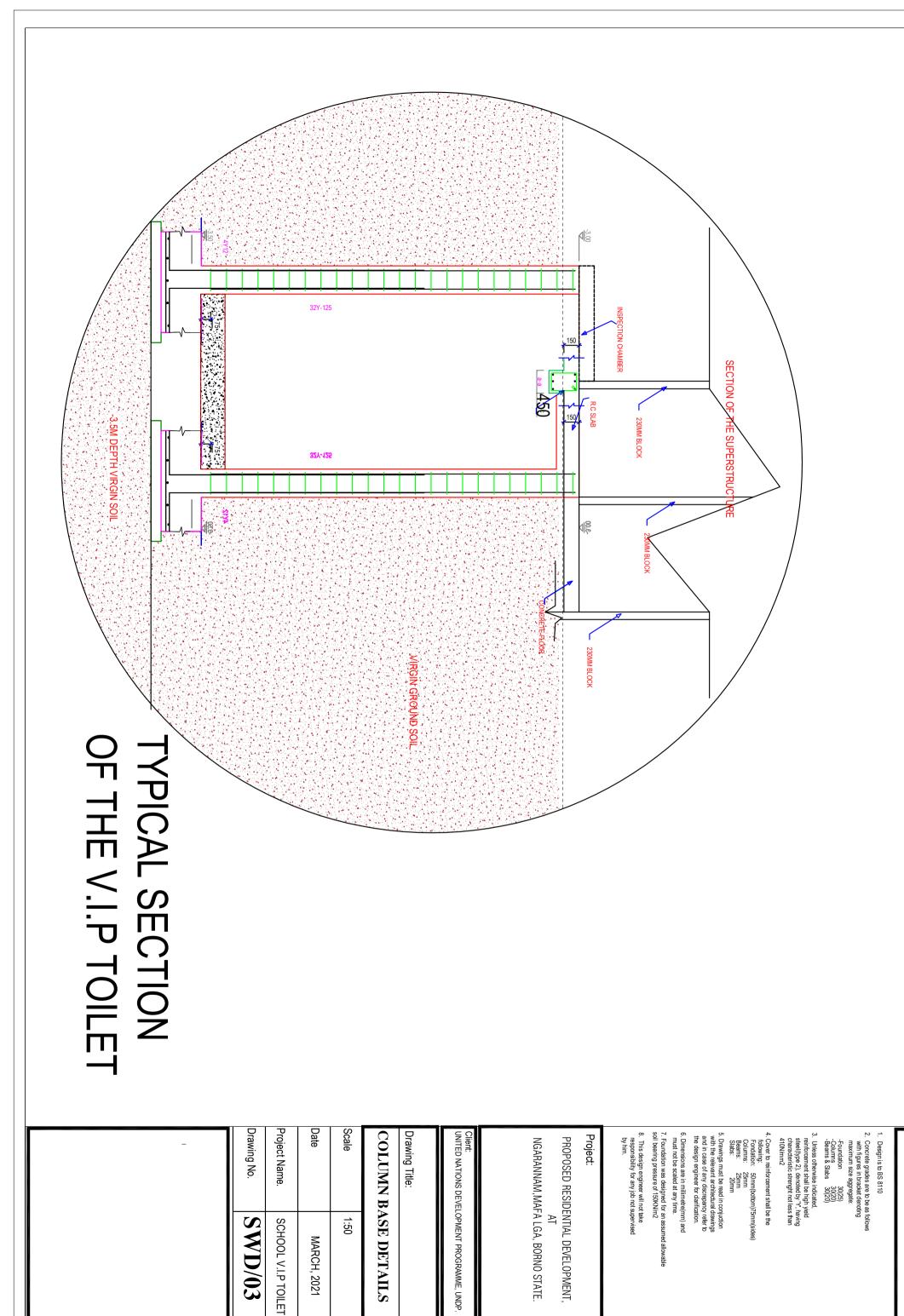
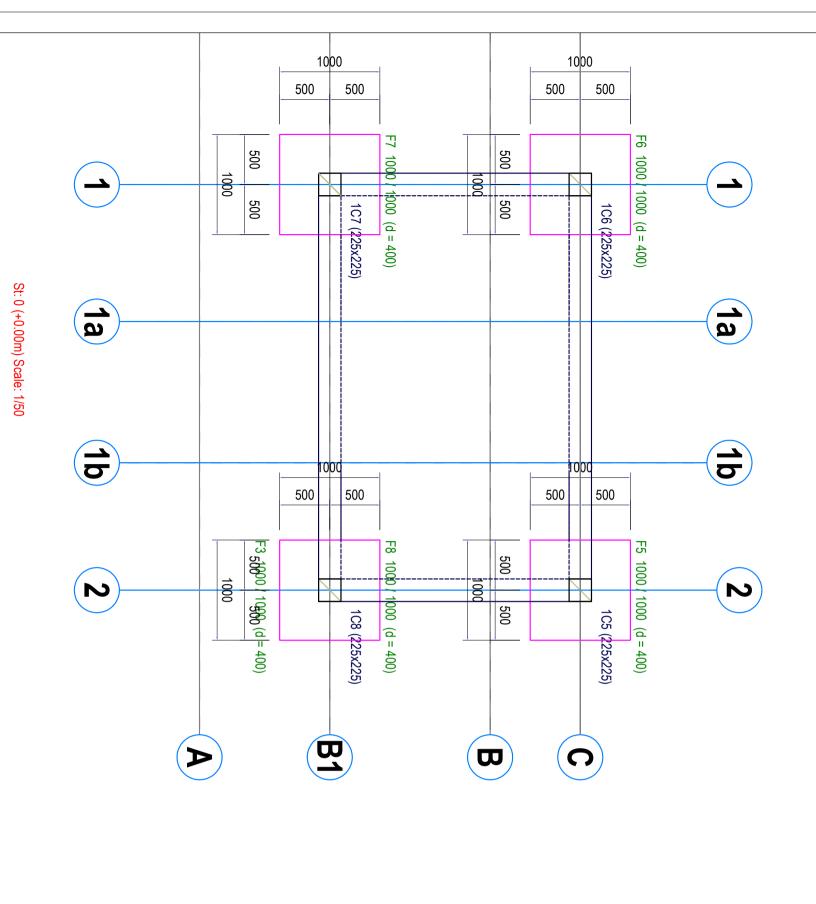
### SIRUCTURAL DES

UNITED NATIONS DEVELOPMENT PROGRAMME

SCHOOL TOILET IN NGARANNAM



NOTES:



Links	Footings	Ribs	Slabs	Beams		Walls		Columns		~	Sub	Soil Be			
C20/25	C20/25	C20/25	C20/25	C20/25	Lat. Web Rebar	Long. Web Rebar	C20/25	C20/25	Material	Material Properties (Default)	Subgrade Reaction (kN/m3)	Soil Bearing Capacity (kN/m2)	Soil Parameters	BS8110-1997,BS6399	Codes
Grade 410 (Type 2)	Rebar Grade	(Default)	50000.000	200.00	ters	6399									

## FOUNDATION LAYOUT

NOTES:

- 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 administration.
- 4. Cover to reinforcement shall be the following:
  Fondation: 50mm(bottom)/5mm(sides)
  Columns: 25mm
  Beams: 25mm
  Slabs: 20mm
- Drawings must be read in conjuction 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.
- 7. 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.

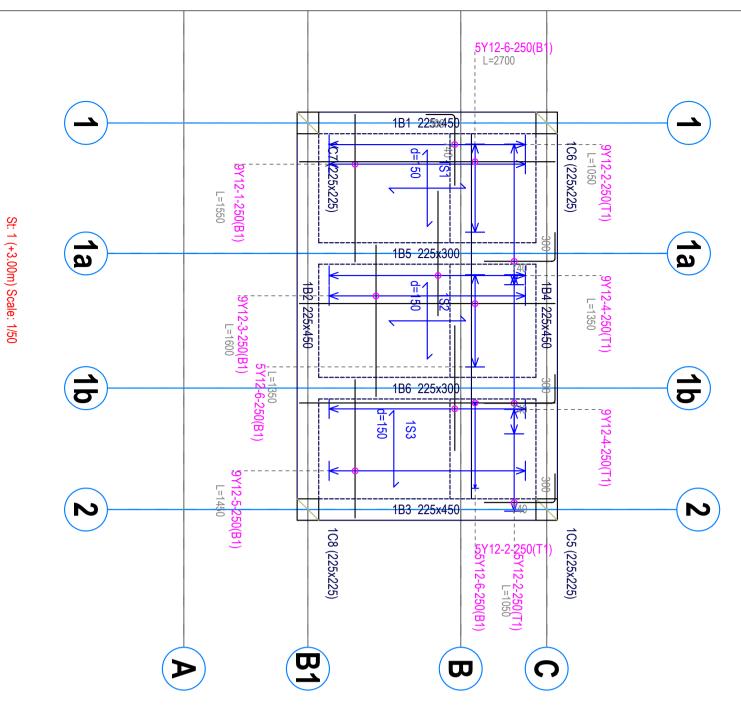
### Project:

PROPOSED RESIDENTIAL DEVELOPMENT, NGARANNAM, MAFA LGA, BORNO STATE.

UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

Drawing Title: Foundation layout

Drawing No. Date Scale Project Name. 1:50 **SWD/01** SCHOOL V.I.P TOILET MARCH, 2021



	FORM I	PLANS	QUANTITY T/	FORM PLANS QUANTITY TAKE OFF - STOREYS: [0] [1]	REYS: [0] [1]
	2171	7	1		TOTAL LENGTH (m)
DM	2710	2	rengin (min)	CXX	Y12
	12	9	1550	1550	13.95
2	12	24	1050	300	25.20
ω	12	9	1600	1590	14.40
4	12	18	1350	1310	24.30
O	12	9	1450	1450	13.05
တ	12	15	2700	2680	40.50
TOTALI	TOTAL LENGTH (m)	)			131.40
UNIT W	UNIT WEIGHT (Kg/m)	<u></u> 3			0.889
WEIGHT (Kg)	「(Kg)				116.8
T. WEIGHT (kg)	HT (kg)				116.8

Grade 410 (Type 2) Grade 410 (Type 2)	C20/25 C20/25	Footings Links
Grade 410 (Type 2)	C20/25	Ribs
Grade 410 (Type 2)	C20/25	Slabs
Grade 410 (Type 2)	C20/25	Beams
Grade 410 (Type 2)	Lat. Web Rebar	
Grade 410 (Type 2)	Long. Web Rebar	Walls
Grade 410 (Type 2)	C20/25	
Grade 410 (Type 2)	C20/25	Columns
Rebar Grade	Material	
s (Default)	Material Properties (Default)	<b>V</b>
50000.000	Subgrade Reaction (kN/m3)	Sub
200.00	Soil Bearing Capacity (kN/m2)	Soil Be
ters	Soil Parameters	
6399	BS8110-1997,BS6399	
	Codes	

	Codes	
	BS8110-1997,BS6399	5399
	Soil Parameters	ters
Soil Be	Soil Bearing Capacity (kN/m2)	200.00
Subo	Subgrade Reaction (kN/m3)	50000.000
~	Material Properties (Default)	(Default)
	Material	Rebar Grade
Columns	C20/25	Grade 410 (Type 2)
	C20/25	Grade 410 (Type 2)
Walls	Long. Web Rebar	Grade 410 (Type 2)
	Lat. Web Rebar	Grade 410 (Type 2)
Beams	C20/25	Grade 410 (Type 2)
Slabs	C20/25	Grade 410 (Type 2)
Ribs	C20/25	Grade 410 (Type 2)
Footings	C20/25	Grade 410 (Type 2)
Links	C20/25	Grade 410 (Type 2)

# SLAB REINFORMENT

### NOTES:

- Design is to BS 8110
- Concrete grades are to be as follows with figures in bracket denoting maximum size aggregate:

  -Foundation 30(25)
  -Columns & Slabs 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
- 4. Cover to reinforcement shall be the following:
  Fondation: 50mm(bottom)/5mm(sides)
  Columns: 25mm
  Beams: 25mm
  Slabs: 20mm
- Drawings must be read in conjuction with the relevant architectural drawings and in case of any discrepancy refer to the design engineer for clarification.
- 7. Foundation was designed for an assumed allowable soil bearing pressure of 150KN/m2 Dimensions are in millimetre(mm) and must not be scaled at any time.
- This design engineer will not take responsibility for any job not supervised by him.

Project:

PROPOSED RESIDENTIAL DEVELOPMENT,

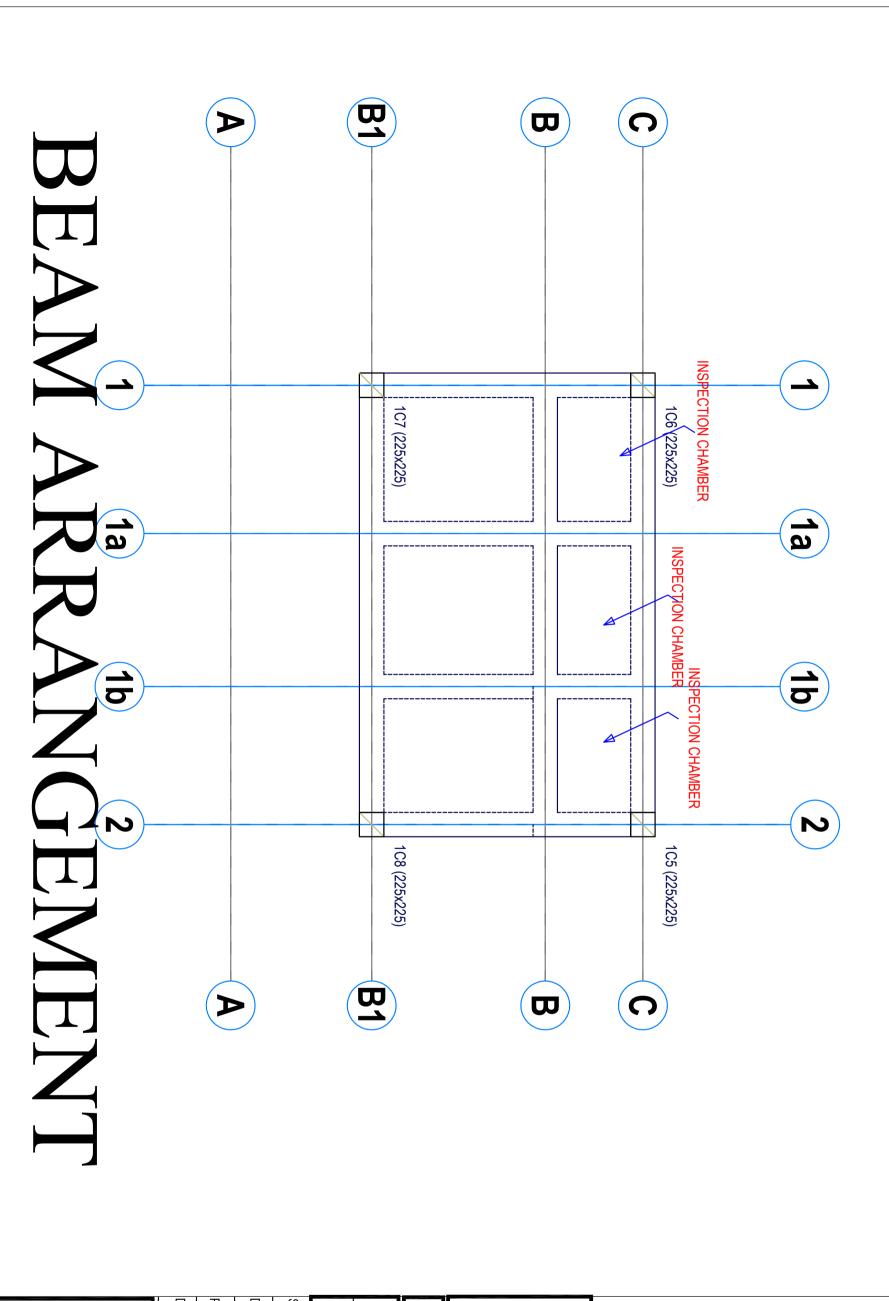
NGARANNAM, MAFA LGA, BORNO STATE.

UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

Drawing Title:

SLAB R.BAR DETAIL

Drawing No. Date Scale Project Name. 1:50 **SWD/02** SCHOOL V.I.P TOILET MARCH, 2021



### NOTES:

- Design is to BS 8110
- Concrete grades are to be as follows with figures in bracket denoting maximum size aggregate:

  -Foundation 30(25)
  -Columns & Slabs 30(20)
  -Beams & Slabs 30(20)
- Unless otherwise indicated, reinforcement shall be high yield steel(type 2), denoted by 'Y', having characteristic strenght not less than Anniverse.
- 4. Cover to reinforcement shall be the following:
  Fondation: 50mm(bottom)/5mm(sides)
  Columns: 25mm
  Beams: 25mm
  Slabs: 20mm
- Drawings must be read in conjuction with the relevant architectural drawings and in case of any discrepancy refer to the design engineer for clarification.
- 7. Foundation was designed for an assumed allowable soil bearing pressure of 150KN/m2 Dimensions are in millimetre(mm) and must not be scaled at any time.
- This design engineer will not take responsibility for any job not supervised by him.

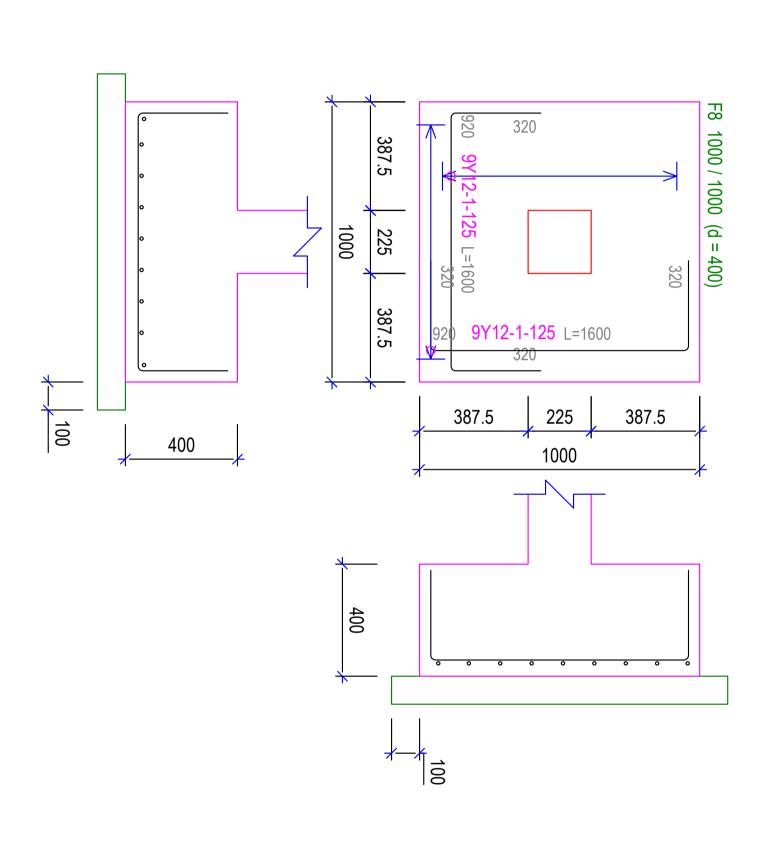
PROPOSED RESIDENTIAL DEVELOPMENT,

NGARANNAM, MAFA LGA, BORNO STATE.

UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

Drawing Title: Beams layout

Drawing No. Project Name. Scale 1:50 **SWD/02** SCHOOL V.I.P TOILET MARCH, 2021



Drawing No.

**SWD/03** 

Project Name.

SCHOOL V.I.P TOILET

MARCH, 2021

Scale

1:50

COLUMN BASE DETAILS

Drawing Title:

Client: UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

NGARANNAM, MAFA LGA, BORNO STATE.

PROPOSED RESIDENTIAL DEVELOPMENT,

### NOTES:

Design is to BS 8110
 Concrete grades are to be as follows with figures in bracket denoting maximum size aggregate:
 Foundation 30(25)
 Columns & 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

5. Drawings must be read in conjuction with the relevant architectural drawings and in case of any discrepancy refer to the design engineer for clarification.

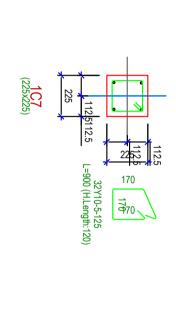
This design engineer will not take responsibility for any job not supervised by him.

Dimensions are in millimetre(mm) and must not be scaled at any time.

7. Foundation was designed for an assumed allowable soil bearing pressure of 150KN/m2.

4. Cover to reinforcement shall be the following:
Fondation: 50mm(bottom)/5mm(sides)
Columns: 25mm
Beams: 25mm
Slabs: 20mm

### 32Y-125 175 3000 **4Y12-1** L=3050 2900



	Codes	
	BS8110-1997,BS6399	399
	Soil Parameters	lers
Soil Be	Soil Bearing Capacity (kN/m2)	200.00
Sub	Subgrade Reaction (kN/m3)	50000.000
~	Material Properties (Default)	(Default)
	Material	Rebar Grade
Columns	C20/25	Grade 410 (Type 2)
	C20/25	Grade 410 (Type 2)
Walls	Long. Web Rebar	Grade 410 (Type 2)
	Lat. Web Rebar	Grade 410 (Type 2)
Beams	C20/25	Grade 410 (Type 2)
Slabs	C20/25	Grade 410 (Type 2)
Ribs	C20/25	Grade 410 (Type 2)
Footings	C20/25	Grade 410 (Type 2)
Links	C20/25	Grade 410 (Type 2)

Project:	1.5	201.5				(kg)	T. WEIGHT (kg)
-	94.8	106.7				(g)	WEIGHT (Kg)
by nim.	0.889	0.617				ЭНТ (Kg/m)	UNIT WEIGHT (Kg/m)
This design engineer will not take responsibility for any job not supervised	106.70	172.80				NGTH (m)	TOTAL LENGTH (m)
must not be scaled at any time.  7. Foundation was designed for an assumed soil bearing pressure of 150KN/m2		115.20	170 120 170 170	900	128	10	ഗ
the design engineer for clamication.  6. Dimensions are in millimetre(mm) and		12.80	120	400	32	10	4
Slabs: 20mm 5. Drawings must be read in conjuction with the relevant architectural drawings and in case of any discrepancy refer to		44.80	180 120	1400	32	10	ω
Columns: 25mm Beams: 25mm	39.60		250 1550	1800	22	12	2
	67.10		2900	3050	22	12	_
characteristic strenght not less than 410N/mm2	Y12	Y10	CONTRACT	rengar (mm)	-	23.0	Z
reinforcement shall be high yield steel (type 2), denoted by 'Y', having	:NGTH (m)	TOTAL LENGTH (m)	EOBM	Longth (mm)	OTV	C17E	D
-Beams & Slabs 30(20)  3. Unless otherwise indicated,	[1]	OREYS: [0]	COLUMN ELEVATIONS QUANTITY TAKE OFF - STOREYS: [0] [1]	NS QUANTITY	ELEVATIO	COLUMN	
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)							

NOTES:

44.80
180
1400

7. Foundation was designed for an assumed allowable soil bearing pressure of 150KN/m2

	PROPOSED	
i	RESIDENT	

NGARANNAM, MAFA LGA, BORNO STATE. TAL DEVELOPMENT,

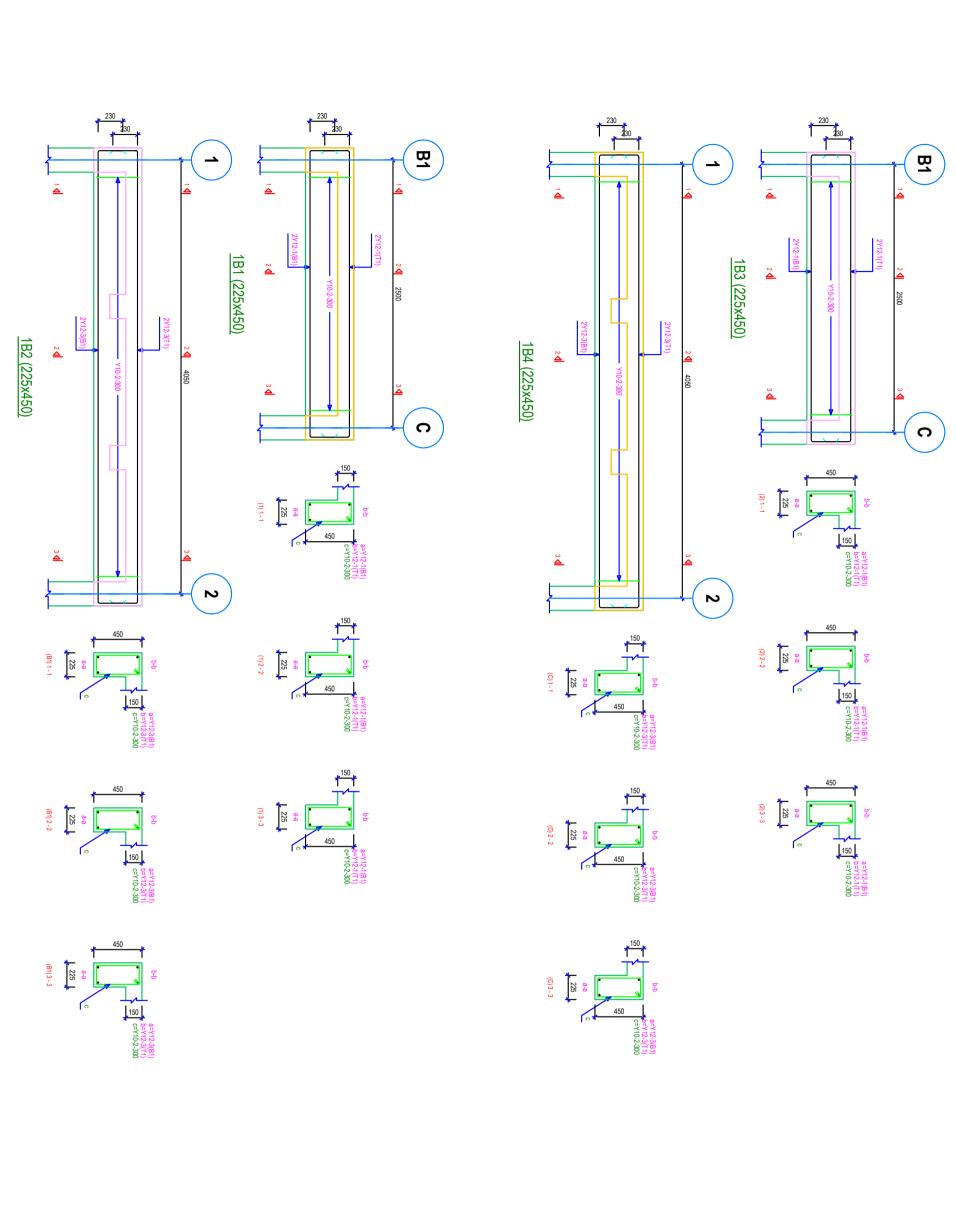
### UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

Drawing Title:

**COLUMN & BASE DETAILS** 

Scale	1:50
Date	MARCH, 2021
Project Name.	SCHOOL V.I.P TOILET
Drawing No.	<b>50/DWS</b>

## COLUMN TYPES AND DETAILS



### NOTES:

- 1. Design is 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 administration.
- 4. Cover to reinforcement shall be the following:
  Fondation: 50mm(bottom)/5mm(sides)
  Columns: 25mm
  Beams: 25mm
  Slabs: 20mm
- Drawings must be read in conjuction 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.
- 7. 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.

### Project:

PROPOSED RESIDENTIAL DEVELOPMENT,

NGARANNAM, MAFA LGA, BORNO STATE.

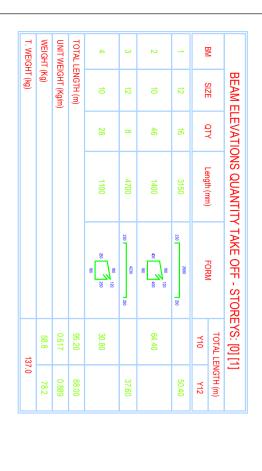
UNITED NATIONS DEVELOPMENT PROGRAMME, UNDP.

**ROOF BEAM DETAILS** 

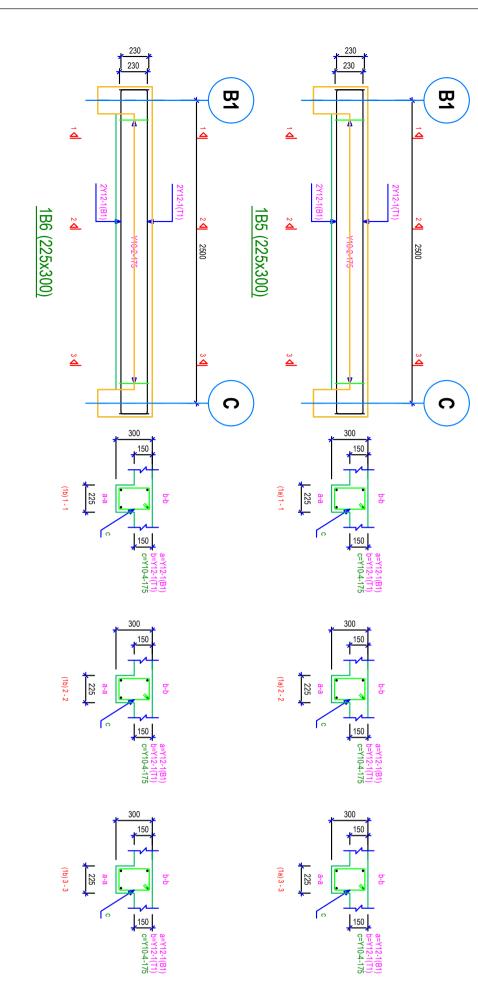
Scale	1:50
Date	MARCH, 2021
Project Name.	SCHOOL V.I.P TOILET
Drawing No.	<b>50/U/MS</b>

Drawing No. SWL/US

**ROOF BEAMS DETAIL** 



1B6	B	1B4	1B3	1B2	<b>B</b>	Mark			
1B6   225   300   2510   SS	225	1B4   225	1B3   225   450   2510   SS	1B2   225   450	225	Width (mm)		TPEEL-END SPAN	c=1/4
300	300	450	450	450	450	Depth (mm)	Beam	N STAN	Ette anter
2510	2510	4050	2510	4050 SS	2510	Span (mm)			
SS	SS	SS	SS	SS	SS	Туре			□ <b>≍-14,1</b>   <b>1^1</b> [_,
						Left	Top	TELIN	C=12/4
2Y12	2Y12	2Y12	2Y12	2Y12	2Y12	Center	Top Reinforcements	THE INI - INI EKOK SHAW	c=12/4 c=12/4 
						Right	돲	Concr	
						Left	Bott	ete Beam Reba	Right Center
2Y12	2Y12	2Y12	2Y12	2Y12	2Y12	Center	Bottom Reinforcements	Concrete Beam Rebar Schedule:[0] [1]	C-13/4  Linke Center Left
						Right	ents		<u>∞</u> μ
Y10-175	Y10-175	Y10-300	Y10-300	Y10-300	Y10-300 Y10-300	Left		THE SO - SINGLE SHAW	C=B4U4 SM SR
Y10-175	Y10-175	Y10-300	Y10-300	Y10-300	Y10-300	Center	Links	l=	<del></del>
Y10-175   Y10-175   Y10-175	Y10-175   Y10-175   Y10-175	Y10-300   Y10-300   Y10-300	Y10-300   Y10-300   Y10-300	Y10-300   Y10-300   Y10-300	Y10-300	Right		THE CA-CANTLEVEN	
							Side Bars		
						Similar	Side Bars Remarks	THE US - GANILLEVEK	11,199



ROOF BEAMS DETAIL CONT.

Grade 410 (Type 2)	C20/25	Links
Grade 410 (Type 2)	C20/25	Footings
Grade 410 (Type 2)	C20/25	Ribs
Grade 410 (Type 2)	C20/25	Slabs
Grade 410 (Type 2)	C20/25	Beams
Grade 410 (Type 2)	Lat. Web Rebar	
Grade 410 (Type 2)	Long. Web Rebar	Walls
Grade 410 (Type 2)	C20/25	
Grade 410 (Type 2)	C20/25	Columns
Rebar Grade	Material	
(Default)	Material Properties (Default)	7
50000.000	Subgrade Reaction (kN/m3)	Sub
200.00	Soil Bearing Capacity (kN/m2)	Soil Be
ters	Soil Parameters	
5399	BS8110-1997,BS6399	
	Codes	

Drawing No.	Project Name.	Date	Scale	ROOF	Drawing Title:	Client: UNITED NATIONS DE	NGARANNAM,N	SED	by him.  Project:	This design engineer will not take responsibility for any job not supervised by him.			4. Cover to reinforcement shall be the following: Fondation: 50mm(bottom)/5mmi Columns: 25mm Beams: 25mm Slabs: 20mm	Unless otherwise indicated, reinforcement shall be high yield steel(type 2), denoted by Yr, having characteristic strength not less than 410N/mm2	-Foundation 30(25) -Columns 30(20) -Beams & Slabs 30(20)	<ol> <li>Concrete grades are to be as follows with figures in bracket denoting maximum size aggregate:</li> </ol>	
<b>SWD/05</b>	SCHOOL V.I.P TOILET	CH, 2021	1:50	BEAM DETAILS		VELOPMENT PROGRAMME, UNDP.	AFA LGA, BORNO STATE.	RESIDENTIAL DEVELOPMENT, AT		not take ot supervised	limetre(mm) and any time.  any time.  150KN/m2	conjuction ral drawings anoty refer to rification.	nforcement shall be the 50mm(bottom)75mm(sides) 25mm 25mm 20mm	ad, h yidid Y, having Jess than			