

THE UNITED REPUBLIC OF TANZANIA



PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

## **PROPOSED STANDARD DRAWINGS FOR SCHOOL FACILITIES.**

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Schedule of Materials, Labour & Drawings for 160 Pupils Toilet  
Block (8 Stances) for Girls – Dry area.

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### **PROJECT AREA**

TANZANIA MAINLAND

Ministry of Education, Science and  
Technology,

Government City - Mtumba,  
AFYA -Street,  
P. O. Box 10,  
**40479 DODOMA.**

President's Office,  
Regional Administration,  
& Local Government  
Government City - Mtumba  
TAMISEMI Street,  
P. O. Box 1923,  
**41185 DODOMA.**

## **Schedule of Material**

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<b><u>MATERIALS</u></b>				
<b>A</b>	<b>SUB-STRUCTURE -PROVISIONAL</b>				
1	<b><u>Strip Foundation - Grade 15 Plain</u></b>				
	Aggregate (3/4")	5	M <sup>3</sup>		
	Sand	2	M <sup>3</sup>		
	Cement-50kgs (42.5)	22	Bags		
2	<b><u>Foundation Walls</u></b>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	375	No		
	Sand	3	M <sup>3</sup>		
	Cement -50kgs (42.5)	7	Bags		
3	<b><u>Moram, Hardcore &amp; Site sterilization</u></b>				
	Moram (4.5m <sup>3</sup> lorry)	2	Trips		
	Hardcore (4.5m <sup>3</sup> lorry)	2	Trips		
	Sand blinding	3	M <sup>3</sup>		
	Adrian 0.5% solution or equal 500mls	1	Bottle		
4	<b><u>Oversite Concrete (100mm thick - 20 grade) &amp; Ground Beam - 20 grade, columns and Ramp</u></b>				
	DPM	39	M <sup>2</sup>		
	Cement -50kgs (42.5)	25	Bags		
	Aggregates (1/2")	4	M <sup>3</sup>		
	Sand	2	M <sup>3</sup>		
	Reinforcement - 12mm diameter high tensile	14	PC'S		
	Reinforcement - 8mm diameter	12	PC'S		
	Binding Wire	4	Kg		
	A252 Mesh 200 x200x6.16kg/m2	1	PC'S		
	Timber 1" X 10 " (3.6m long)	8	PC'S		
	Timber 2" X 2"	4	PC'S		
	Nails-4"	3	Kgs		
	Nails-3"	3	Kgs		
	Supporting props	0	PC'S		
	<b>SUB-TOTAL SUBSTRUCTURE</b>				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
<b>B.</b>	<b>SUPERSTRUCTURE</b>				
1	<b><u>Walls &amp; Ring beam &amp; Columns</u></b>				
	6" Cement & Sand block - Minimum Strength 3.5	890	No		
	Cement & Sand Perforated blocks	0	No		
	DPC 25m long x 1m wide)	11	M		
	Sand	5	M <sup>3</sup>		
	Cement-50kgs (42.5)	16	Bags		
	Aggregates (1/2")	1	M <sup>3</sup>		
	Reinforcement - 12mm diameter high tensile	8	PC'S		
	Reinforcement - 8mm diameter	6	PC'S		
	Binding Wire	4	kg		
	A252 Mesh 200 x200x6.16kg	0	PC'S		
	Timber 1" X 10" to Sides (3.6m long)	6	PC'S		
	Timber 1" X 6" (Plates)	2	PC'S		
	Timber 2" X 2"	4	PC'S		
	Supporting Props	4	PC'S		
	<b>SUB-TOTAL SUPER STRUCTURE</b>				
<b>C.</b>	<b>ROOF STRUCTURE &amp; COVERING</b>				
1	<b><u>Roof Structure - Provisional ( 3.6m long)</u></b>				
	Timber 2 " X 3" Purlins	9	PC'S		
	Timber 2" X 4" Wall plate,Rafter	10	PC'S		
	Fascia board 1" X 8"	6	PC'S		
	Nails -5"	3	Kgs		
	Nails -4"	3	Kgs		
	Nails -3"	3	Kgs		
	<b><u>NOTE:</u></b> The above softwood timber structure should be pressure impregnated treated				
2	<b><u>Roof Covering</u></b>				
	28G IT5 resincoated sheet 3m long	12	pcs		
	Roofing Nails	1	Kgs		
	<b>TO COLLECTION</b>			<b>C/F</b>	

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<b>ROOF STRUCTURE &amp; COVERING CONT...</b>				
				<b>B/F</b>	
3	<b><u>Gutter's</u></b>				
	Upvc 100mm half round (6m long)-5"	2	PC'S		
	Upvc 75mm diameter down pipe; Class B	1	PC'S		
	PVC outlet	1	PC'S		
	PVC bend 45'	1	PC'S		
	Gutter support bracket	4	PC'S		
	Gutter Clamp 3"	7	PC'S		
	Connector	1	PC'S		
	<b>SUB-TOTAL ROOF STRUCTURE &amp; COVERING</b>				
<b>D.</b>	<b>DOOR</b>				
1	<b><u>40mm thick hardwood (mninga) or equal and aproved paneled door shutter</u></b>				
	920 x 2100mm high	1	PC'S		
	720 x 2100mm high	9	PC'S		
2	<b><u>45x145mm Frames (hardwood),Varnish, Glass &amp; Buralar bar</u></b>				
	1000 x 2100 mm high frame	1	PC'S		
	800 x 2100mm high frame	9	PC'S		
	Brush 3"	2	Pcs		
	Sand paper (msasa) No.80	2	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish -4Litres	2	Litres		
	<b>Door grill with 38mm x 4mm flat bars, 25mm x 25mm square pipespainted with red oxide</b>				
	1000 x 1500mm high	1	No		
3	<b><u>IronMongerries - ref Union</u></b>				
	Barrel bolt with pad lock	10	No		
	Flush bolt	10	No		
	Brass hinges - 100mm	15	Pairs		
	<b>SUB-TOTAL FOR DOORS</b>				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
<b>E.</b>	<b>FINISHING</b>				
1	<b><u>Floor finishing -</u></b>				
	<b>Bedding/Backing; cement sand and Chipping (1:2:2); to steel finishing</b>				
	Sand	2	M <sup>3</sup>		
	Cement-50kgs (42.5)	8	Bags		
2	<b><u>Wall Finishing</u></b>				
	Sand	3	M <sup>3</sup>		
	Cement-50kgs (42.5)	10	Bags		
	Wall Puty	7	Bags		
	<b>SUB-TOTAL FOR FINISHING</b>				
<b>F.</b>	<b>PAINTING &amp; DECORATION</b>				
	Emulsion Paint - 20 LTRS	3	buckets		
	Weather guard Paint - 20 LTRS	1	buckets		
	Washable paint -20 LTRS	1	buckets		
	Primer paint -5 LTRS	1	buckets		
	Solvent - 3LTRS	1	TIN		
	Brush 3"	2	Pcs		
	Roller	2	Pcs		
	Gloss paint-2LTR	1	TIN		
	Bitumen paint - 4Litres	1	TIN		
	<b>SUB-TOTAL FOR PAINTING&amp;DECORATION</b>				
<b>G.</b>	<b>PLUMBING &amp; SANITARY INSTALLATION-PROVISIONAL</b>				
1	Western type high level W.C disabled toilet,suite vitrious china to B.S 3402 s/p-trap compete with its accessories,supporting rails, Handwashing and any other accessories complete	1	Pcs		
2	<b><u>PIPES WORK</u></b>				
	<b>SUPPLY PIPE PN 16</b>				
	PPR/IPS pipes class B argentina 3/4"	Pcs	6		
	PPR/IPS socket (20Ø) 3/4"	No	6		
	PPR/IPS elbow (20Ø) 3/4"	No	35		
	PPR/IPS tee (20Ø) 3/4"	No	36		
	PPR/IPS niple (20Ø) 3/4"	No	50		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	PPR/IPS reducing bush (20Ø) 3/4" to 1/2"(15Ø)	No	46		
	PPR/IPS pipes class B argentina 1"(32Ø)	Pcs	3		
	PPR/IPS socket 1"(32Ø)	No	6		
	PPR/IPS elbow 1"(32Ø)	No	4		
	PPR/IPS tee 1"(32Ø)	No	4		
	PPR/IPS niple 1"(32Ø)	No	4		
	PPR/IPS reducing bush (32Ø) 1" to 3/4"(20Ø)	No	10		
	PPR/IPS pipes class B argentina 1 1/2"(50Ø)	Pcs	6		
	PPR/IPS socket 1 1/2"(50Ø)	No	4		
	PPR/IPS elbow 1 1/2"(50Ø)	No	4		
	PPR/IPS tee 1 1/2"(50Ø)	No	4		
	PPR/IPS niple 1 1/2"(50Ø)	No	4		
	PPR/IPS reducing bush (50Ø) 1 1/2" to 1"(32Ø)	No	3		
	Seal tape	Pcs	20		
	<b><u>VALVES AND CONTROLS</u></b>				
	Bib cork pex/martex 1/2" PN 16	No	15		
	Gate valve pex/martex 3/4" PN 16	No	10		
	Gate valve pex/martex 1" PN 16	No	1		
	Ball valve 1 1/4"	No	1		
	<b><u>WATER STORAGE TANK</u></b>				
	1,000litres TANK	No	2		
	Tank connector 1"	No	6		
	Tangit glue 1000g	kg	1		
	Clamp 3"		5 PC'S		
	<b>SUB-TOTAL FOR PLUMBING &amp; SANITARY INSTALLATION-</b>				
H.	<b>TANK BASE</b>				
	6" Cement & sand block - Minimum strength 3.5 MPa	20	No		
	Cement-50kgs (42.5)	2	Bags		
	Aggregates (1/2")	1	M3		
	Sand	1	M3		
	<b>TOTAL FOR TANK BASE</b>				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	<b>SOAK AWAY PIT</b>				
	<b><u>MATERIALS</u></b>				
1	<b><u>Strip Foundation - Grade 15 Plain</u></b>				
	Aggregate (3/4")	5	M <sup>3</sup>		
	Sand	3	M <sup>3</sup>		
	Cement-50kgs	22	Bags		
2	<b><u>230mm thick Walls</u></b>				
	6" Cement & Sand block - Minimum Strength 3.5 MPa	1,680	No		
	Sand	5	M <sup>3</sup>		
	Cement -50kgs	28	Bags		
	Hardcore 230mm thick (4.5m <sup>3</sup> lorry)	2	Trips		
4	<b><u>150mm thick Suspended Concrete slab &amp; ground beam- 20 grade</u></b>				
	Cement -50kgs	49	Bags		
	Aggregates (1/2")	6	M <sup>3</sup>		
	Sand	3	M <sup>3</sup>		
	Reinforcement - 12mm diameter high tensile	12	PC'S		
	Reinforcement - 8mm diameter high tensile	13	PC'S		
	Reinforcement - 10mm diameter high tensile	59	PC'S		
	Binding Wire - 1kg	10	Kgs		
	Timber 1" X 10 " (3.6m long)	14	PC'S		
	Marine board	10	PC'S		
	Timber 2" X 2"	10	PC'S		
	Supporting props	15	PC'S		
	Nails-4"	8	Kgs		
	Nails-3"	8	Kgs		
	Pre Cast concrete chamber 600 x 600mm	3	PCS		
	<b>TOTAL SOAK AWAY PIT</b>				
L	<b>Steel handrails to ramp</b>				
	Supply and fix steel support handrails 750mm high comprising 38mm diameter hollow section pipe top, bottom and vertical rails spaced at 300mm centres to centres as per Architectural drawings	8	m		
	<b>SUB-TOTAL FOR HANDRAILS</b>				



<u>SUMMARY</u>				AMOUNT TZS
<u>8no stances toilets block -Girls</u>				
A.	SUB-STRUCTURE -PROVISIONAL			
B.	SUPERSTRUCTURE			
C.	ROOF STRUCTURE & COVERING			
D	DOOR			
E	FINISHING			
F	PAINTING & DECORATION			
G	PLUMBING AND INSTALLATION			
H.	TANK BASE			
J.	SOAK AWAY PIT			
L	HANDRAILS TO RAMP			
TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
<u>ADD:</u>				
LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
<b>Note:</b>				
i Refer General Summary for: Preliminary, Transportation and Supervision Costs				
<b>ii. Preliminary cover the following item:</b>				
- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.				
iii. Supervision cost depend on guideline of the specific project				

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MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY

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## PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

Ministry of Education, Science and Technology  
Government City-Mtumba,  
Afya Street,  
P.O. Box 10,  
**40479 DODOMA**

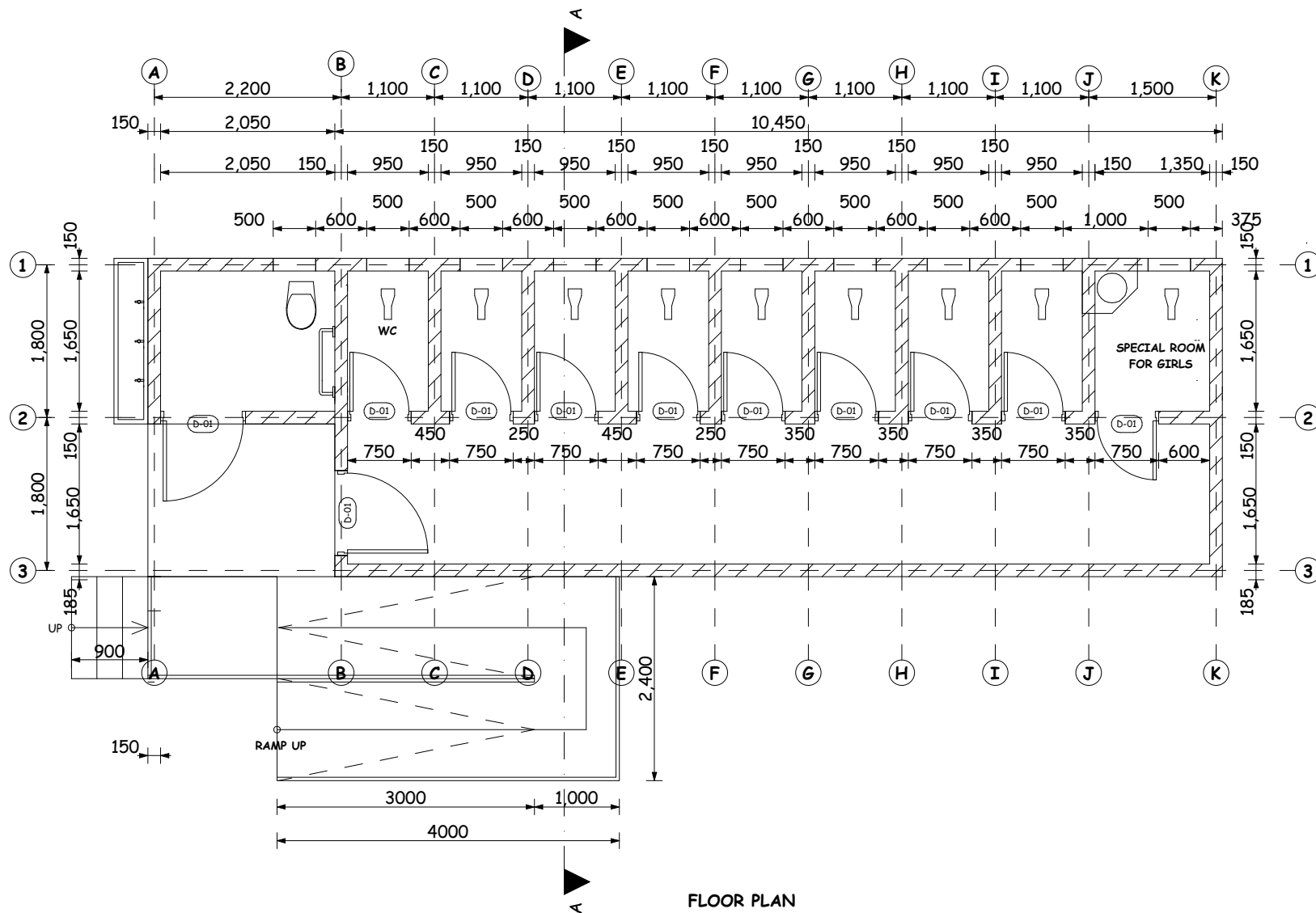
President's Office, Regional Administration  
and Local Government.  
Government City-Mtumba,  
TAMISEMI Street,  
P.O. Box 1923,  
**41185 DODOMA**

JANUARY, 2023

# ARCHITECTURAL DRAWINGS

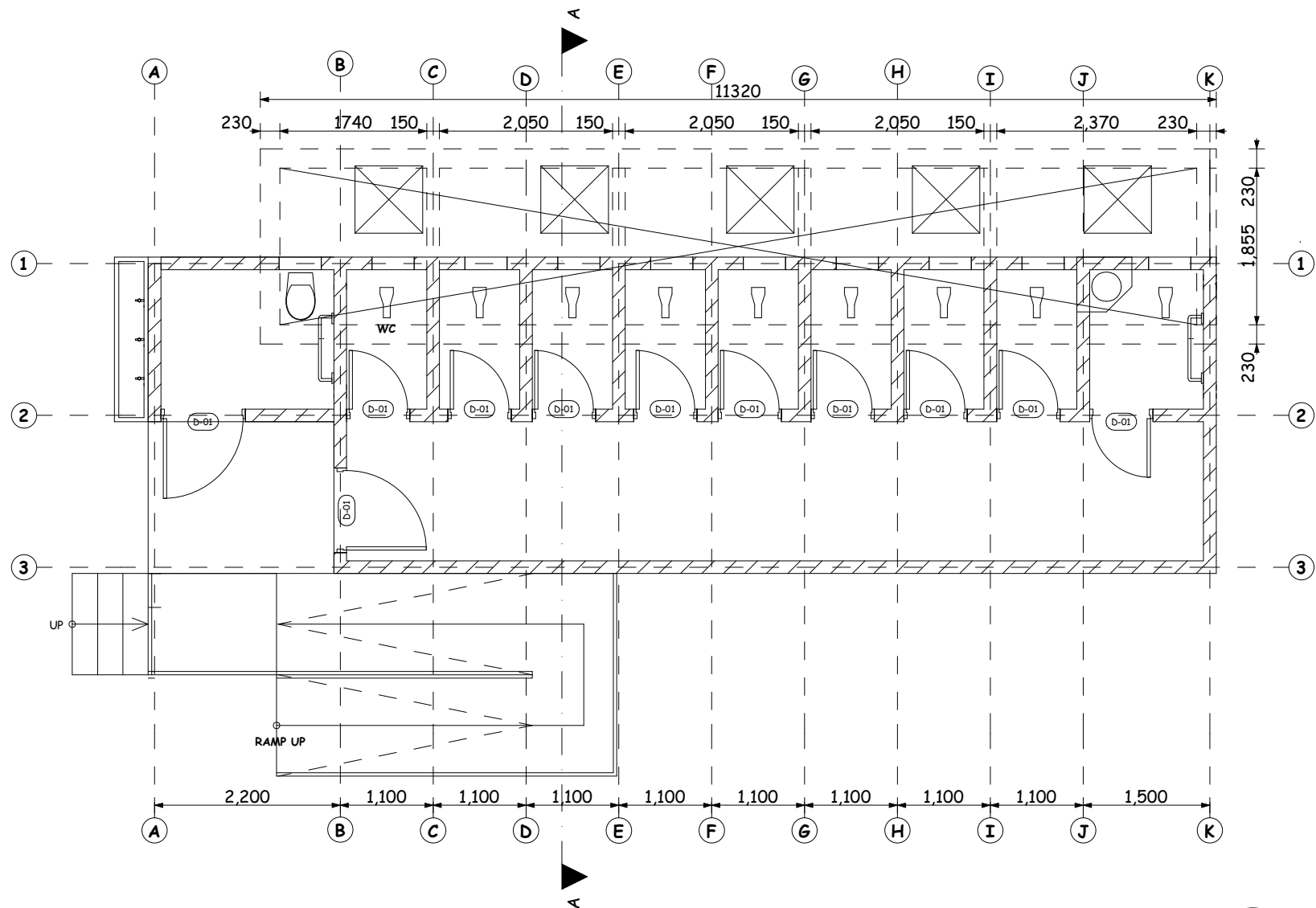


**TOILET BLOCKS - DRY AREA  
160 GIRLS (8 STANCES) WITH FACILITY  
FOR DISABLED**



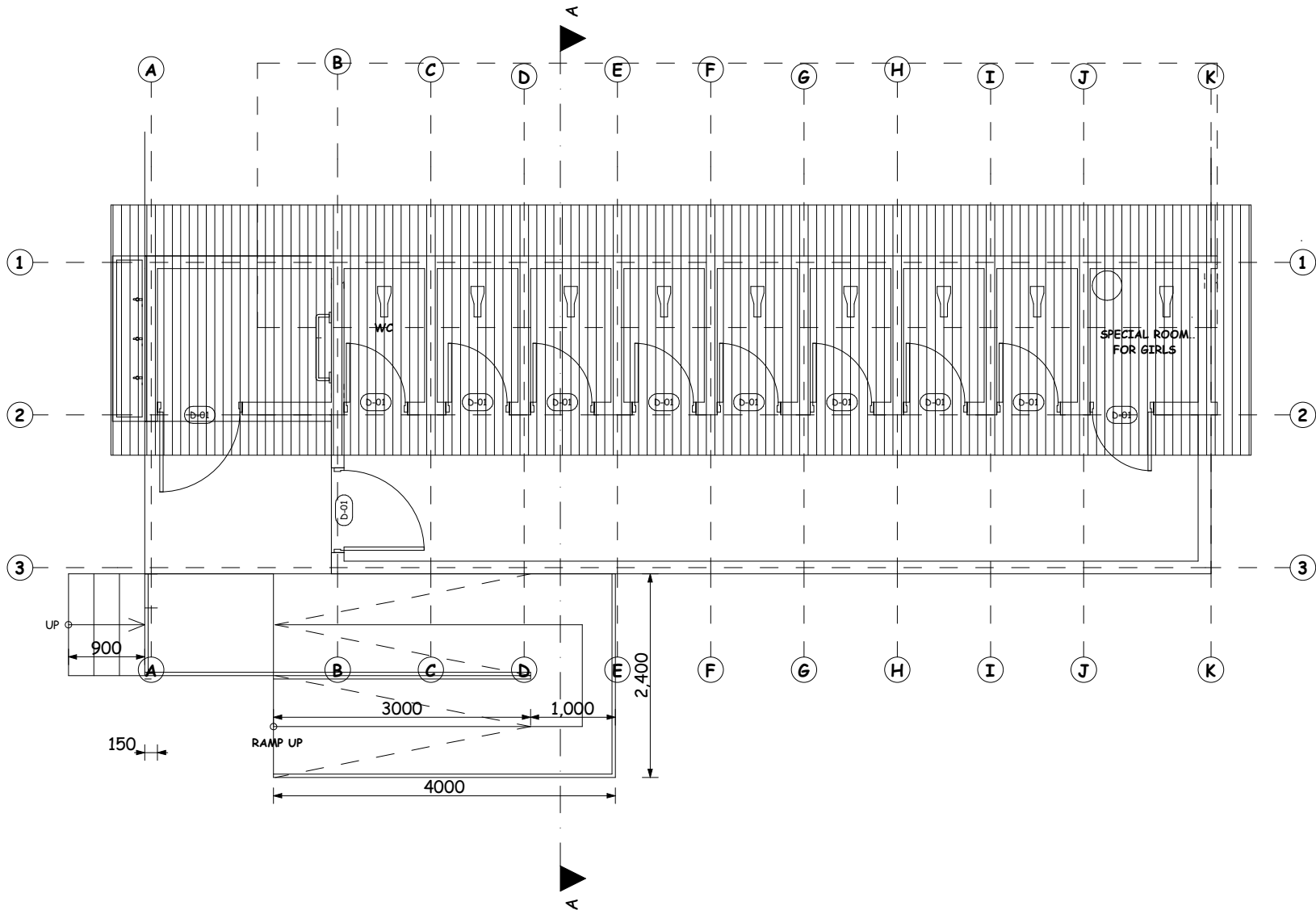
FLOOR PLAN

REVISED 1



PIT TANK LOCATION LAYOUT

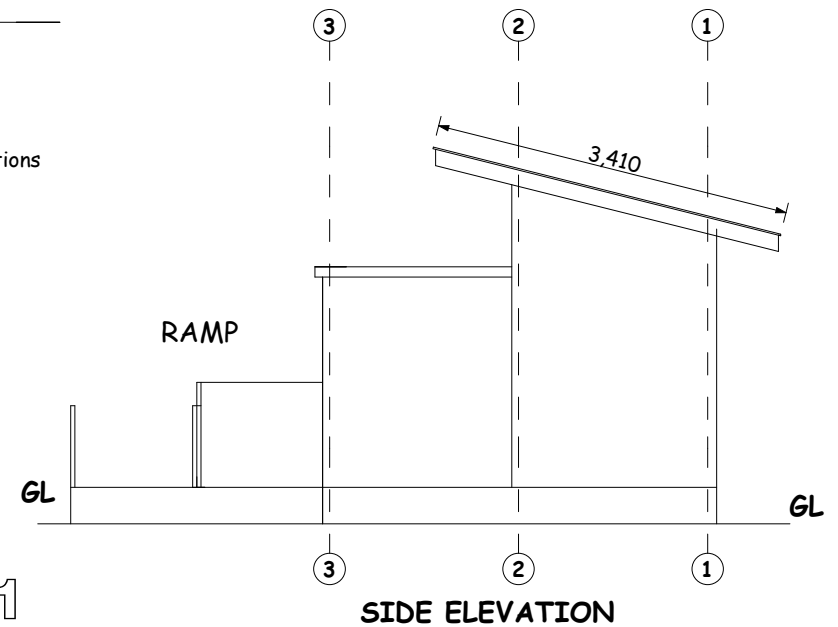
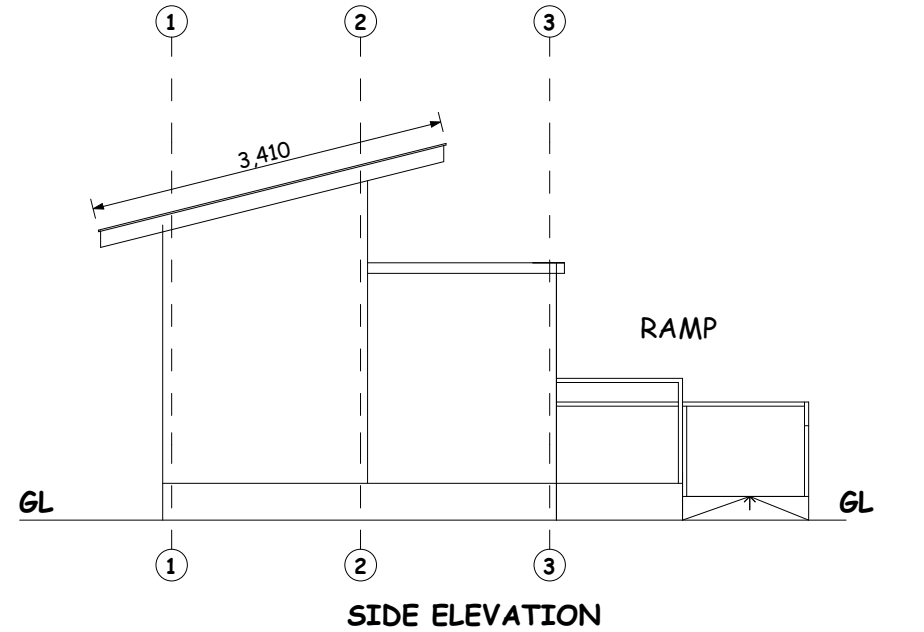
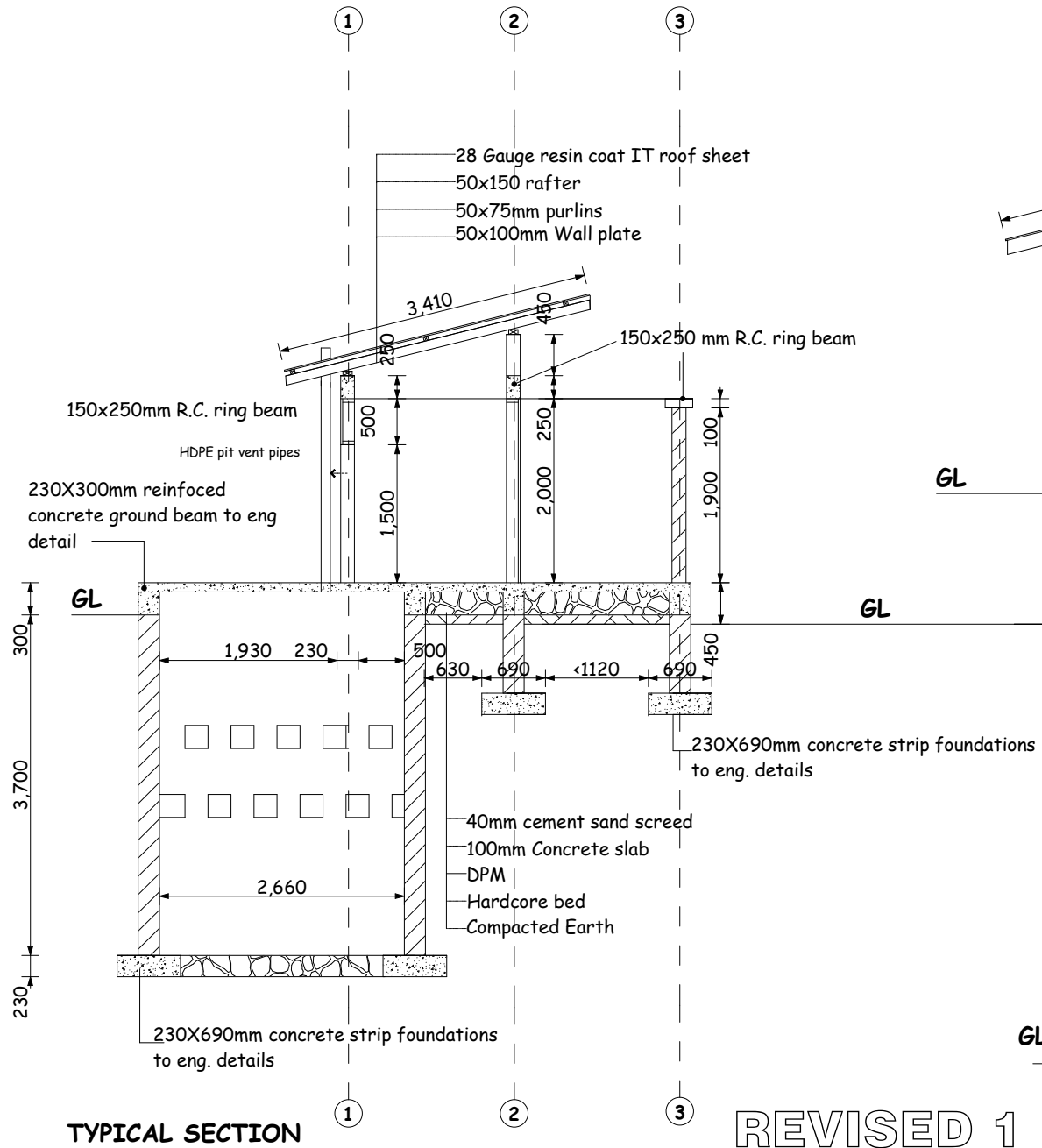
REVISED 1



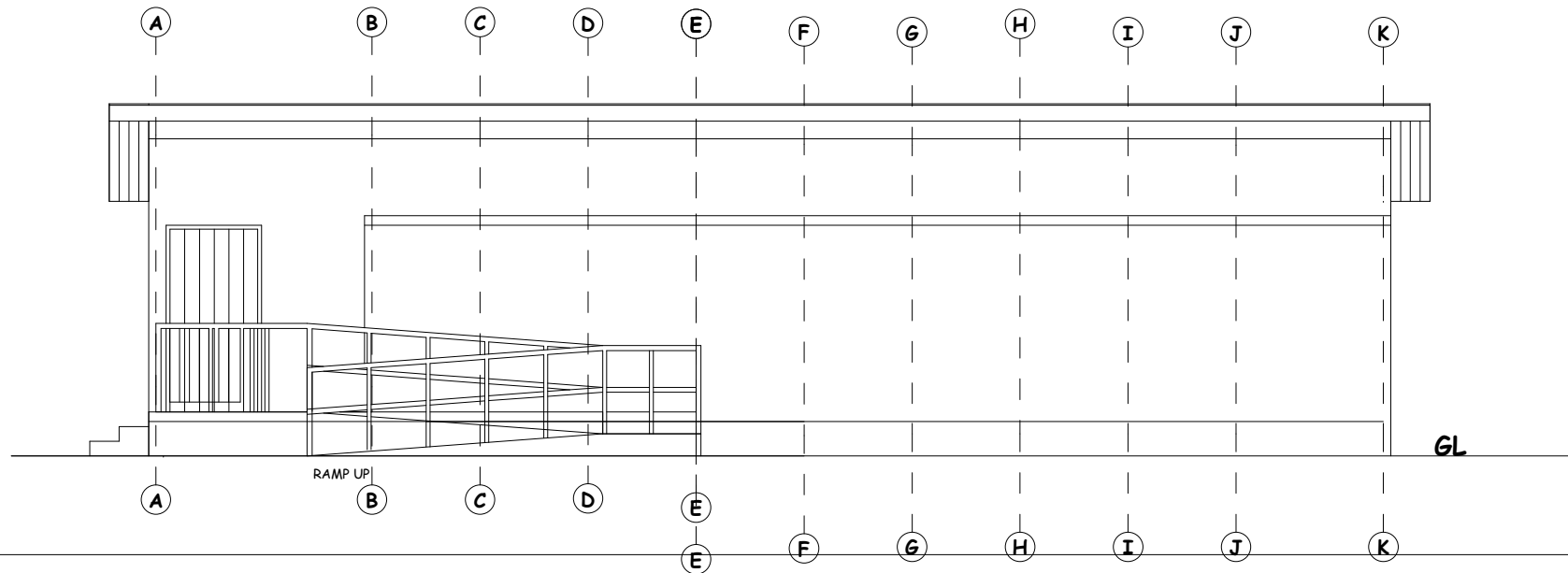
ROOF LAYOUT PLAN

REVISED 1

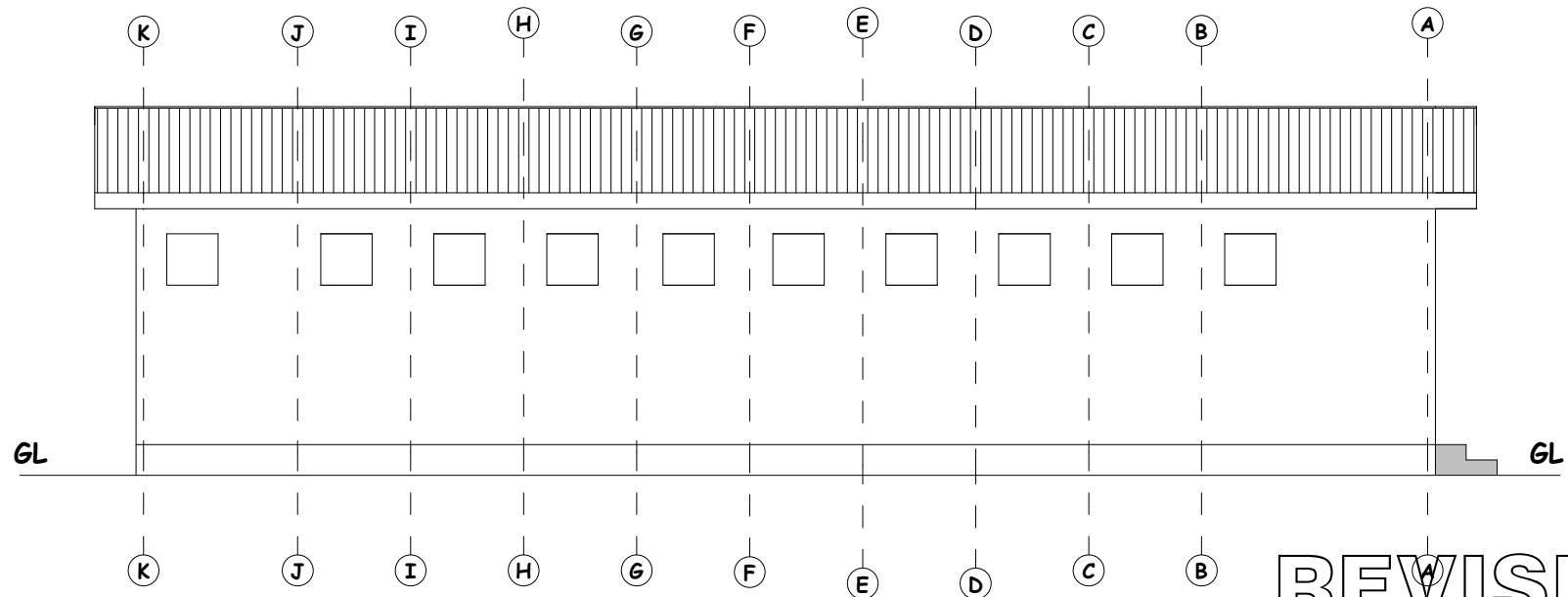




REVISED 1



FRONT ELEVATION



REAR ELEVATION

REVISED 1

# LIST OF DRAWINGS

DRAWING NO.

DESCRIPTION,

BP/PL/TLT/01

LEGEND AND NOTES

BP/PL/TLT/02

WATER SUPPLY SYSTEM

BP/PL/TLT/03

RAIN WATER HARVESTING SYSTEM

BP/PL/TLT/04

PART PLAN AND SECTION DETAILS

LEGEND

- Cold Water supply pipes
- Sanitary drainage pipes
- Hot water supply pipes
- Vent pipe
- Gate valve
- Check valve
- Water meter
- Hand operated angle valve
- Flexible pipe
- Hose bib
- Straight tee
- 90° elbow
- elbow going downwards
- elbow going upwards
- tee going upwards
- tee going downwards
- Direction of water flow
- Shower mixer
- Wall mounted electric water heater

NOTE  
All ppr-pipes exposed to sunlight should be insulated

NOTE  
ALL DIMENSIONS ARE IN MILLIMETRES  
ALL PIPE DIAMETERS ARE EXTERNAL DIAMETERS

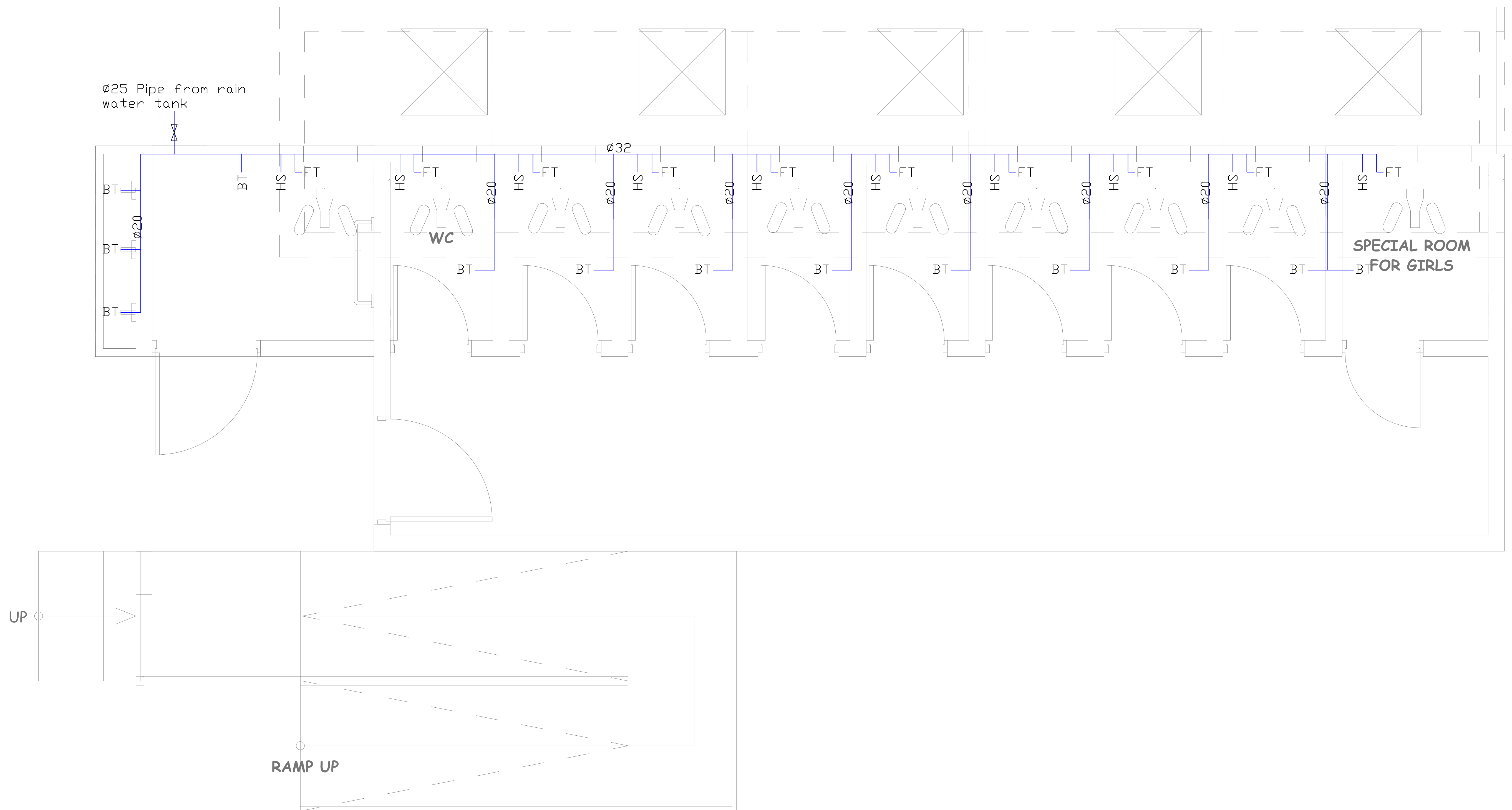
- HWB- hand wash basin
- HB- Hose Bib
- WC- Water closet
- UR- Urinals
- HS- Handspray
- SHW- Shower tray
- WH- Electric water heater
- GT- Gully trap
- IC- Inspection chamber
- IL- Invert level
- FD- Floor drain
- VP- Vent pipe
- CWP- Cold water provision
- WWP- Waste water provision

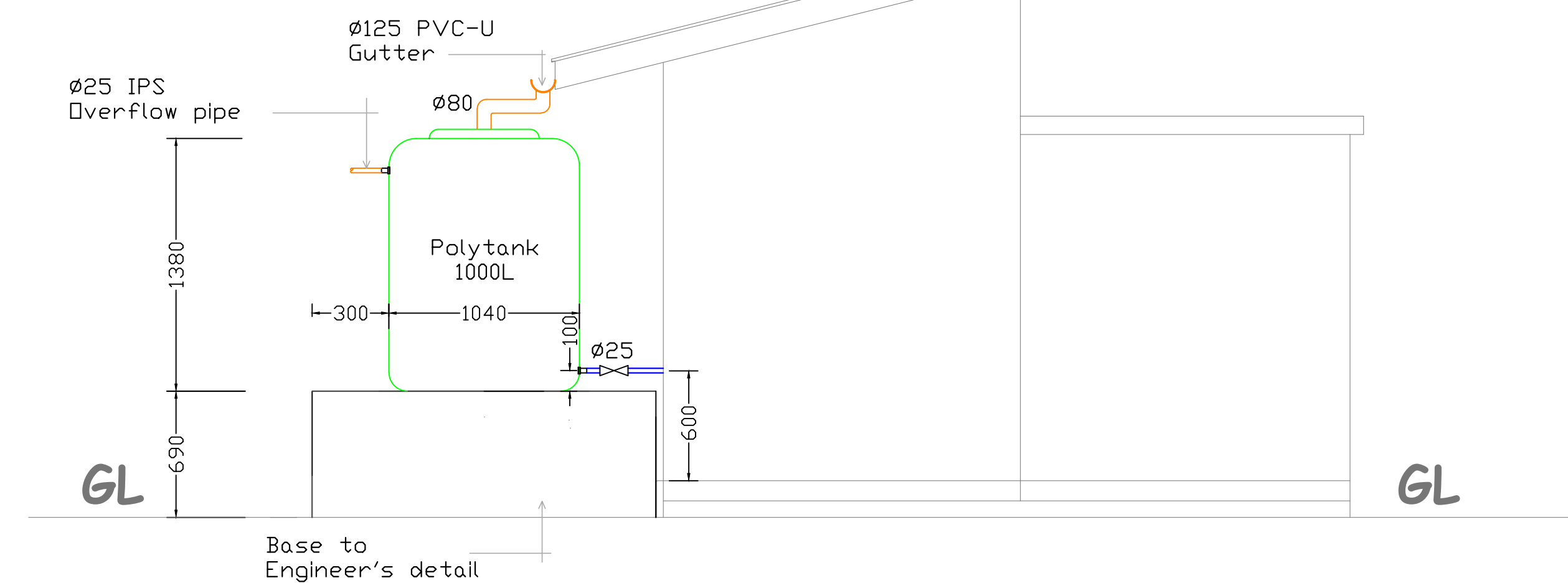
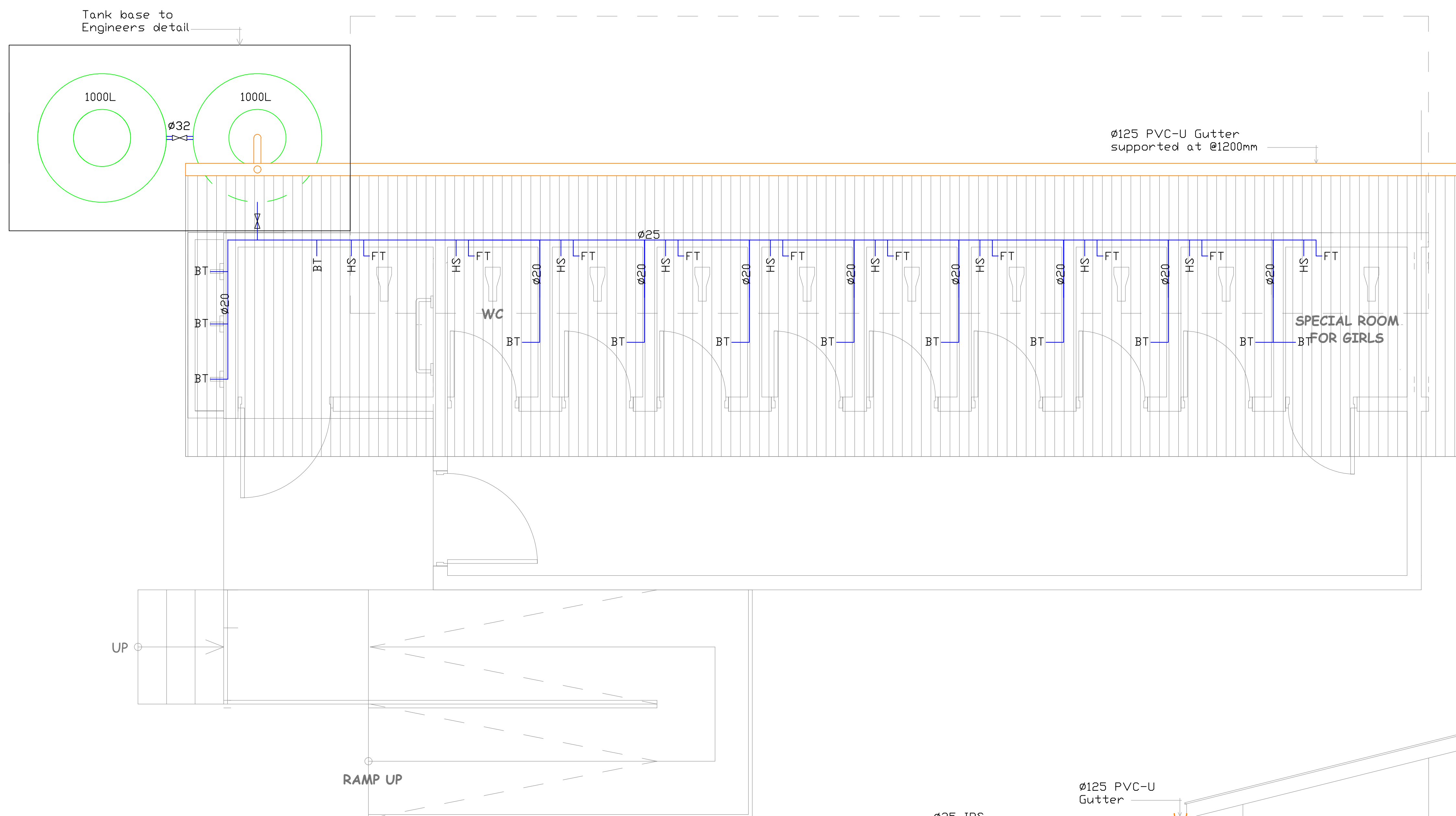
NOTE:  
ALL SANITARY APPLIANCES SHOULD BE CONNECTED TO THE WATER SUPPLY PIPE THROUGH AN ANGLE VALVE

NOTE:  
ALL PIPES DIAMETER SPECIFIED ARE EXTERNAL DIAMETRES AND HAVE BEEN SPECIFIED ACCORDING TO ISO 4427, THESE PIPES ARE PPR-PIPES WITH PN1.6

Notes

1. Pipe dimensions are in mm internal diameter (DN).
2. All internal water supply pipes and riser shall be embedded in walls/floor as shown on the drawings
3. All internal water supply pipes shall be in PPR (Fusion) and external pipe should be HDPE
4. All wastewater pipes shall be of uPVC class “B” embedded to wall/concrete floor where applicable except for vent pipes
5. All drains pipes passing under building or drive way should be incased in 150mm concrete surrounding
6. Manhole cover and Gully trap covers in walking areas to be air tight and their top finishing to match with their surroundings otherwise mahole to be cast iron medium duty
7. Slope of horizontal wastewater pipes from appliances should not exceed 1:40
8. Slopes of horizontal wastewater pipes from GT to MH or MH to MH should not exceed1:100
9. Slopes of storm water drainage should not exceed 1%
10. All work to be carried out in accordance with all rellevant acts, regulators, statutory authority requirements ans best practices
11. All relevant details, level dimensions must be checked onsite. Any discepancies must be reported for approval prior to implementation
- 12.The design including details must be coordinated with other designs(Structural, PLhitectural and other services) prior to implementation
13. ALL LABORATORY WASTE PIPES ARE VULCATHENE PIPES
14. These drawings must be used in conjunction with PLhitectural drawings for dimension reference
15. Site information must be analysed before use of these drawings





**STRUCTURAL DRAWINGS**

**FOR**

**TOILET BLOCK - DRY AREA  
200 GIRLS (8 STANCES) WITH FACILITY FOR DISABLED AND SPECIAL  
ROOM GIRLS**

NOTE:

1. All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
2. All structural engineering drawings should be read in conjunction with relevant architectural drawings. All Reinforced concrete shall be Grade 20 - Nominal volumetric proportion 1: 2: 4 cube strength not less than 20N/mm<sup>2</sup> at 28 days.
4. Steel for reinforced concrete shall comply with BS4449 whereby fy = 460N/mm<sup>2</sup>.
5. Bars lap length should be at least 50 times the diameter of the bars lapped. Structural Engineer shall be furnished with copies of the manufacturers certificates of tests for the steel reinforcement to be used.
7. Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"
8. Clear cover for reinforcement shall be as follows:

• Slabs .....25mm

• Beams .....25mm

• Columns .....25mm

• Footings .....50mm
7. All concrete work to be done in one operation.
8. All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.
9. Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.
10. Minimum Compressive Strength for Blocks shall be 3.5N/mm<sup>2</sup>.

PROJECT:  
PROVISION OF PHYSICAL  
FACILITIES IN PRIMARY SCHOOLS

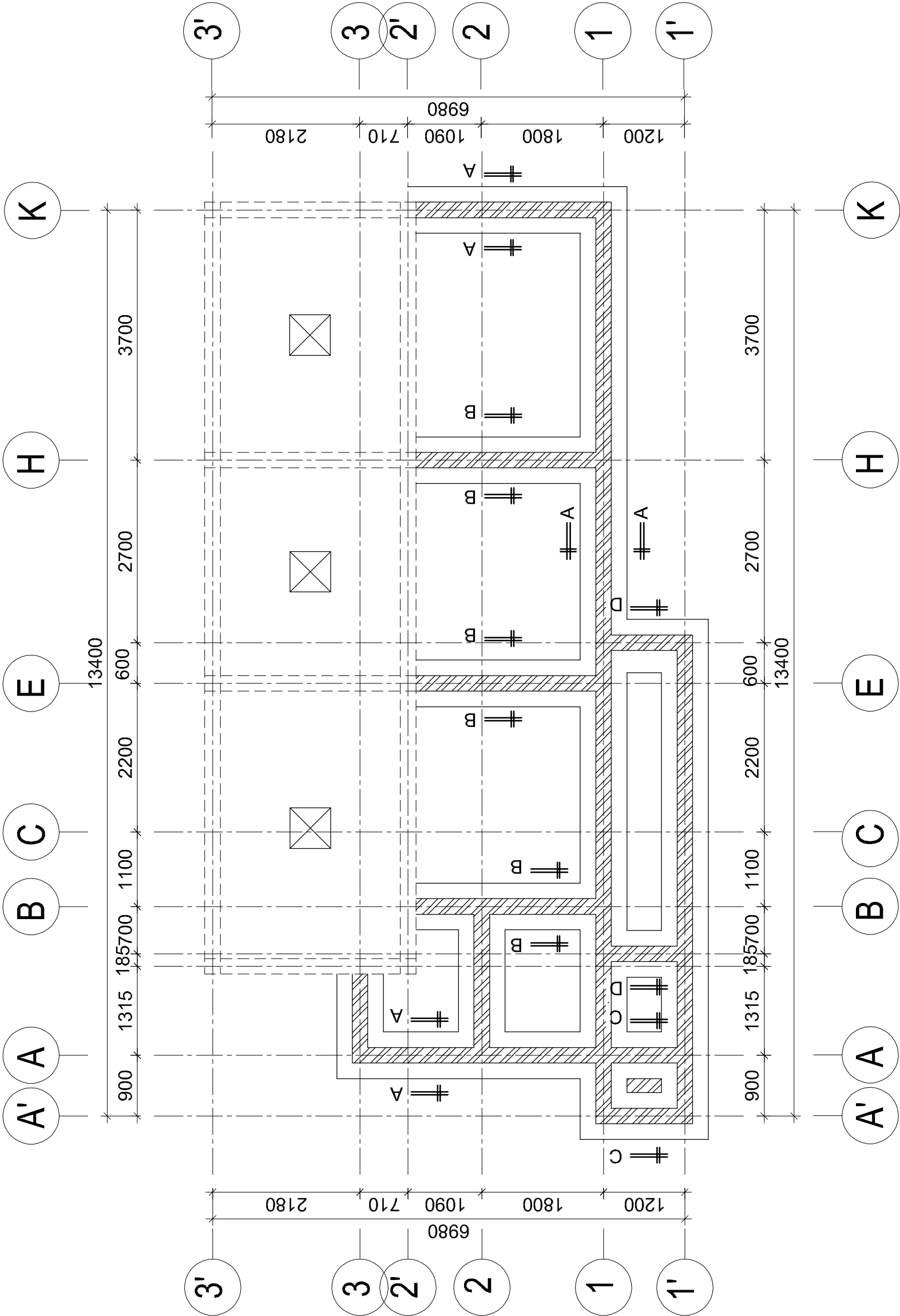
MINISTRY OF EDUCATION,  
SCIENCE AND TECHNOLOGY  
  
*IN COLLABORATION WITH*  
  
PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND  
LOCAL GOVERNMENT.

Designed by: Eng. J.M.S  
Checked by: Eng. N.T.B  
Approved by:

DRAWING TITLE:  
TOILET FOR 200 GIRLS WITH  
FACILITY FOR DISABLED AND  
SPECIAL ROOM - DRY AREA  
  
FOUNDATION LAYOUT PLAN  
(REVISED -1)

DRAWING USE:  
For Building permit:  
  
For Construction:

Drawn by: J.M.S  
Date: 2022  
Drawing No:STR.CR  
Scale:  
Sheet: 01/09



FOUNDATION LAYOUT PLAN  
Scale 1:100



NOTE:-

1.

All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
2.

All structural engineering drawings should be read in conjunction with relevant architectural drawings.
3.

All Reinforced concrete shall be Grade 20 - Nominal volumetric proportion 1: 2: 4 cube strength not less than 20N/mm<sup>2</sup> at 28 days.
4.

Steel for reinforced concrete shall comply with BS4449 whereby fy = 460N/mm<sup>2</sup>.
5.

Bars lap length should be at least 50 times the diameter of the bars lapped. Structural Engineer shall be furnished with copies of the manufacturers certificates of tests for the steel reinforcement to be used.
7.

Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"
8.

Clear cover for reinforcement shall be as follows:
  - Slabs .....25mm
  - Beams .....25mm
  - Columns .....25mm
  - Footings.....50mm
7.

All concrete work to be done in one operation.
8.

All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.
9.

Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.
10.

Minimum Compressive Strength for Blocks shall be 3.5N/mm<sup>2</sup>.

PROJECT:

PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

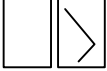
TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA

FOUNDATION DETAILS  
(REVISED -1)

DRAWING USE:

For Building permit:

For Construction:



Drawn by:

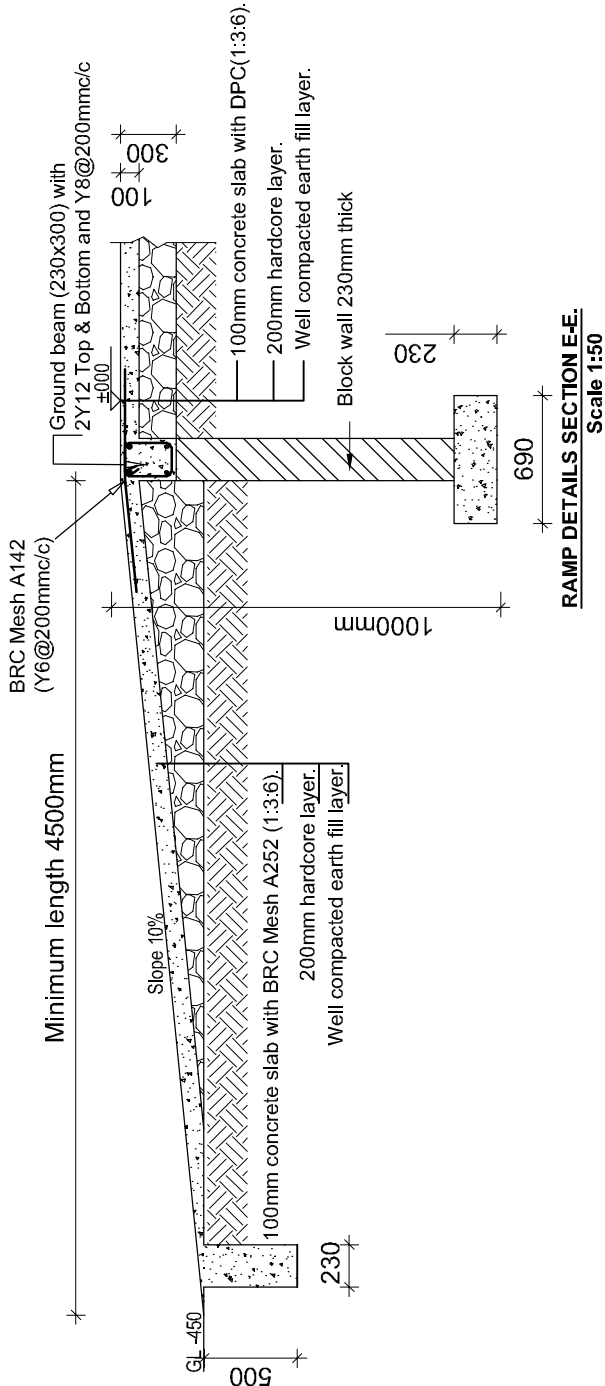
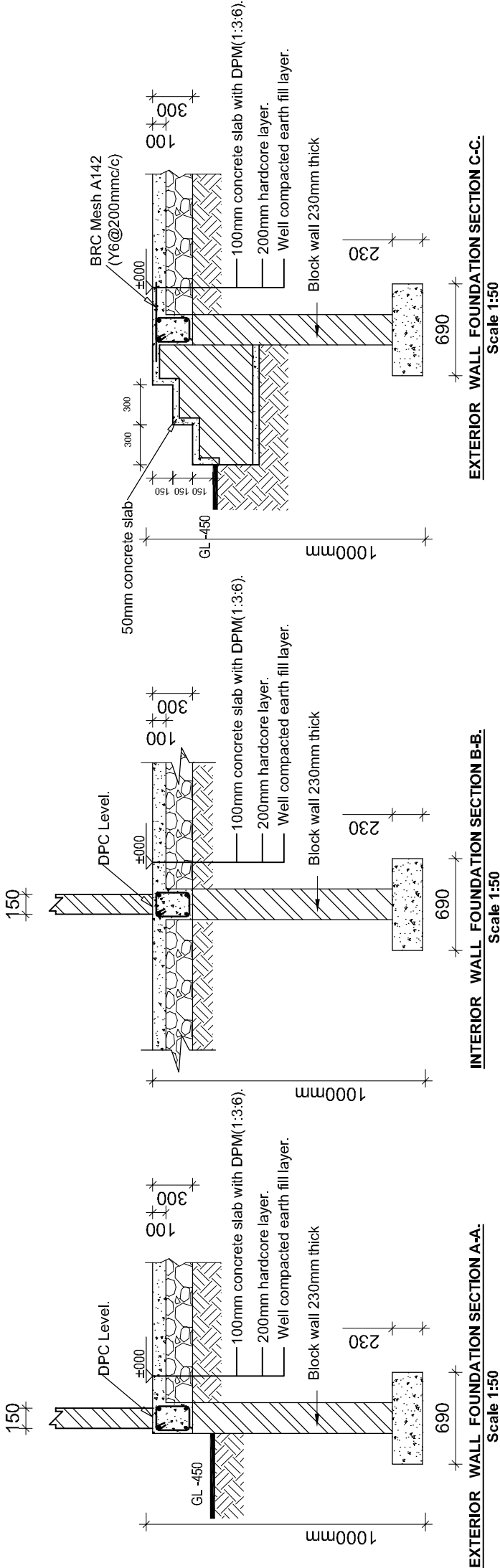
J.M.S

Date: 2022

Scale:

Drawing No:STR.CR

Sheet: 02/09



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[illegible]

Technical drawing of a rectangular plate. The plate is labeled **PB05(230x300)** and **B08(230x300)**. It features a central dashed line and two circular end views, each labeled **1'**. The drawing includes dimension lines and tick marks indicating the plate's size and features.

Category	Item	Score
Cognitive	C1	1
	C2	1
	C3	1
	C4	1
Emotional	E1	1
	E2	1
	E3	1
	E4	1
Behavioral	B1	1
	B2	1
	B3	1
	B4	1
Social	S1	1
	S2	1
	S3	1
	S4	1

001C 001Z 002Z 0011 0013 01C1

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NOTE:-

1. All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
2. All structural engineering drawings should be read in conjunction with relevant architectural drawings.
3. All Reinforced concrete shall be Grade 20 - Nominal volumetric proportion 1:2:4 cube strength not less than 20N/mm<sup>2</sup> at 28 days.
4. Steel for reinforced concrete shall comply with BS4449 whereby fy = 460N/mm<sup>2</sup>.
5. Bars lap length should be at least 50 times the diameter of the bars lapped. Structural Engineer shall be furnished with copies of the manufacturers certificates of tests for the steel reinforcement to be used.
7. Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"
8. Clear cover for reinforcement shall be as follows:

• Slabs .....25mm

• Beams .....25mm

• Columns .....25mm

• Footings.....50mm

All concrete work to be done in one operation.
8. All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.
9. Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.
10. Minimum Compressive Strength for Blocks shall be 3.5N/mm<sup>2</sup>.

PROJECT:  
PROVISION OF PHYSICAL  
FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION,  
SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND  
LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

TOILET FOR 200 GIRLS WITH  
FACILITY FOR DISABLED AND  
SPECIAL ROOM - DRY AREA

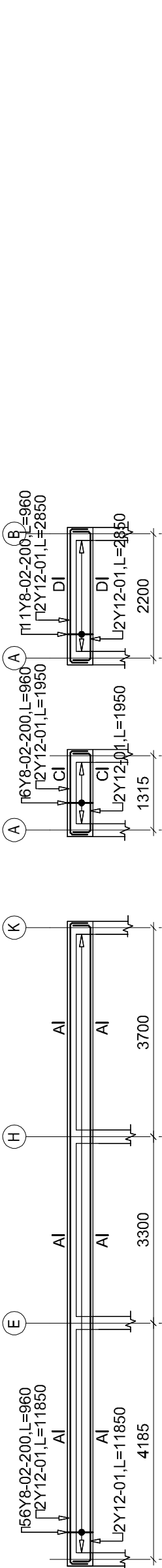
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(REVISED -1)

DRAWING USE:  
For Building permit:  
For Construction:

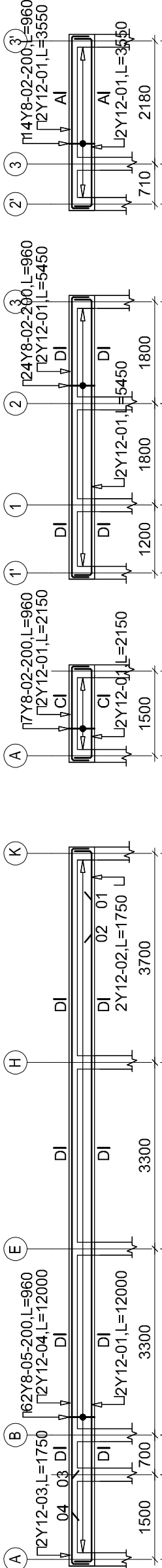
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Date: 2022 Scale:

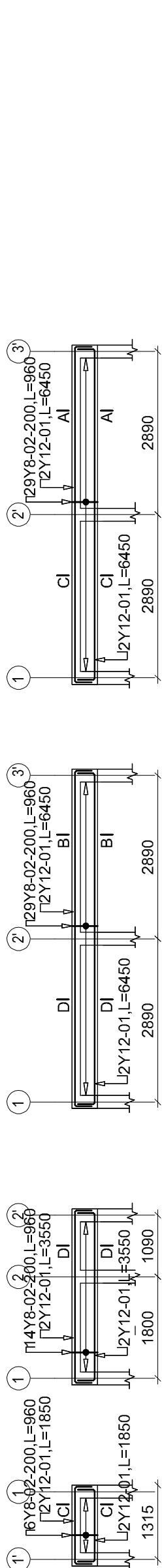
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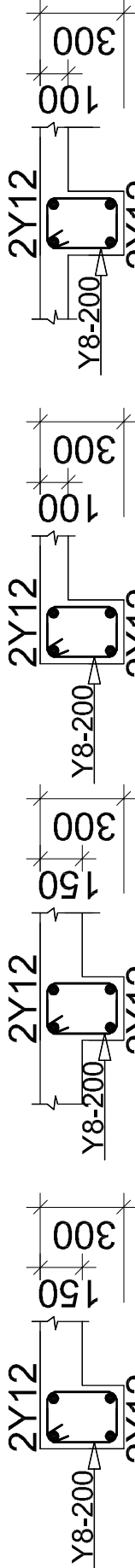
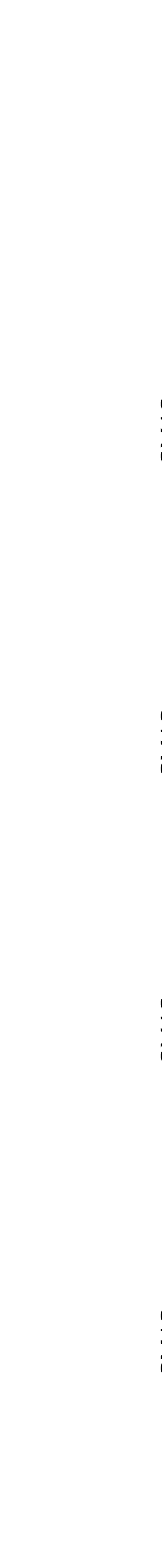
PLINTH BEAM PB02 (230x300) 1Nos Scale 1:100



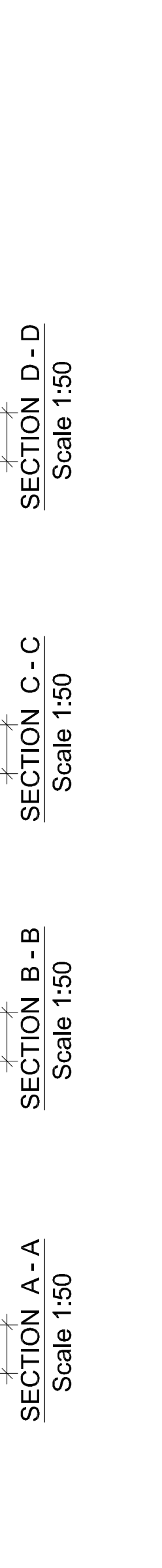
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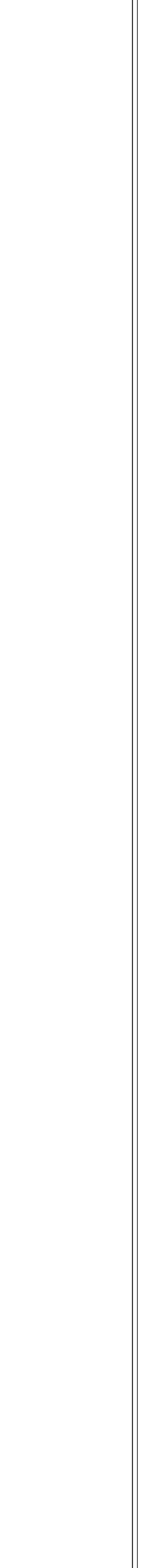
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PLINTH BEAM PB09 (230x300) 1Nos Scale 1:100



PLINTH BEAM PB11 (230x300) 1Nos Scale 1:100



SECTION A - A Scale 1:50

SECTION B - B Scale 1:50

SECTION C - C Scale 1:50

SECTION D - D Scale 1:50

NOTE:

1.

All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
2.

All structural engineering drawings should be read in conjunction with relevant architectural drawings.
3.

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4.

Steel for reinforced concrete shall comply with BS4449 whereby fy = 460N/mm<sup>2</sup>.
5.

Bars lap length should be at least 50 times the diameter of the bars lapped. Structural Engineer shall be furnished with copies of the manufacturers certificates of tests for the steel reinforcement to be used.
7.

Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"
8.

Clear cover for reinforcement shall be as follows:
  - Slabs .....25mm
  - Beams .....25mm
  - Columns .....25mm
  - Footings.....50mm
7.

All concrete work to be done in one operation.
8.

All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.
9.

Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.
10.

Minimum Compressive Strength for Blocks shall be 3.5N/mm<sup>2</sup>.

PROJECT:  
PROVISION OF PHYSICAL  
FACILITIES IN PRIMARY SCHOOLS

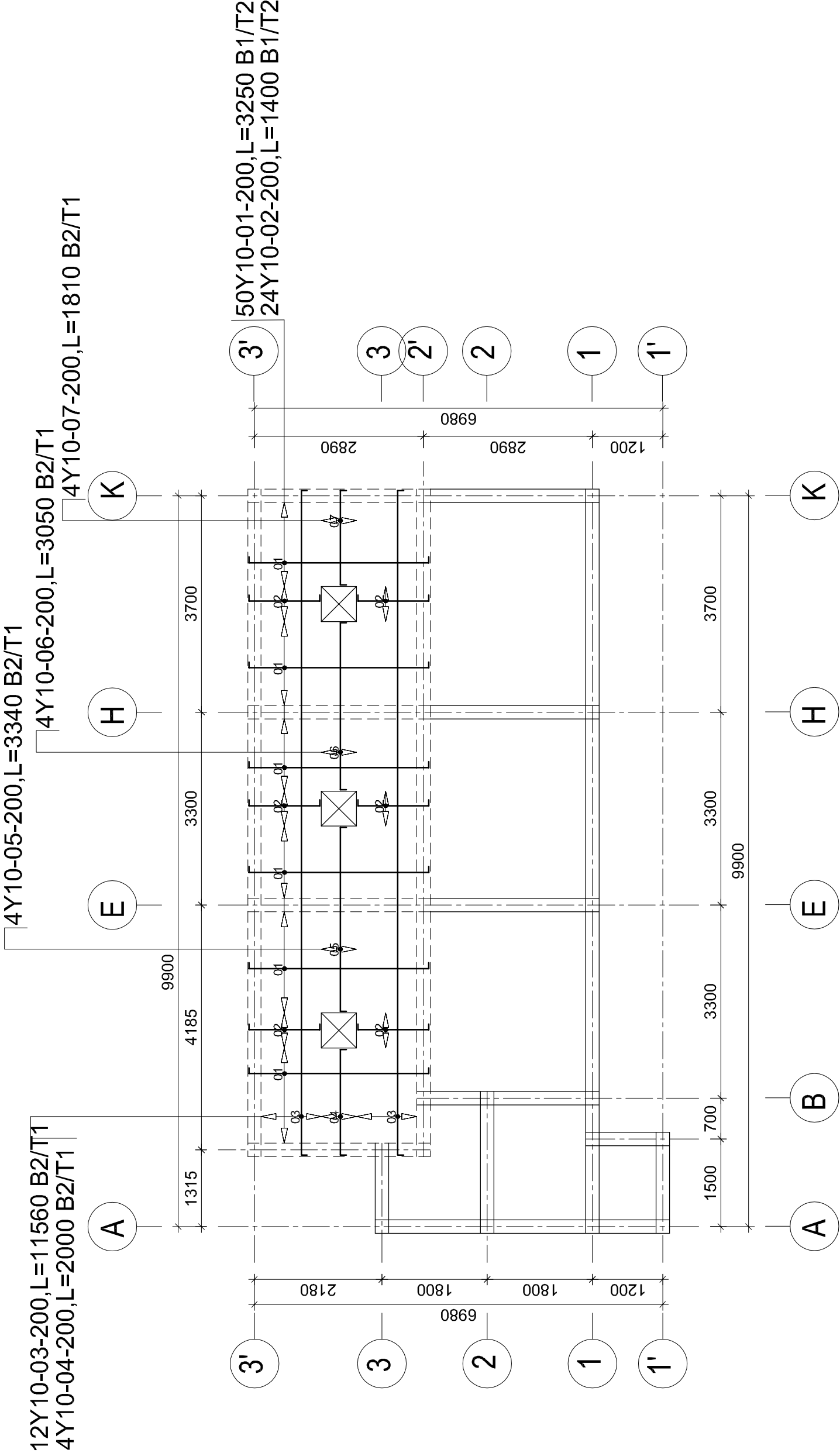
MINISTRY OF EDUCATION,  
SCIENCE AND TECHNOLOGY  
  
*IN COLLABORATION WITH*  
  
PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND  
LOCAL GOVERNMENT.

Designed by: Eng. J.M.S  
Checked by: Eng. N.T.B  
Approved by:

DRAWING TITLE:  
TOILET FOR 200 GIRLS WITH  
FACILITY FOR DISABLED AND  
SPECIAL ROOM - DRY AREA  
  
SLAB REINFORCEMENT DETAILS  
(REVISED -1)

DRAWING USE:  
For Building permit:  
For Construction:

Drawn by:	J.M.S
Date: 2022	Scale:
Drawing No:STR.CR	Sheet: 05/09



SLABS REINFORCEMENTS DETAILS  
Scale 1:100

NOTE:-

1. All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
2. All structural engineering drawings should be read in conjunction with relevant architectural drawings.
3. All Reinforced concrete shall be Grade 20 - Nominal volumetric proportion 1: 2: 4 cube strength not less than 20N/mm<sup>2</sup> at 28 days.
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7. Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"
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• Beams .....25mm

• Columns .....25mm

• Footings .....50mm
7. All concrete work to be done in one operation.
8. All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.
9. Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.
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PROJECT:

PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA

ROOF RING BEAMS LAYOUT PLAN AND SECTION DETAILS  
(REVISED -1)

DRAWING USE:

For Building permit:

For Construction:

Drawn by:

J.M.S

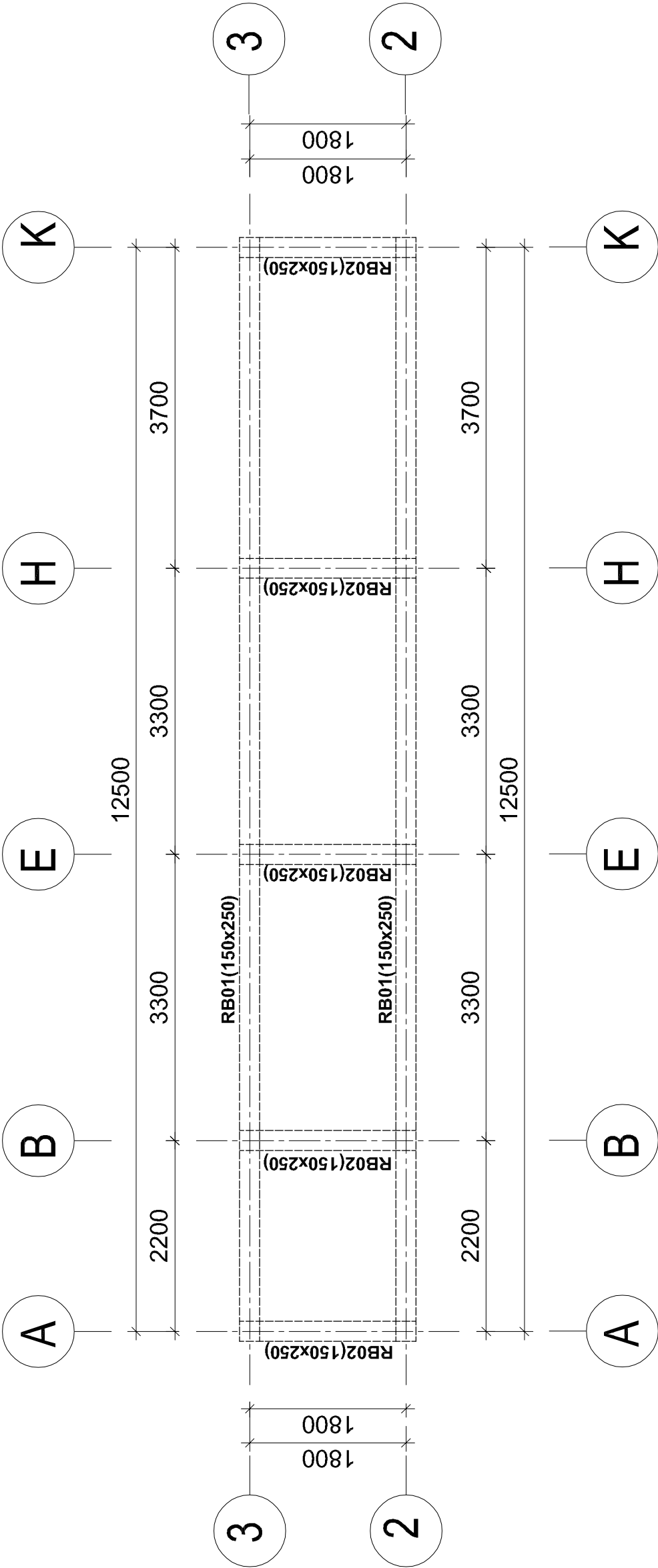
Date:

2022

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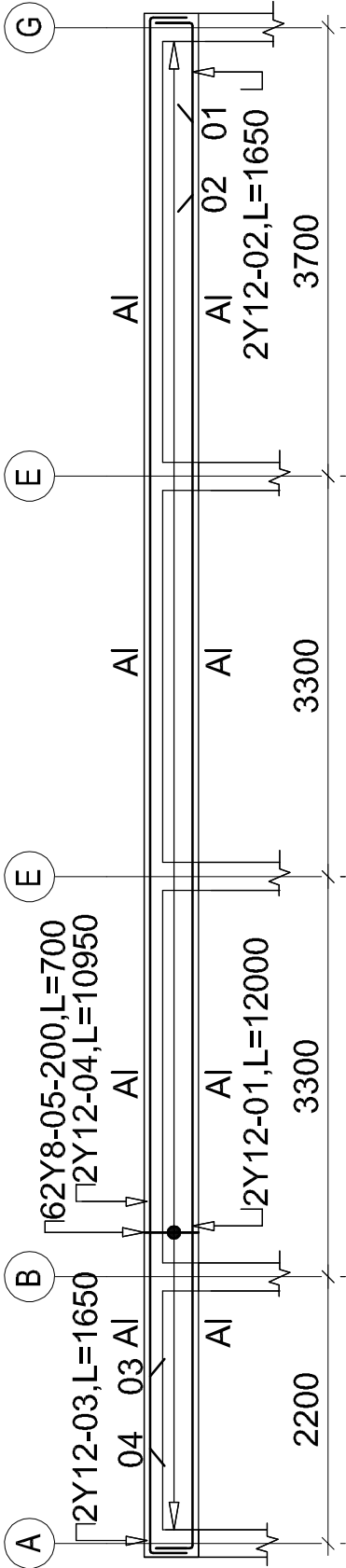
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Sheet: 06/09



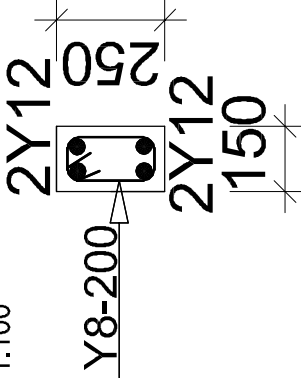
ROOF RING BEAMS LAYOUT PLAN

Scale 1:100



ROOF RING BEAM RB02 (150x250) 2Nos

Scale 1:100



SECTION A - A

Scale 1:50

NOTE:-

1. All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.
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PROJECT:

PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA

ROOF TRUSS LAYOUT PLAN AND DETAILS

(REVISED -1)

DRAWING USE:

For Building permit:



For Construction:



Drawn by:

J.M.S

Date: 2022

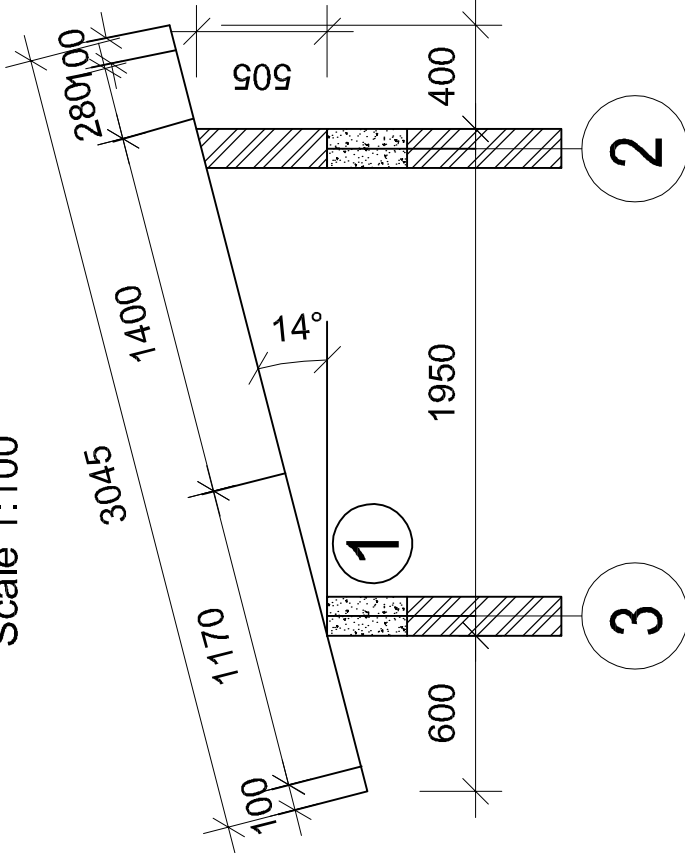
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Drawing No:STR.CR

Sheet: 07/09

ROOF TRUSS LAYOUT PLAN

Scale 1:100



ROOF TRUSS T01; 11Nos.

Scale 1:100



Page 1/2	Bar Bending Schedule							
	PROVISION OF PHYSICAL FACILITIES FOR PRIMARY SCHOOLS - TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA (PLINTH BEAMS)							
	MEMBER TYPE	NUMBER OF MEMBER	MARK No.	BAR TYPE AND SIZE (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS	TOTAL LENGTH (m)	
PLINTH BEAM PB01	2	01	Y12	11850	8	94.8		
PLINTH BEAM PB01	2	02	Y8	960	112	107.52		
PLINTH BEAM PB02	1	01	Y12	1950	4	7.8		
PLINTH BEAM PB02	1	02	Y8	960	6	5.76		
PLINTH BEAM PB03	1	01	Y12	2850	4	11.4		
PLINTH BEAM PB03	1	02	Y8	960	11	10.56		
PLINTH BEAM PB04	1	01	Y12	12000	2	24		
PLINTH BEAM PB04	1	02	Y12	1750	2	3.5		
PLINTH BEAM PB04	1	03	Y12	1750	2	3.5		
PLINTH BEAM PB04	1	04	Y12	12000	2	24		
PLINTH BEAM PB04	1	05	Y8	960	62	59.52		
PLINTH BEAM PB05	1	01	Y12	2150	4	8.6		
PLINTH BEAM PB05	1	02	Y8	960	42	40.32		
PLINTH BEAM PB06	1	01	Y12	5450	4	21.8		
PLINTH BEAM PB06	1	02	Y8	960	24	23.04		
PLINTH BEAM PB07	1	01	Y12	3550	4	14.2		
PLINTH BEAM PB07	1	02	Y8	960	14	13.44		
PLINTH BEAM PB08	1	01	Y12	1850	4	7.4		
PLINTH BEAM PB08	1	02	Y8	960	6	5.76		
PLINTH BEAM PB09	1	01	Y12	3550	4	14.2		
PLINTH BEAM PB09	1	02	Y8	960	14	13.44		
PLINTH BEAM PB10	2	01	Y12	6450	8	51.6		
PLINTH BEAM PB10	2	02	Y8	960	58	55.68		

Bar Bending Schedule								
Page 2/2	PROVISION OF PHYSICAL FACILITIES FOR PRIMARY SCHOOLS - TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA (SLAB AND ROOF BEAMS)							
	MEMBER TYPE	NUMBER OF MEMBER	MARK No.	BAR TYPE AND SIZE (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS	TOTAL LENGTH (m)	SKETCH OF BAR DIMENSIONS IN (mm)
PLINTH BEAM PB11	1	01	Y12	6450	4	25.8		
PLINTH BEAM PB11	1	02	Y8	960	29	27.84		
ROOF RING BEAM RB01	2	01	Y12	12000	4	48		
ROOF RING BEAM RB01	2	02	Y12	1650	4	6.6		
ROOF RING BEAM RB01	2	03	Y12	1650	4	6.6		
ROOF RING BEAM RB01	2	04	Y12	12000	4	48		
ROOF RING BEAM RB01	2	05	Y8	700	124	86.8		
ROOF RING BEAM RB02	4	01	Y12	2350	16	37.6		
ROOF RING BEAM RB02	4	02	Y8	700	36	25.2		
SLAB	1	01	Y10	3250	100	325		
SLAB	1	02	Y10	1400	48	67.2		
SLAB	1	03	Y10	11560	24	277.44		
SLAB	1	04	Y10	2000	8	16		
SLAB	1	05	Y10	3340	8	26.72		
SLAB	1	06	Y10	3050	8	24.4		
SLAB	1	07	Y10	1810	8	14.48		

NOTE:

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2. All structural engineering drawings should be read in conjunction with relevant architectural drawings.

3. All Reinforced concrete shall be Grade 20 - Nominal volumetric proportion 1: 2: 4 cube strength not less than 20N/mm<sup>2</sup> at 28 days.

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5. Bars lap length should be at least 50 times the diameter of the bars lapped.

6. Structural Engineer shall be furnished with copies of the manufacturers certificates of tests for the steel reinforcement to be used.

7. Cement for works shall comply with BS12 and shall be "Ordinary Portland Cement"

8. Clear cover for reinforcement shall be as follows:

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- Columns .....25mm
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7. All concrete work to be done in one operation.

8. All steel fixing, shuttering and concreting works to be done under close supervision of Structural Engineer.

9. Sand borrow pits shall be clean and free from organic materials and shall be approved by Structural Engineers before use.

10. Minimum Compressive Strength for Blocks shall be 3.5N/mm<sup>2</sup>.

PROJECT:

PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION,  
SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE  
REGIONAL ADMINISTRATION AND  
LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

TOILET FOR 200 GIRLS WITH  
FACILITY FOR DISABLED AND  
SPECIAL ROOM - DRY AREA

BAR BENDING SCHEDULES FOR  
PLINTH AND ROOF RING BEAMS  
(REVISED -1)

DRAWING USE:

For Building permit:

For Construction:

Drawn by:

Date: 2022

Drawing No:STR.CR

J.M.S

Scale:

Sheet: 09/09

NOTE:

1.

All dimensions are in millimetres unless otherwise stated. In case of discrepancy, consult the Structural Engineer.

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PROJECT:

PROVISION OF PHYSICAL FACILITIES IN PRIMARY SCHOOLS

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT.

Designed by: Eng. J.M.S

Checked by: Eng. N.T.B

Approved by:

DRAWING TITLE:

TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA

BAR BENDING SCHEDULES FOR PLINTH AND ROOF RING BEAMS (REVISED -1)

DRAWING USE:

For Building permit: ☐

For Construction: ☒

Drawn by: J.M.S

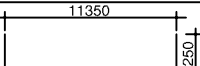

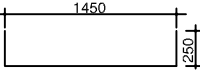

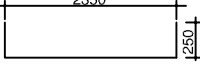

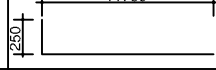
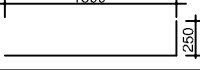
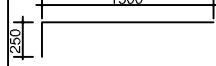
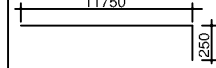

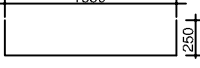

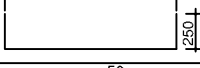

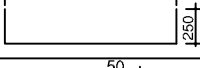

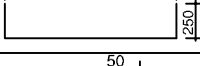

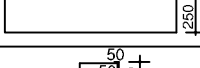

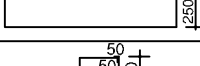


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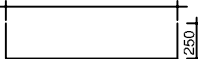

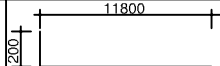
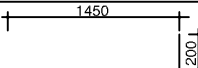
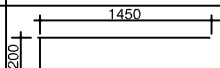
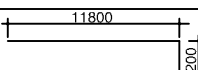

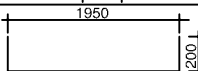

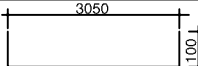
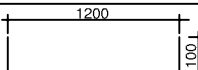
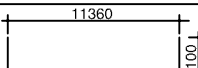
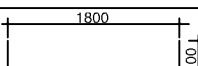
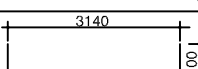
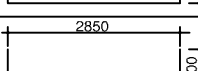
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Page 1/2	Bar Bending Schedule							
	PROVISION OF PHYSICAL FACILITIES FOR PRIMARY SCHOOLS - TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA (PLINTH BEAMS)							
MEMBER TYPE	NUMBER OF MEMBER.	MARK No.	BAR TYPE AND SIZE (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS	TOTAL LENGTH (m)	SKETCH OF BAR DIMENSIONS IN (mm)	NOTE
PLINTH BEAM PB01	2	01	Y12	11850	8	94.8		
PLINTH BEAM PB01	2	02	Y8	960	112	107.52		
PLINTH BEAM PB02	1	01	Y12	1950	4	7.8		
PLINTH BEAM PB02	1	02	Y8	960	6	5.76		
PLINTH BEAM PB03	1	01	Y12	2850	4	11.4		
PLINTH BEAM PB03	1	02	Y8	960	11	10.56		
PLINTH BEAM PB04	1	01	Y12	12000	2	24		
PLINTH BEAM PB04	1	02	Y12	1750	2	3.5		
PLINTH BEAM PB04	1	03	Y12	1750	2	3.5		
PLINTH BEAM PB04	1	04	Y12	12000	2	24		
PLINTH BEAM PB04	1	05	Y8	960	62	59.52		
PLINTH BEAM PB05	1	01	Y12	2150	4	8.6		
PLINTH BEAM PB05	1	02	Y8	960	42	40.32		
PLINTH BEAM PB06	1	01	Y12	5450	4	21.8		
PLINTH BEAM PB06	1	02	Y8	960	24	23.04		
PLINTH BEAM PB07	1	01	Y12	3550	4	14.2		
PLINTH BEAM PB07	1	02	Y8	960	14	13.44		
PLINTH BEAM PB08	1	01	Y12	1850	4	7.4		
PLINTH BEAM PB08	1	02	Y8	960	6	5.76		
PLINTH BEAM PB09	1	01	Y12	3550	4	14.2		
PLINTH BEAM PB09	1	02	Y8	960	14	13.44		
PLINTH BEAM PB10	2	01	Y12	6450	8	51.6		
PLINTH BEAM PB10	2	02	Y8	960	58	55.68		
								

Page 2/2	Bar Bending Schedule							
	PROVISION OF PHYSICAL FACILITIES FOR PRIMARY SCHOOLS - TOILET FOR 200 GIRLS WITH FACILITY FOR DISABLED AND SPECIAL ROOM - DRY AREA (SLAB AND ROOF BEAMS)							
MEMBER TYPE	NUMBER OF MEMBER.	MARK No.	BAR TYPE AND SIZE (mm)	LENGTH OF EACH BAR (mm)	NO. OF BARS	TOTAL LENGTH (m)	SKETCH OF BAR DIMENSIONS IN (mm)	NOTE
PLINTH BEAM PB11	1	01	Y12	6450	4	25.8		
PLINTH BEAM PB11	1	02	Y8	960	29	27.84		
ROOF RING BEAM RB01	2	01	Y12	12000	4	48		
ROOF RING BEAM RB01	2	02	Y12	1650	4	6.6		
ROOF RING BEAM RB01	2	03	Y12	1650	4	6.6		
ROOF RING BEAM RB01	2	04	Y12	12000	4	48		
ROOF RING BEAM RB01	2	05	Y8	700	124	86.8		
ROOF RING BEAM RB02	4	01	Y12	2350	16	37.6		
ROOF RING BEAM RB02	4	02	Y8	700	36	25.2		
SLAB	1	01	Y10	3250	100	325		
SLAB	1	02	Y10	1400	48	67.2		
SLAB	1	03	Y10	11560	24	277.44		
SLAB	1	04	Y10	2000	8	16		
SLAB	1	05	Y10	3340	8	26.72		
SLAB	1	06	Y10	3050	8	24.4		
SLAB	1	07	Y10	1810	8	14.48	