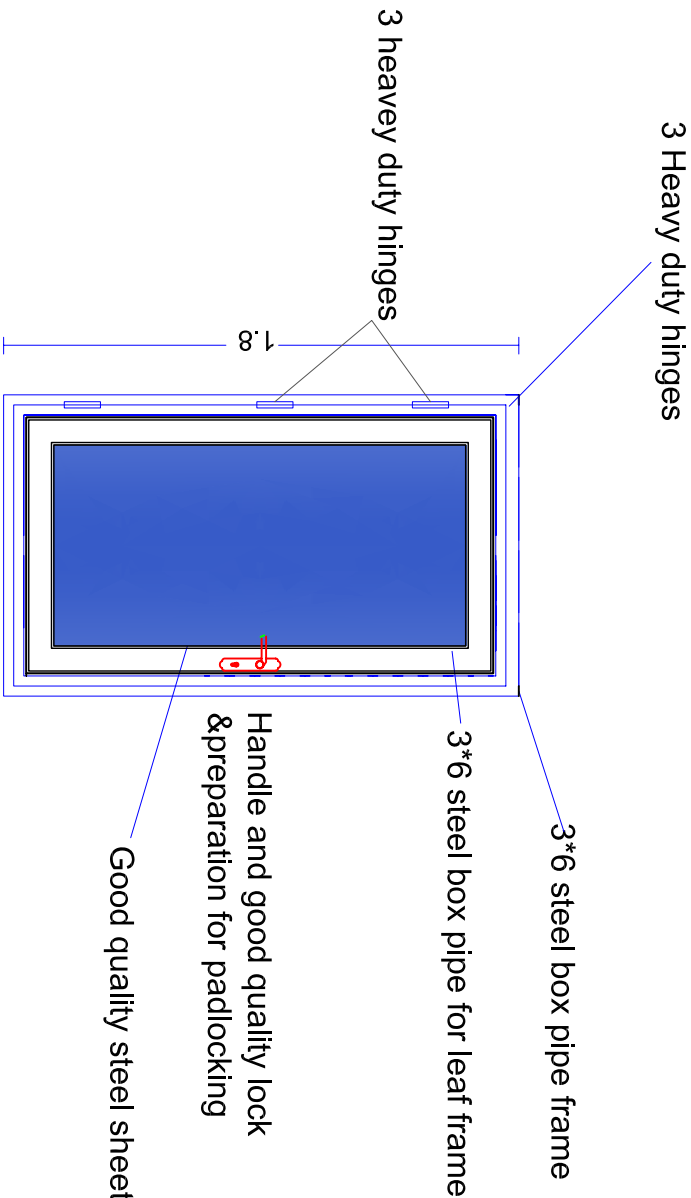
WINDOW DETAILS

TYPICAL WINDOW DETAILS



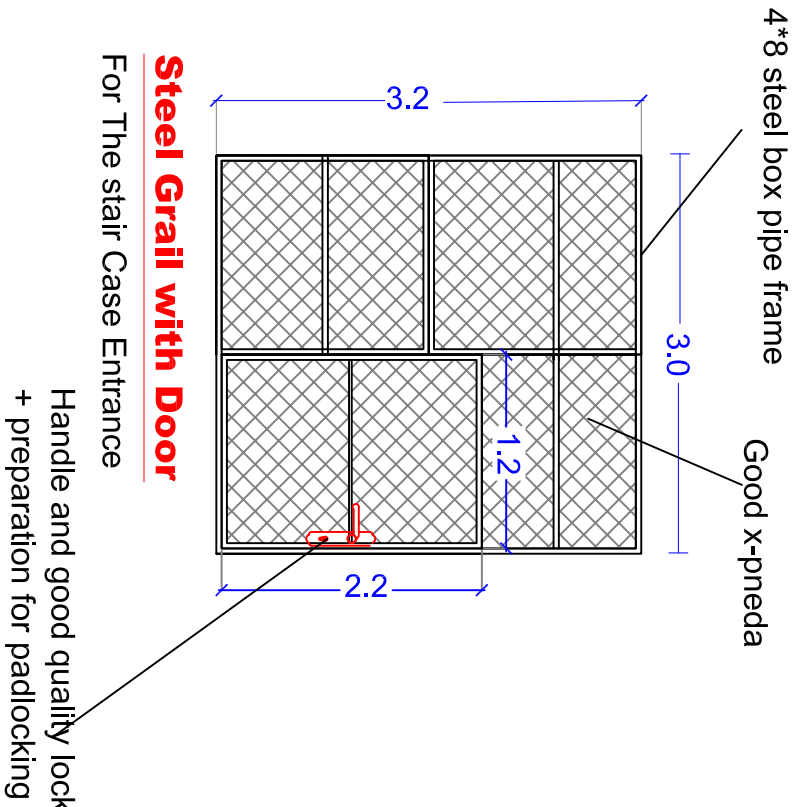
DOOR 1 DETAILS

FOR OFFICES & CLASSES

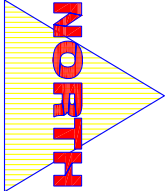


DOOR 3 DETAILS

LATRINES INTERNAL DOORS
















TECHNICAL NOTE:		
ALL WINDOWS SHALL HAVE:		
Good quality hinges		
Double Flyscreen Mesh		
6mm Glaze&Fiber glass		
Frame (4X8 Tube)		
Window Leaf (4X8 Tube)		
Grill (2X2 Tube)		
3Handle & 6Latch		
ALL DOORS SHALL HAVE:		
Good quality hinges		
6mm Glaze&Fiber glass		
Frame (4X8 Tube)		
Window Leaf (4X8 Tube)		
Good quality lock		
Preparation of pad lock		
PROJECT LOCATION		
CENTRAL DARRUR I ZALENGE TOWN		
Project Title:		
ZALING VOCATIONAL T RAINING CENTER		
Content :		
Detailings		Jan 2018
Design By:		UNDP
		A4



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ELECTRICAL KEY

<i>S</i>	<i>Description</i>	<i>S</i>	<i>Description</i>	<i>S</i>	<i>Description</i>
	CEILING FAN	∞	EXHAUST FAN		SUB DISTRIBUTION BOARD
	4ft DOUBLE FLUORESCENT LAMP		FAN REGULATOR		T.V. SOCKET
	60X60 CEILING LAMP		SOCKET OUTLET		AIR CONDITION WINDOW
	CEILING FAN	13A	13A SOCKET OUTLET		AC SPLIT OUTDOOR
	DOUBLE ONE WAY SWITCH		BOILER		AC SPLIT INDOOR
	BELL BOTTOM				

Basic School Building
Structural Design

Property of:
Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

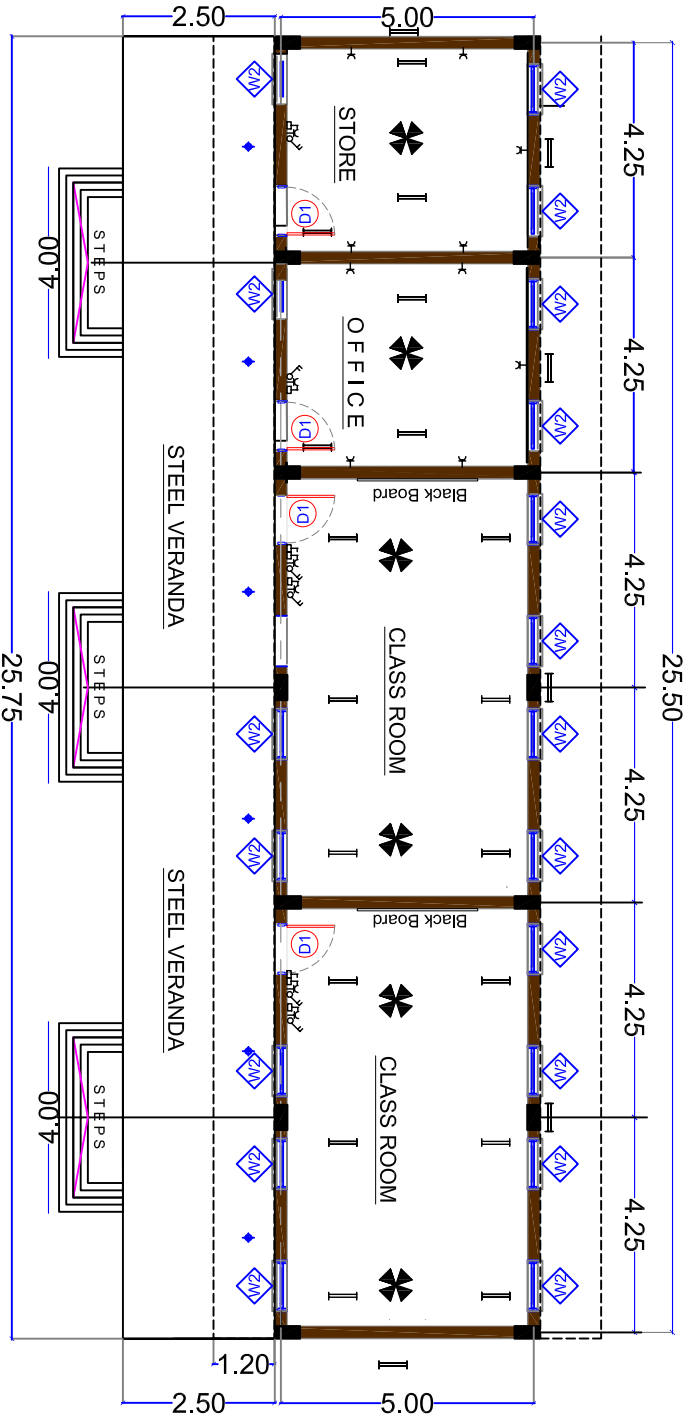
Project Name:
Completion of Yarmouk Basic school for girls

Content:
Walls & Electrical Works
Ground Floor Plan

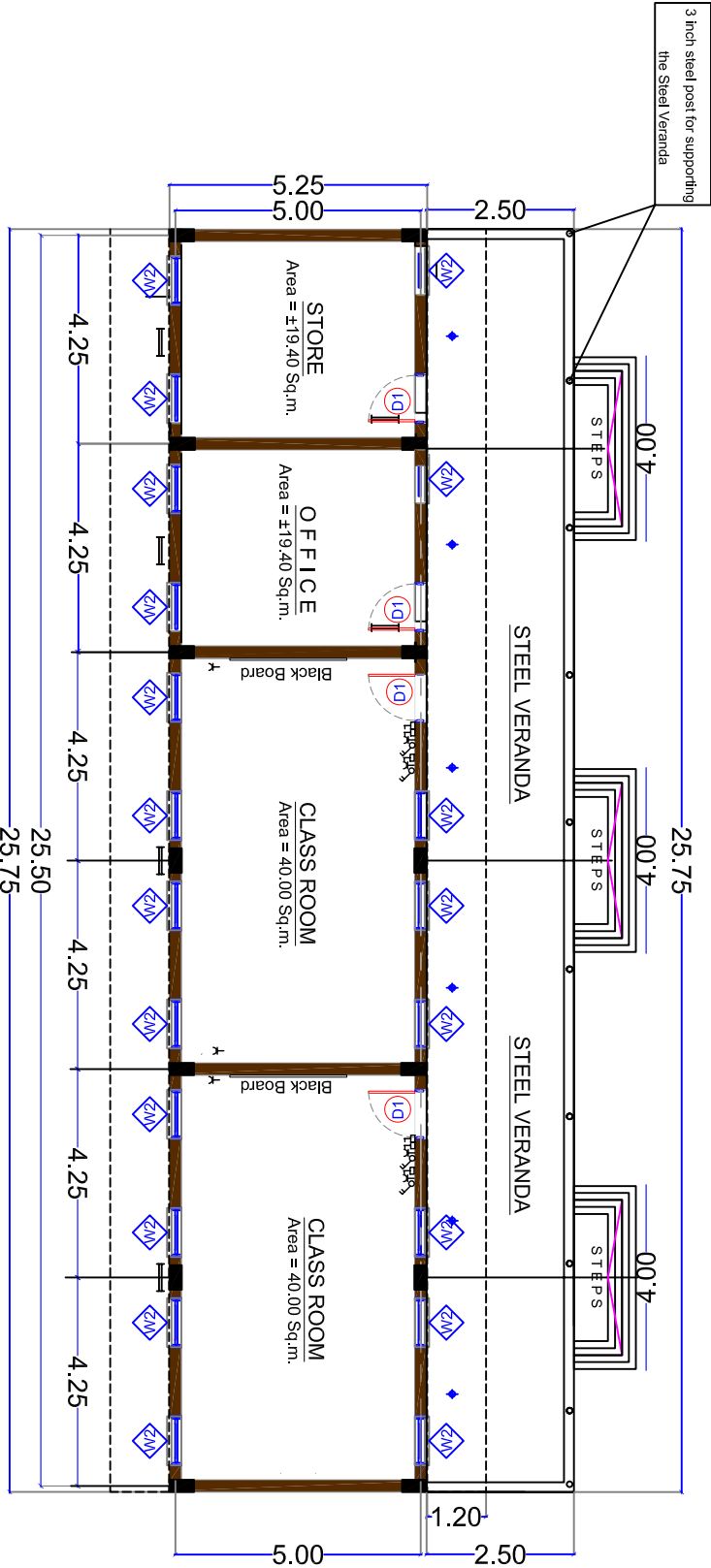
Re - Design By :
Engineering Unit
Jan 2019

Drawn By:
Engineering Unit

A5



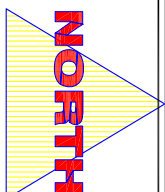
BRICK WORK PLAN



BRICK WORK PLAN

BRICK WALLS AND Electrical Works PLANS
Ground Floor Layout

Scale 1:150 A3



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NOTE:
FOU. = NOT LESS THAN 25 N/mm2 FOR 28 DAYS STRENGTH
STEEL: fy = 460 N/mm2
- Overlaps of steel should not be less than 45 times lap length than bar dia. @ carthways zone.
- Lap length shall be 45 times @ carthways zone.
- Concrete Cover : @ Slab: 20mm @ Footings: 50mm.
- Max Aggregate Size = 20mm.

Basic School Building
Structural Design

Property of:
Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

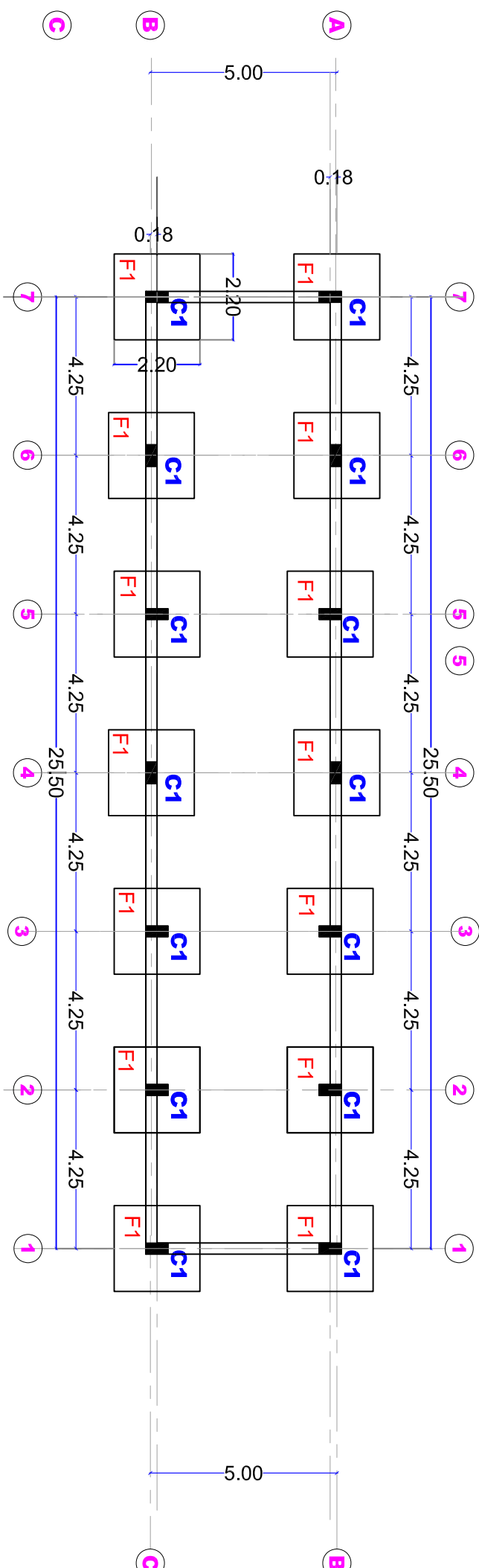
Project name:
Completion of Yamoc Basic school for girls

Content : Structural Design
Foundations Layout

Design By:
Engineering Unit
Jan. 2018

Drawn By:
Engineering Unit

S1



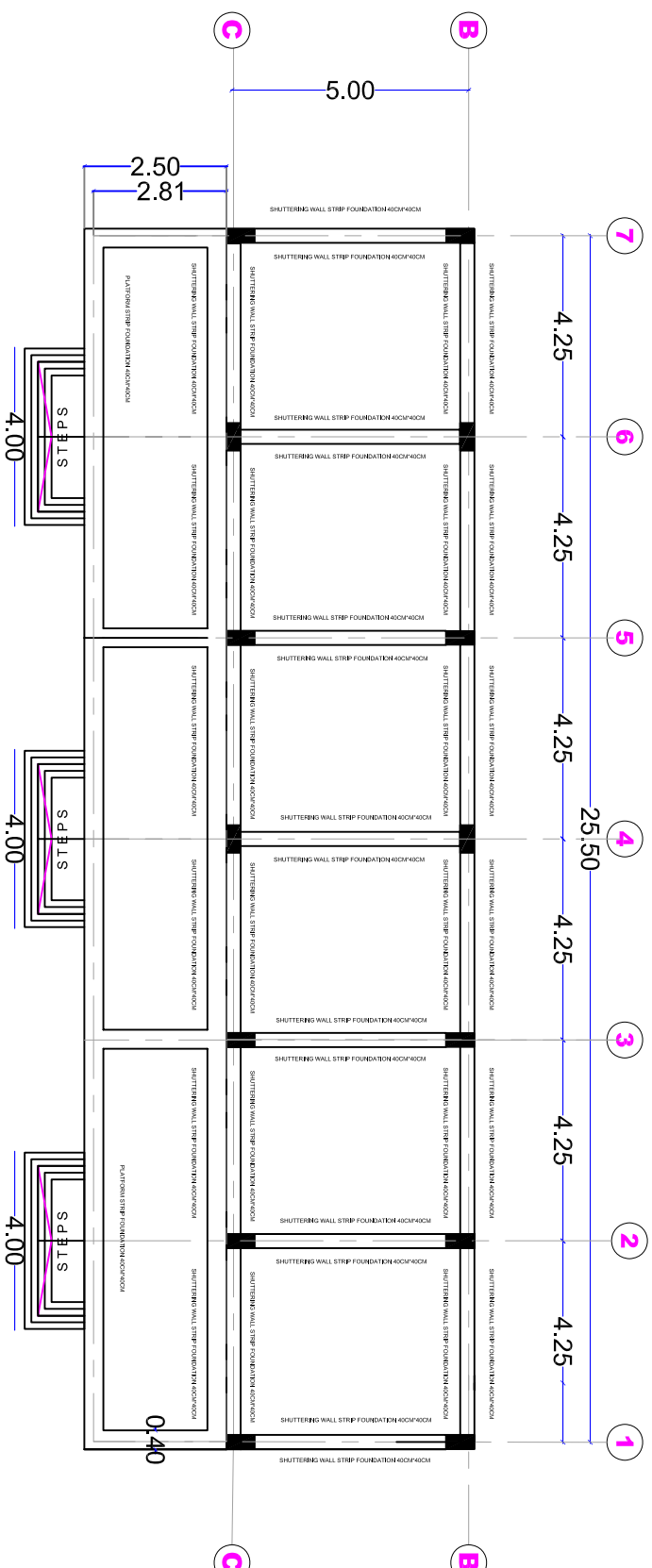
Foundations Layouts

Scale 1:150 A3

PAD FOUNDATIONS FOR THE MAIN BUILDING

FOOTING'S SCHEDULE

TYPE	FOOTING SIZE L (A) X W (B) X DEPTH (C)	STEEL (a x b)	QTY
F1	220 X 220 X 50 CM	YØ16@125MM C/C BOTHWAY	14

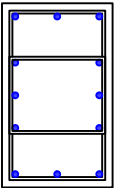
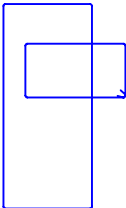


Strip Foundations Layouts

Scale 1:150 A3

SHUTTERING WALLS, STRIP AND STEPS STRIP FOUNDATIONS LAYOUT

COLUMNS DIMENSIONS AND REINFORCEMENT

FLOOR	C1	
UNDER GFL & GROUND FLOOR		
DIMENTIONS MAIN STEEL LINKS	0.50 X 0.25 M Y 12 Ø16 MM. 2 X 8MM @ 125MM.	2 X 8MM @ 125MM.

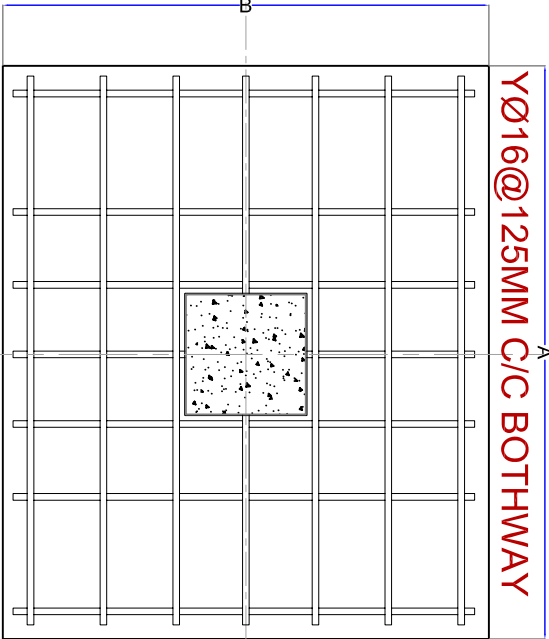
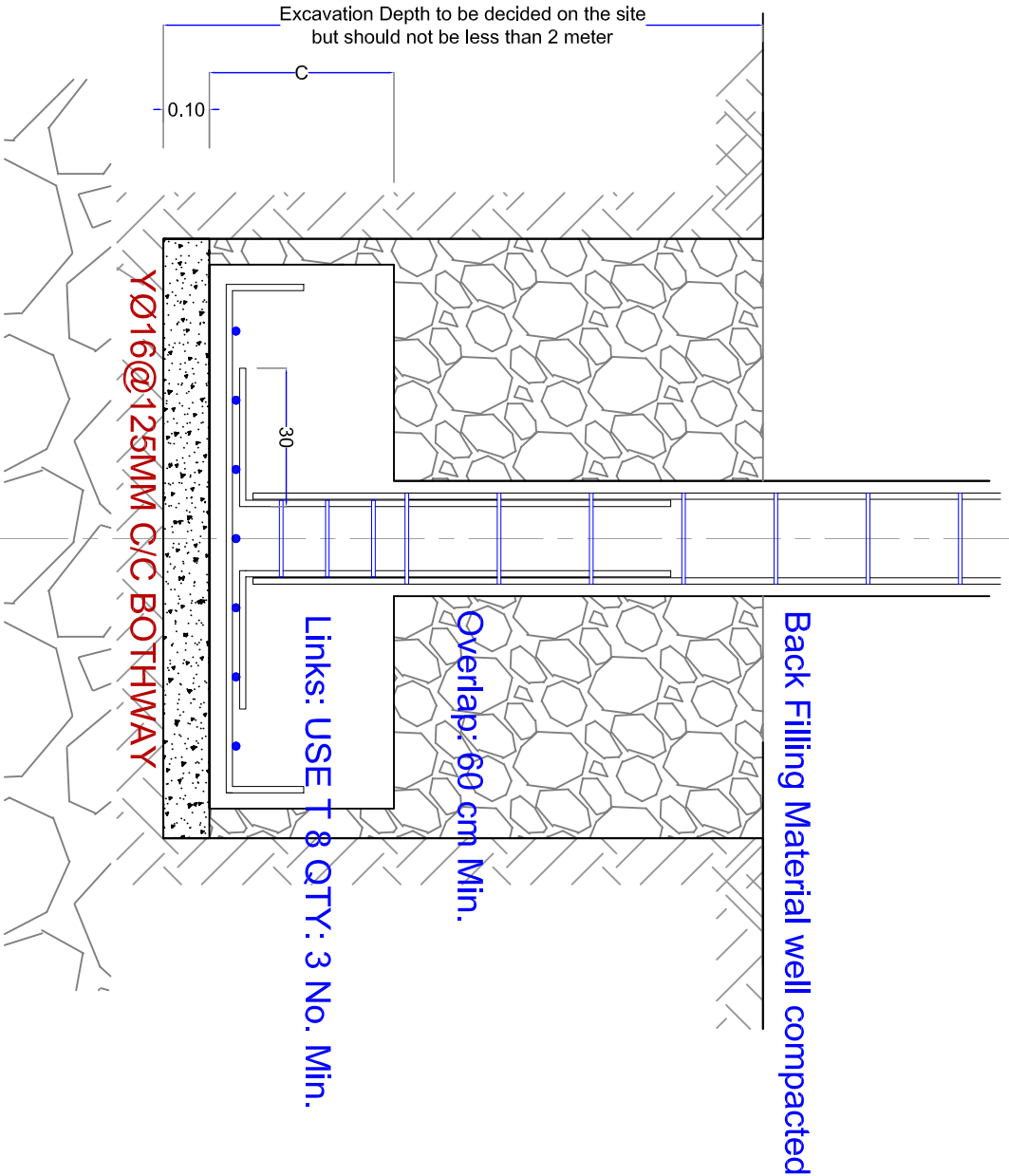
FOOTING'S SCHEDULE

TYPE	FOOTING SIZE L (A) X W (B) X DEPTH (C)	STEEL (a x b)	QTY
F1	220 X 220 X 50 CM	YØ16@125MM C/C BOTHWAY	14

STRUCTURAL

Footings & Columns' Details

Scale NTS A3



Educational Building

Structural Design
FINAL DESIGN

For: 1-Authorization 2-Construction 3-Information

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NOTE:
FILL : NOT LESS THAN 25 N/mm2 FOR 28 DAYS STRENGTH
STEEL : Y = 460 N/mm2
CONCRETE : Should not be less than 45 MPa
- No Overlaps of steel @ cantilevers areas.
- Concrete Cover : @ Slab&Col=25mm, @ Footings=50mm.
- Max Aggregate Size = 20mm.

Property of:

Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

Project Name:

Completion of Yarmoc Basic school for girls

Content : Structural Design

Footing & Columns' Det.

Design By :

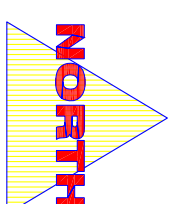
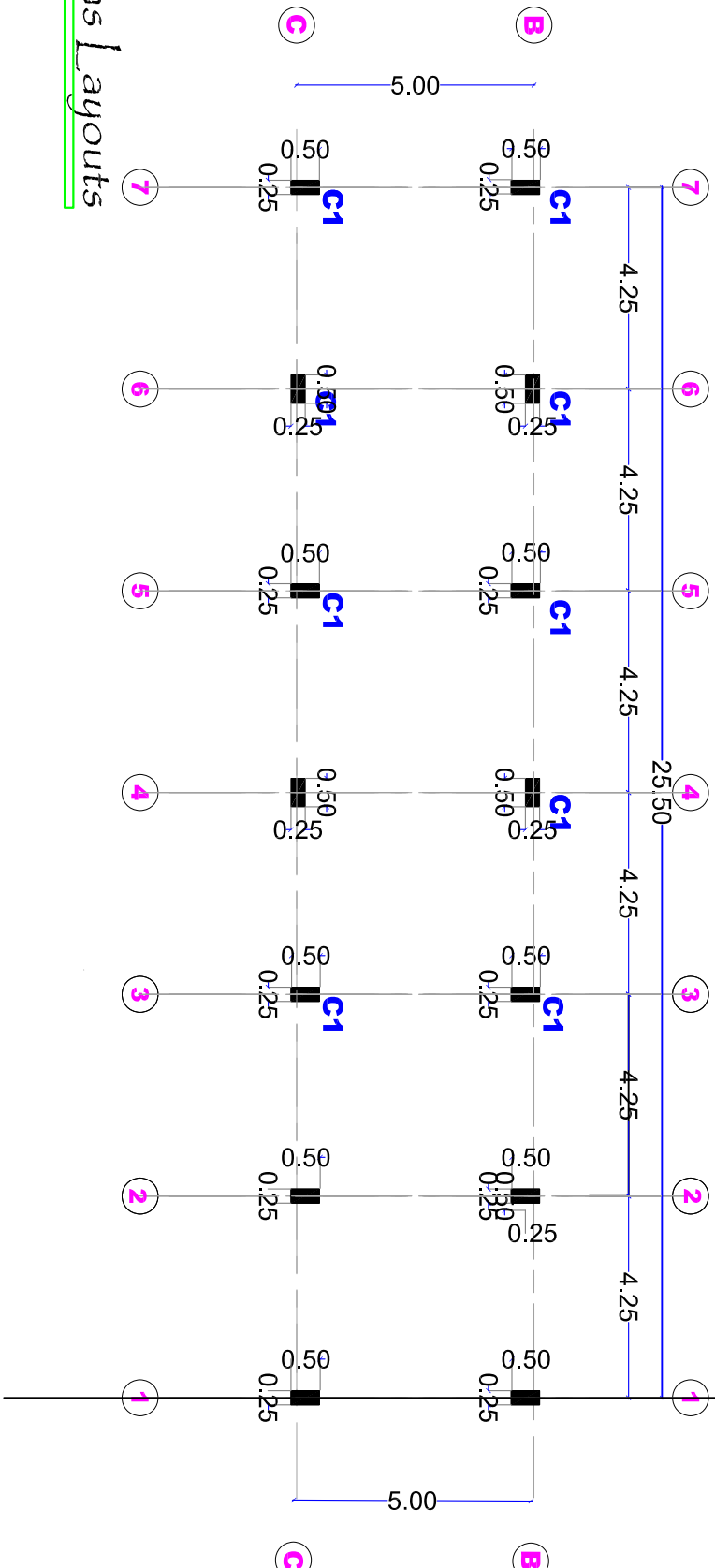
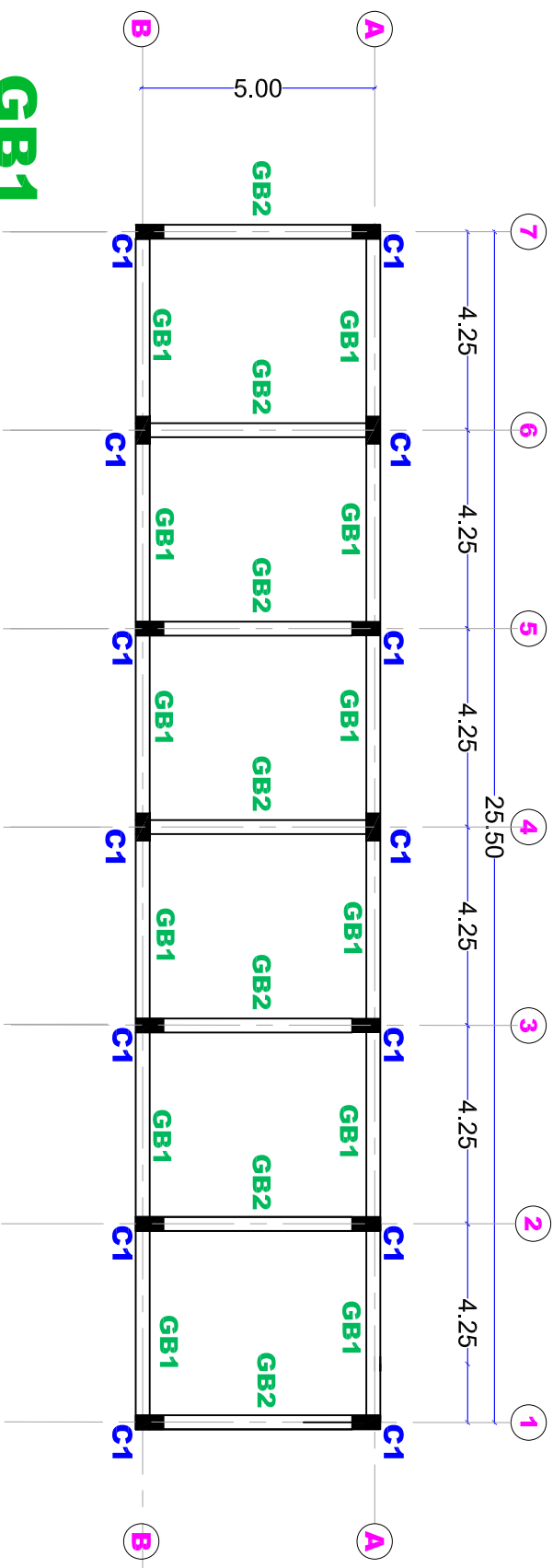
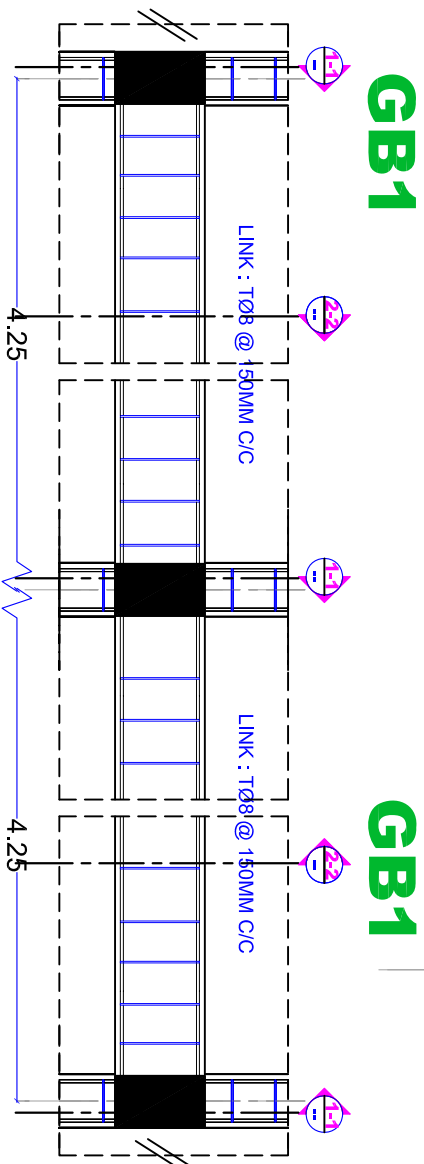
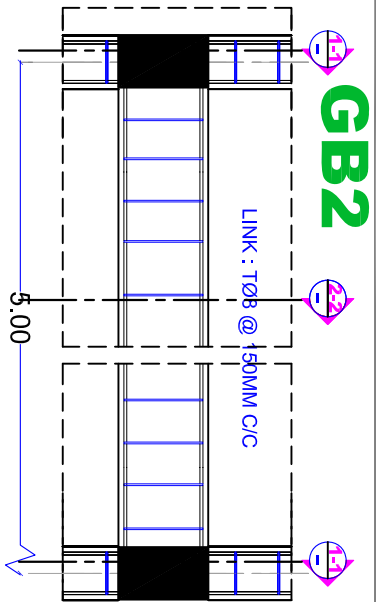
E ngineering Unit

Jan
2019

Drawn By:

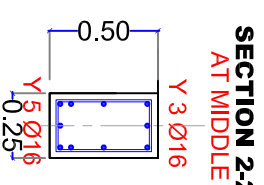
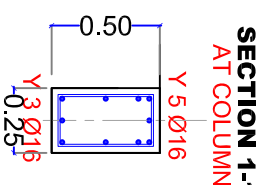
E ngineering Unit

S2



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NOTE:
F_{yk} = NOT LESS THAN 25 N/mm² FOR 28 DAYS STRENGTH
STEEL F_y = 460 N/mm²
- Overlaps of steel should not be less than 45 times larger than bar size.
- No overlaps of steel @ cantilevers areas.
- Concrete Cover : @ Slab&Col=25mm, @ Footings=50mm.
- Max Aggregate Size = 20mm.



Educatinal Building
Structural Design
FINAL DESIGN

Property of:
Eiyarmok Basic School
Block 7 - Plot 223
Eiyarmok-Khartoum - SUDAN

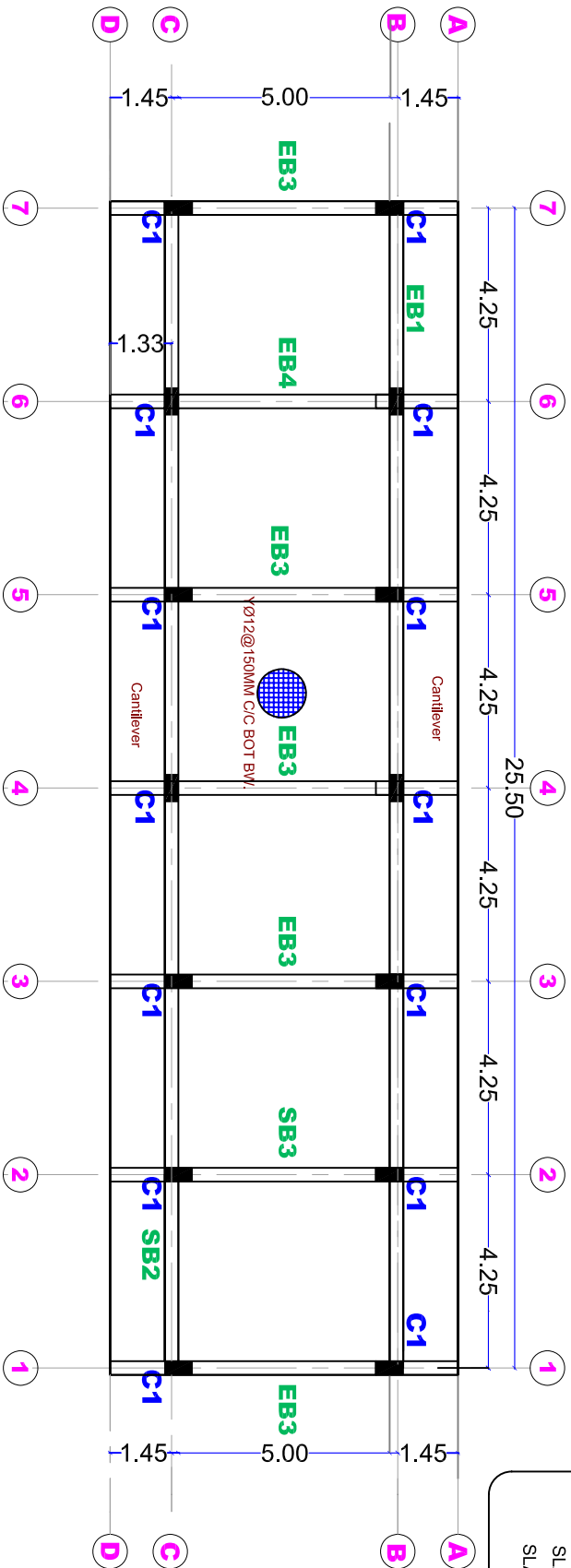
Project Name:
Completion of Yarmoc Basic school for G.H.s

Content : Structural Design
Grade Beams' Layout

Design By :
E. Engineering Unit
Jan. 2019

Drawn By:
E. Engineering Unit

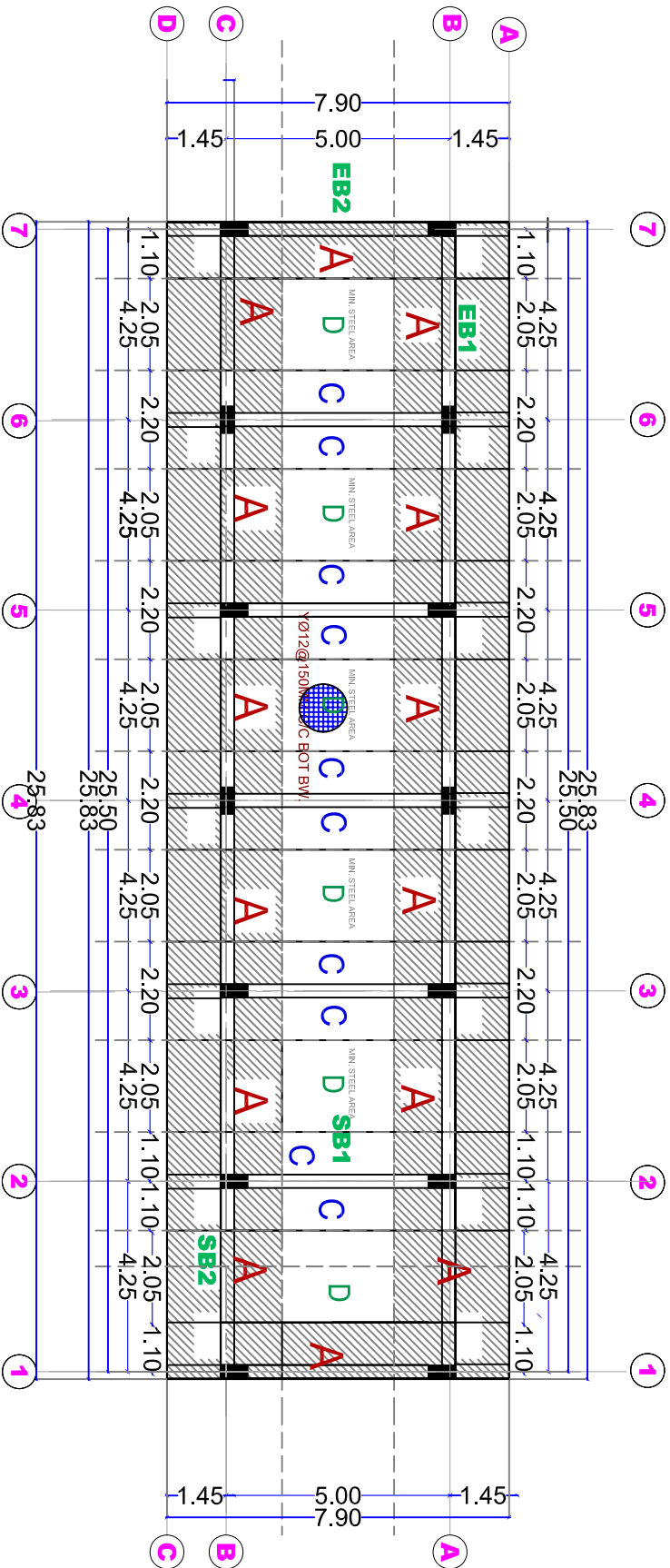
S3



A: COLUMN STRIP Y16@ 150MM C/C
A: COLUMN STRIP Y16@ 150MM C/C
A: COLUMN STRIP Y16@ 150MM C/C
A: COLUMN STRIP Y16@ 150MM C/C
A: COLUMN STRIP Y16@ 150MM C/C

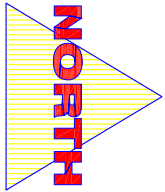
Bottom Reinforcement GF. Cover RC. Slab

Scale 1:150 A3



Top Reinforcement of GF. Cover RC. Slab

Scale 1:150 A3



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NOTE:
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STEEL F_y = 460 N/mm²
- Overlaps of steel should not be less than 45 times larger than bar size.
- No Overlaps of steel @ cantilevers areas.
- Concrete Cover : @ Slab/Cd = 25mm, @ Footings = 50mm.
- Max Aggregate Size = 20mm.



DENOTATION FOR MESH LAYERS

Property of:
Elyarmok Basic School
Block 7 - Plot 223
Elyarmok-Khartoum - SUDAN

Project Name:
Completion of Yarmoc Basic school for girls

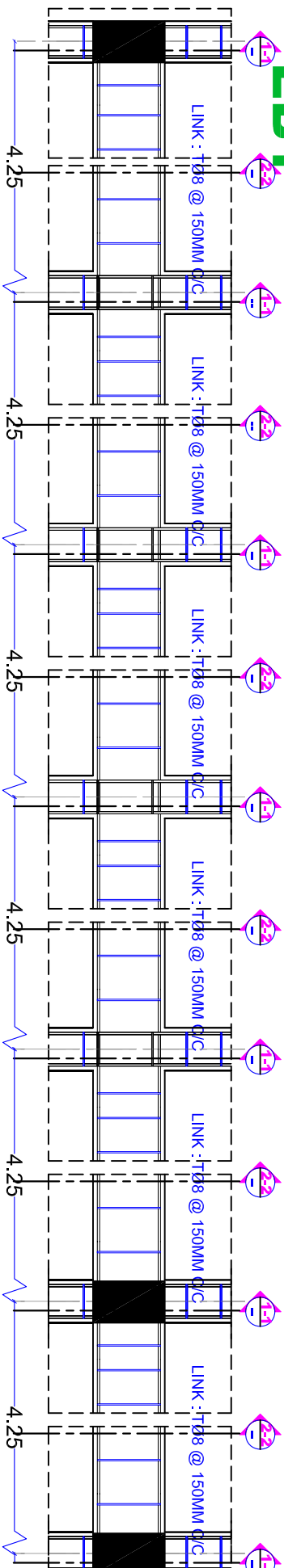
Content : Structural Design
GF. & FF. Cover Slab

Design By:
Engineering Unit
Jan 2018

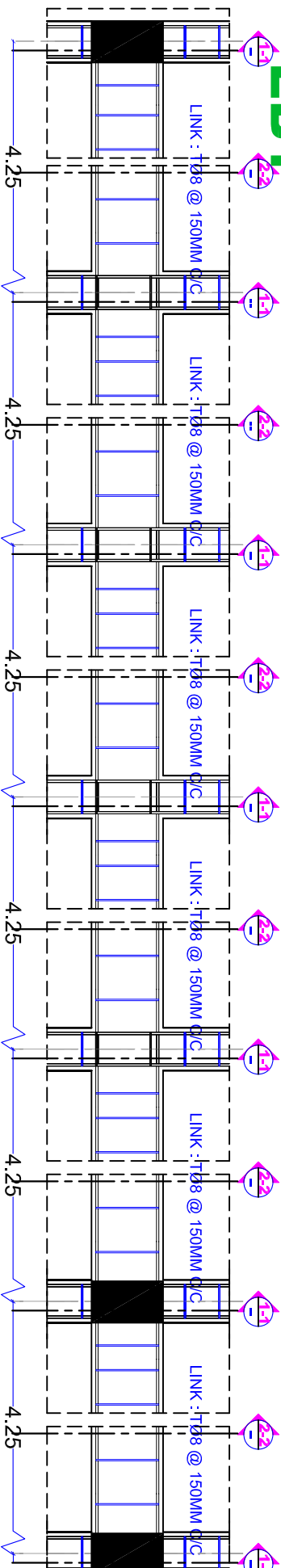
Drawn By:
Engineering Unit

S4

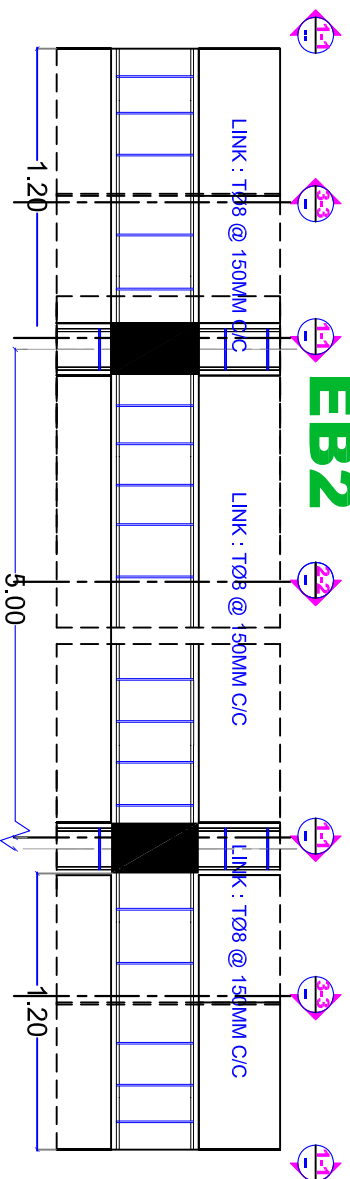
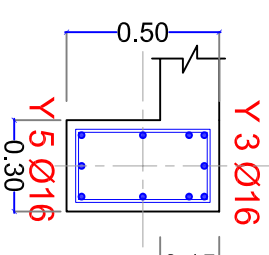
EB1



EB1



EB2

SECTION 2-2
AT CANILEVR

Structural

Slab Section & Beams' Details

Scale NTS A3

SEC.:A-A

C

A

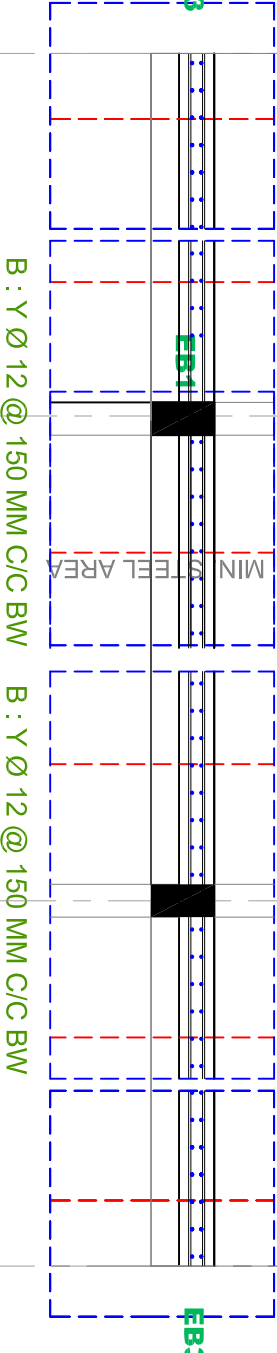
B

C

E : CANTILER Y Ø16 @ 150MM C/C BW

D : NOMINAL REINF. Y Ø16 @ 600MM C/C BW

E : CANTILER Y Ø16 @ 150MM C/C BW



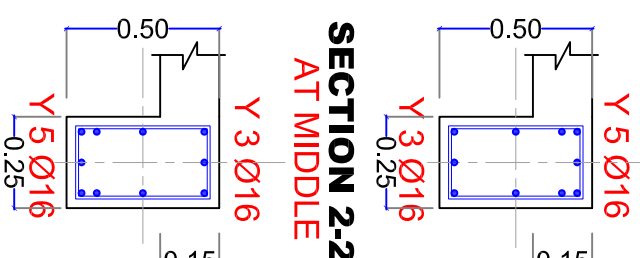
EB3

EB1

EB3

B : Y Ø 12 @ 150 MM C/C BW

B : Y Ø 12 @ 150 MM C/C BW

SECTION 1-1
AT COLUMNSECTION 2-2
AT MIDDLE

Educational Building

Structural Design

FINAL DESIGN

For: 1-Authorization 2-Construction 3-Information

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4- ALL DIMENSIONS IN M, UNLESS NOTED OTHERWISE.

NOTE:

FOR: 1- NOT LESS THAN 25 MINIMUM FOR 28 DAYS STRENGTH

STEEL: E240 N/mm²

- Overlaps of steel should not be less than 45 times larger than bar size.

- No Overlaps of steel @ cantilevers areas.

- Concrete Cover: @ Slab: 40mm, @ Beams: 50mm, @ Max Aggregate Size = 20mm.

Property of:

Elyarmok Basic School

Block 7 - Plot 223

Elyarmok-Khartoum - SUDAN

Project Name:

Completion of Yarmok Basic school for girls

Content : Structural Design

Slab & Beams' Details

Design By :

Engineering Unit

Jan.

2018

Drawn By :

Engineering Unit

S5

TECHNICAL DRAWINGS & SPECIFICATIONS

Project Name:

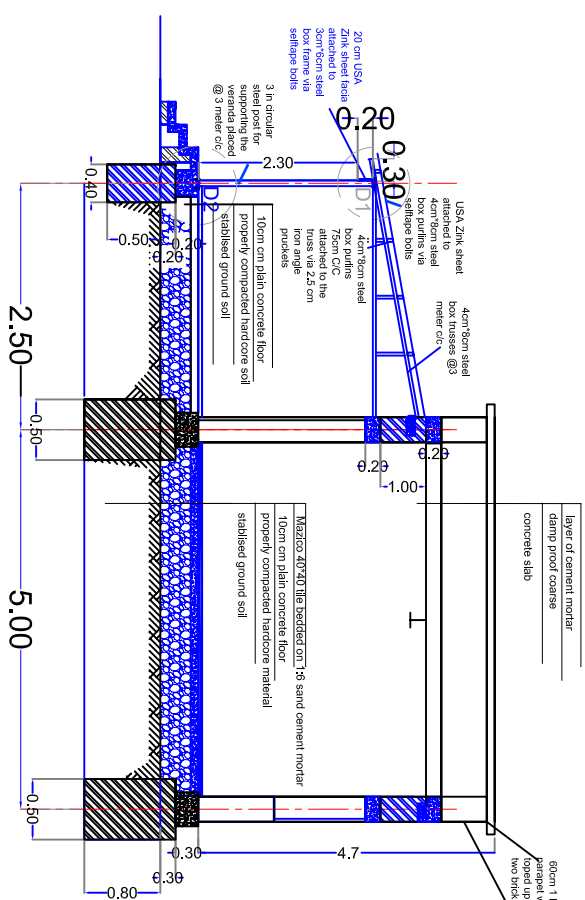
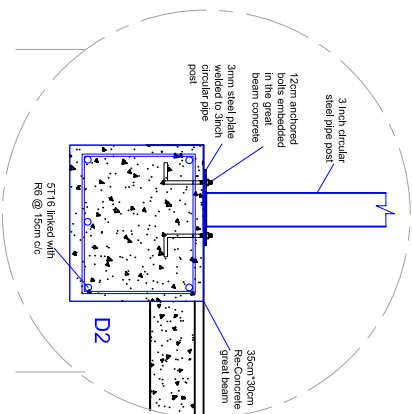
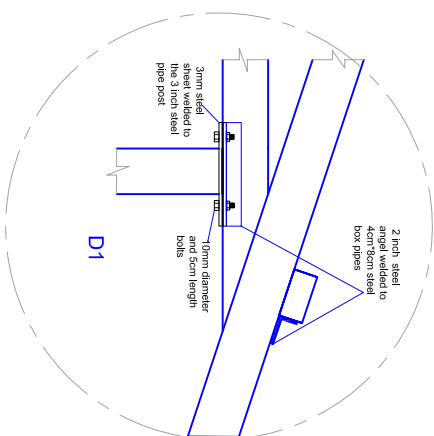
Completion and Rehabilitation of School in Mayo

Drawings of Elyarnok Square Boys School Drawings

Jan 2019

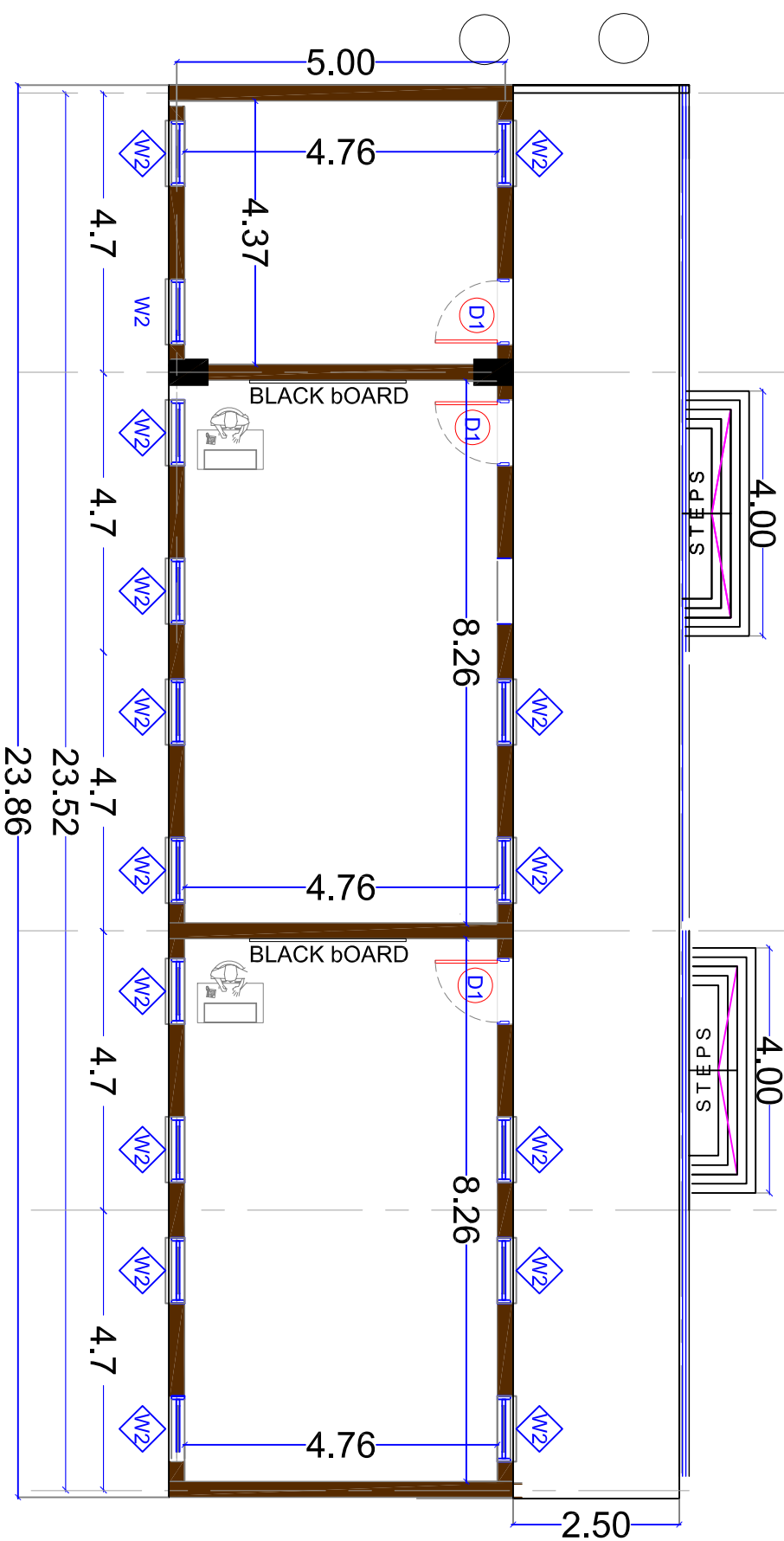
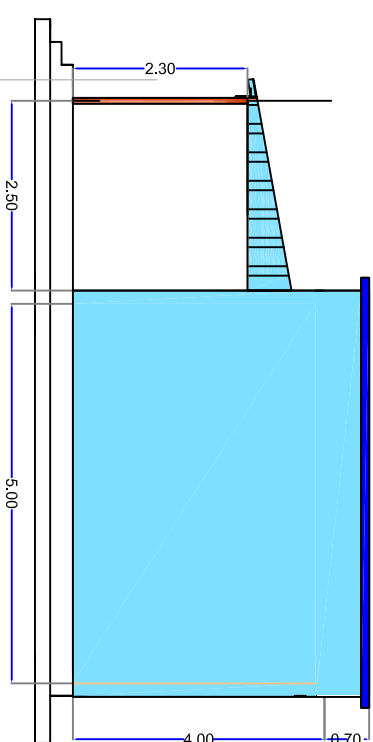
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5. ALL STEEL FRAMES SHALL BE PAINTED WITH ANTI-RUST PAINTS AND FINAL COATS TO COLOR SPECIFIED BY THE ENGINEER.
6. ALL THE STEEL PIPE SHALL BE OF HEAVY TYPE AND SOUND QUALITY.



- EXISTING UNCOMPLETED BUILDING**
- CONTRACTOR SHALL PROVIDE THE FOLLOWING**
- 1-COMPLETE THE PARAPET TO 70CM.
 - 2-PLASTER AND PAINT THE EXTERNAL WALL
 - 3-CAST PLAIN CONCRETE FOR THE FLOOR
 - 4-TILE THE FLOOR WITH MAZICO TILE.
 5. CONSTRUCT THE PLATFORM AND STEPS
 6. CONSTRUCTION E STEEL VERANDA.
 7. PAINT THE DOORS AND WINDOW.
 8. PROVIDE AND INSTALL ELECTRICAL DEVICES

EXISTING UNFINISHED BUILDING



PROJECT LOCATION
ELYARMOK SQ R 7 SCHOOL FOR
BOYS-MAYO-KHARTOUM STATE

PROJECT NAME:
Completion of Elyarmok Square 7
Basic School for Boys

Content:
COMPLETION OF UNFINISHED
BUILDING

Design By:
UNDP

U

GENERAL:

1- THIS DRAWINGS MUST NOT BE SCALED.

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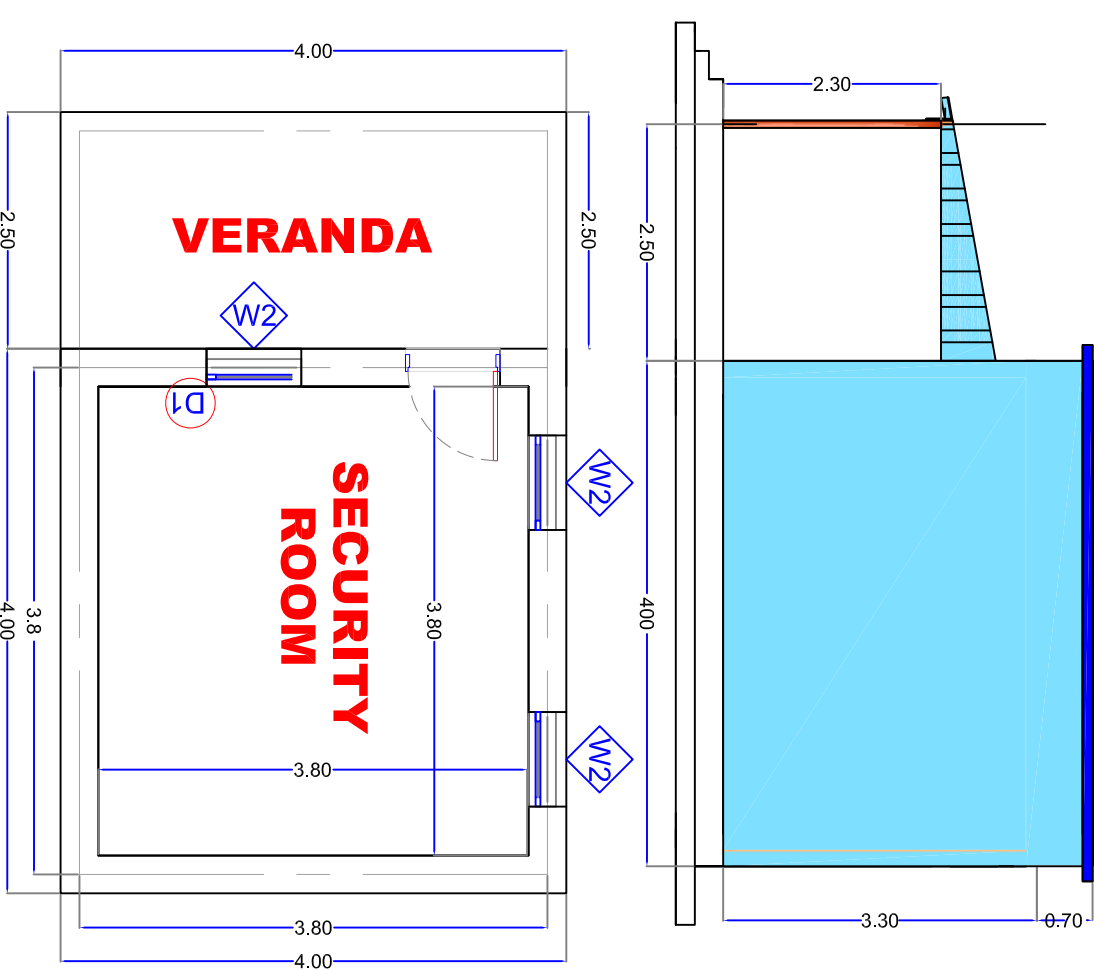
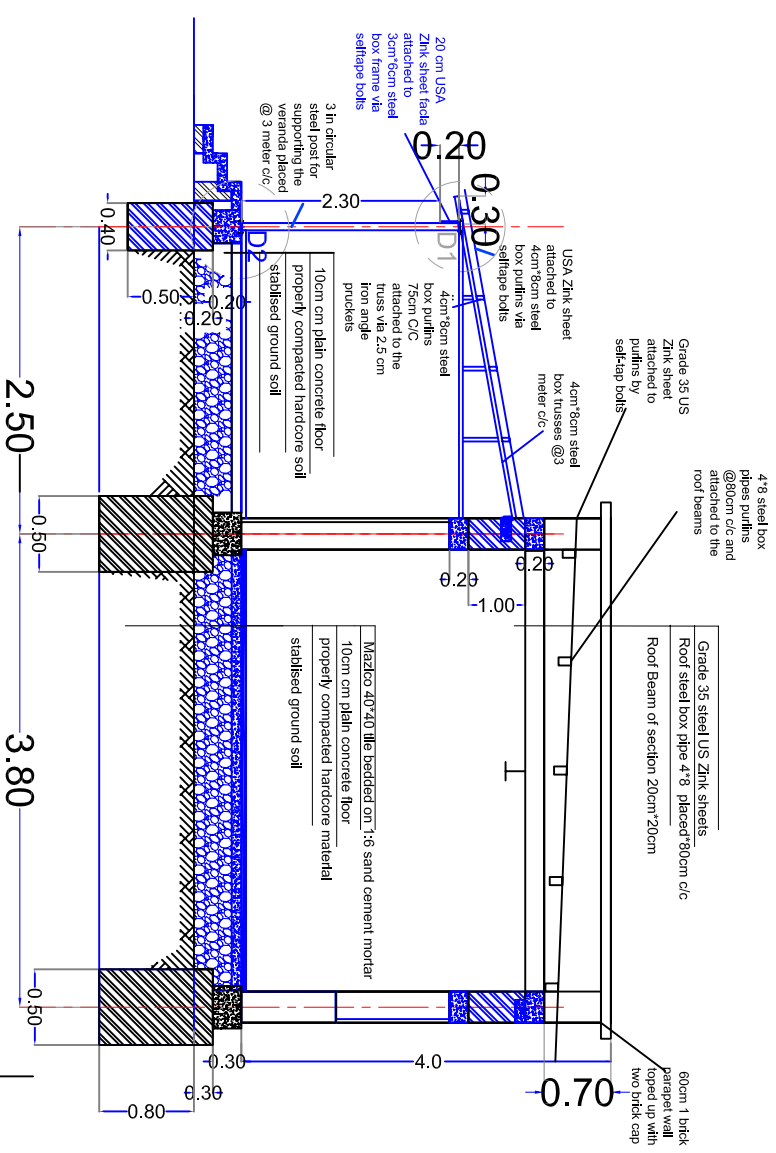
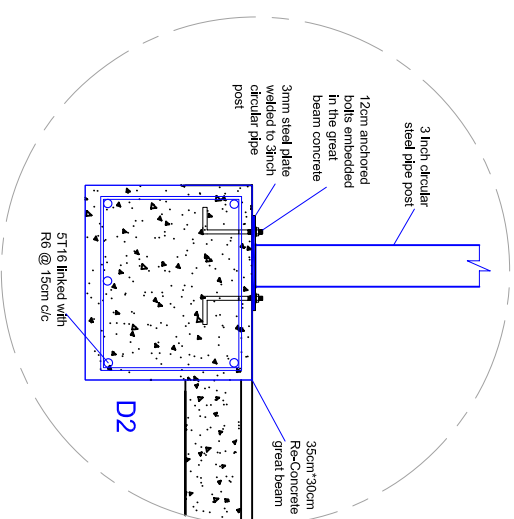
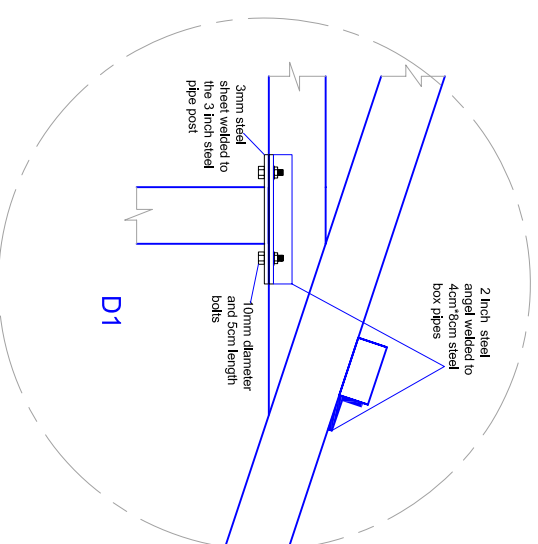
ALL OTHER ENGINEERS, ARCHITECT AND SUB-CONTRACTOR DRAWINGS, DETAILS AND SPECIFICATION.

3-THE CONTRACTOR IS TO CHECK AND CONFIRM ALL THE DIMENSIONS AND DETAILS SHOWN ON THIS DRAWING.

4-ALL DIMENSIONS IN M. UNLESS NOTED OTHERWISE.

5. ALL STEEL FRAMES SHALL BE PAINTED WITH ANTI-RUST PAINTS AND FINAL COATS TO COLOR SPECIFIED BY THE ENGINEER.

6. ALL THE STEEL PIPE SHALL BE OF HEAVY TYPE AND SOUND QUALITY.



PROJECT LOCATION

ELYARMOK SAR 7 SCHOOL FOR
BOYS-MAYO-KHARTOUM STATE

PROJECT NAME:
Completion of Elyarmok Square 7
Basic School for Boys

Content:
SECURITY ROOM
DETAILS

Jan
2019

Design By:

UNDP

D2

TECHNICAL DRAWINGS & SPECIFICATIONS

Project Name:

Completion and Rehabilitation of School in Mayo

Drawings of the Unfinished Class Rooms and Security Room

Jan 2019



ELYARMOK
BASIC SCHOOL FOR BOYS
BLOCK #7- PLOT # 223

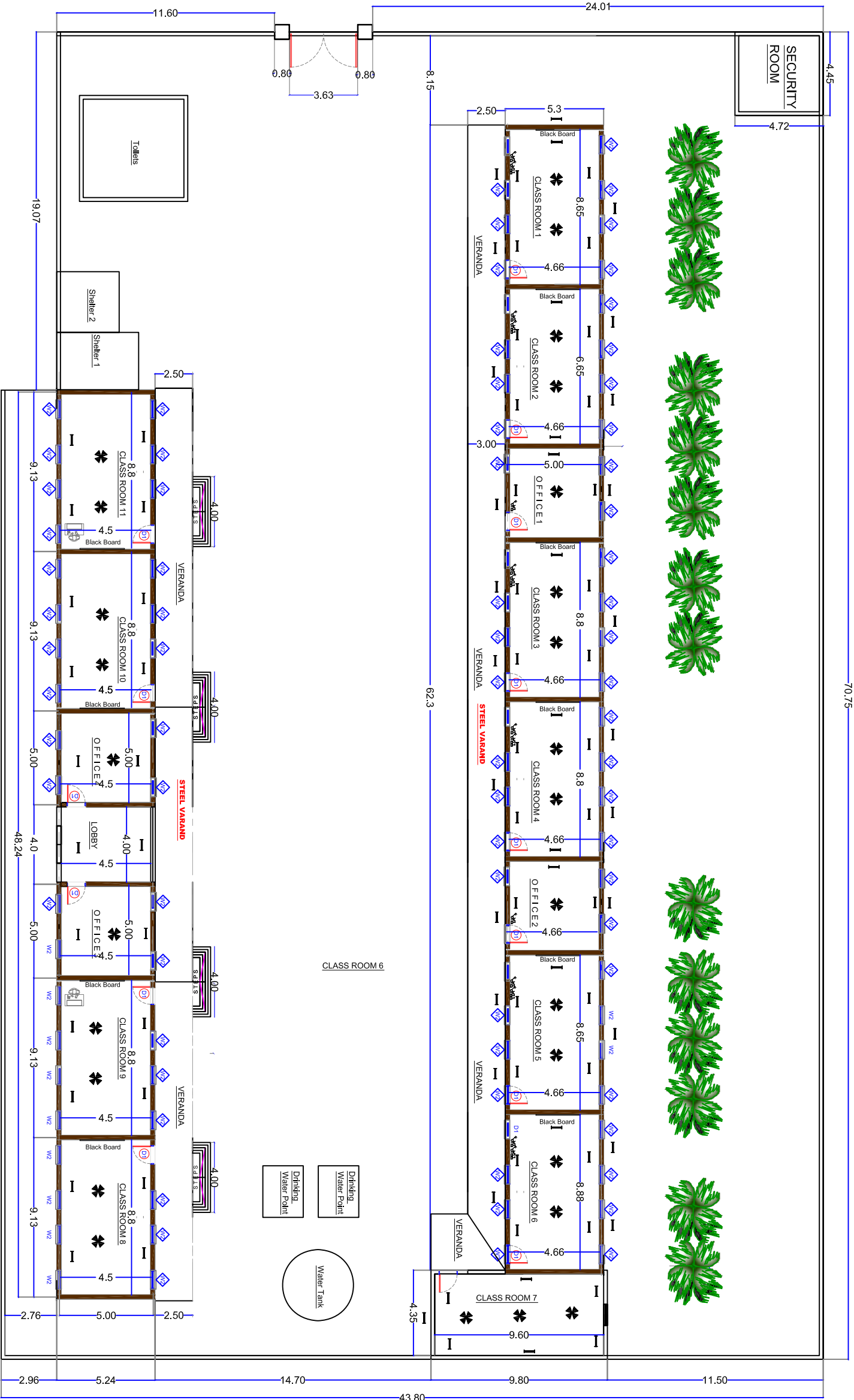
REHABILITATION OF BOYS
BASIC SCHOOL

Content :
Architectural Design
MASTER PLAN

Design By :
Engineering Unit
Jan.
2019

Drawn By :
Engineering Unit

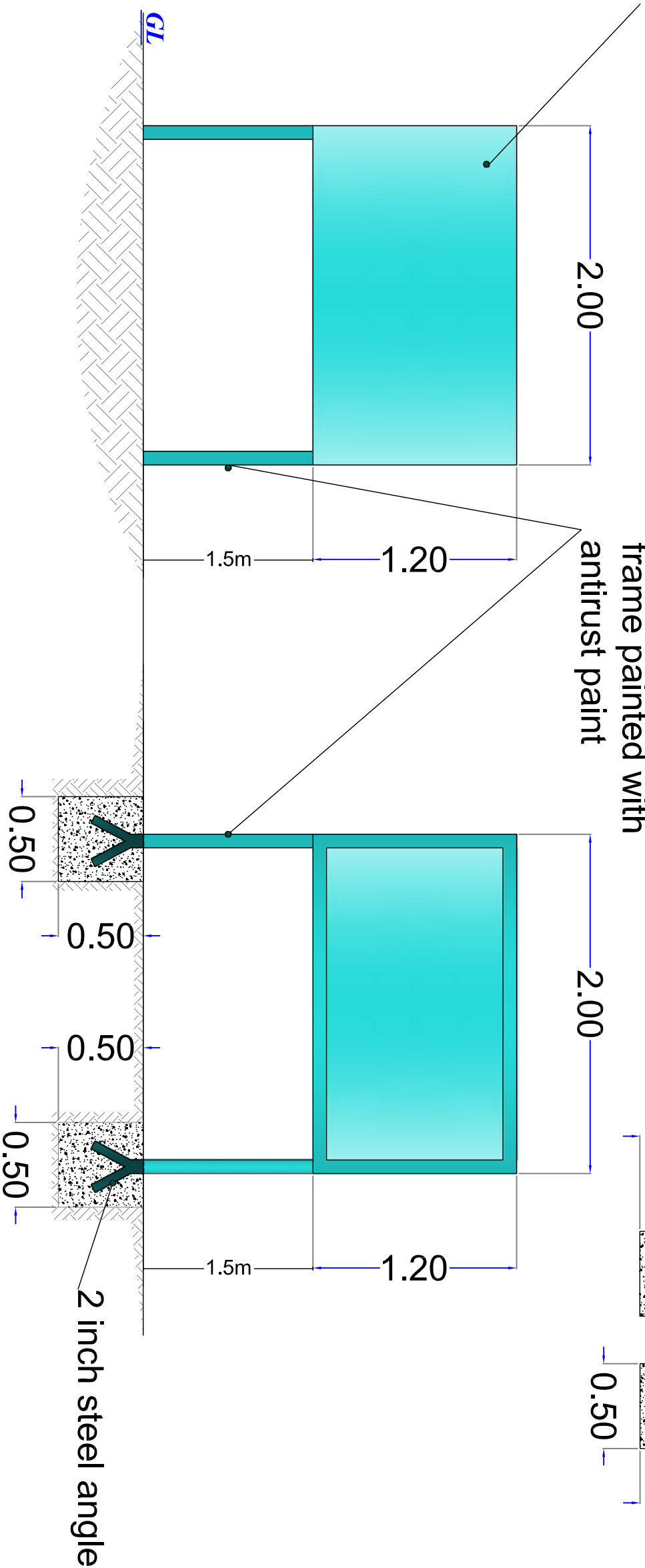
B1



AREA = 2400 SQ.M.
MASTER PLAN
Scale 1:200 A3

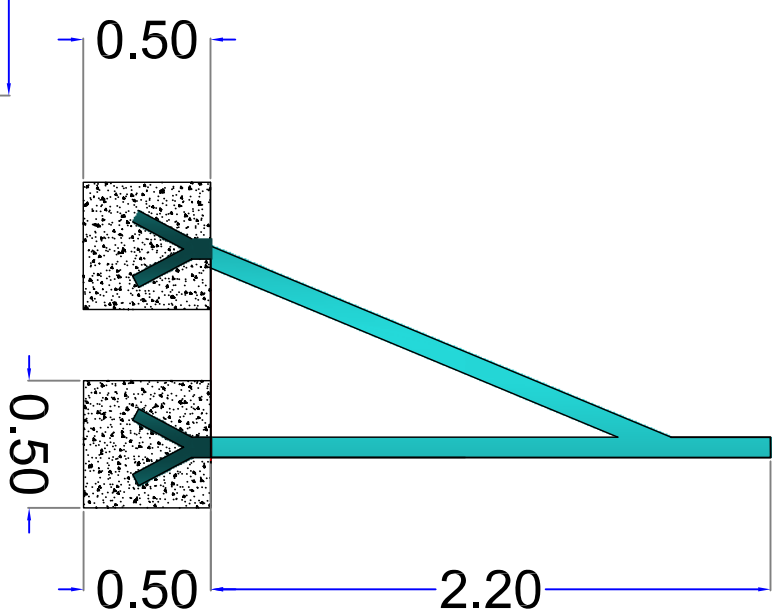
Heavy steel sheet fully welded to
4*8 steel box pie frame

4*8 steel box pipe
frame painted with
antirust paint



Front Side Elevation View

Back Side Elevation View



- GENERAL:
- 1- All steel members shall be are of good quality heavy steel (Black type).
 - 2- all steel remembers shall be painted with antirust paints and final coats
 - 3-the plain concrete is of 1:3:6 mix and shall be treated properly with water
 - 4-All dimensions are in meter unless otherwise stated

Note:

The contractor shall obtain the logos needed to be drawn as well as what is needed to be written on the signboard from UNDP&DDRC

Project Name:
Eljarmok Basic School
Block 7 - Plot 223
Eljarmok-Khartoum - SUDAN

Content:
Sign Board Details

Designed by:
UNDP-DDR

2019

Drawn By:
UNDP-DDR

B3