

School Latrine Typology

Funded By:
**Italian Agency for
Development Cooperation**

Partner:
Bureau of Education

Program/Project Name:

**Eco-Friendly Latrines to Improve
Sanitation in Schools of Ethiopia**

Design & Implemented By:

**UNOPS, ETHIOPIA
OPERATIONAL HUB**

School Latrine

DRAWING INDEX

Funded By: Italian Agency for Development Cooperation

Partner: Bureau of Education

Program/Project Name: Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

Design & Implemented By: UNOPS, ETHIOPIA OPERATIONAL HUB

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(ARCHITECTURAL DRAWING PACKAGE)

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		Drawn by			00/34
		UNOPS- ETOH.			
	MARCH 2018	Checked by			
		Approved by			

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Asko Primary School Site Plan
sc. 1:200

466040

466060

466080

466100

466120

GENERAL NOTES:



- 1A Girls Block of Latrine
- 1B Boys Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (2.0m)5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



A1 BENCH MARK

CONTROL POINTS COORDINATES

BM	EASTING	NORTH.	HEIGHT
A1	466063.607	1000364.165	103.093
A2	466078.224	1000396.212	101.792
A3	466082.895	1000405.117	101.027

CONTOUR INTERVAL 0.25m

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Rev.:	Date:	Description:		Approved

KEY PLAN

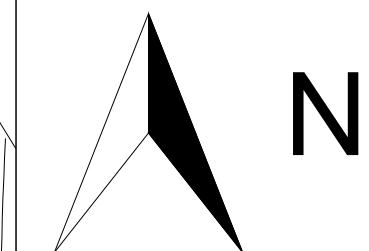
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Drawing Title:	

Asko Primary School Site Plan

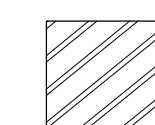
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GENERAL NOTES:



- 1A Girls Block of Latrine
- 1B Boys Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (2.0m)5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



Existing Building

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B1 BENCH MARK

CONTROL POINTS COORDINATES

BM	EASTING	NORTH.	HEIGHT
B1	464616.655	995430.337	101.823
B2	464656.766	995425.220	103.162
B3	464708.183	995468.319	103.156

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Program:

Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

Implemented By:	
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ve	UNOPS , ETHIOPIA OPERATIONAL HUB
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Project Name:

Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

	Design:

	UNOPS, ETHIOPIA OPERATIONAL HUB
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Drawing Title:

Betel Primary School Site Plan

Designed by			Discipline:	Dr. No:	Tot. No:	Rev No:
MM			AR	02	34	R0
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Fana Secondary School Site Layout
sc. 1:250

GENERAL NOTES:

1

Girls Block of Latrine

2

Water Resrvoir 30,000 L

3

Elevated Water Tank (1.5m)5,000 L

4

Septic Tank

5

Ø350cm Soak Away Pit

Existing Building

FA1 BENCH MARK

CONTROL POINTS COORDINATES			
BM	EASTING	NORTH.	HEIGHT
FA1	469531.457	990562.500	101.122
FA2	469530.878	990598.277	101.158
FA3	469495.226	990582.766	100.128

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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB

Drawing Title:

Fana Secondary School Site Layout

Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
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MM	BM	SM	A1	1:250
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987800

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472040

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472100

472120

472140

472160

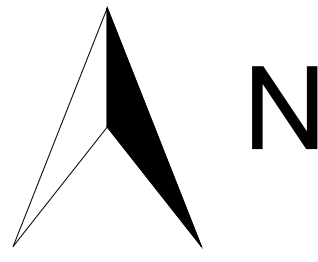
472180

472200

472220

Kotari Primary School Site Plan
sc. 1:300

GENERAL NOTES:



- 1A Girls Block of Latrine
- 1B Boys Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (2.0m)5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



⊕
K1 BENCH MARK

CONTROL POINTS COORDINATES

BM	EASTING	NORTH.	HEIGHT
K1	472151.523	987865.462	99.920
K2	472219.964	987872.746	98.325
K3	472175.818	987925.470	98.398
K4	472142.957	987825.980	100.072

CONTOUR INTERVAL 0.25m

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Drawing Title:	



Kotari Primary School Site Plan				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	06	34	R0
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989500

989480

989460

989440

989420

989400

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Lafto Secondary School Site Layout
sc. 1:250

472060

472080

472100

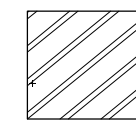
472120

472140

GENERAL NOTES:



- 1A Girls Block of Latrine
- 1B Boys Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (2.0m)5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



Existing Building



L1 BENCH MARK

CONTROL POINTS COORDINATES

BM	EASTING	NORTH.	HEIGHT
L1	472079.455	989405.858	100.678
L2	472098.930	989401.275	100.285
L3	472110.144	989449.151	103.275

CONTOUR INTERVAL 0.25m

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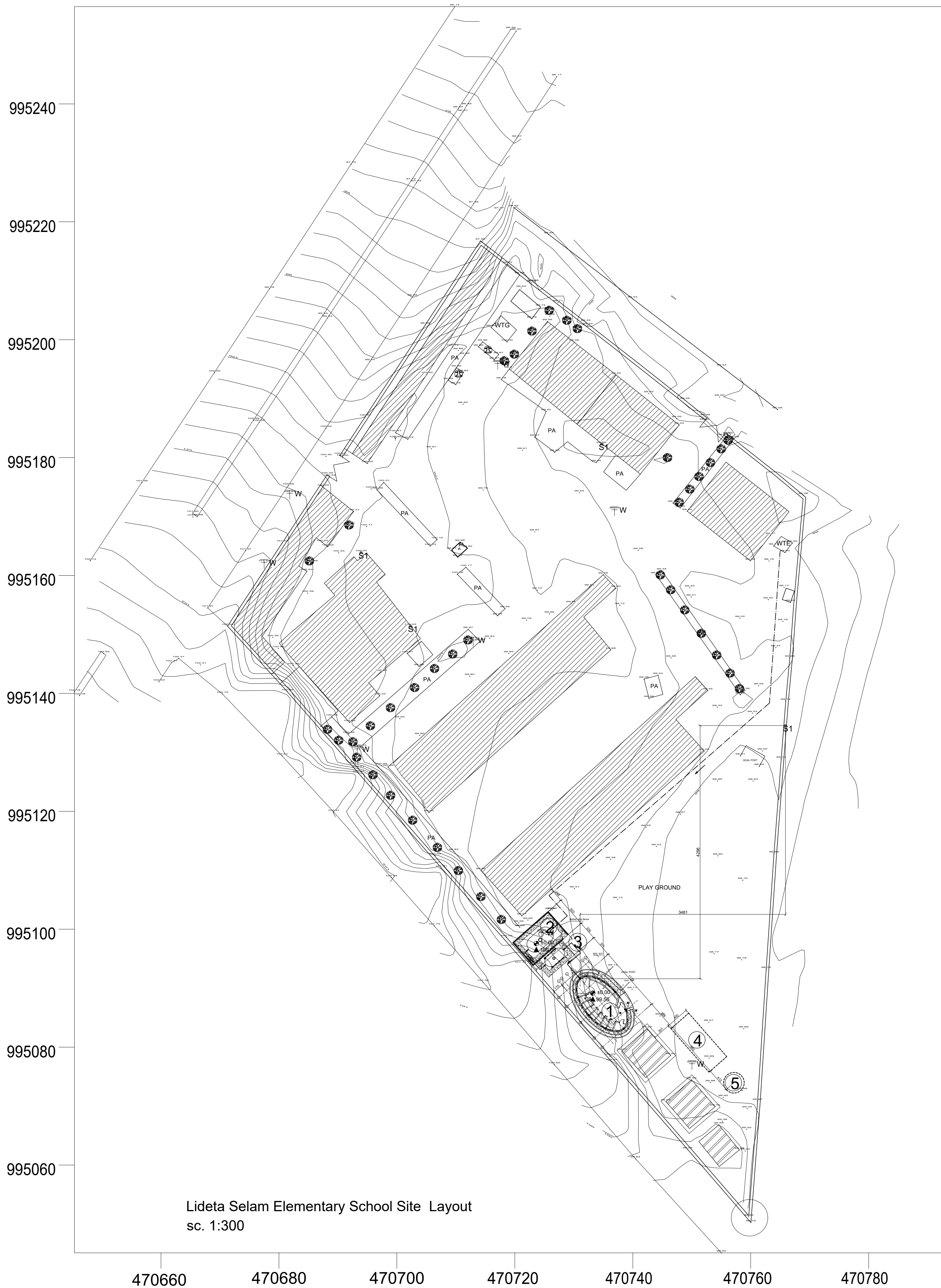
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Drawing Title:	



Lafto Secondary School Site Layout

Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	07	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:
MM	BM	SM	A1	1:250
				15 / 12 / 2019



GENERAL NOTES:



- 1 Girls Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (1.5m) 5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



L1 BENCH MARK

CONTROL POINTS COORDINATES			
BM	EASTING	NORTH.	HEIGHT
L1	470693.925	995163.905	100.198
L2	470702.296	995151.428	100.015
L3	470734.679	995182.292	99.681
L4	470765.892	995134.564	99.553

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Drawing Title:	



Lideta Selam Elementary School Site layout				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
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Drawn:	Checked:	Approved:	Size:	Scale:
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GENERAL NOTES:



- 1A Girls Block of Latrine
- 1B Boys Block of Latrine
- 2 Water Reservoir 30,000 L
- 3 Elevated Water Tank (2.0m)5,000 L
- 4 Septic Tank
- 5 Ø350cm Soak Away Pit



M1 BENCH MARK

CONTROL POINTS COORDINATES			
BM	EASTING	NORTH.	HEIGHT
M1	472937.843	988808.960	101.040
M2	472957.768	988799.208	99.956
M3	472988.854	988776.818	99.372

CONTOUR INTERVAL 0.25m

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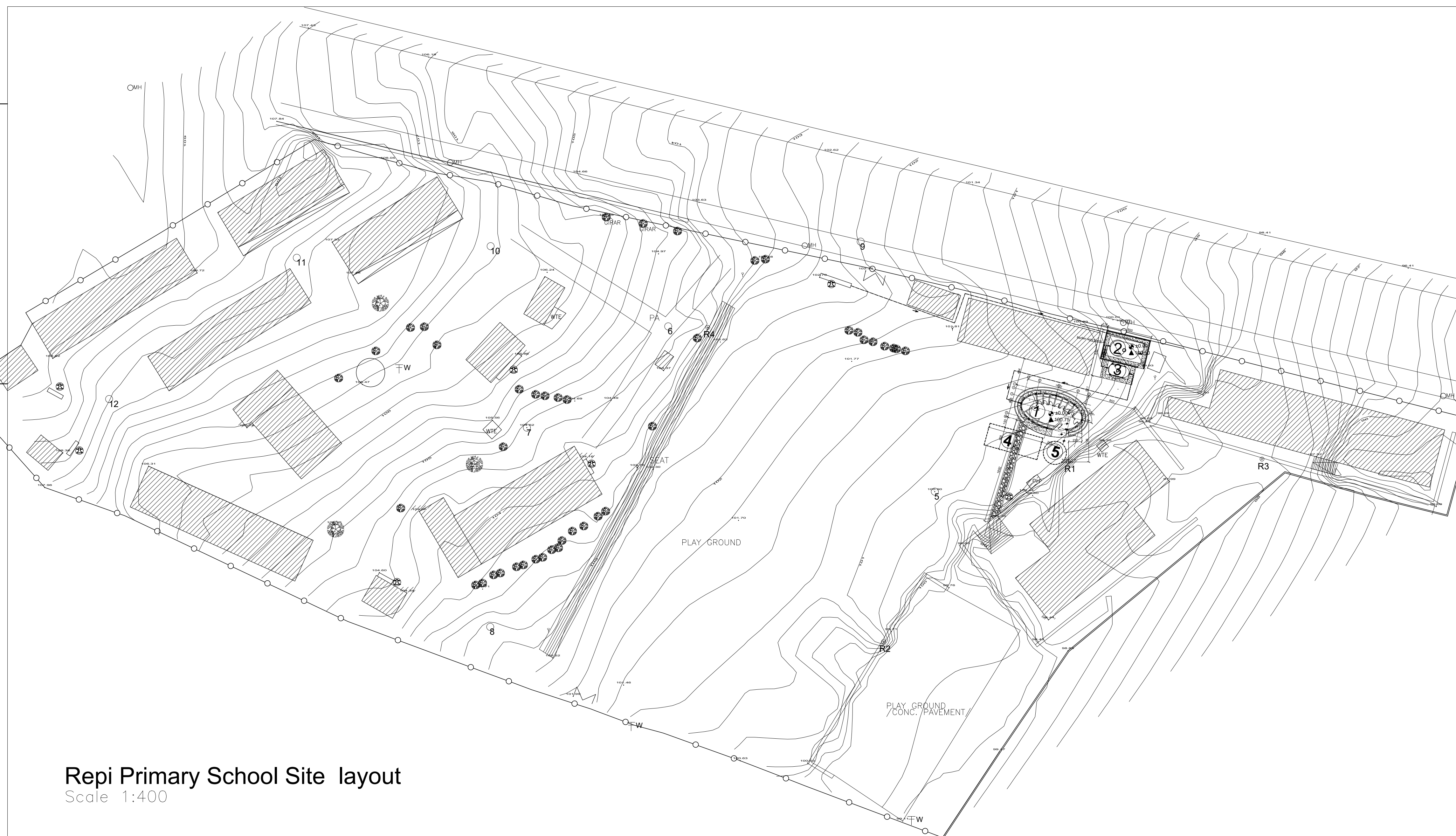
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Drawing Title:	



Megabit 28 Primary School Site Layout

Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
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				15 / 12 / 2019
				Rev.:
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Scale 1:400

464400



- 
- Existing Building

\oplus BENCH MARK
R1

CONTROL POINTS COORDINATES			
BM	EASTING	NORTH.	HEIGHT
R1	464342.799	992386.045	100.18
R2	464309.736	992353.945	101.32
R4	464278.366	992410.077	104.67

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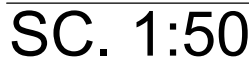
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	Design:
ve	UNOPS ,ETHIOPIA OPERATIONAL HUB

Drawing Title:

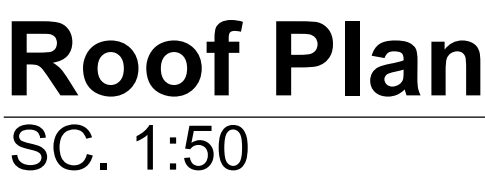
Repi Primary School Site layout

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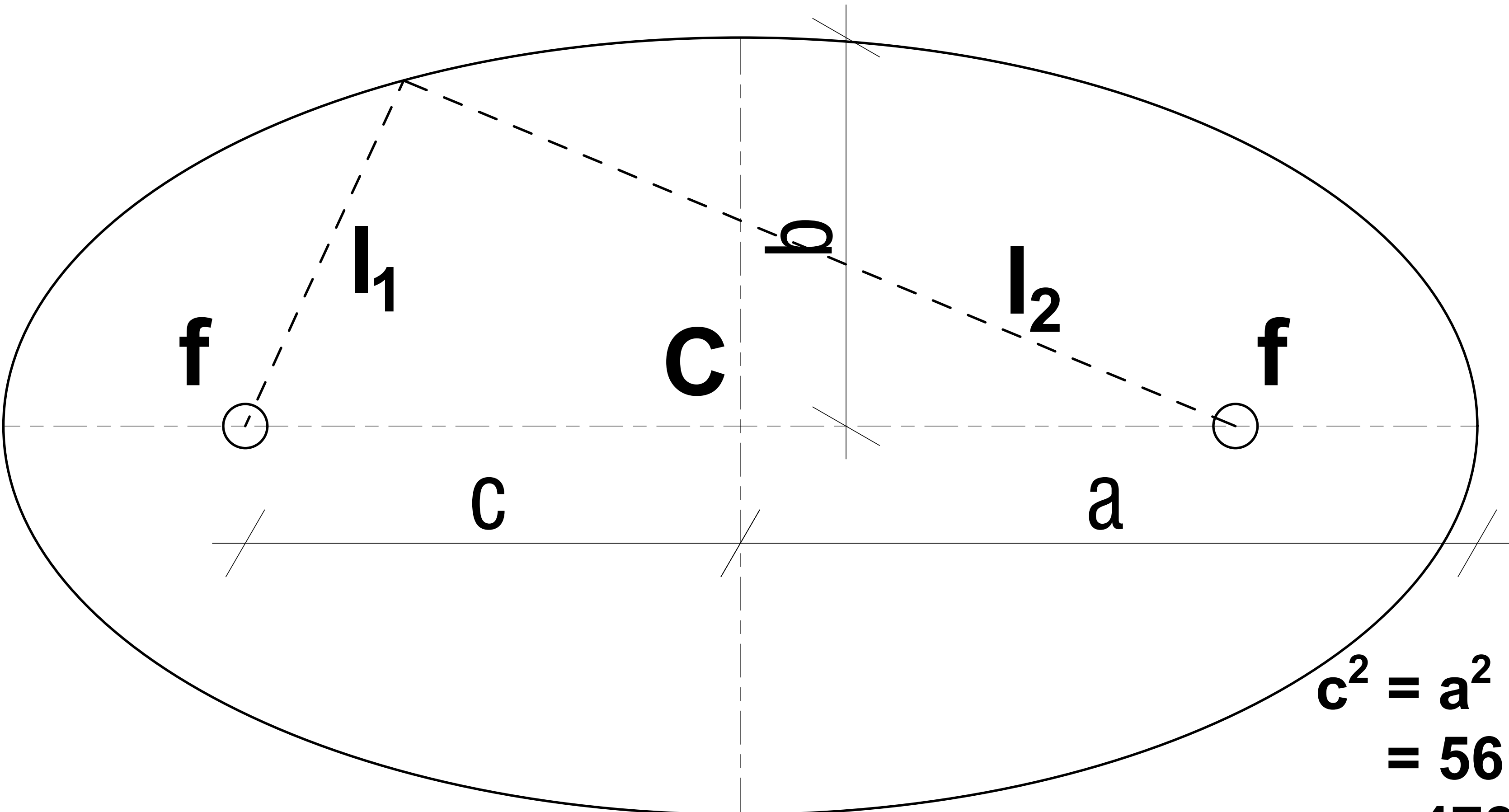


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Girls School Latrine Typology									
Ground Floor Plan - Furnished									
Designed by:			Discipline:	Dr. No:	Tot. No:		Rev No:		
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Program: Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia				Implemented By: UNOPS , ETHIOPIA OPERATIONAL HUB					
Project Name: Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia				Design: UNOPS ,ETHIOPIA OPERATIONAL HUB					
Drawing Title: <div style="text-align: center;"> <h2>School Latrine Typology</h2> <h1>Roof Plan</h1> </div>									
Designed by				Discipline:	Dr. No:	Tot. No:		Rev No:	
MM				AR	15	34		R0	
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$$c^2 = a^2 - b^2$$
$$= 561^2 - 301^2$$
$$c = 473.41 \text{ cm}$$
$$L = l_1 + l_2 = 2a$$
$$L = 1122 \text{ cm}$$

Setting-out Guide

SC. 1:50

GENERAL NOTES:



All dimensions are in centimeters unless otherwise explicitly stated on the dimension.

The drawings may have been scaled to fit the desired paper size.

- f** Focal point
- L** sum of lengthes from focal points to circumference
- l** Length to circumference from focal point
- a** 561 cm - major radius
- b** 301 cm - minor radius
- c** length from center to focal point


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Project Name:		Design:				
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia		UNOPS , ETHIOPIA OPERATIONAL HUB				
Drawing Title:						
School Latrine Typology Setting-out Guide						
Designed by		Discipline:	Dr. No:	Tot. No:	Rev No:	
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SC. 1:50



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Italian Agency for Development Cooperation	Bureau of Education
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UNOPS, ETHIOPIA
OPERATIONAL HUB

Sanitation in Schools of Ethiopia

Eco-Friendly Latrines to Improve UNOPS, ETHIOPIA
OPERATIONAL UNIT

Sanitation in Schools of Ethiopia

Drawing Title:	
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School Latrine Typology


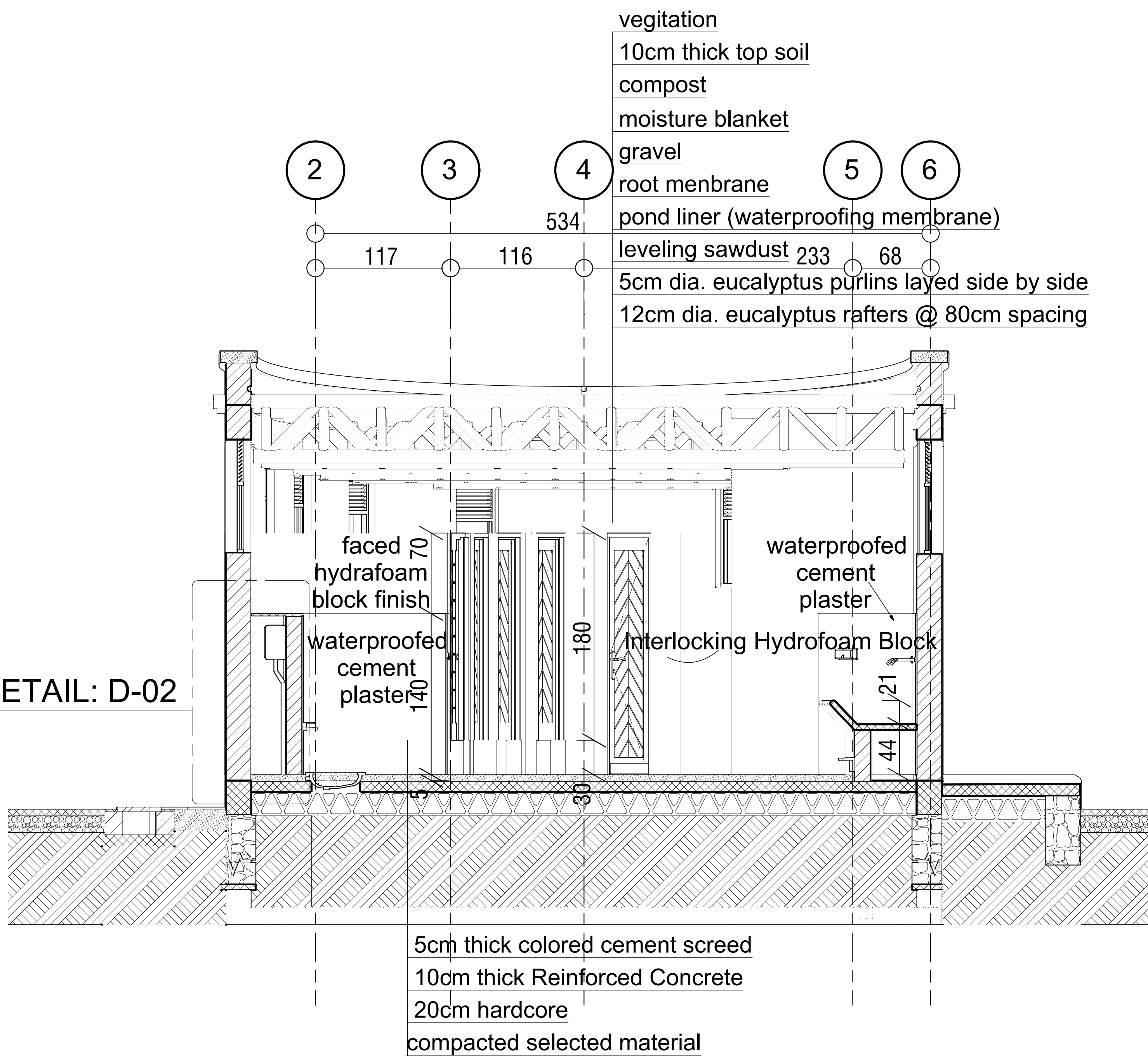
Section 6.6

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Section Y-Y

SC. 1:50



The drawings may have been scaled to fit the desired paper size.

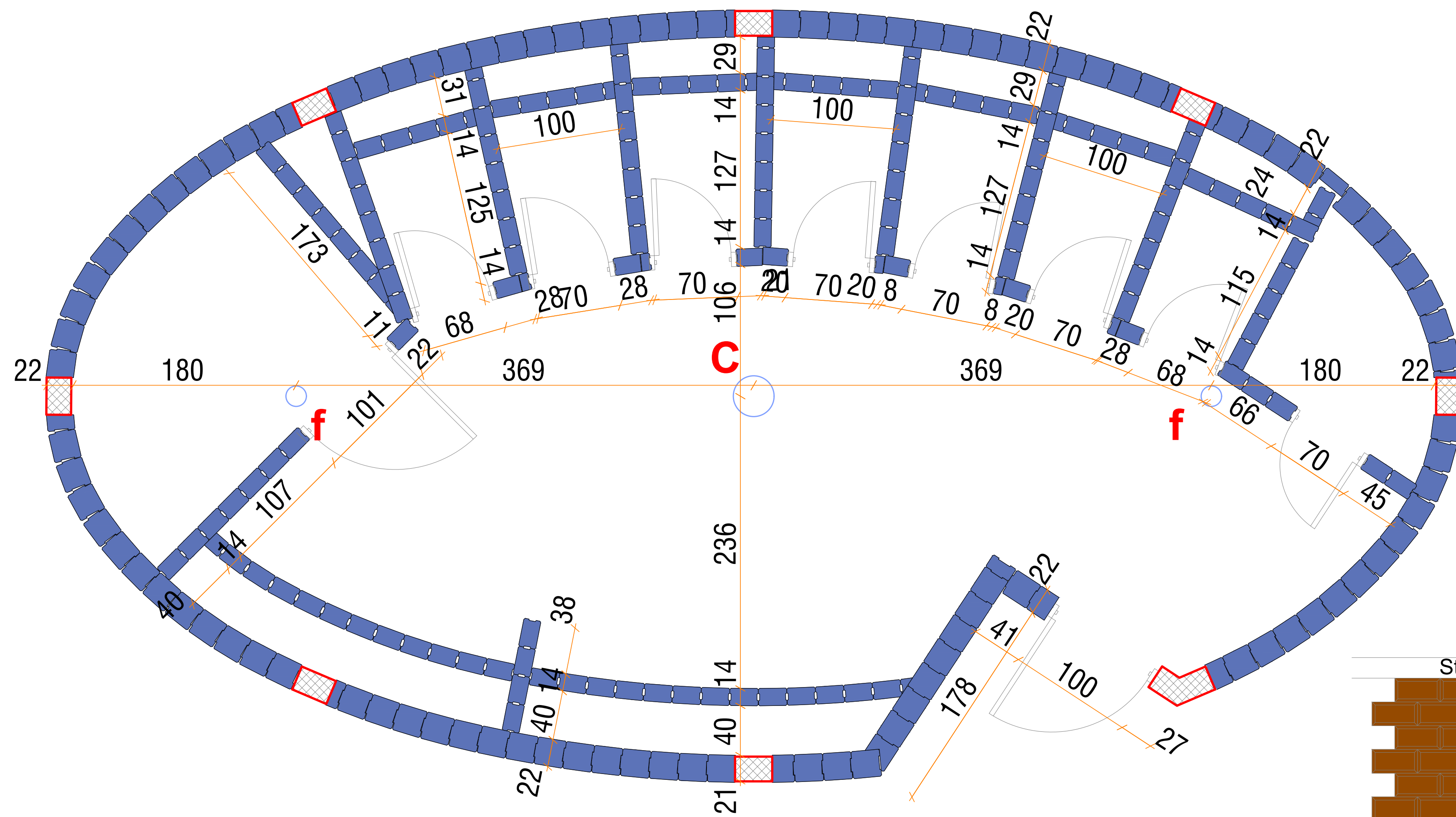
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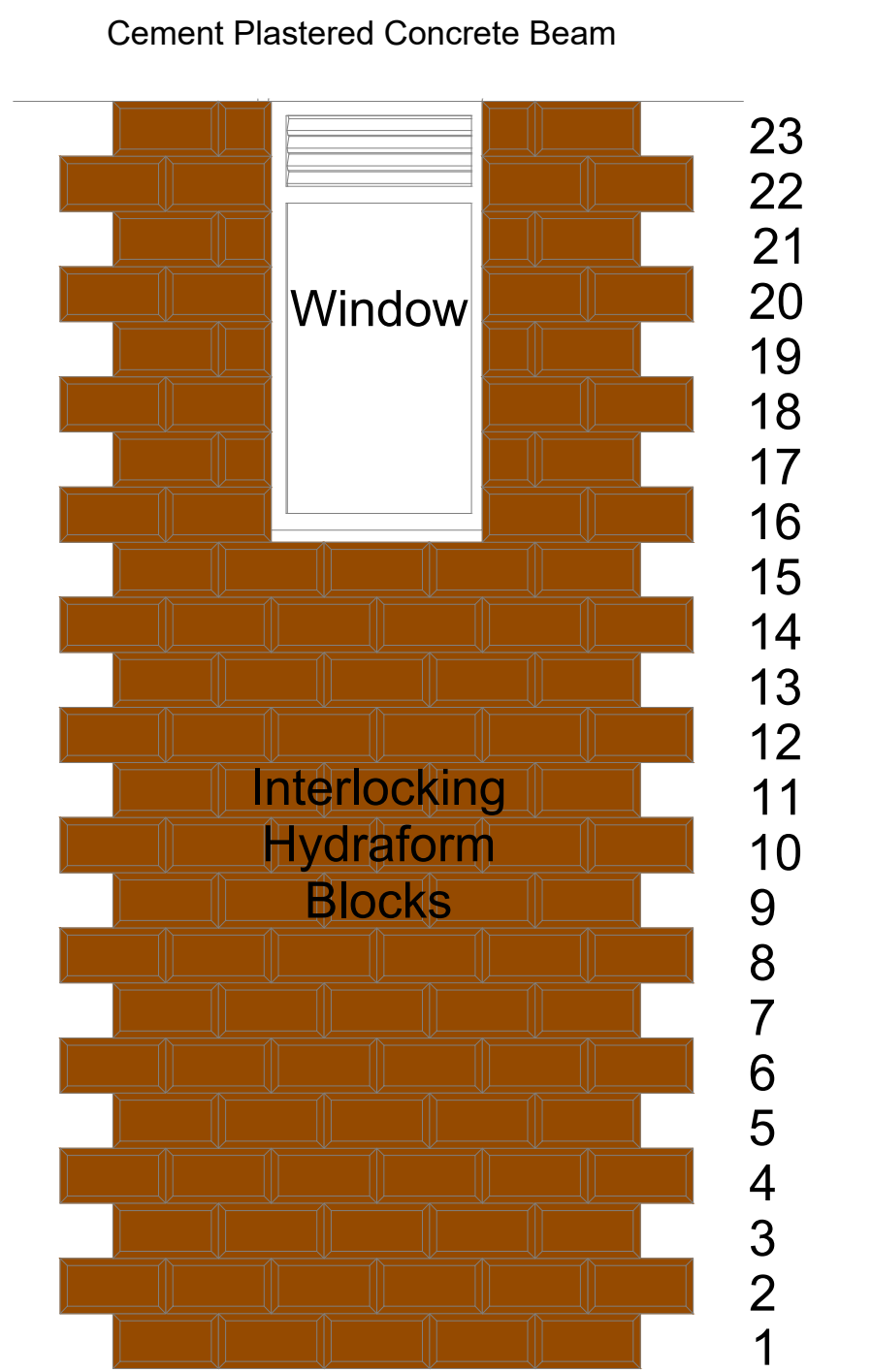
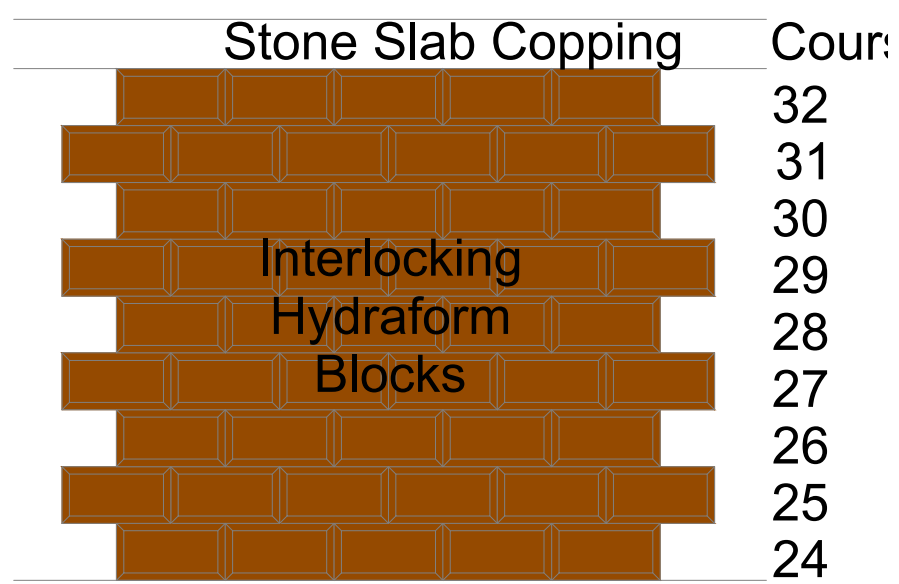
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Italian Agency for Development Cooperation	Bureau of Education
Program:	Implemented By:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
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Designed by			Discipline:	Dr. No:	Tot. No:	Rev No:		
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MM	BM	SM	A1	1:25	15 / 12 / 2019	0



Odd Courses - under/over Windows
SC. 1:50



Bond Pattern Elevation

GENERAL NOTES:



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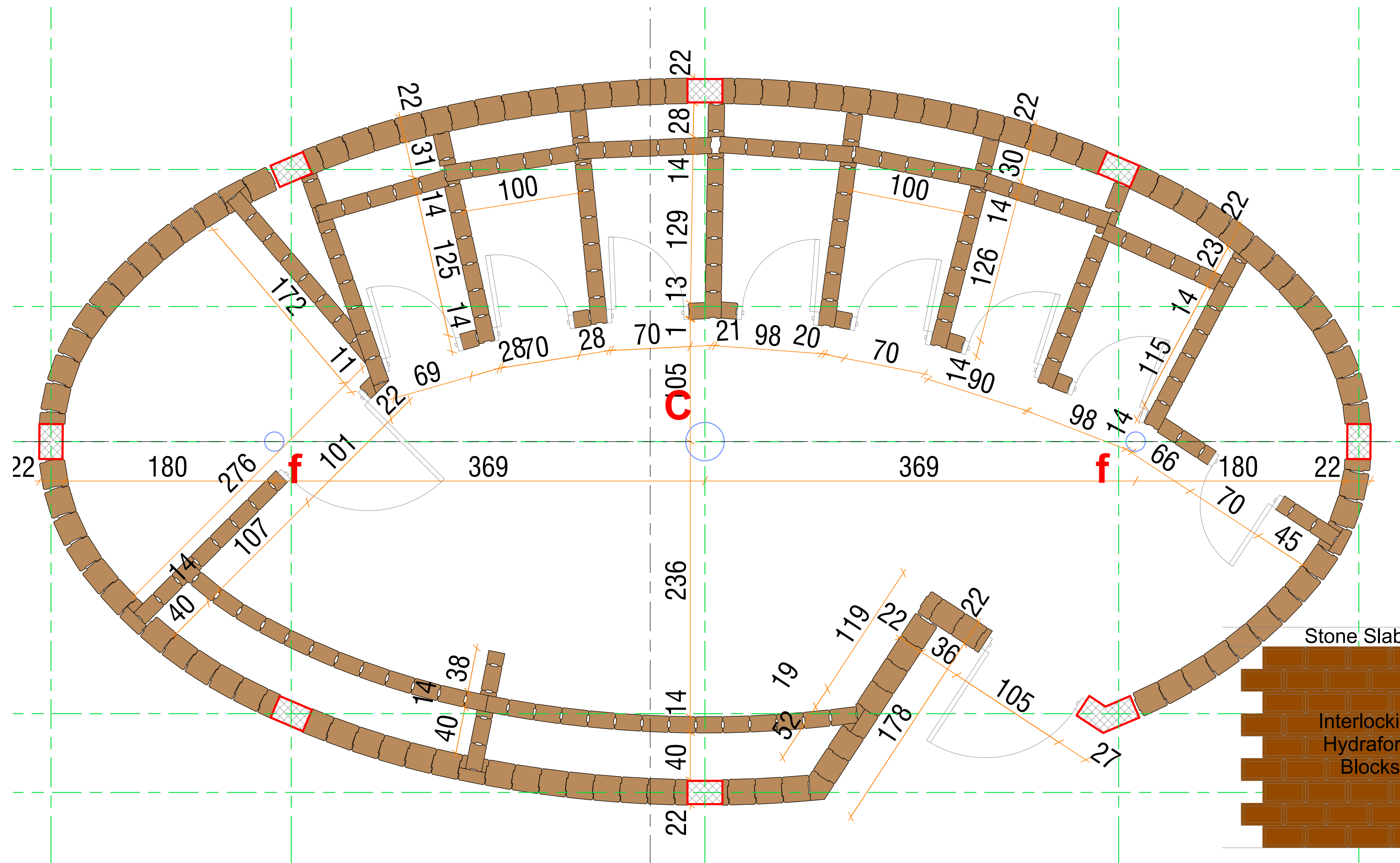
Some of the blocks in this pattern shown here may not be present at all levels in the proposed range. For example the masonry under the washing trough will not continue upwards after five courses.while the blocks used to cover the flash tankers at each WC cubicles will not continue after 14 courses. The cubicle partition walls will not continue beyond course

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Rev.:	Date:	Description:			Approved

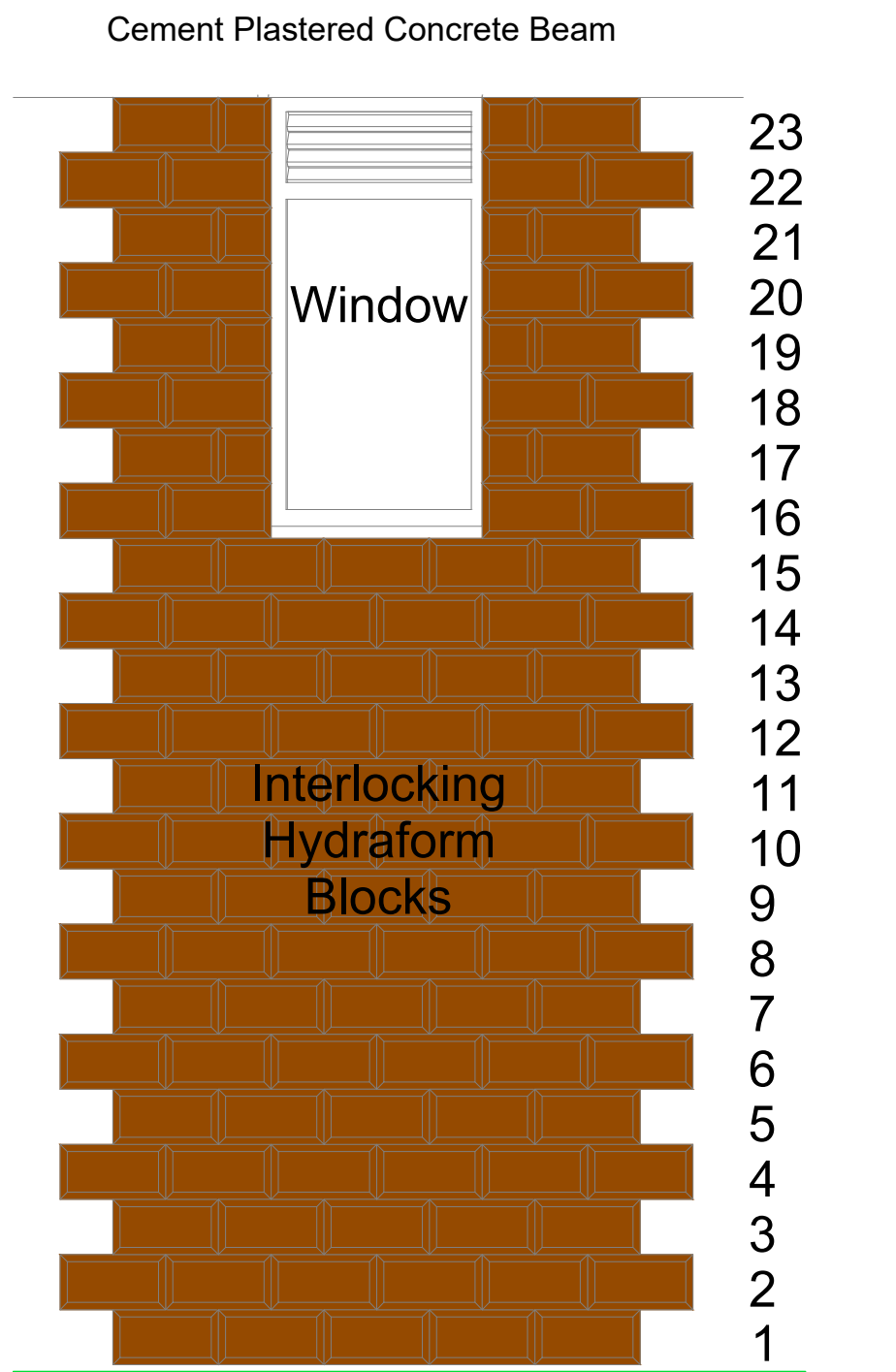
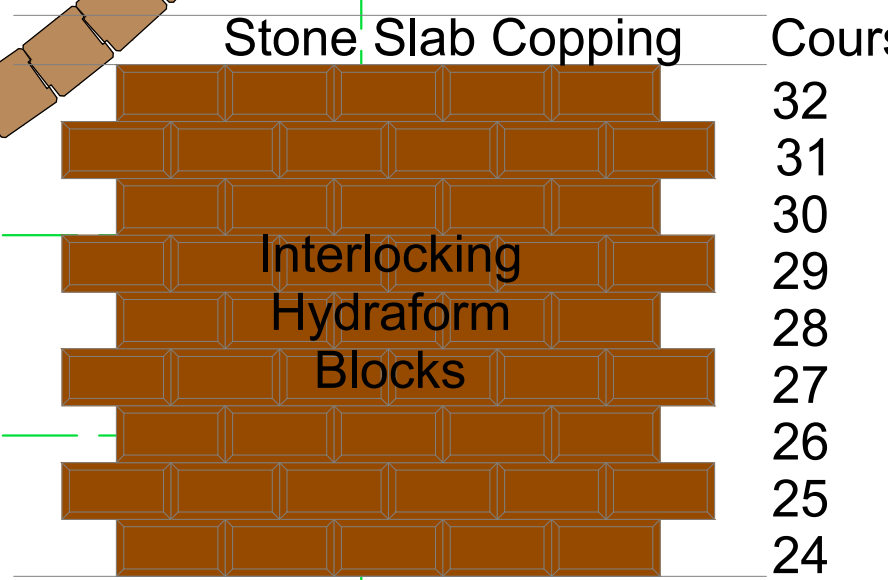
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia		UNOPS ,ETHIOPIA OPERATIONAL HUB			
Project Name:		Design:			
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia		UNOPS ,ETHIOPIA OPERATIONAL HUB			
Drawing Title:					
School Latrine Typology					
Odd Courses - under/over Windows					
Designed by		Discipline:	Dr. No:	Tot. No:	Rev No:
MM		AR	19	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:	Date:
MM	BM	SM	A1	1:25, 1:15	15 / 12 /2019
					Rev.:
					0



Even Courses - under/over Window
SC. 1:50



Bond Pattern Elevation

GENERAL NOTES:



All dimensions are in centimeters unless otherwise explicitly stated on the dimension.

The drawings may have been scaled to fit the desired paper size.

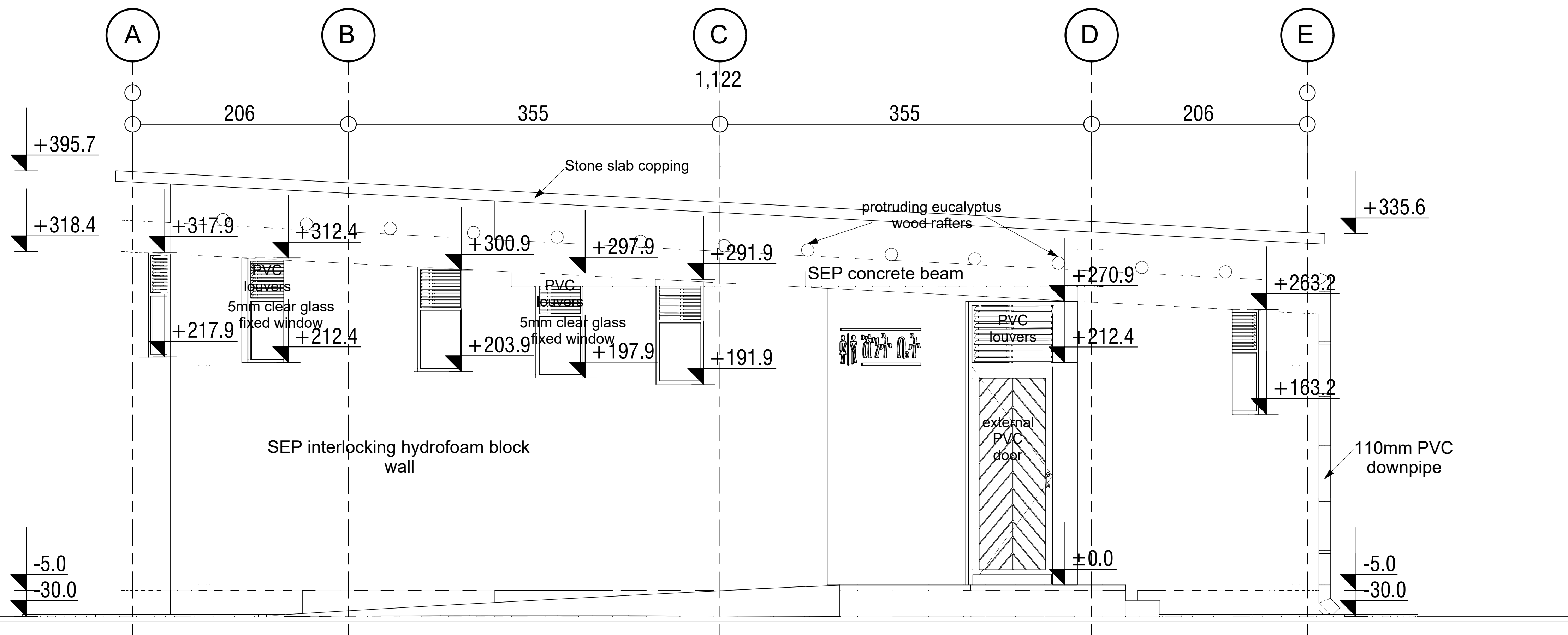
Some of the blocks in this pattern shown here may not be present at all levels in the proposed range. For example the masonry under the washing trough will not continue upwards after five courses.while the blocks used to cover the flash tankers at each WC cubicles will not continue after 14 courses. The cubicle partition walls will not continue beyond course

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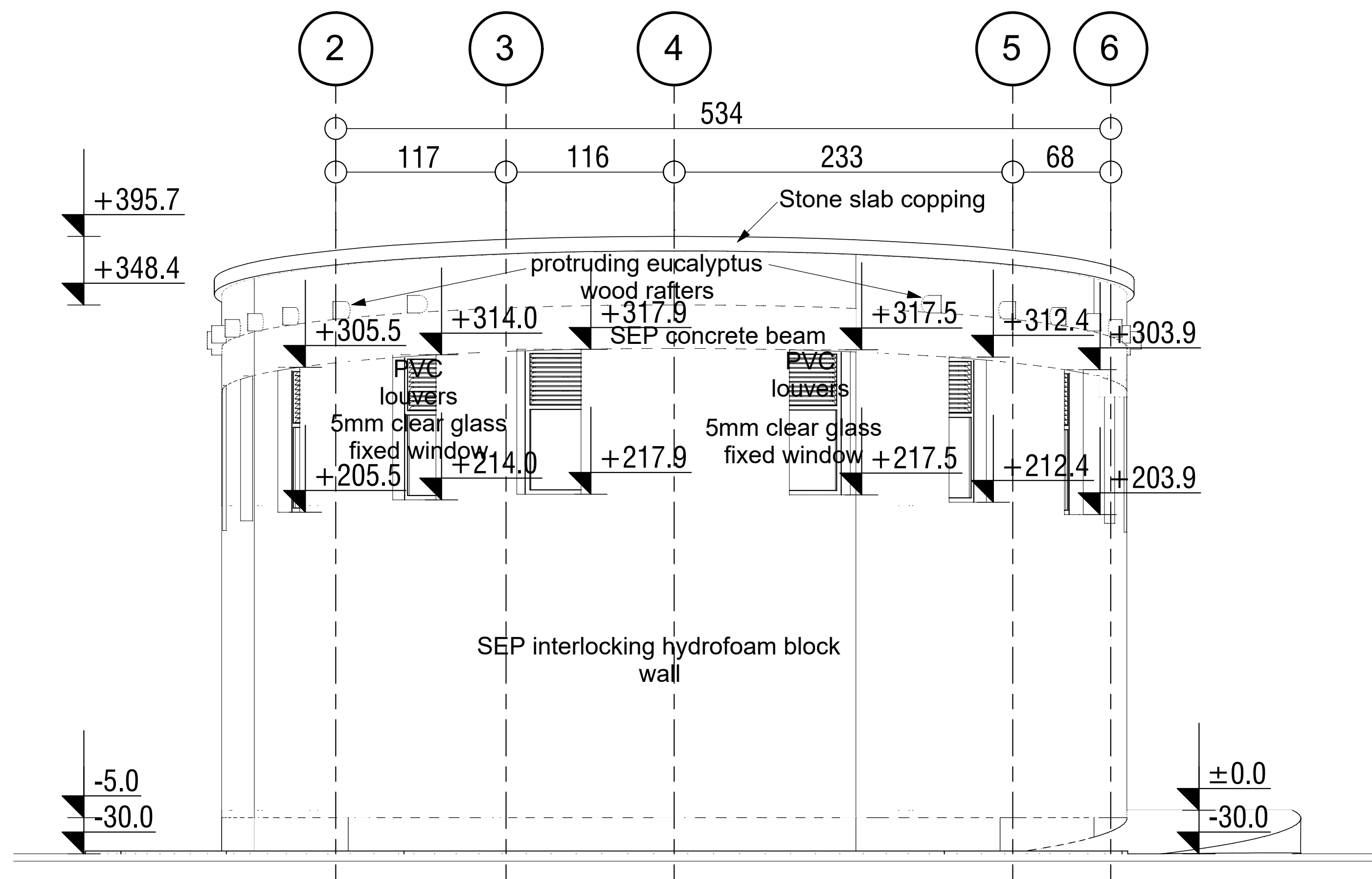
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Project Name:		Design:			
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia		UNOPS ,ETHIOPIA OPERATIONAL HUB			
Drawing Title:					
School Latrine Typology					
Even Courses - under/over Window					
Designed by		Discipline:	Dr. No:	Tot. No:	Rev. No:
MM		AR	20	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:	Date:
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					Rev.:
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Front Elevation

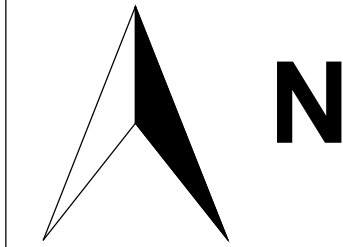
SC. 1:50



Left-Side Elevation

SC. 1:50

GENERAL NOTES:



All dimensions are in centimeters unless otherwise explicitly stated on the dimension.

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Rev.:	Date:	Description:		Approved

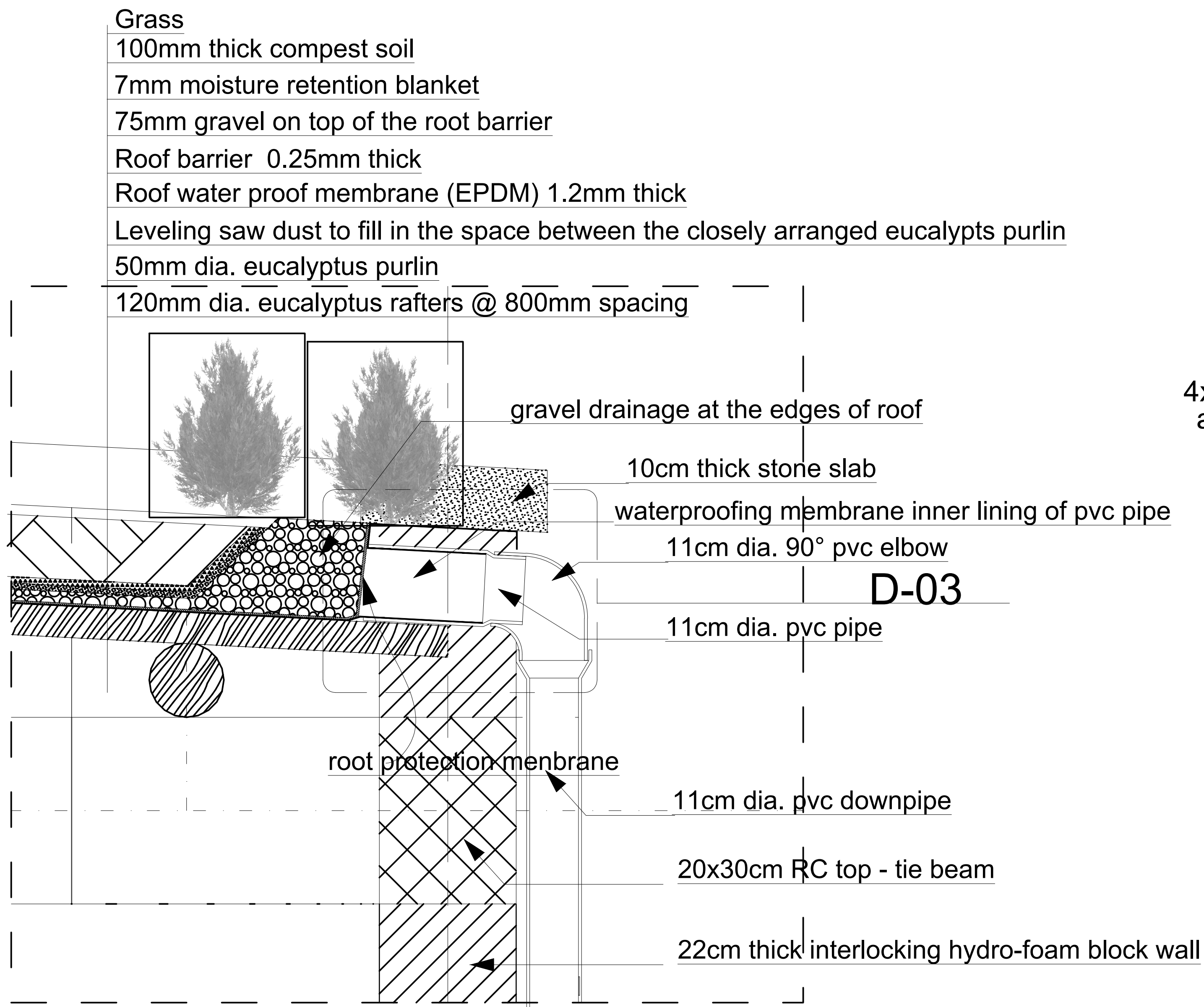
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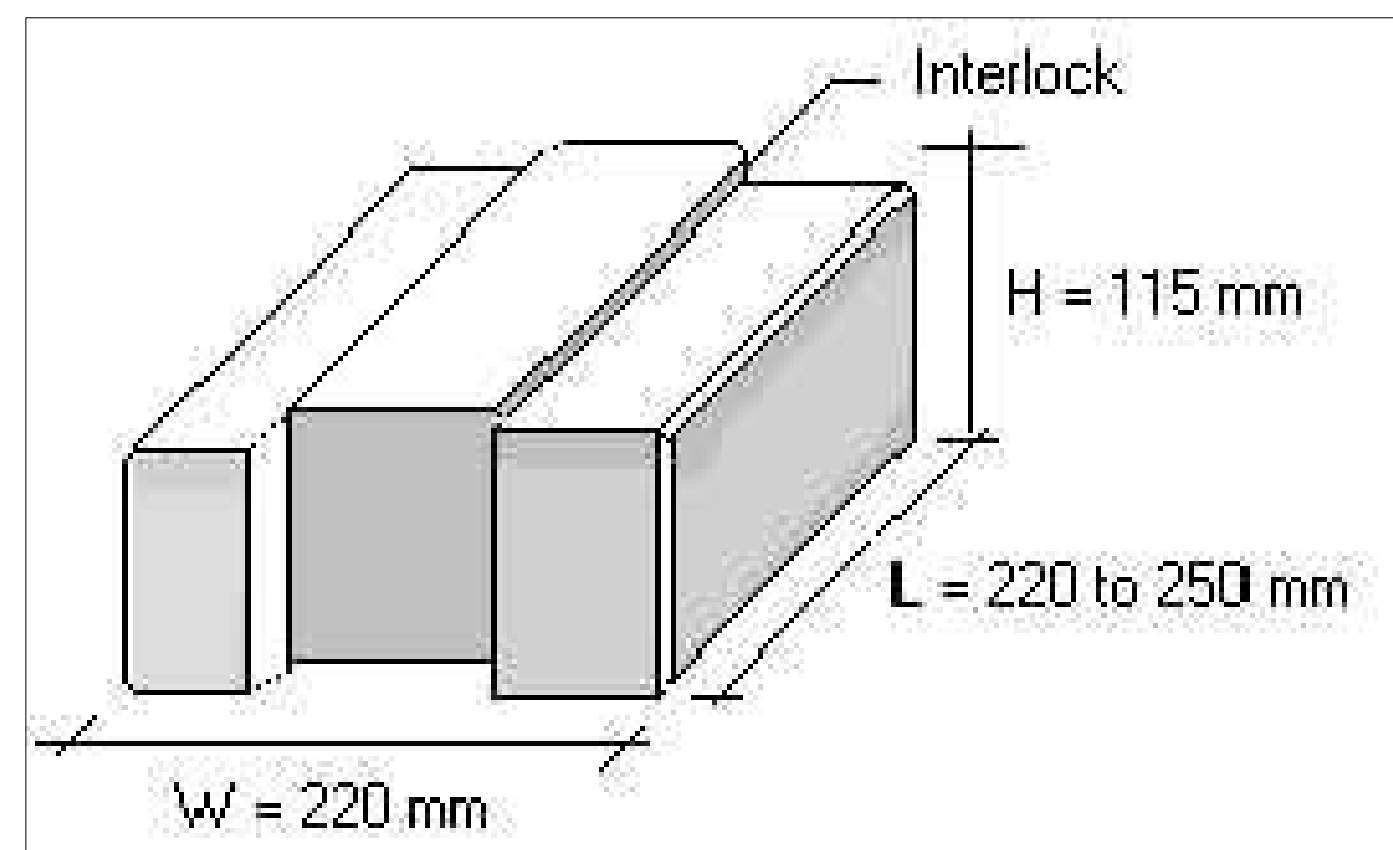
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Drawing Title:	

School Latrine Typology Elevations

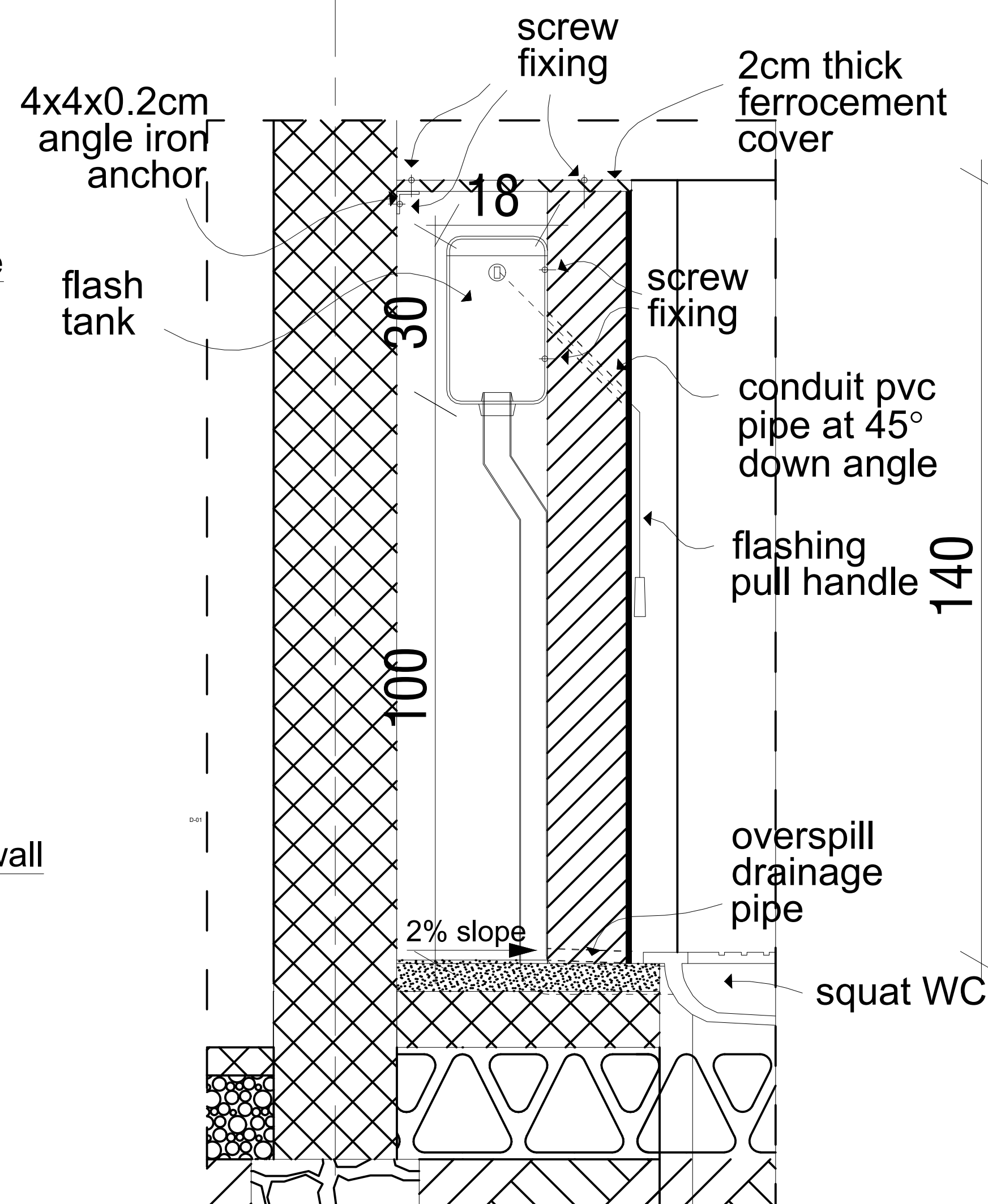
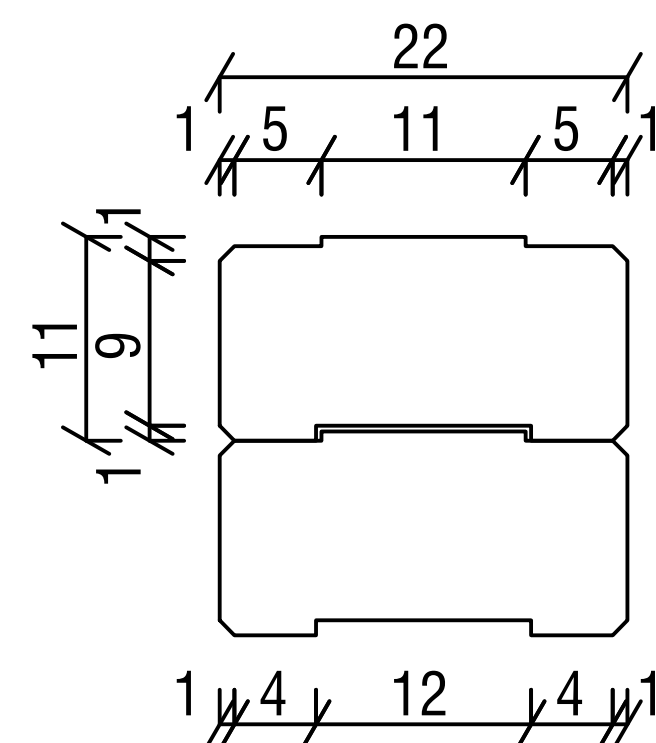
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	23	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:
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Date:	Rev.:			
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ROOF DETAIL: D-01
SC. 1:5

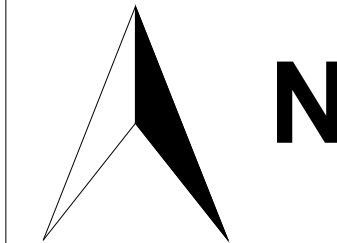


Hydraform Block (CSEB)
SC. 1:2



WC DETAIL: D-02
Hidden Flash Tank Detail
SC. 1:7.5

GENERAL NOTES:



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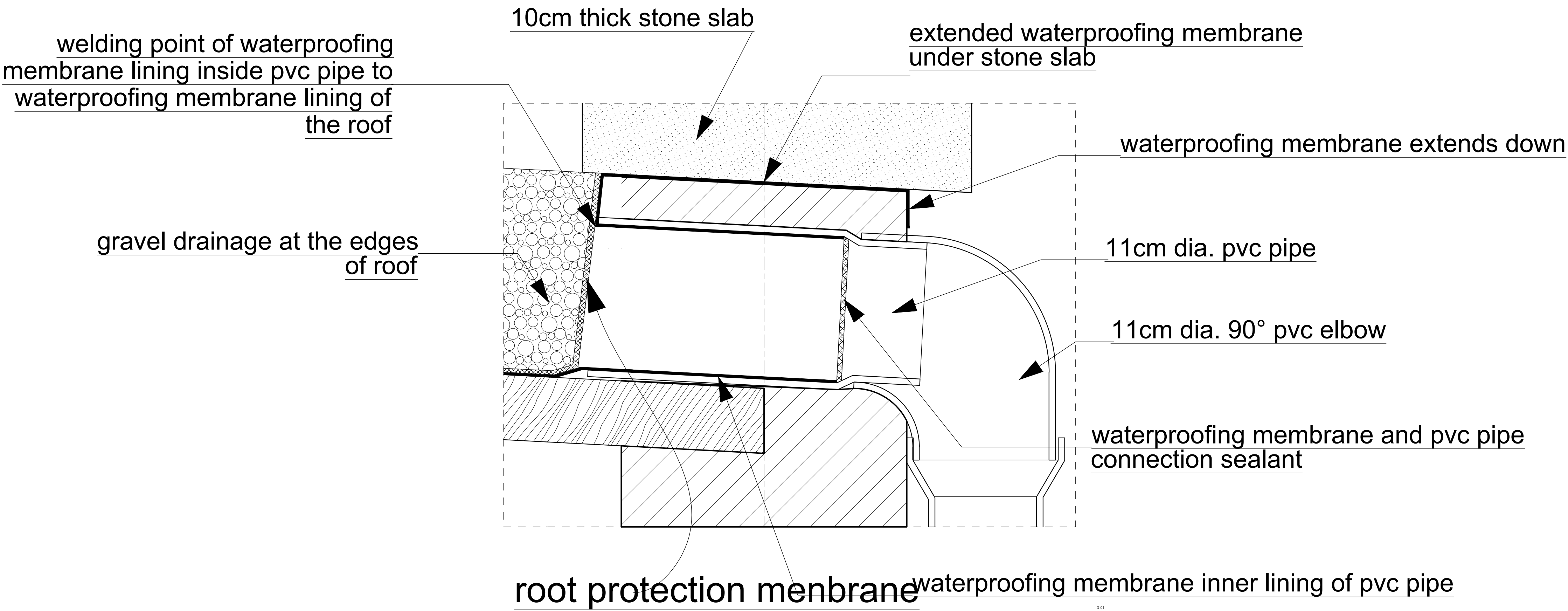
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Drawing Title:	

School Latrine Typology Details

Designed by	Discipline:	Dr. No:	Tot. No:	Rev. No:
MM	AR	25	34	R0
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		Date:	15 / 12 / 2019	Rev.:
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ROOF DETAIL: D-03
SC. 1:2

GENERAL NOTES:



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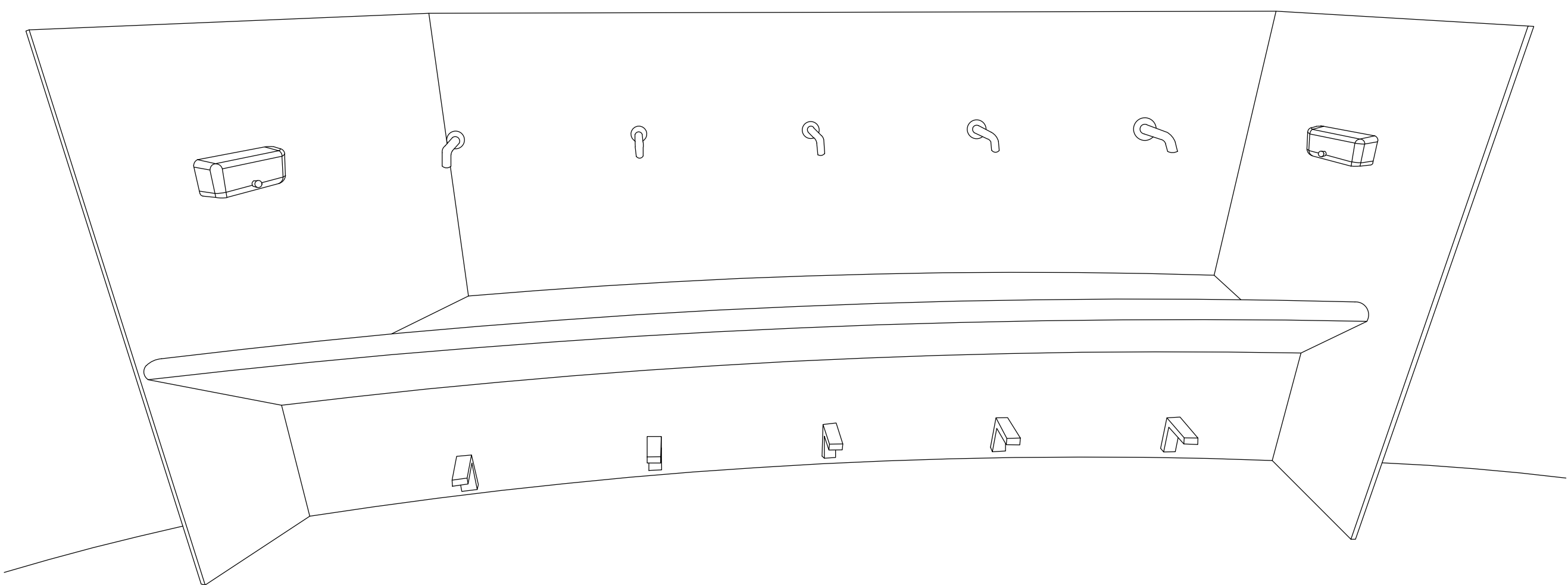
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KEY PLAN

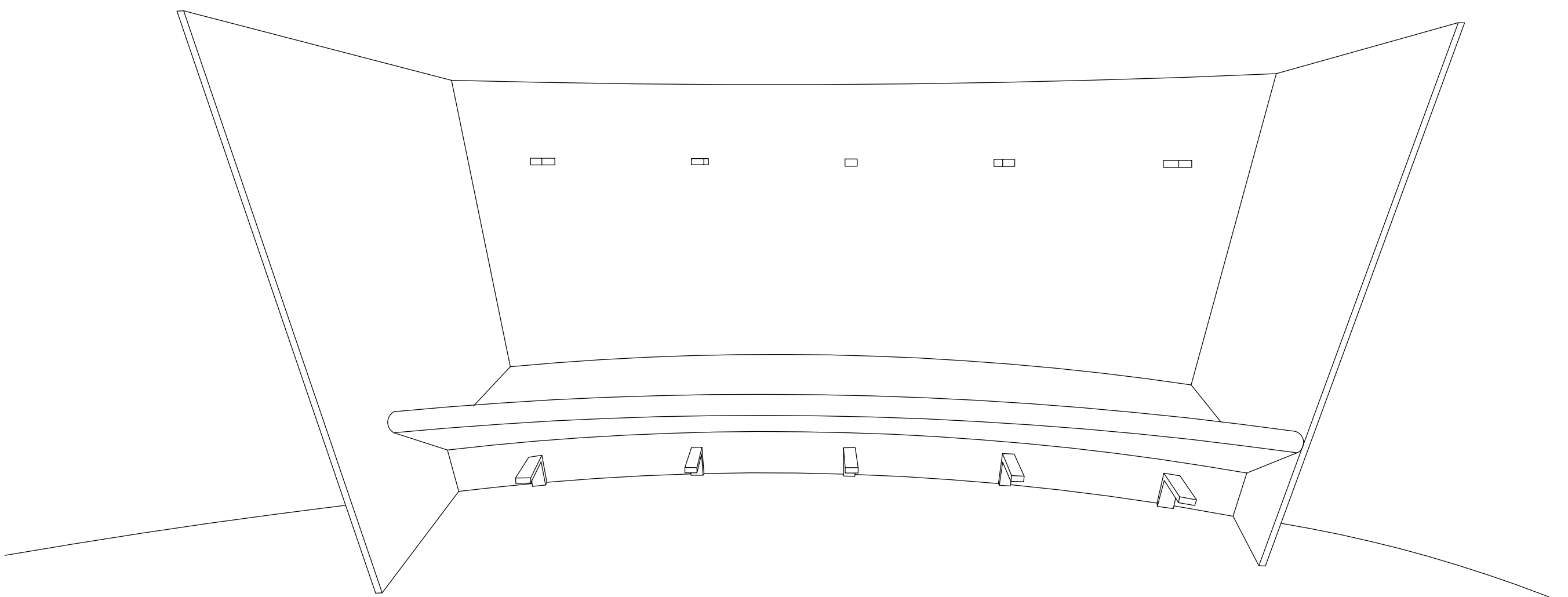
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS ,ETHIOPIA OPERATIONAL HUB
Drawing Title:	

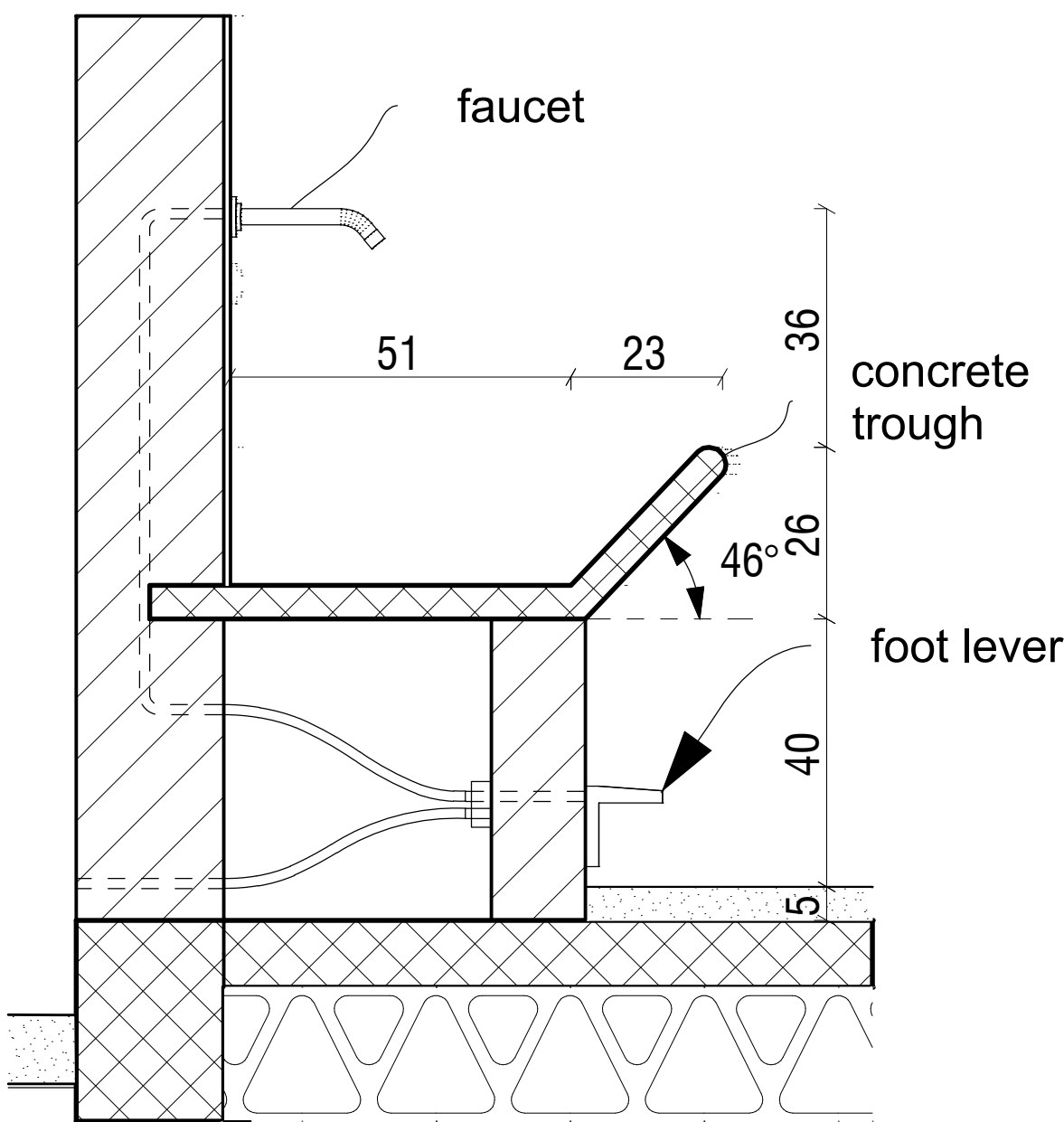
School Latrine Typology Details				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
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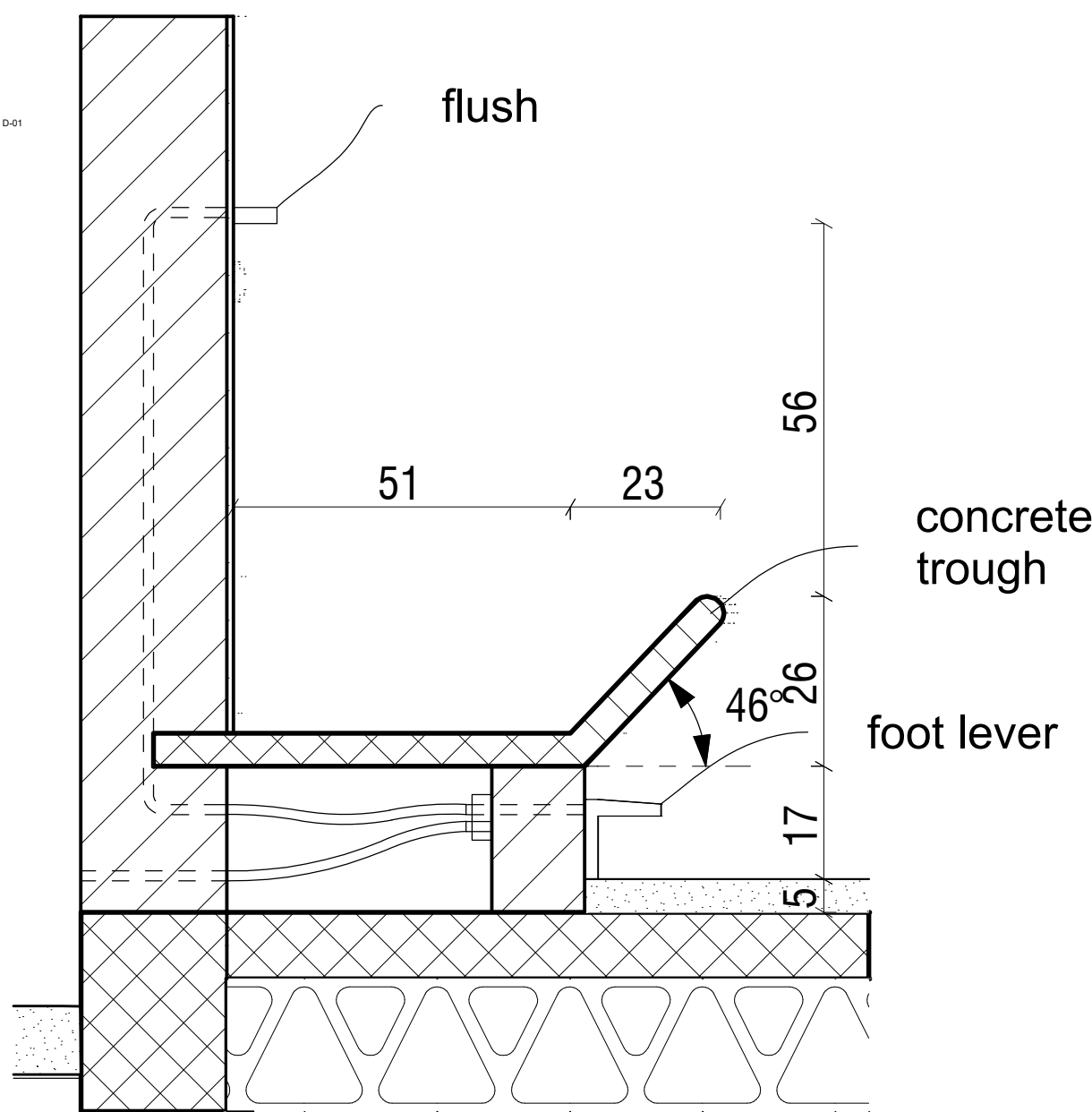
HAND WASH TROUGH (HWT) PERSPECTIVE VIEW



URINAL TROUGH (UT) PERSPECTIVE VIEW



HWT DETAIL: D-04
SC. 1:10



UT DETAIL: D-05
SC. 1:10

GENERAL NOTES:



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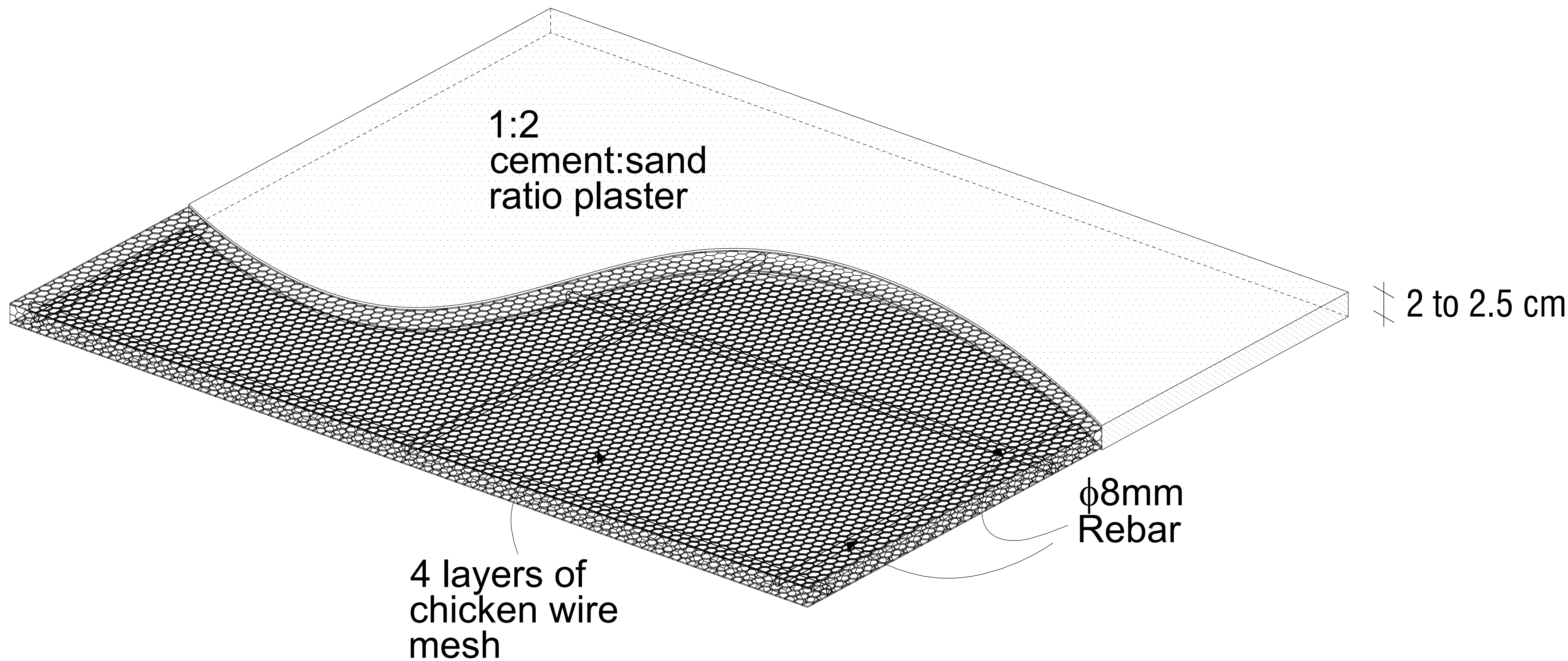
The drawings may have been scaled to fit the desired paper size.

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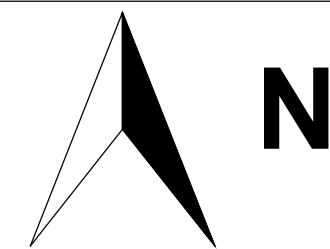
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Drawing Title:	

School Latrine Typology Details				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	27	34	R0
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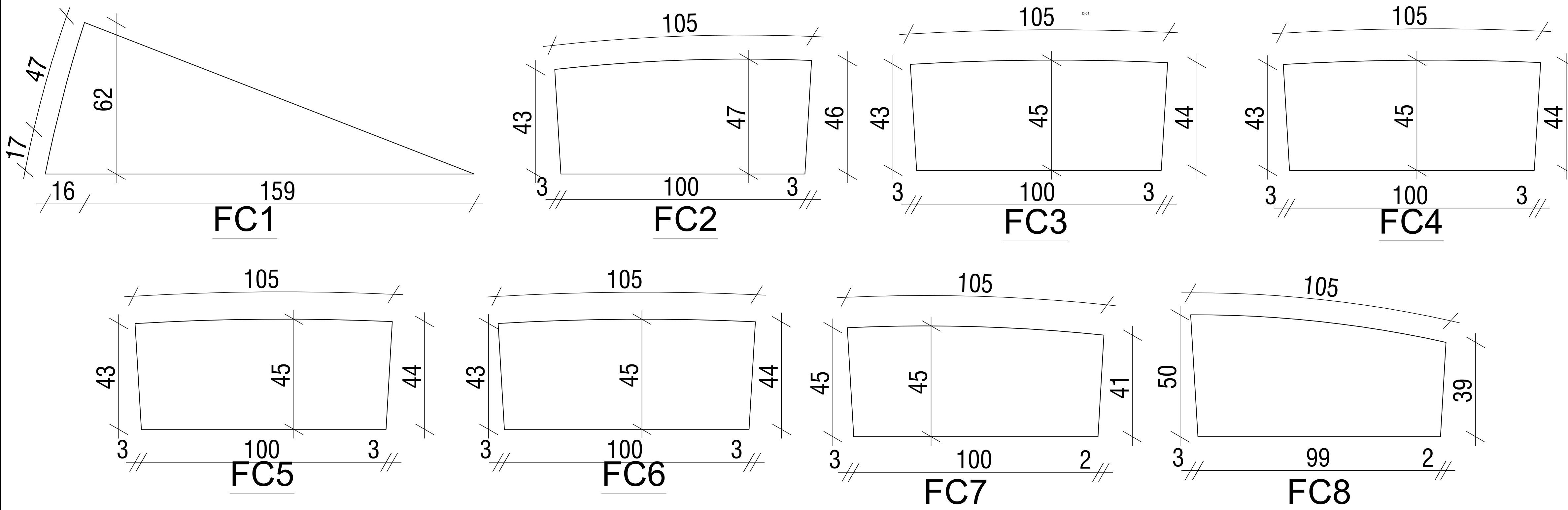
GENERAL NOTES:



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WC DETAIL: D-06
Ferrocement Panel Detail
SC. 1:10



WC DETAIL: D-07
Hidden Flash Tank Ferrocement covers
SC. 1:10

0	15 / 12 / 2019	Original		On process
Rev.:	Date:	Description:		Approved

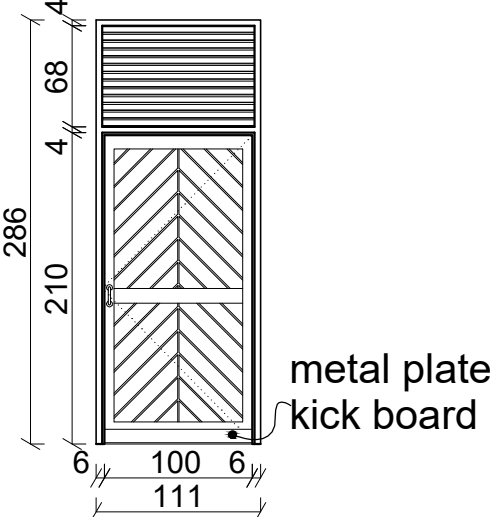
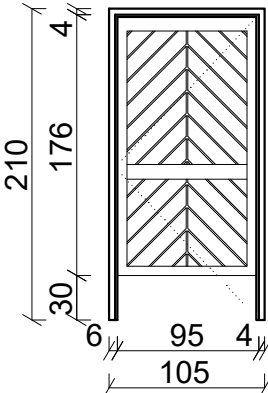
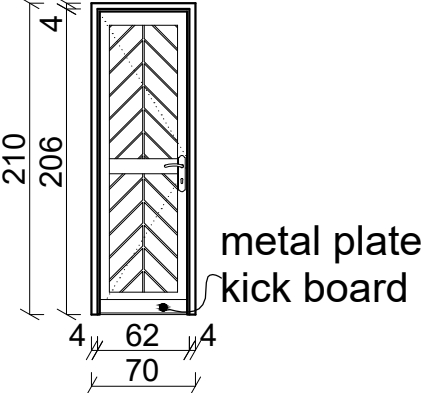
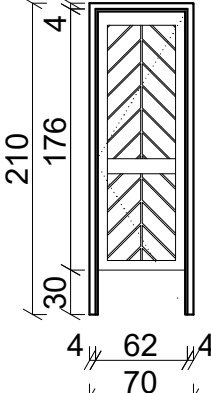
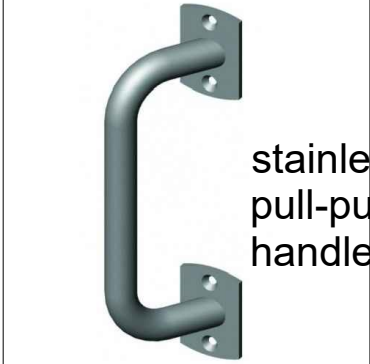
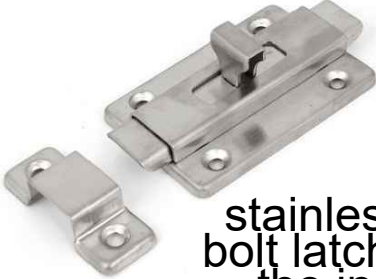

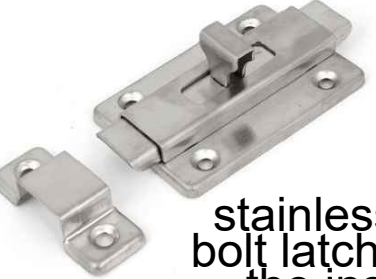
KEY PLAN

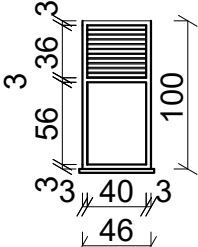
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Drawing Title:				
School Latrine Typology Ferrocement Details				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	28	34	R0
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			Date:	Rev.:
			15 / 12 / 2019	0

Door - Window Schedule

Door Schedule				
Element ID	D1	D2	D3	D4
Quantity	1	1	1	7
Orientation	L	L	R	L
Frame material	40x40mm PVC hollow section with galvanized tube reinforcement	40x40mm PVC hollow section with galvanized tube reinforcement	40x40mm PVC hollow section with galvanized tube reinforcement	40x40mm PVC hollow section with galvanized tube reinforcement
Frame finish				
Door leaf construction	Hollow ribbed PVC infill panels set-in by A-section and H-section PVC frame	Hollow ribbed PVC infill panels set-in by A-section and H-section PVC frame	Hollow ribbed PVC infill panels set-in by A-section and H-section PVC frame	Hollow ribbed PVC infill panels set-in by A-section and H-section PVC frame
Door leaf finish				
Glazing & Louvers	fixed PVC louvers			
View from Side Opposite to Opening Side				
Ironmongry	 stainless steel pull-push bar handle	 stainless steel gate bolt latch, reveted on the inside of toilet door	 stainless steel standard locable door handle	 stainless steel gate bolt latch, reveted on the inside of toilet door

Window Schedule	
Element ID	W01
Quantity	25
Orientation	fixed
Frame material	30x30mm PVC hollow section with galvanized tube reinforcement
Sill	25mm thick reinforced ferrocement panel
Sill height	variable
Glazing & Louvers	5mm clear glass, fixed PVC louvers
View from Side Opposite to Opening Side	

GENERAL NOTES:



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Internal Finish Schedule

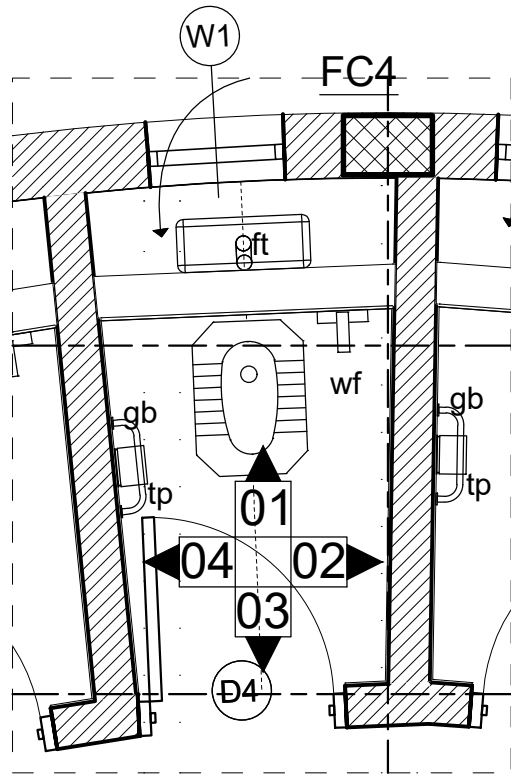
		1	2	3
Floor	A	Colored cement screed	-	-
Skirting	B	100 mm high colored cement plaster.	-	-
Wall	C	Hydrofoam block faced finished	170cm high colored cement plaster followed by Hydrofoam block faced finished	140cm high colored cement plaster followed by Hydrofoam block faced finished
Ceiling	D	-	-	-
Sill	E	30mm thick concrete window sill	-	-

KEY PLAN

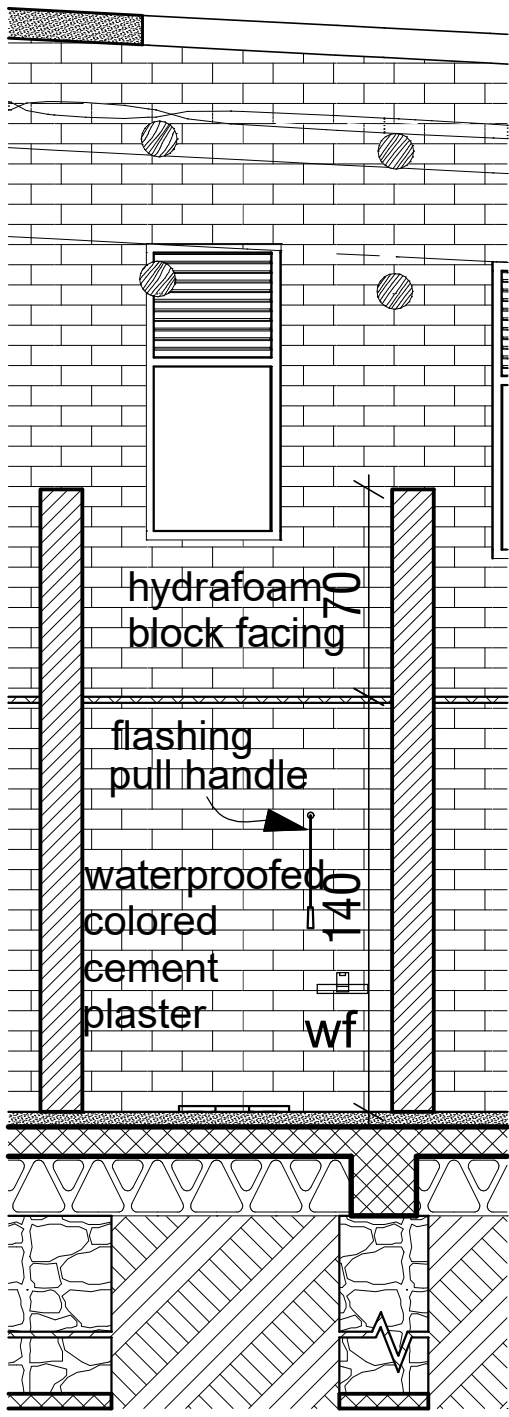
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Project Name:		Design:				
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia		UNOPS , ETHIOPIA OPERATIONAL HUB				
Drawing Title:						
School Latrine Typology Schedules						
Designed by		Discipline:	Dr. No:	Tot. No:	Rev No:	
MM		AR	29	34	R0	
Drawn:	Checked:	Approved:	Size:	Scale:	Date:	Rev.:
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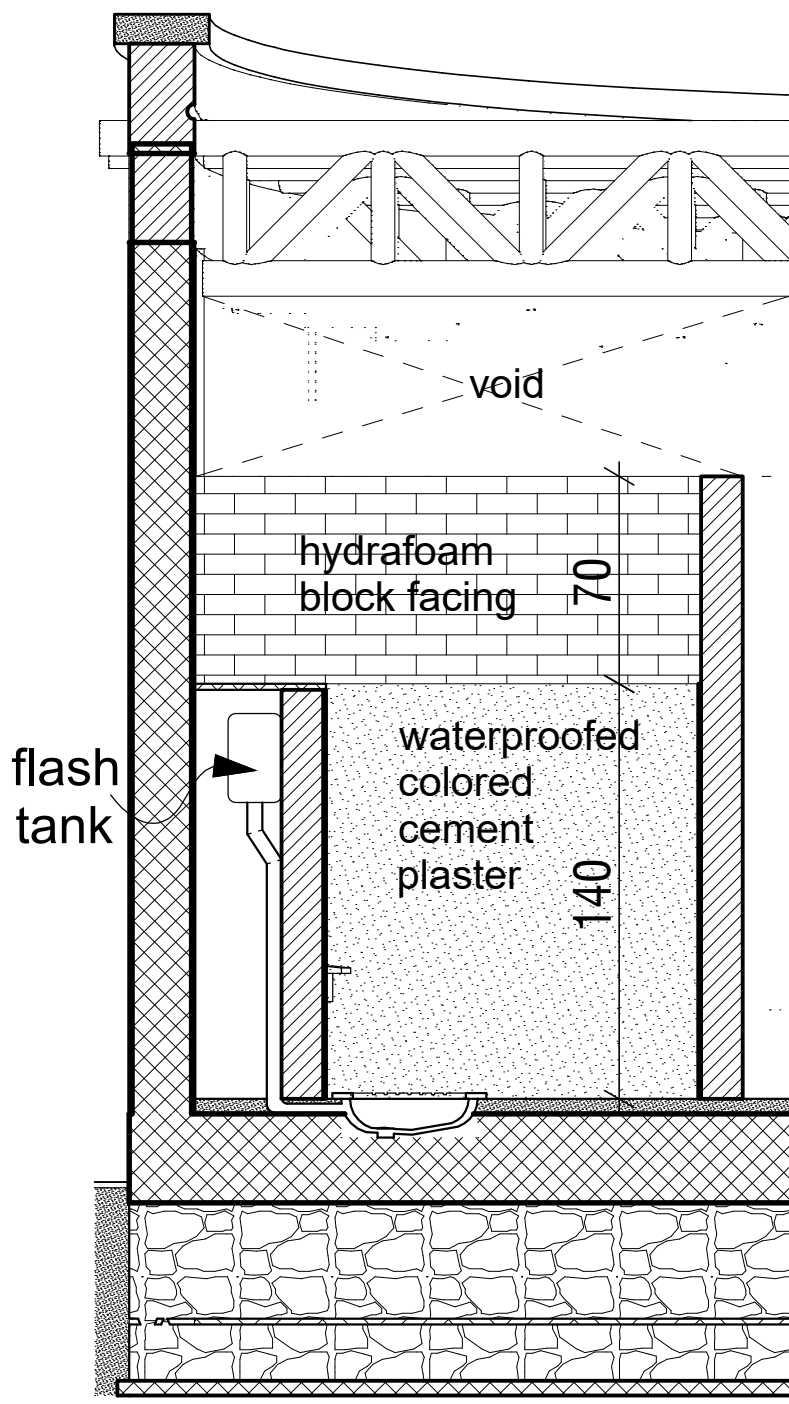
Wall Finish Details



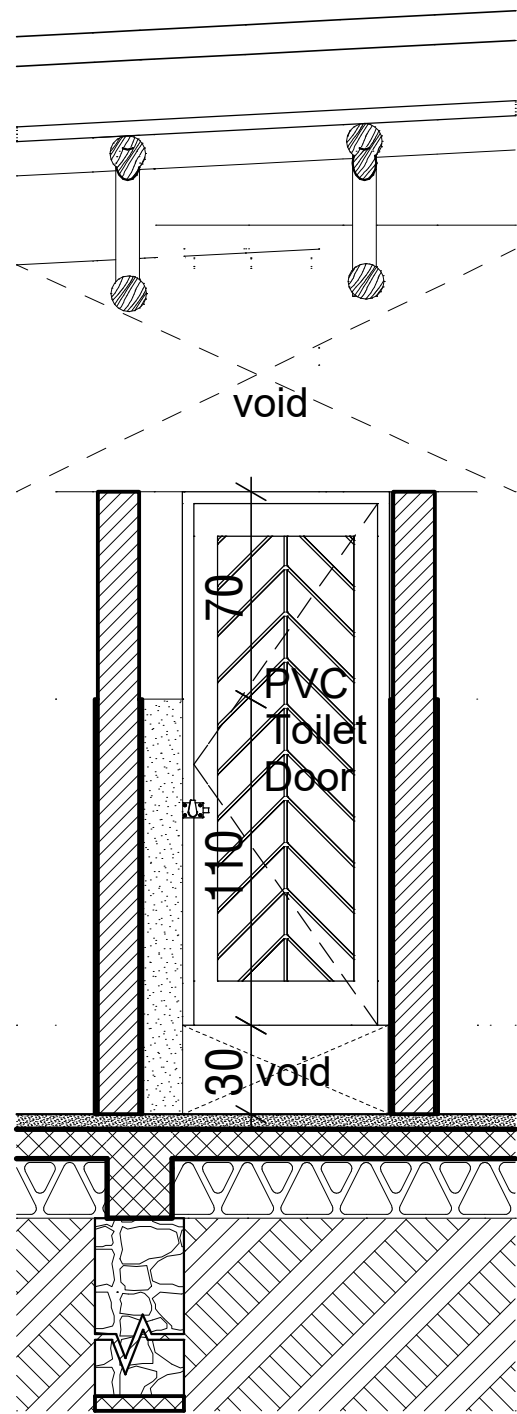
Typical WC Cubicle Floor Plan



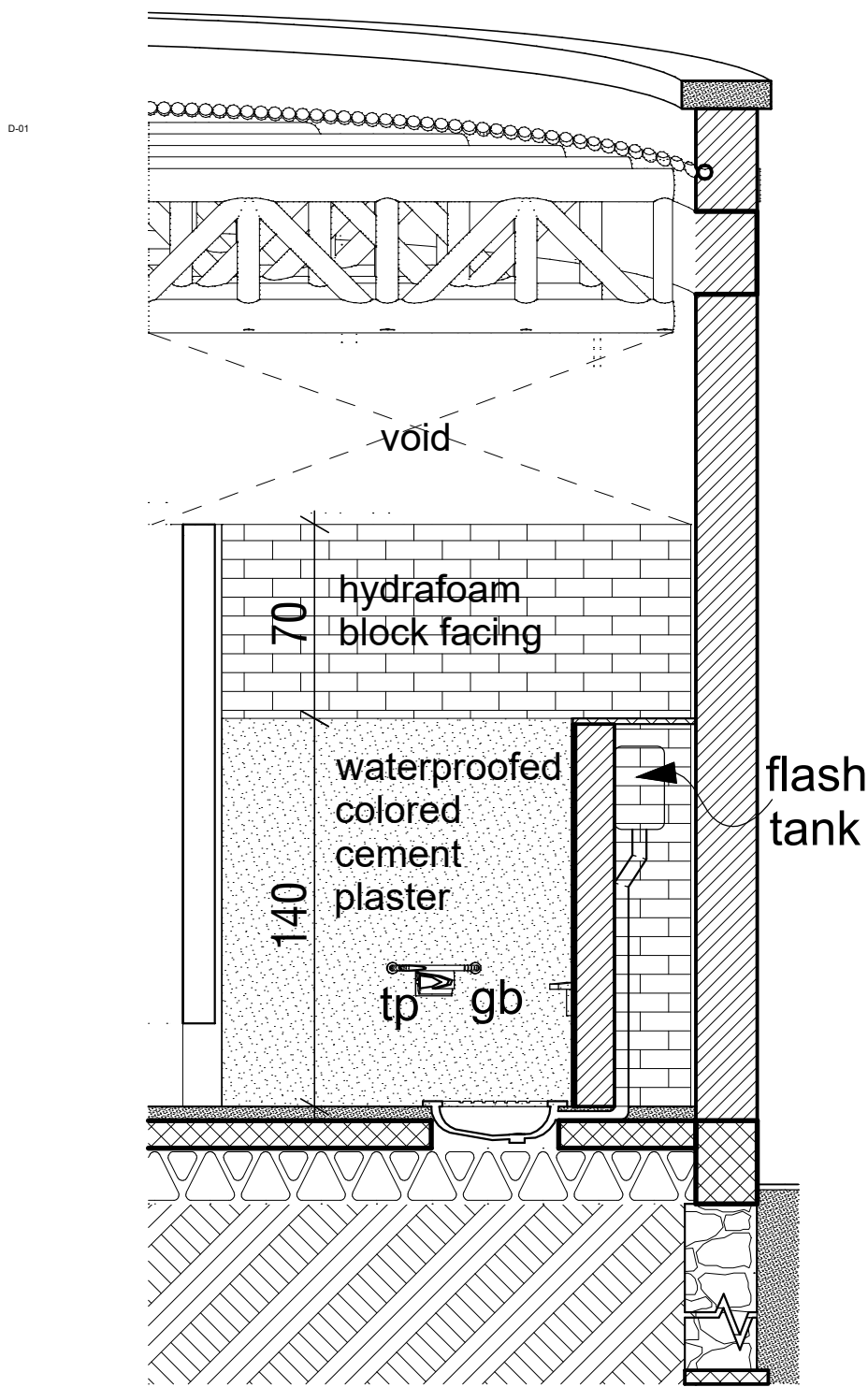
Typical WC Cubicle View 01



Typical WC Cubicle View 02



Typical WC Cubicle View 03



Typical WC Cubicle View 04

GENERAL NOTES:



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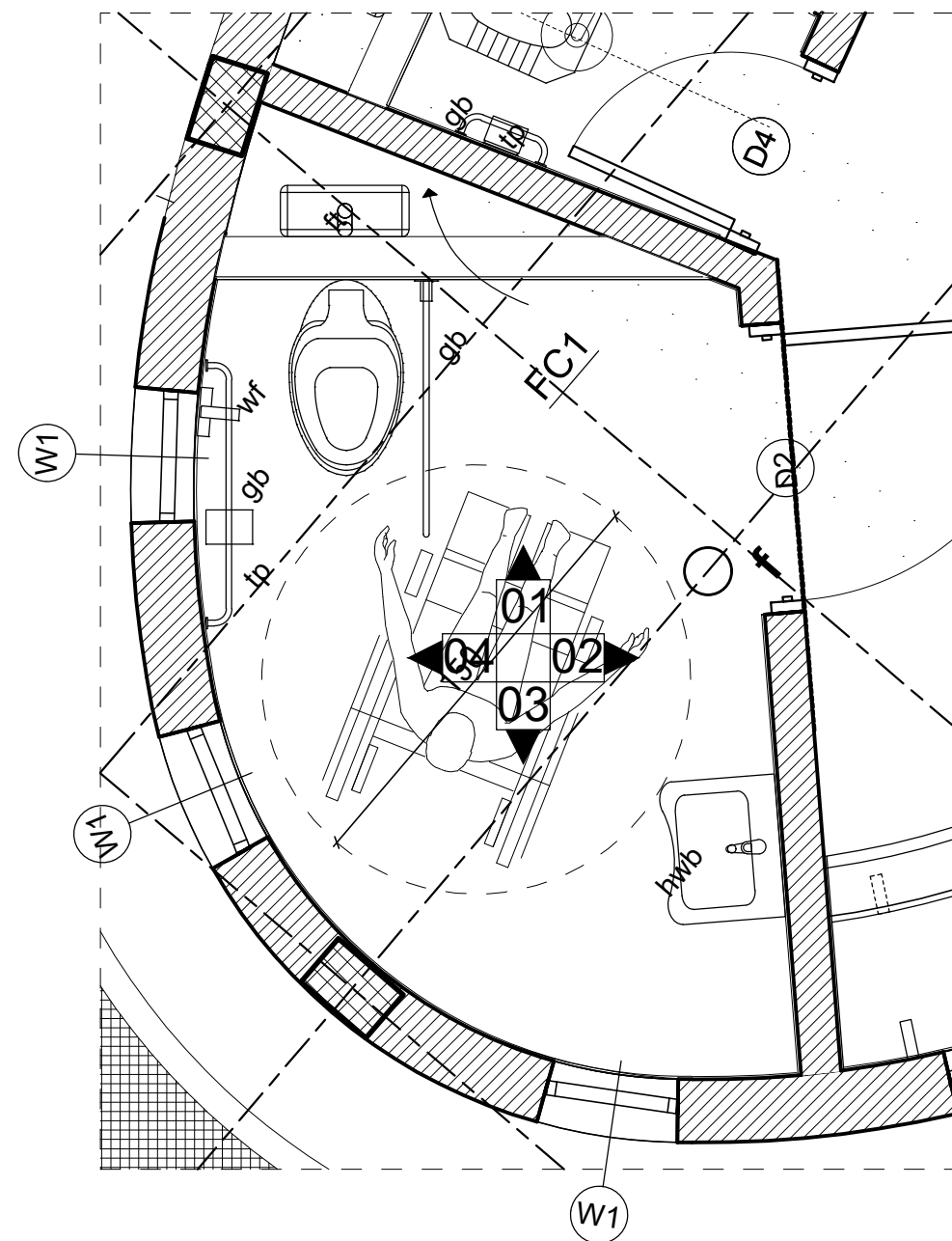
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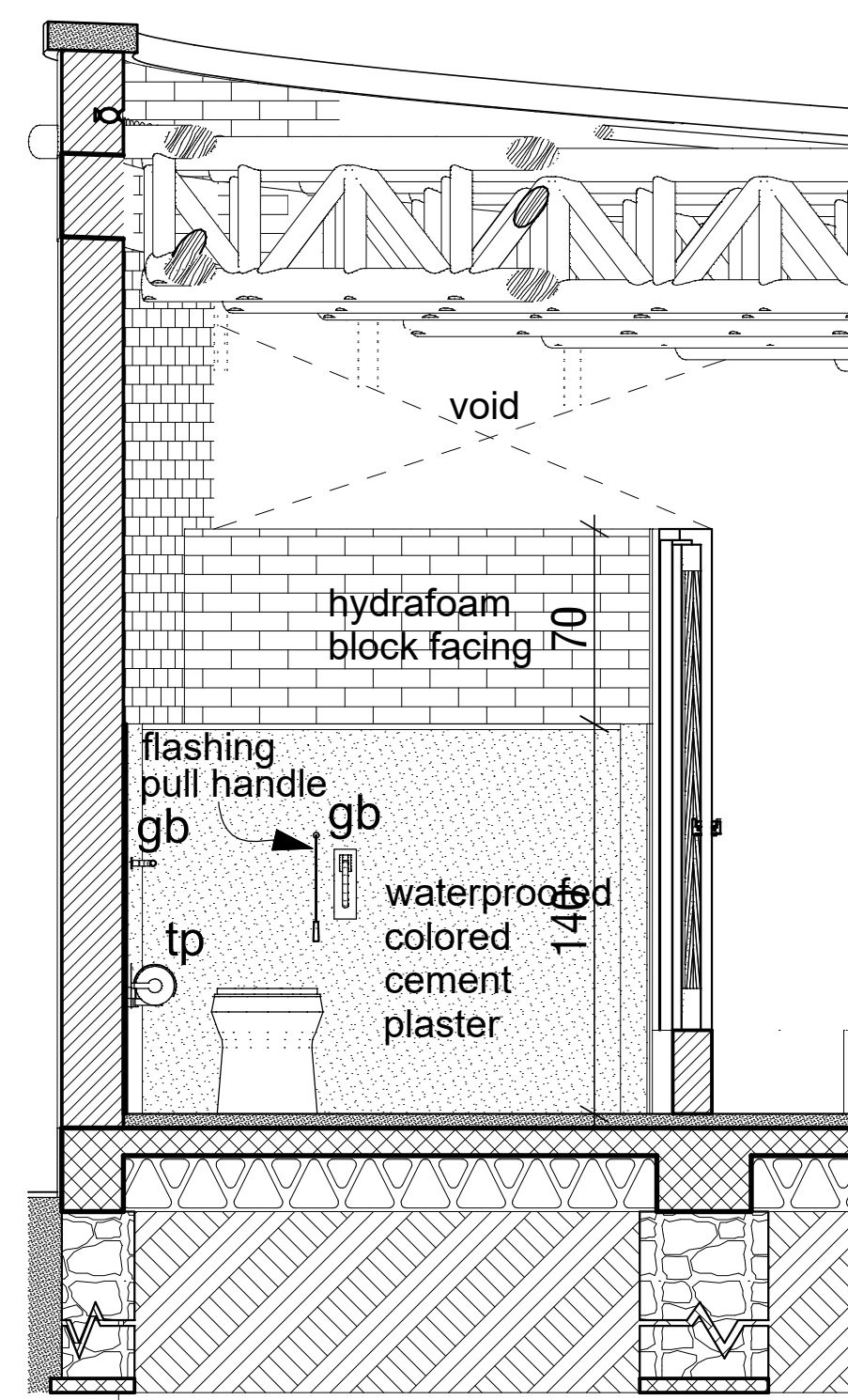
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Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Drawing Title:	

School Latrine Typology Wall Finish Details				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	30	34	R0
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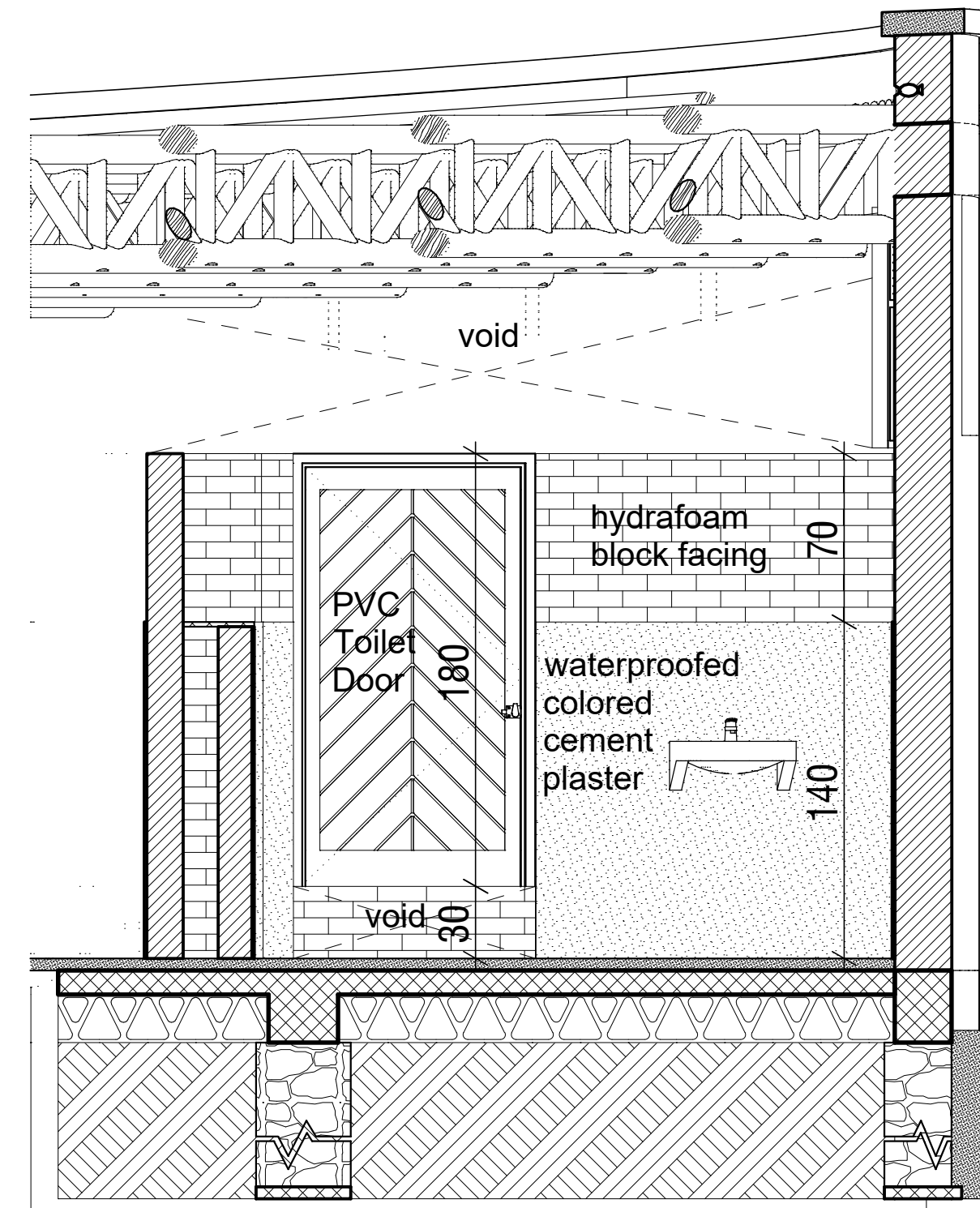
Wall Finish Details



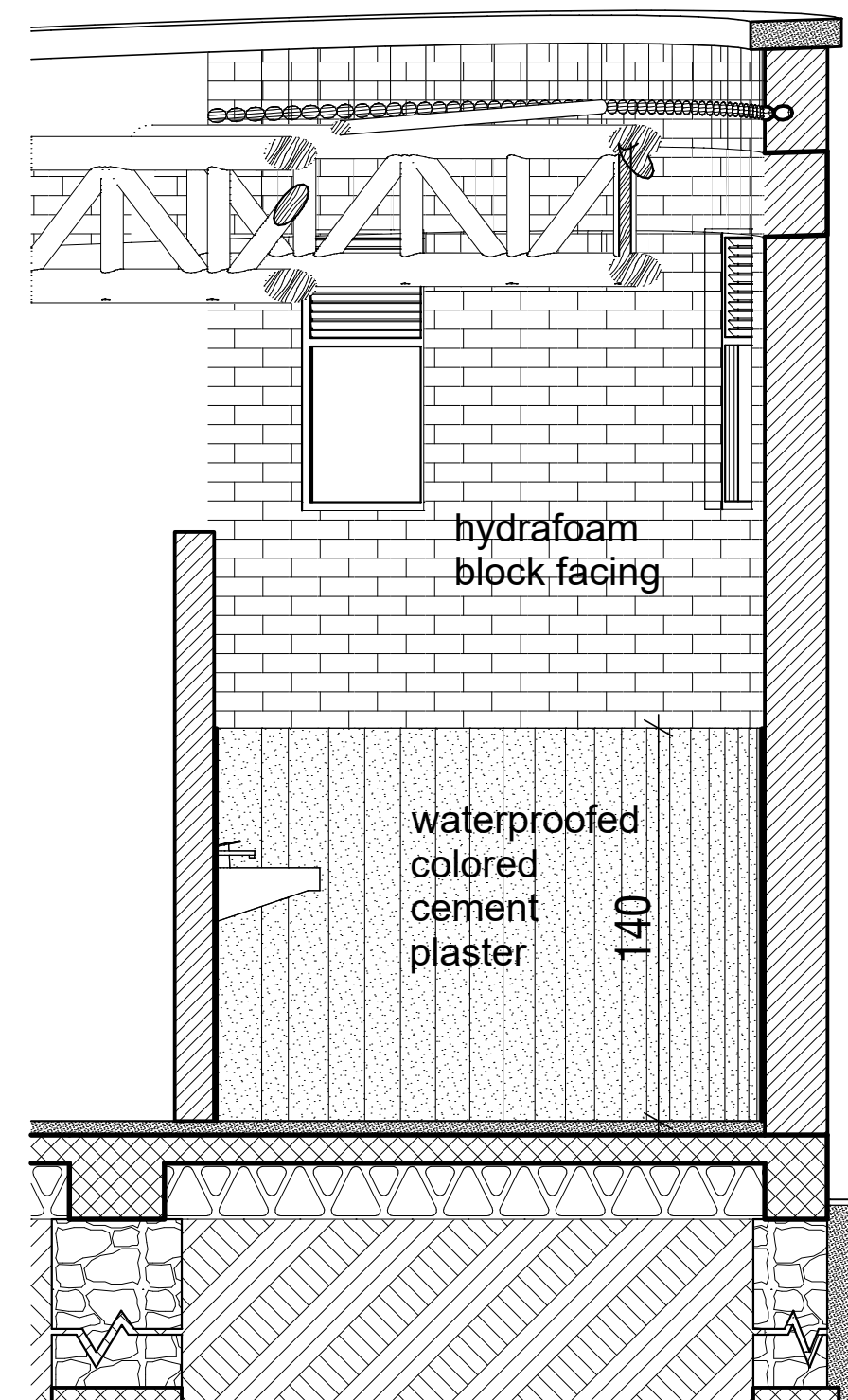
PWD WC Cubicle Floor Plan



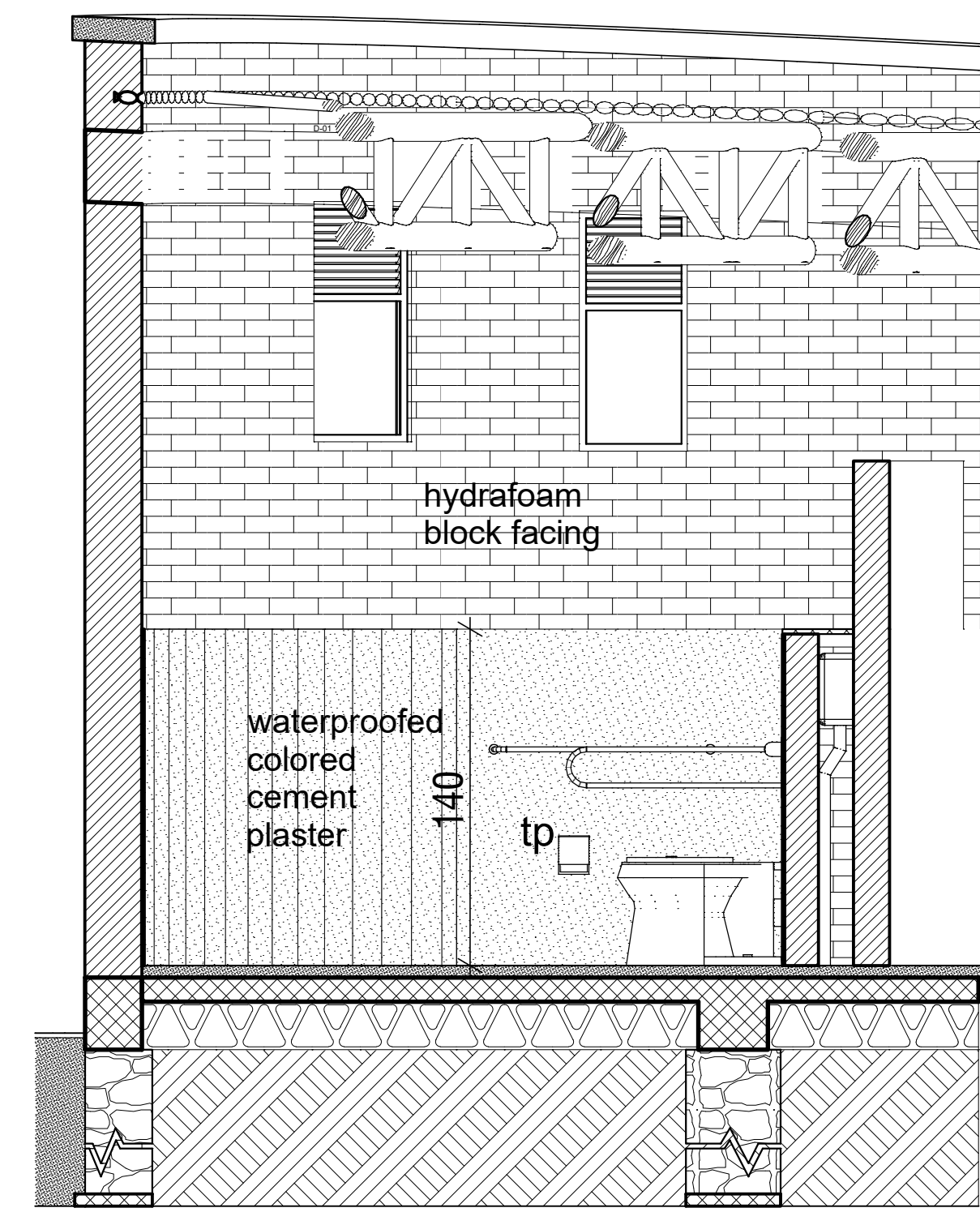
PWD WC Cubicle
View 01



PWD WC Cubicle
View 02



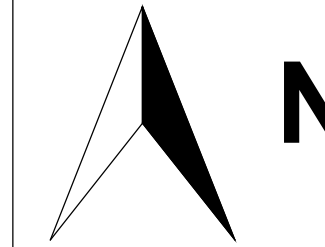
PWD WC Cubicle
View 03



PWD WC Cubicle

View 04

GENERAL NOTES:



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Bureau of Education

Program:	
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

	Implemented By:
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e	UNOPS , ETHIOPIA OPERATIONAL HUB
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Project Name:	
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Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

	Design:

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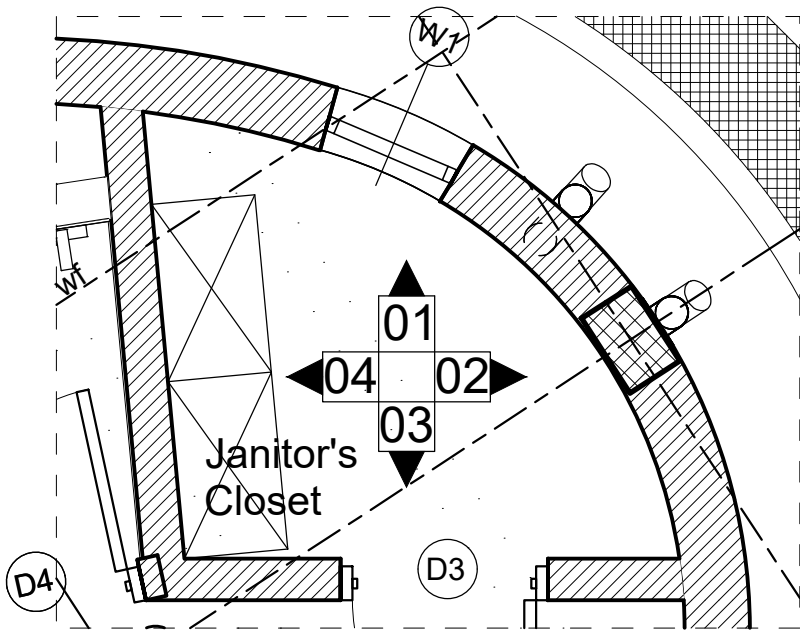
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School Latrine Typology

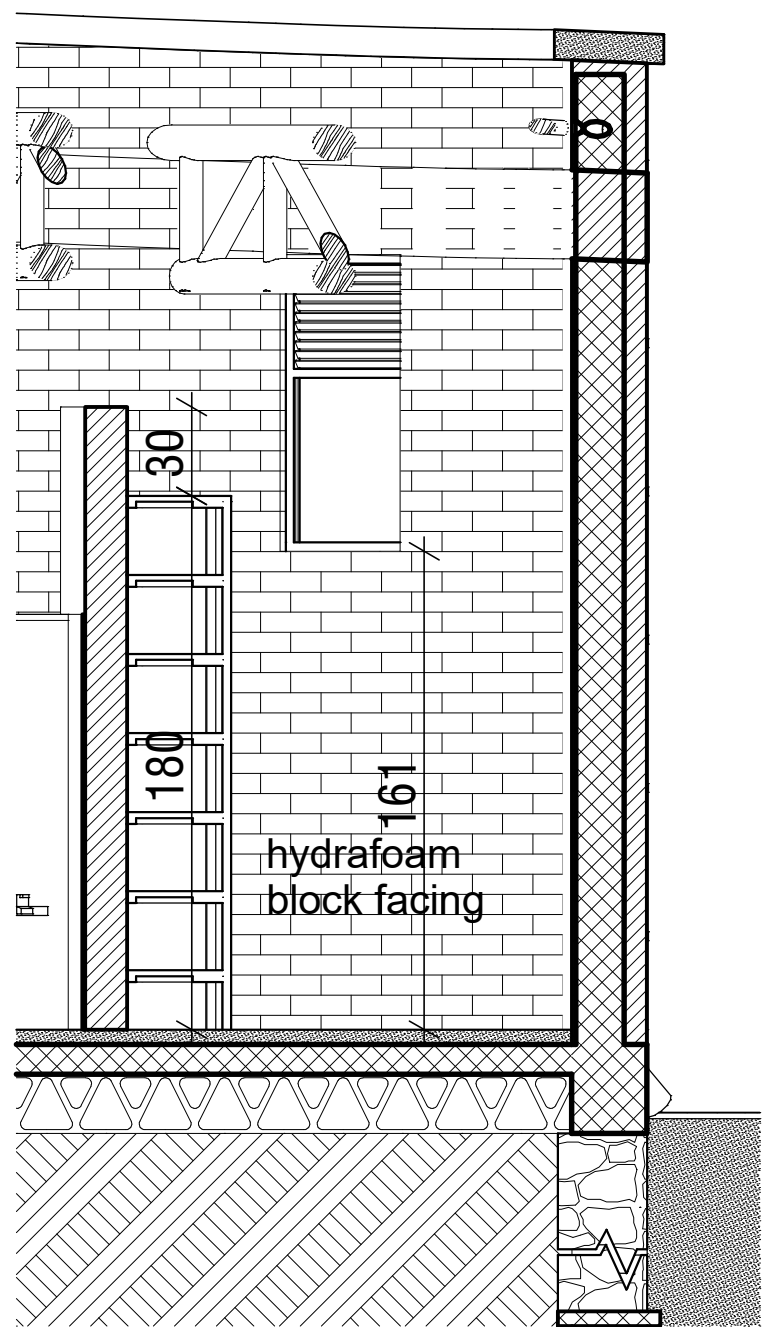
Wall Finish Details

Designed by			Discipline:		Dr. No:		Tot. No:		Rev No:	
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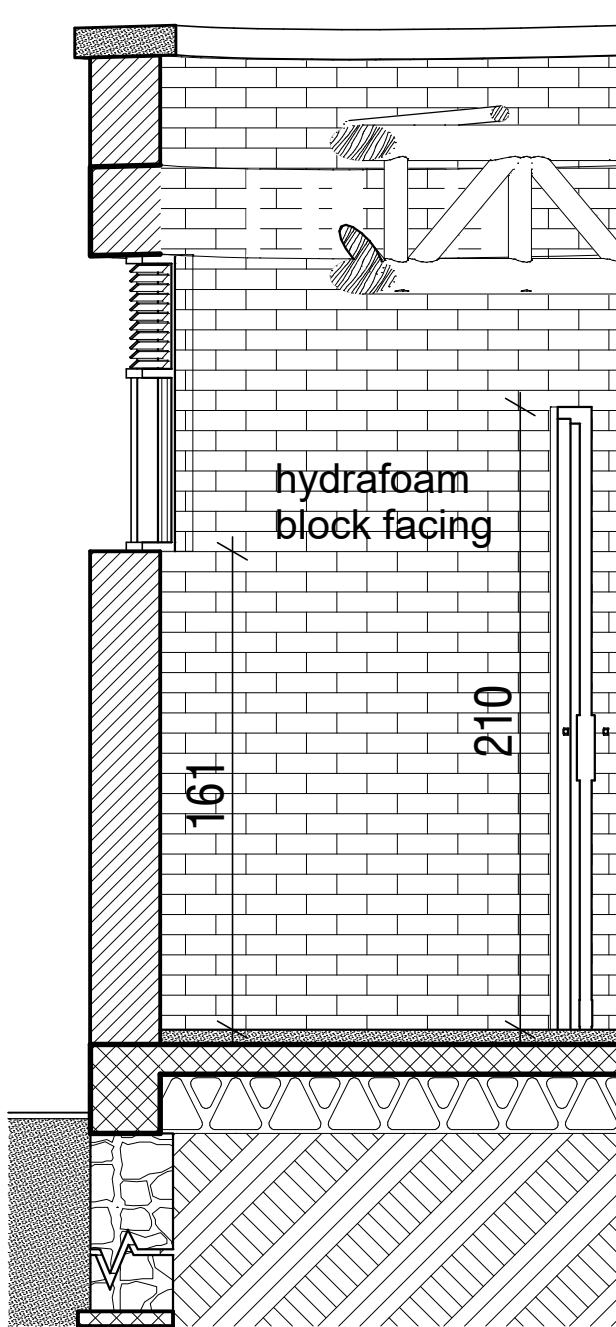
Wall Finish Details



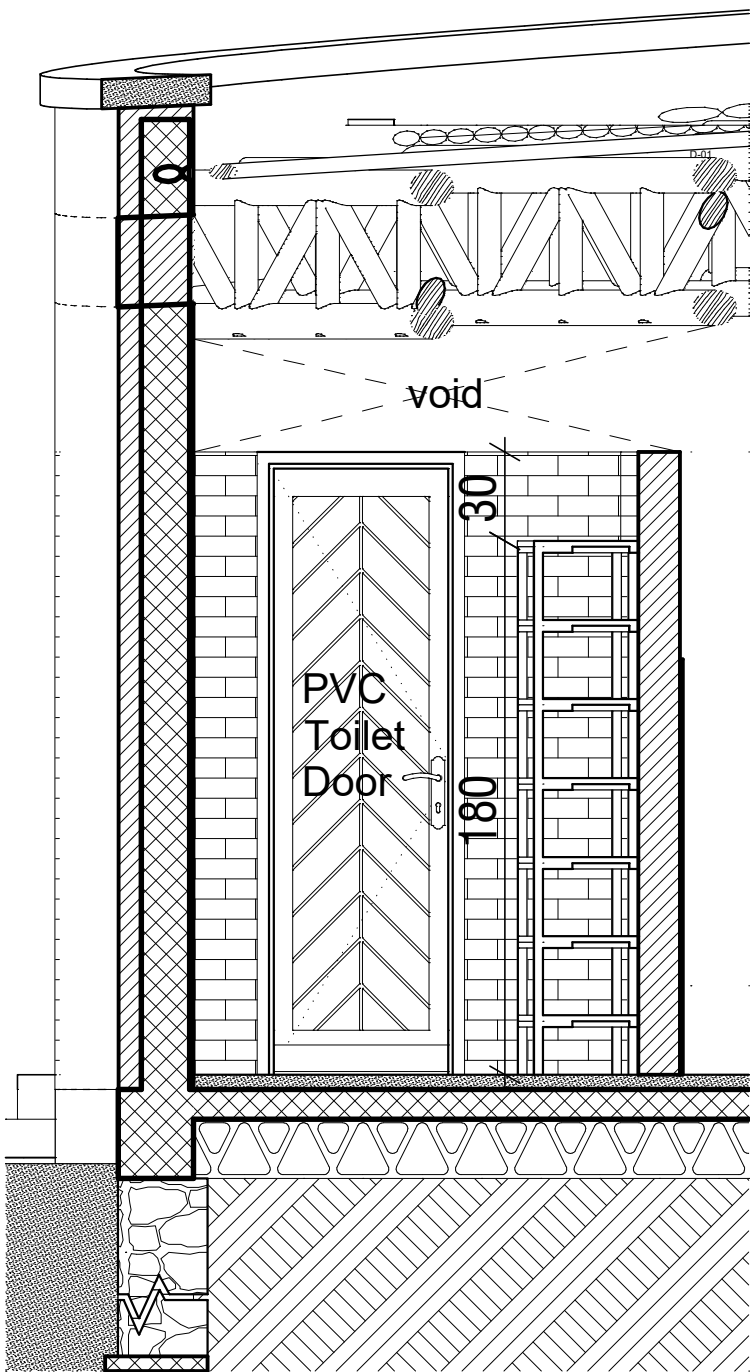
Janitor's Closet
Floor Plan



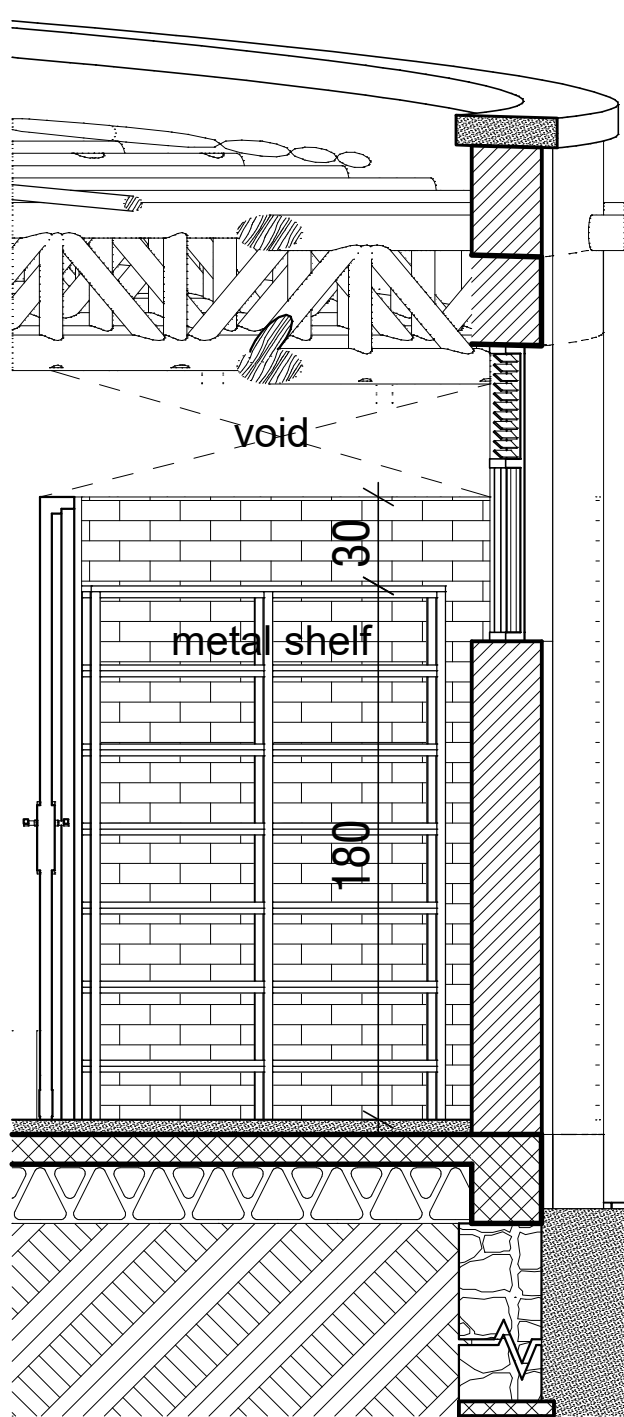
Janitor's Closet
View 01



Janitor's Closet
View 02



Janitor's Closet
View 03



Janitor's Closet
View 04

GENERAL NOTES:



All dimensions are in centimeters unless otherwise explicitly stated on the dimension.

The drawings may have been scaled to fit the desired paper size.

0	15 / 12 / 2019	Original	On process
Rev.:	Date:	Description:	Approved

KEY PLAN

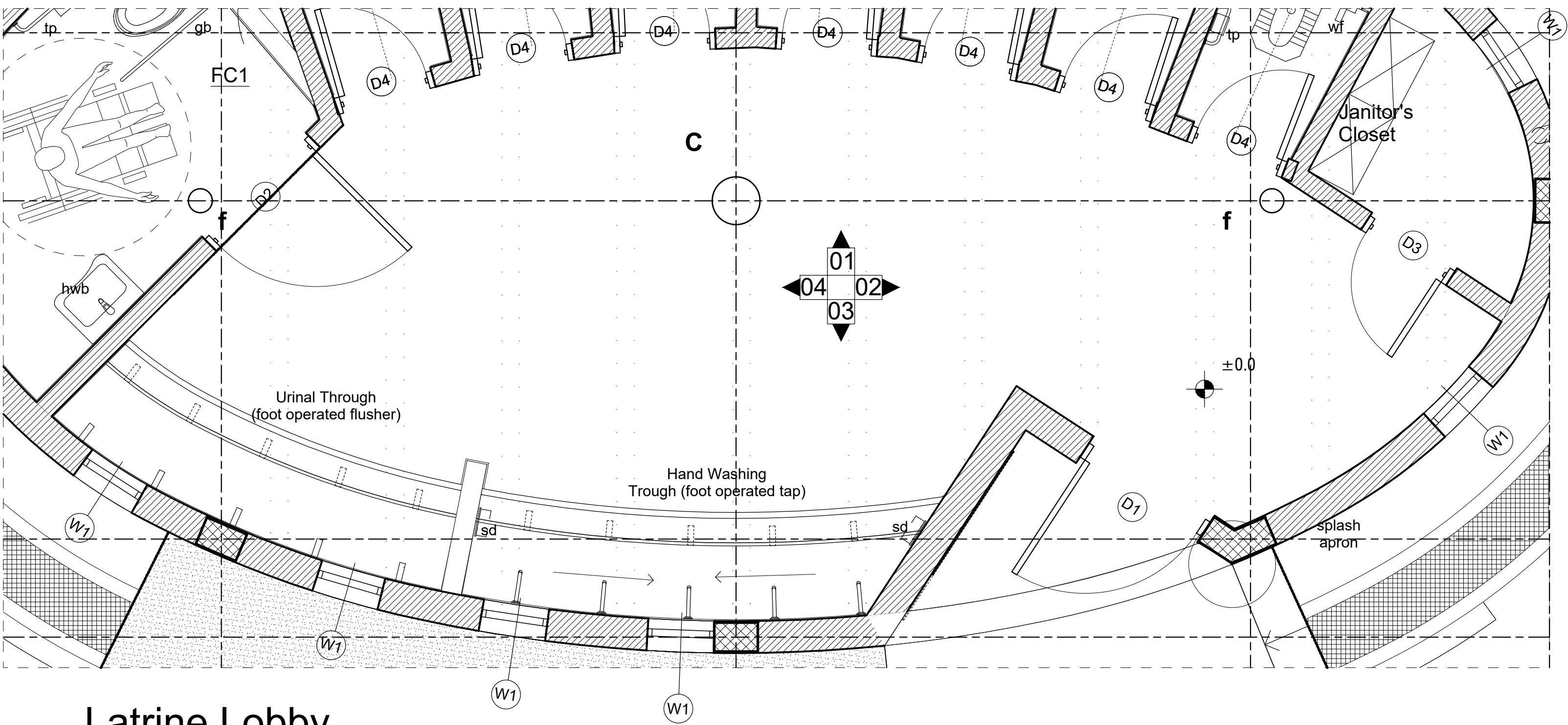
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Funded By:	Partner:
Italian Agency for Development Cooperation	Bureau of Education
Program:	Implemented By:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Drawing Title:	

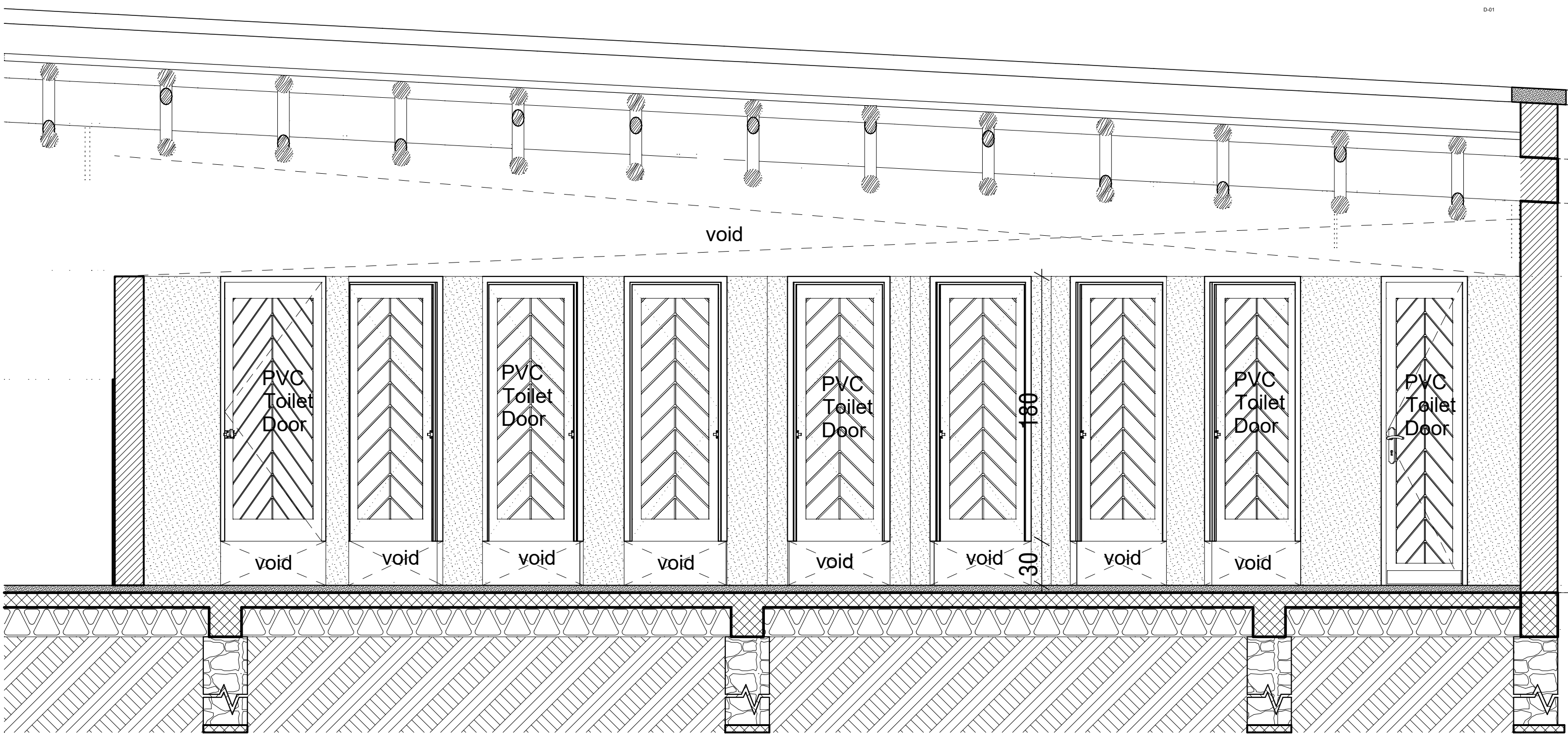
School Latrine Typology
Wall Finish Details

Designed by		Discipline:	Dr. No:	Tot. No:	Rev No:
MM		AR	32	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:	Date:
MM	BM	SM	A1	1:25	15 / 12 / 2019
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				0	

Wall Finish Details



Latrine Lobby
Floor Plan



Latrine Lobby
View 01

GENERAL NOTES:



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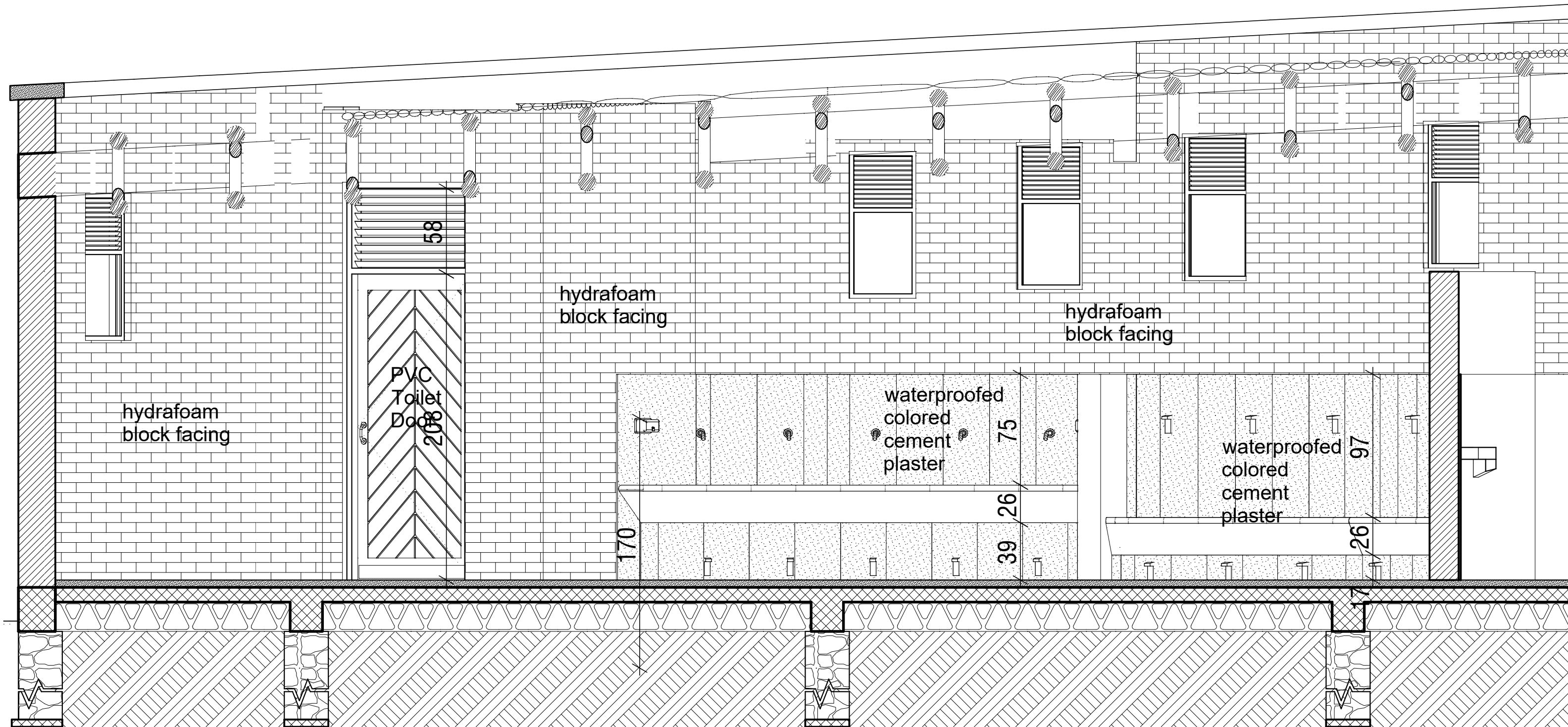
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0	15 / 12 / 2019	Original		On process
Rev.:	Date:	Description:		Approved

KEY PLAN

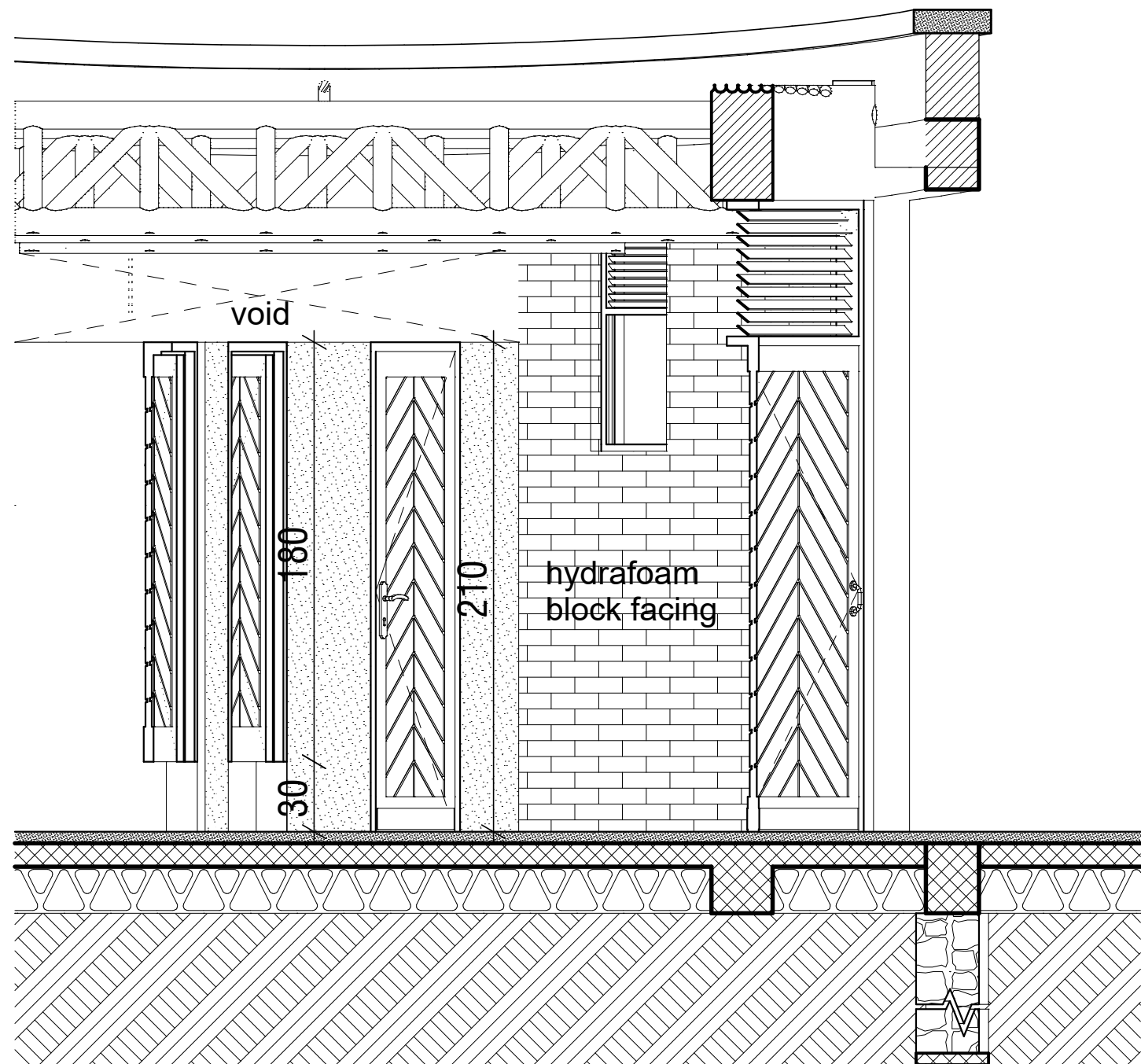
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Program:	Implemented By:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Project Name:	Design:
Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia	UNOPS , ETHIOPIA OPERATIONAL HUB
Drawing Title:	

School Latrine Typology Wall Finish Details				
Designed by	Discipline:	Dr. No:	Tot. No:	Rev No:
MM	AR	33	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:
MM	BM	SM	A1	1:25
		Date:	Rev.:	
		15 / 12 / 2019	0	

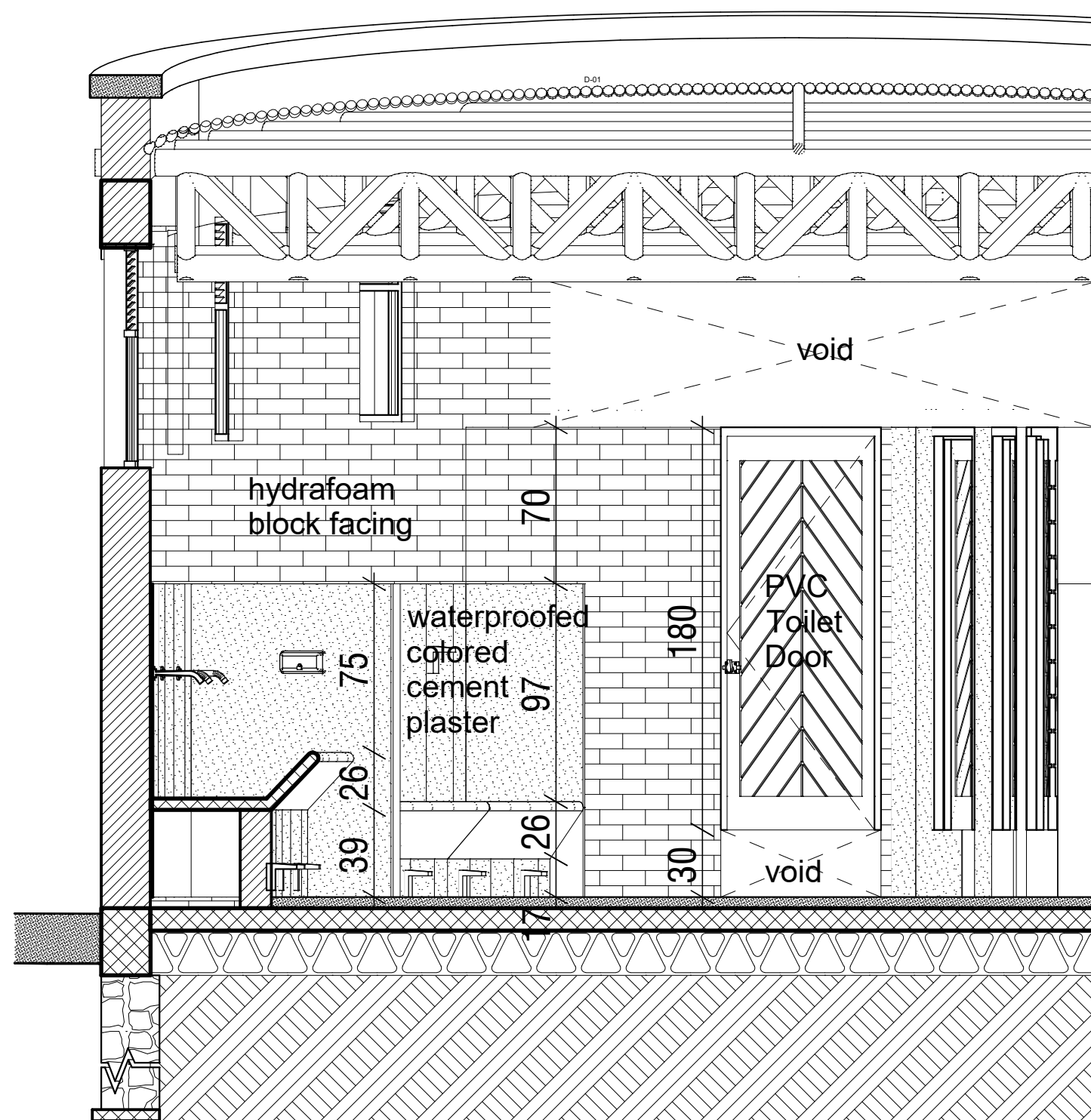
Wall Finish Details



Latrine Lobby
View 03

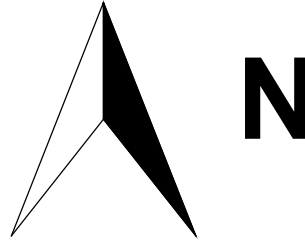


Latrine Lobby
View 02



Latrine Lobby
View 04

GENERAL NOTES:



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Funded By:

Italian Agency for
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Partner:

Bureau of Education

Program:

Implemented By:

Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

UNOPS , ETHIOPIA
OPERATIONAL HUB

Project Name	
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Design

Eco-Friendly Latrines to Improve Sanitation in Schools of Ethiopia

UNOPS ,ETHIOPIA
OPERATIONAL HUB

Drawing Title:

School Latrine Typology

Wall Finish Details

Designed by			Discipline:	Dr. No:	Tot. No:	Rev No:
MM			AR	34	34	R0
Drawn:	Checked:	Approved:	Size:	Scale:	Date:	Rev.:
MM	BM	SM	A1	1:25	15 / 12 / 2019	0