

1. Cutting the cement block where the columns.
2. Demolition for Roof and walls of the Staircase.
3. Demolition for the existing floor tiles with screed plain concrete.
4. Relocate the water tank to be on the roof to supply the building while working then install it again on the roof of the staircase.
5. Dismantling the exiting staircase solid door with its frame then install it again on the new staircase roof.
6. Dismantling for the existing Solar water heater then reinstall it again on the new roof.
7. Demolition for the wall to be as a emergency door.
8. Dismantling the exiting Aluminum windows.
9. Dismantling the Ac then reinstall it again.
10. Demolition for the staircase walls.

United Nations Development
Programme (UNDP)



Project: Fourth Floor on UNDP
Operation Building

Location: Sana'a- Yemen



Drawing Title: Mobilization Work

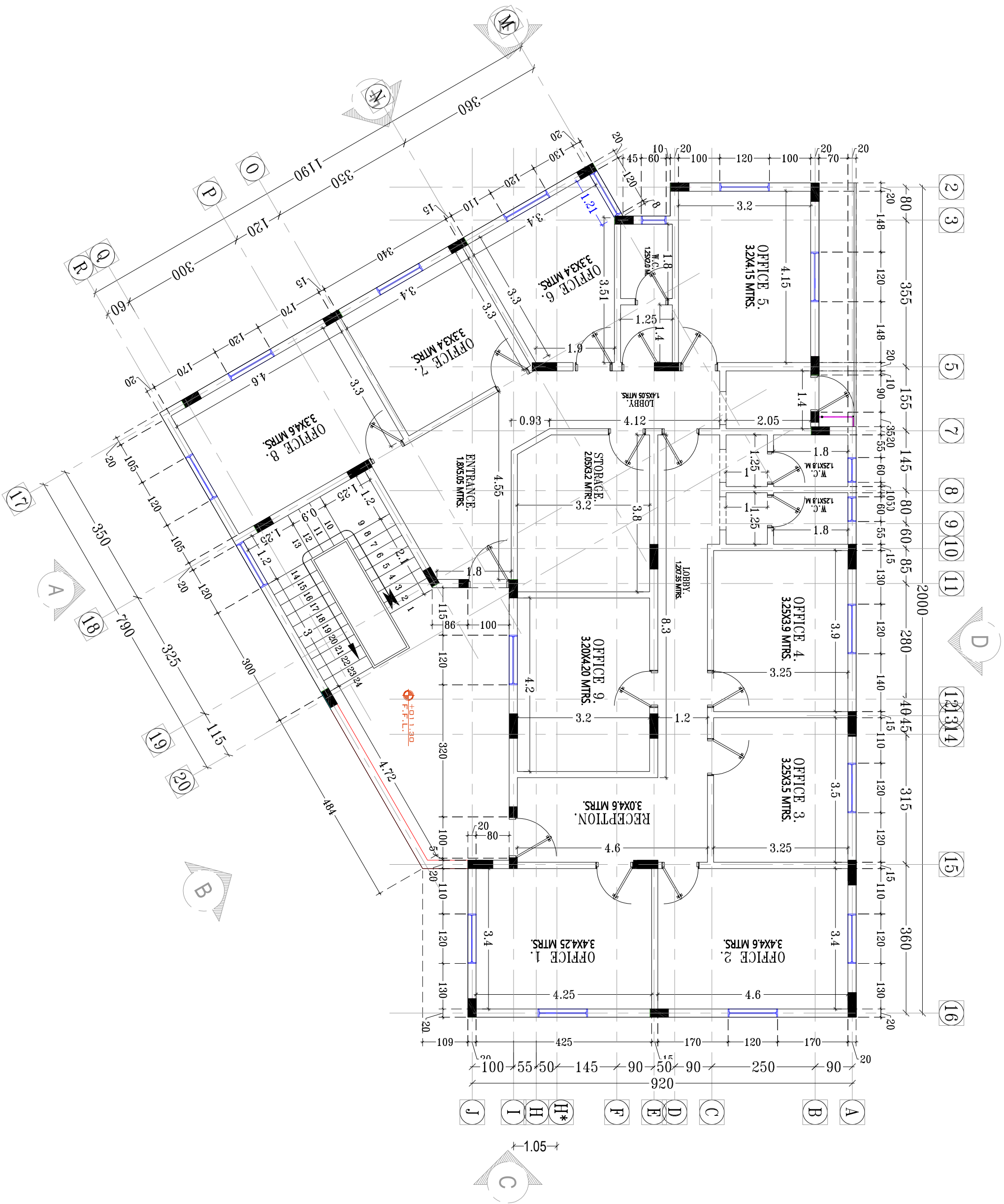
Design By : UNDP Engineering Unit

Drawing Type: Architecture

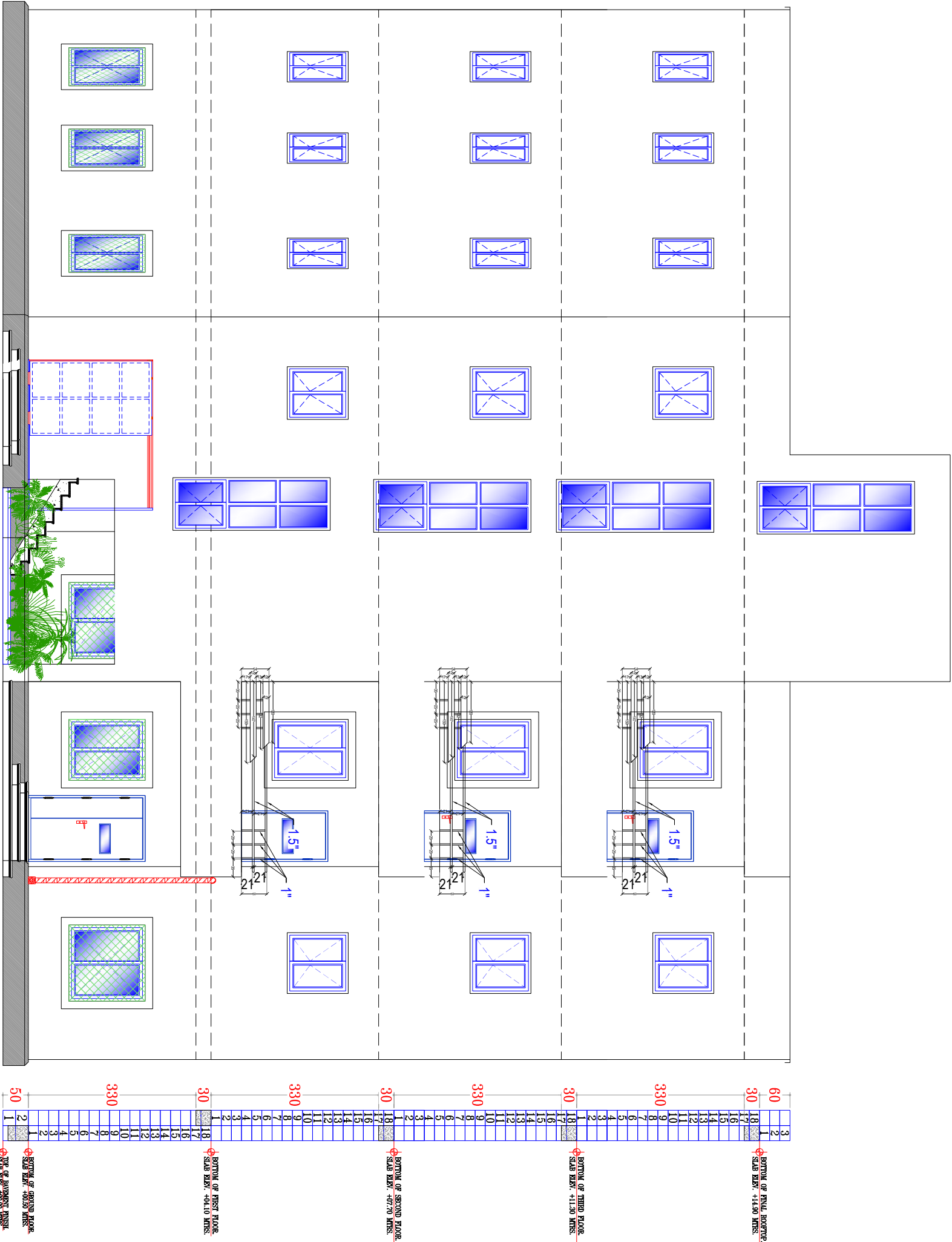
Status :

Date: 21 September 2022

Drawing No. ①



United Nations Development Programme (UNDP)	
Project:	Fourth Floor on UNDP Operation Building
Location:	Sana'a - Yemen
Drawing Title: Architecture Plan Work	
Design By : UNDP Engineering Unit	
Drawing Type: Architecture	Status :
Date: 21 September 2022	Drawing No. ②



ELEVATION A MAIN SOUTH ELEV. PLAN DETAILS.

SCALE: 1:75.

United Nations Development
Programme (UNDP)

Project: Fourth Floor on UNDP
Operation Building

Location: Sana'a- Yemen

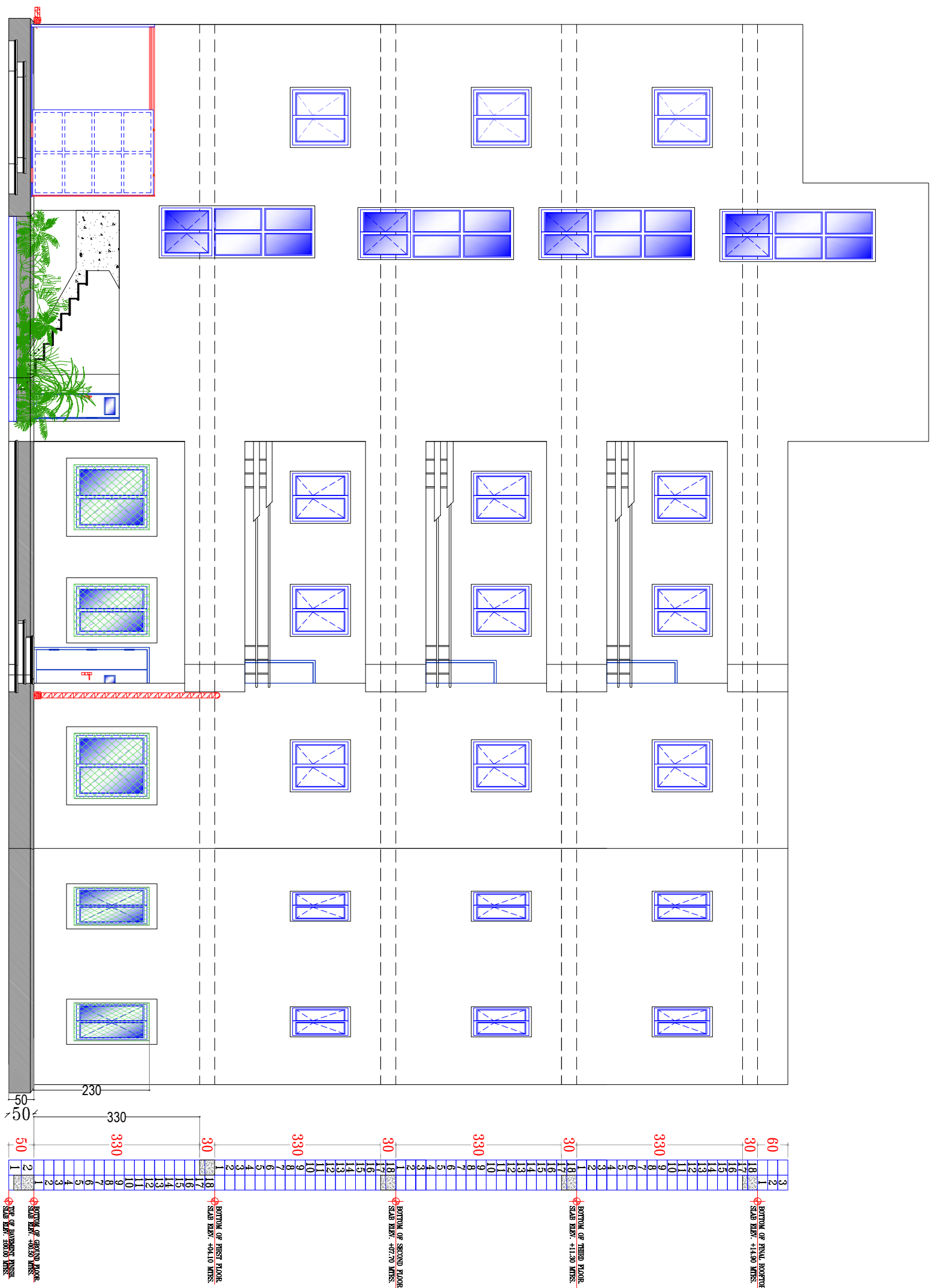
Drawing Title: Elevation A

Design By : UNDP Engineering Unit

Drawing Type: Architecture

Date: 21 September 2022

Drawing No. ③



ELEVATION B MAIN SOUTH - EAST ELEV. PLAN DETAILS.

SCALE: 1:75.

United Nations Development
Programme (UNDP)

Project: Fourth Floor on UNDP
Operation Building

Location: Sana'a- Yemen

Drawing Title: Elevation B

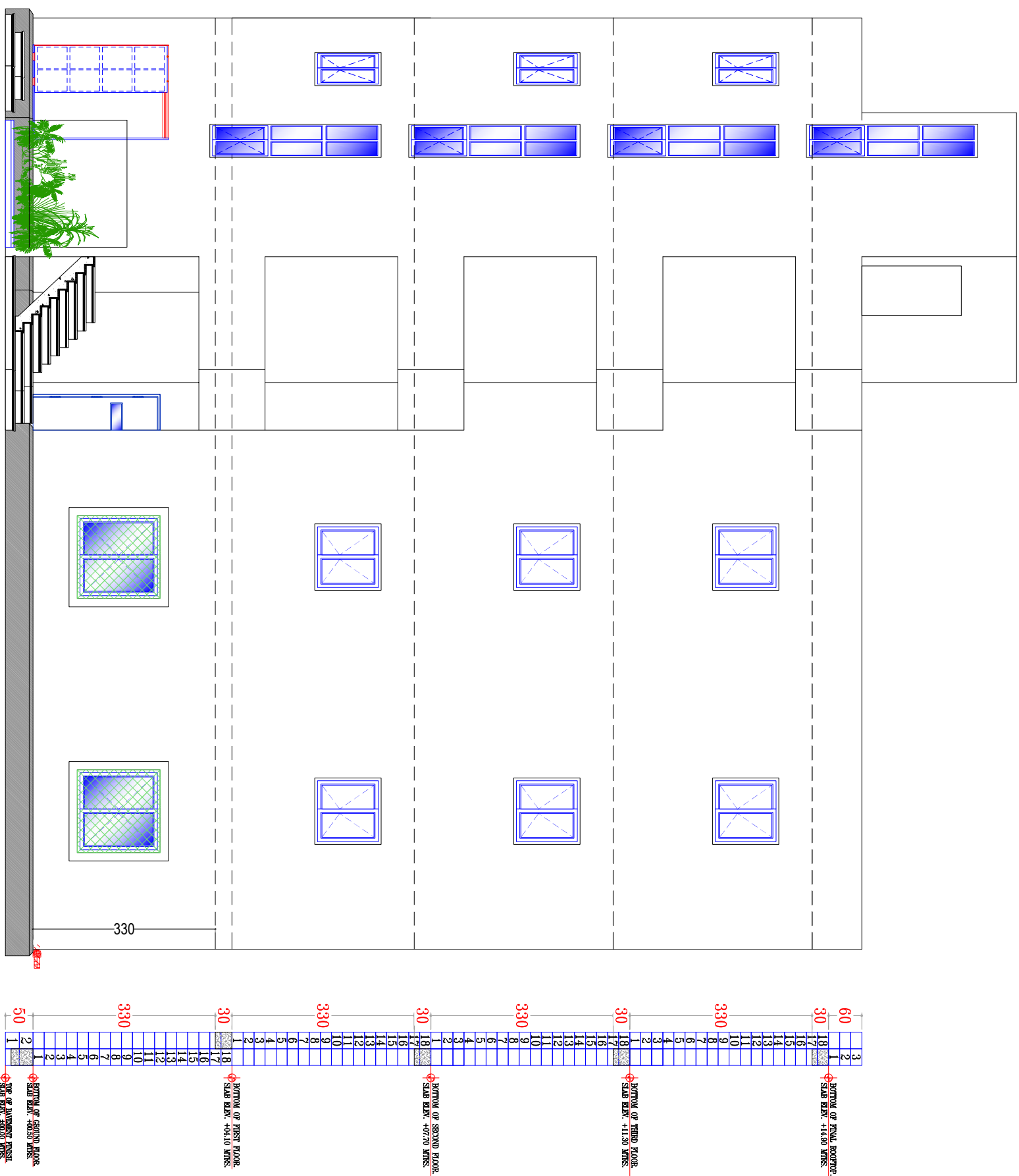
Design By : UNDP Engineering Unit

Drawing Type: Architecture

Date: 21 September 2022

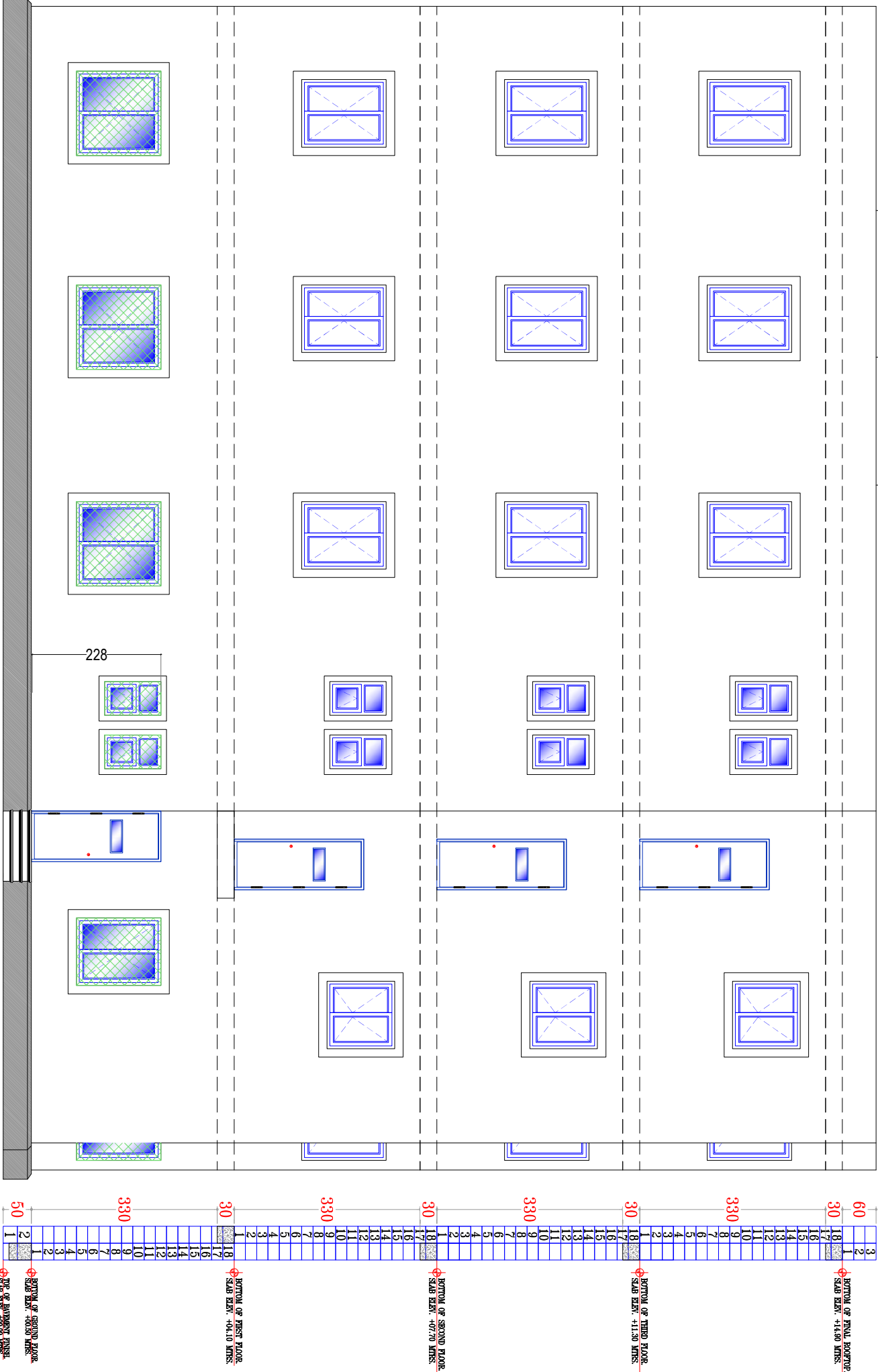
Drawing No. ④





ELEVATION C SIDE EAST ELEV. PLAN DETAILS.

SCALE: 1:75.



ELEVATION D REAR NORTH ELEV. PLAN DETAILS.

SCALE: 1:75.

United Nations Development
Programme (UNDP)

Project: Fourth Floor on UNDP
Operation Building

Location: Sana'a- Yemen

Drawing Title: Elevation D

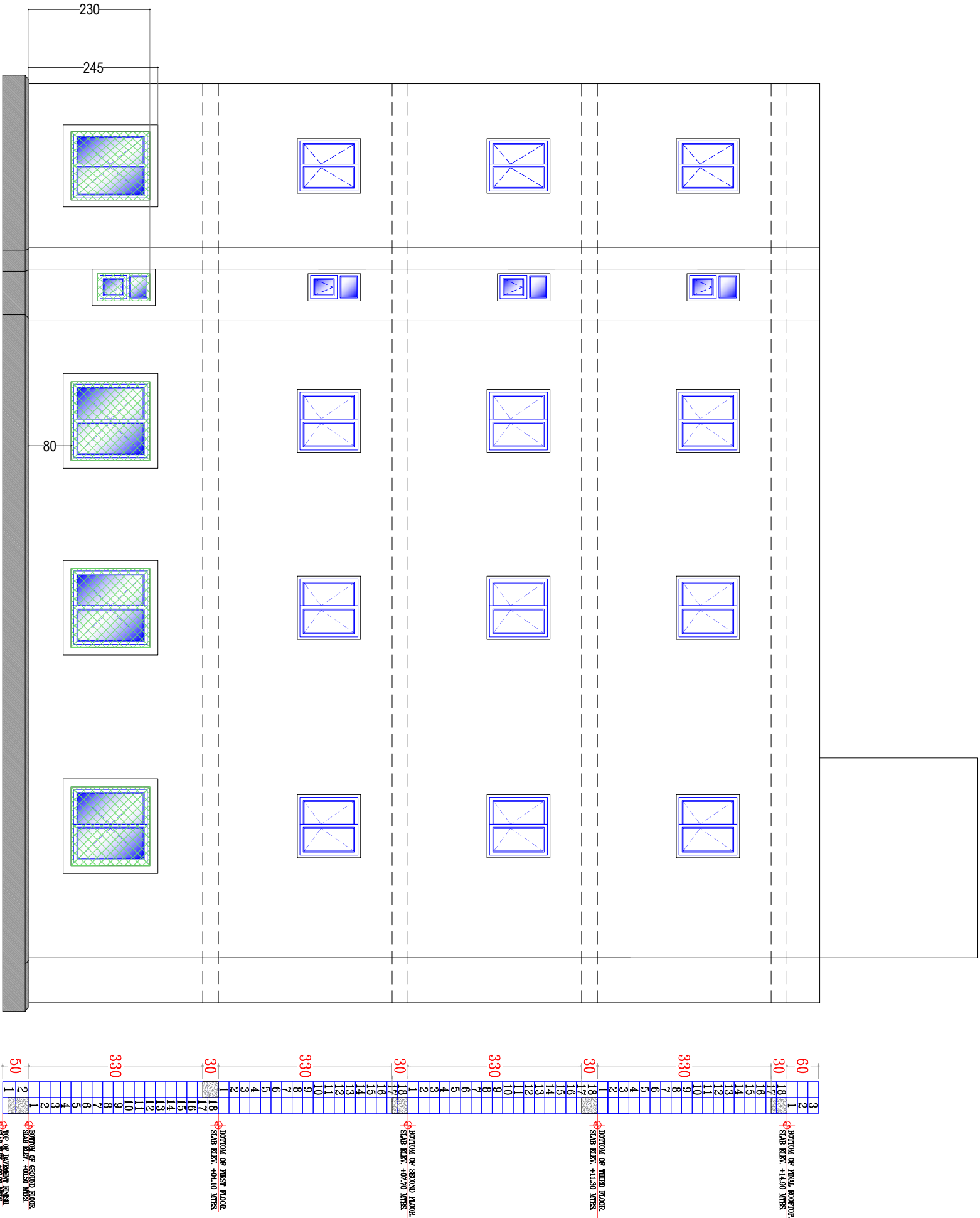
Design By : UNDP Engineering Unit

Drawing Type: Architecture

Date: 21 September 2022

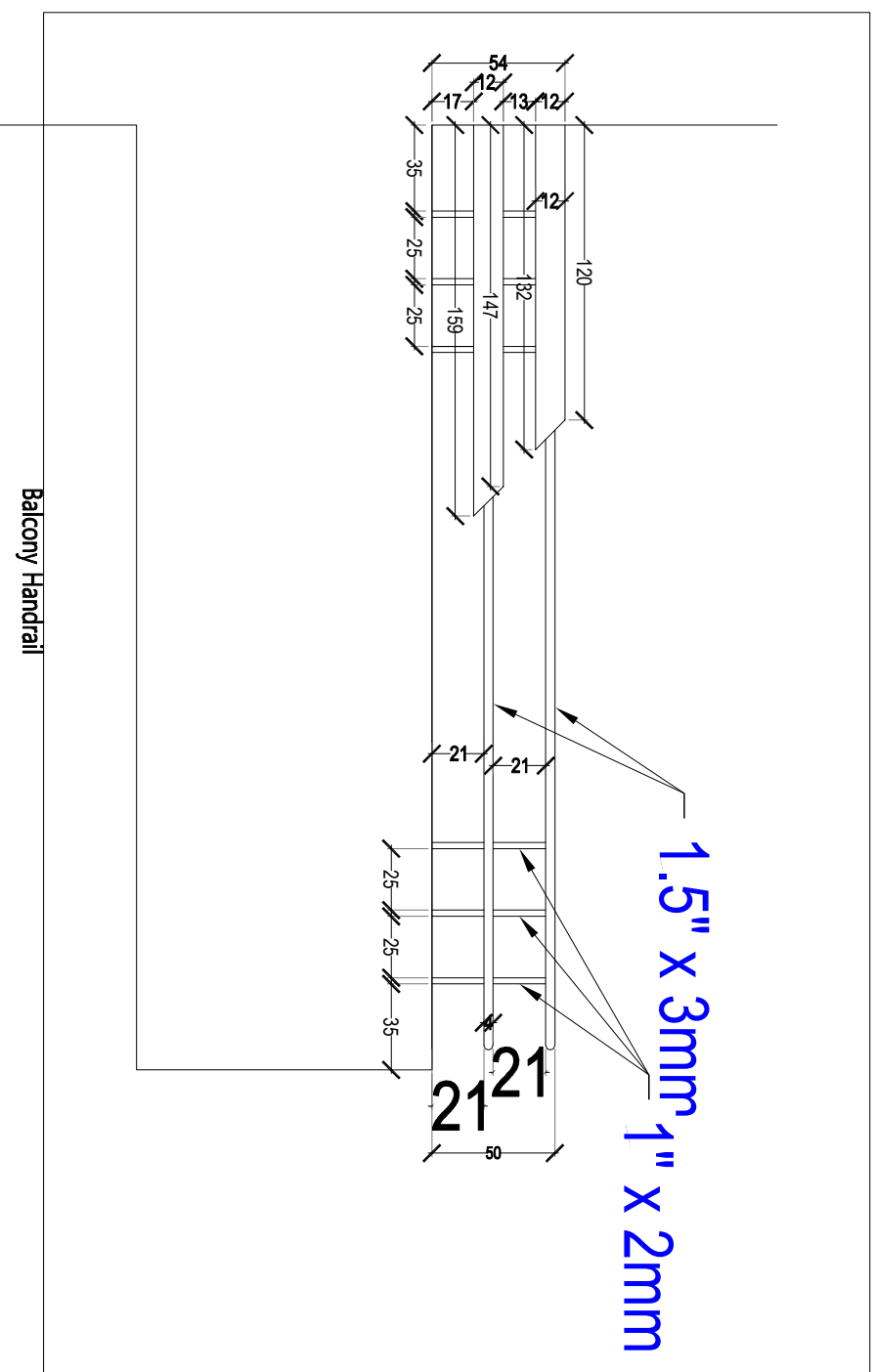
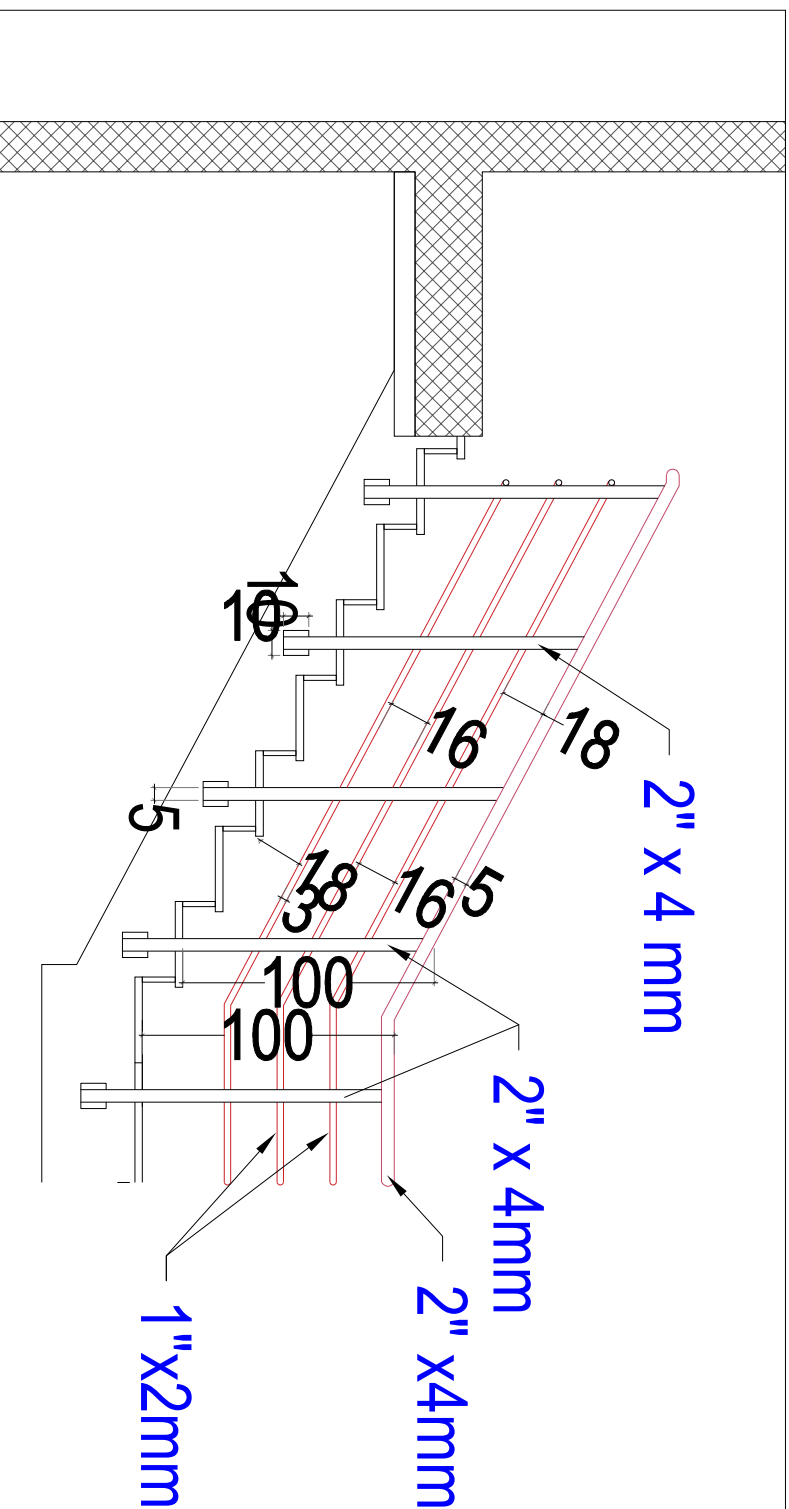
Drawing No. 6

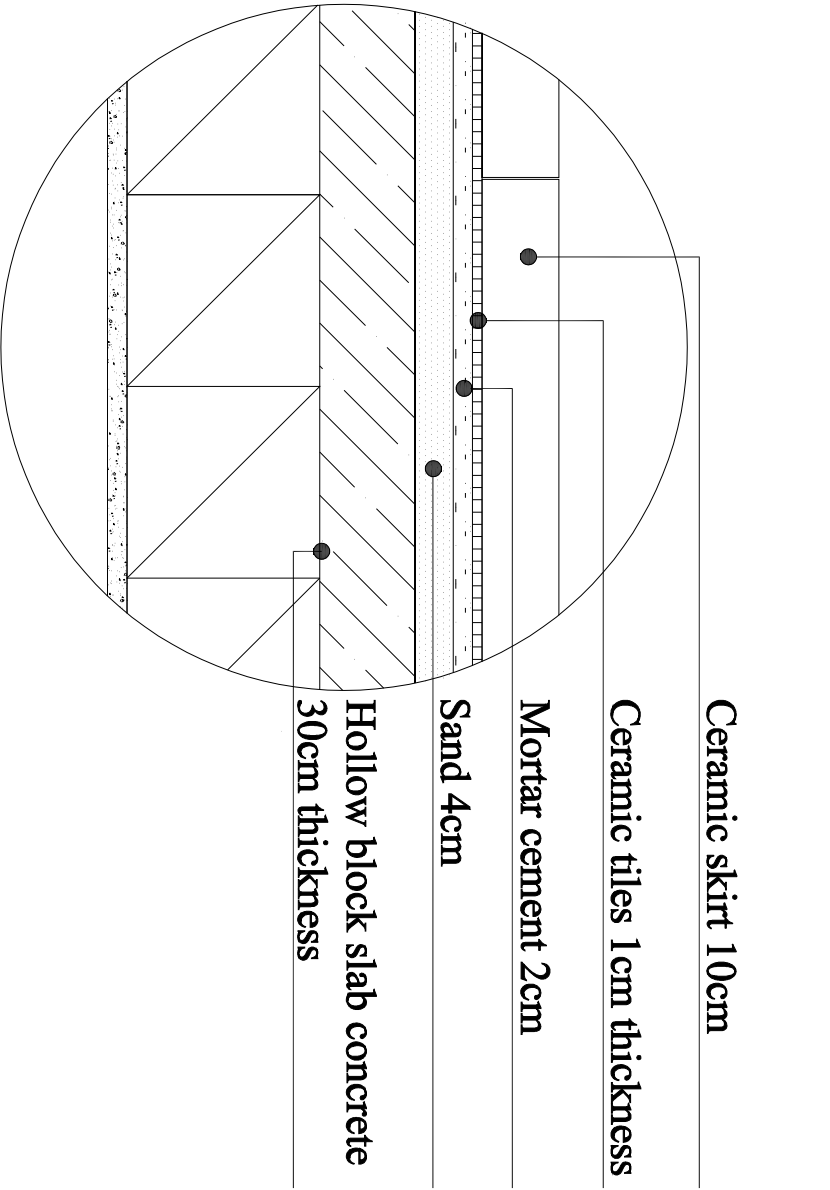




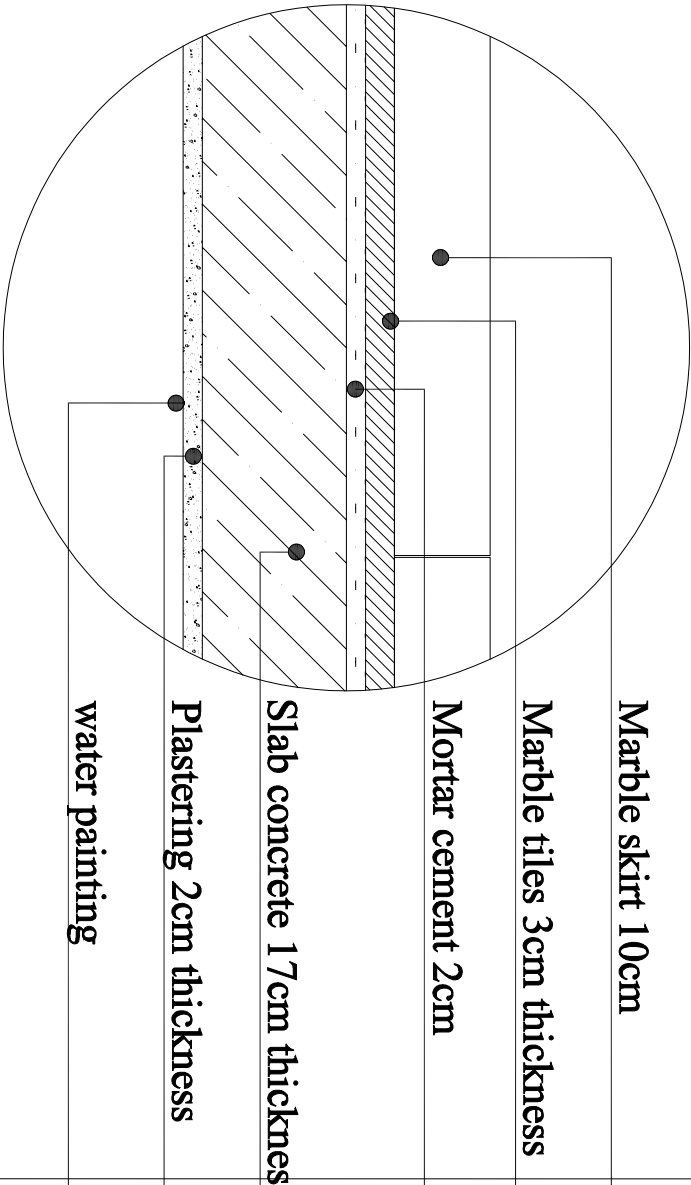
ELEVATION F SIDE WEST - SOUTH ELEV. PLAN DETAILS.

SCALE: 1:75.

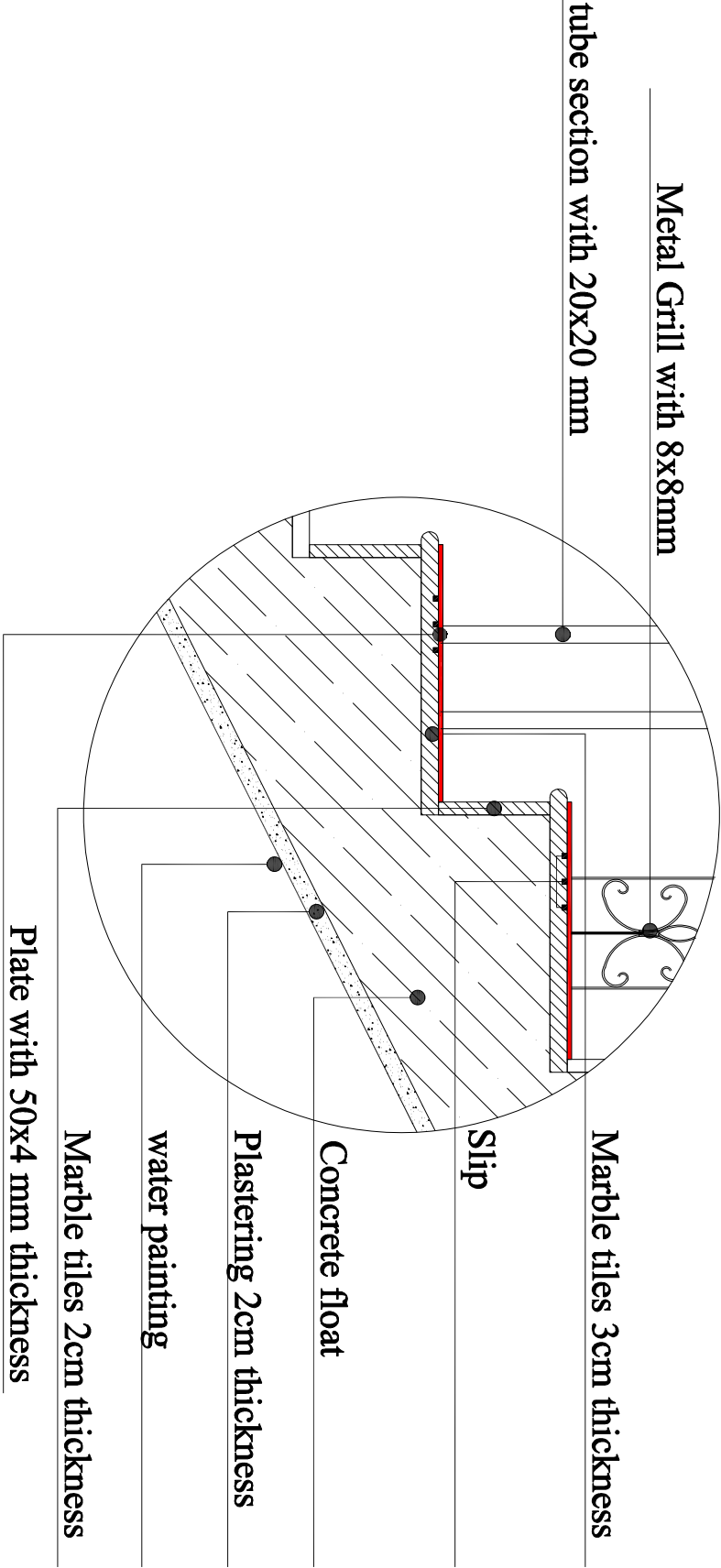




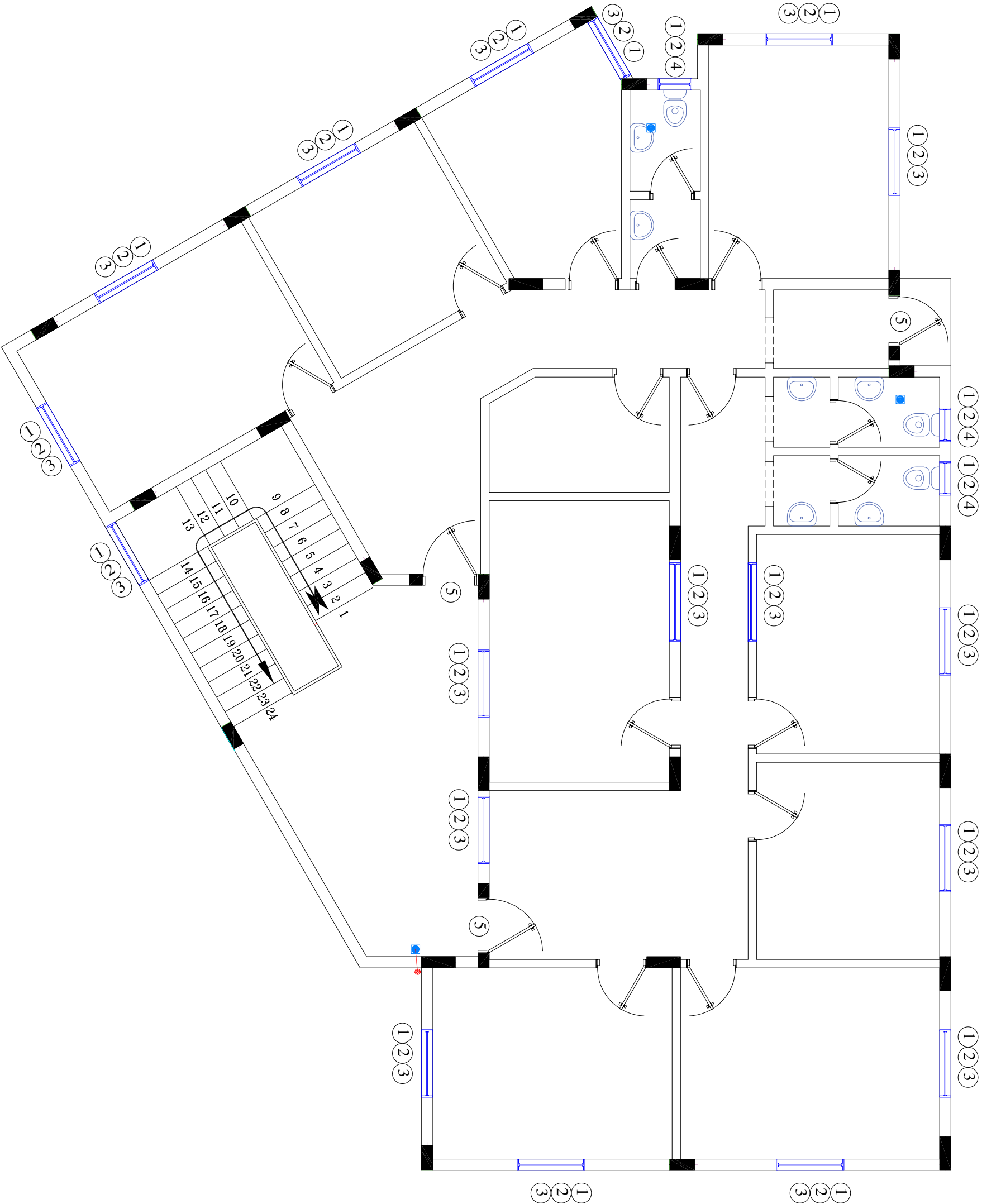
Detail (2): Floor slab



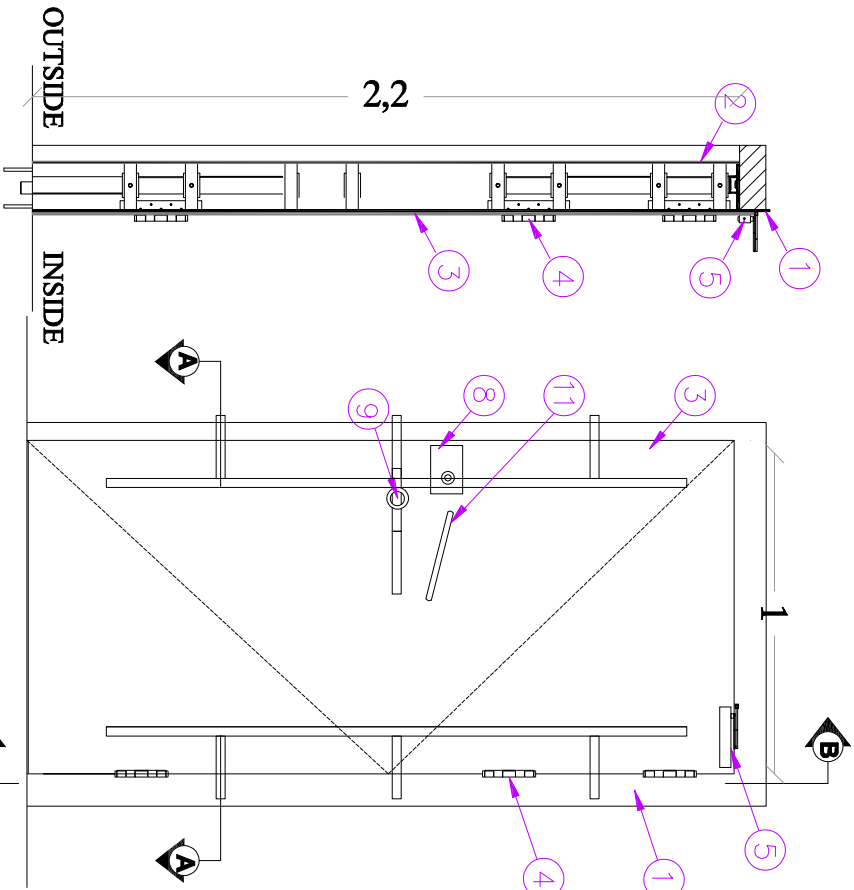
Detail (3): Stair Landing slab



Detail (4): Stairs

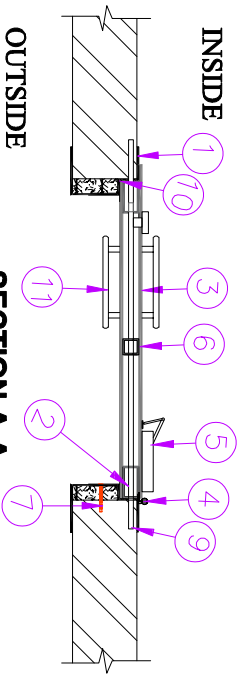


1. Reinforced window frames with steel bolts (Hilti-rated) 12mm dia. And 120 mm length into concrete/stone wall each 20 cm.
2. install (Anti-Shatter Resistance Films).
3. Installation frame catcher. as shown in detail 7.
4. Supply and installation of Polycarbonate frame catcher as shown .in detail 6.
5. Armord Door as shown in detail 5.



SECTION B-B

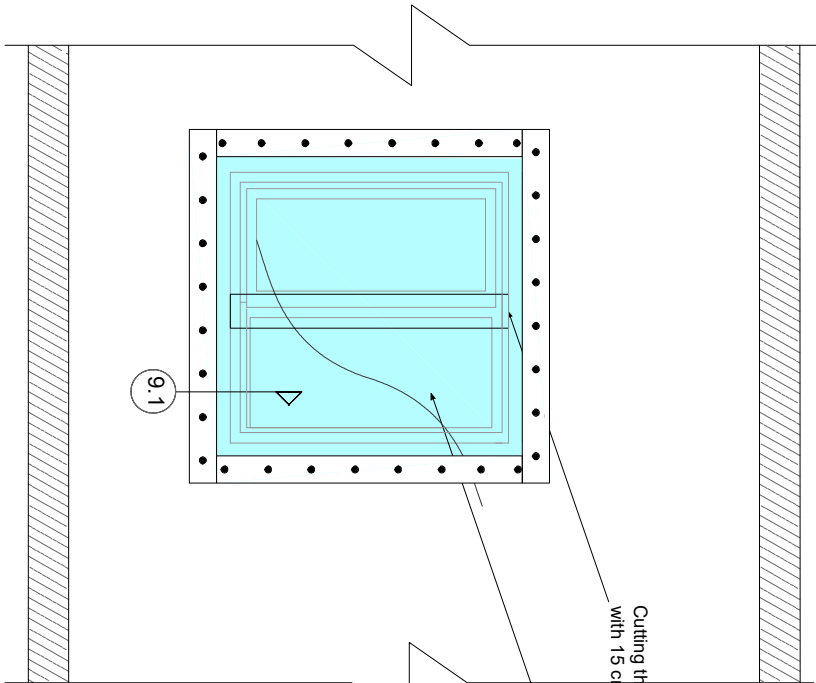
INTER ELEVATION



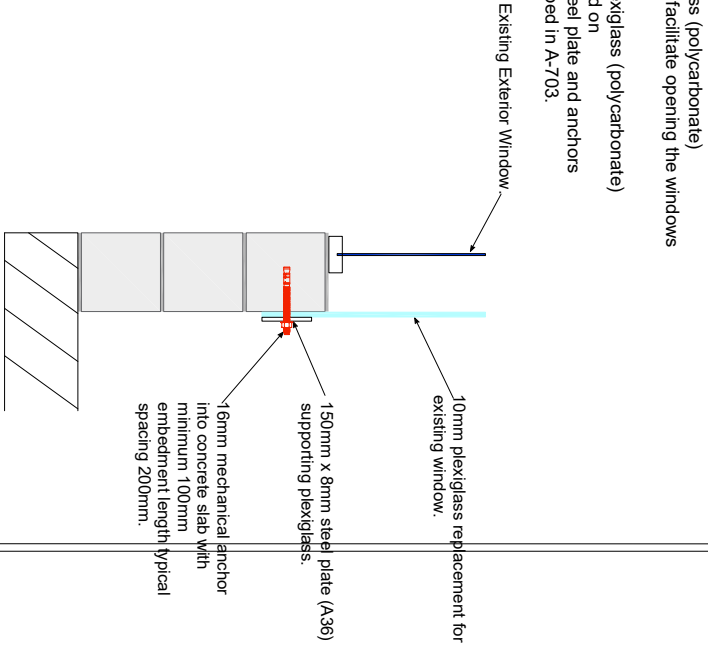
SECTION A-A

1. Blast-Resistant External Frame size 10 cm X50cm X6mm X 2.
2. Blast-Resistant Internal Frame size 50 X100 X3mm.
3. Steel door full metal plate 8 mm two sides (16mm thickness).
4. 45mm *150mm *3 Heavy Weight Hinge / Welded Knuckles / reinforced by steel plate from/to door steel frame.
5. Door closer.
6. A Tube with size 50 mm *50 mm * 3 mm to distribute it each 40 cm horizontal and vertical.
7. Hex Bolt on Concrete Anchor size D 20mm * 20 cm * 6 in all directions
8. Electrical locked.
9. Manual lock inside 3* 400mm*30mm *2 in both side with handle and covering the grooves by plate 4mm.
10. Four side sealing strip smoke protection.
11. Handles with steel pipe 1 in Dia

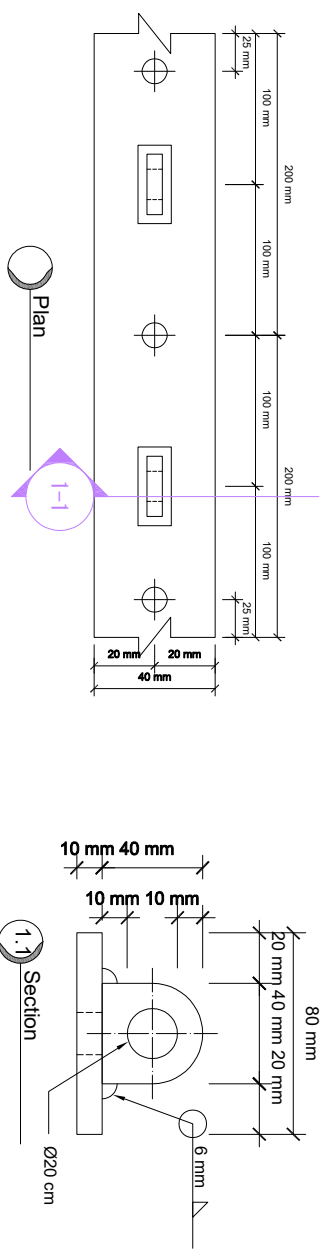
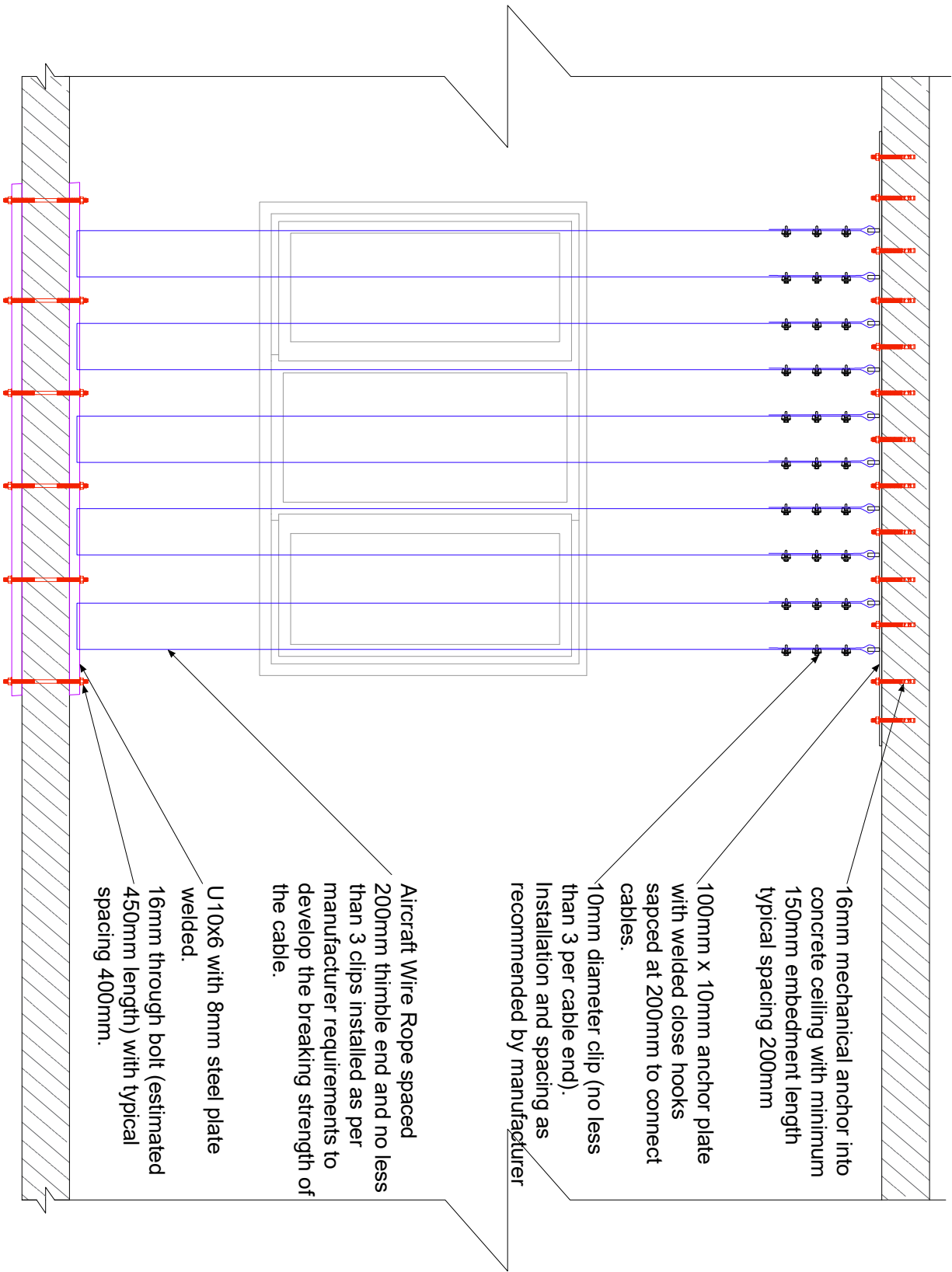
Detail 5 : Steel Door



Detail 6 : Window Plexiglass Upgrade.

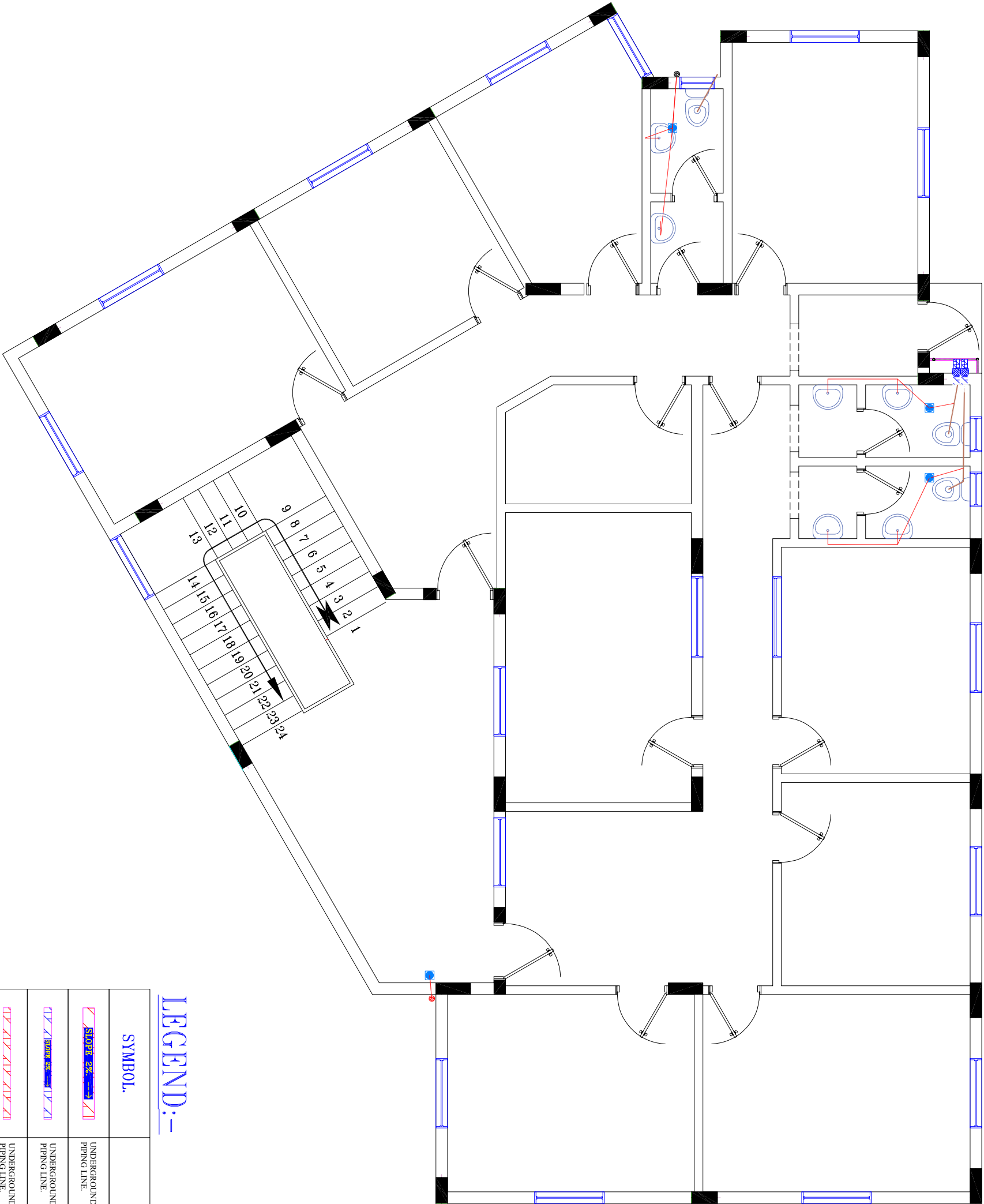


Plexiglass Hardening





Detail 7 : Frame Catcher

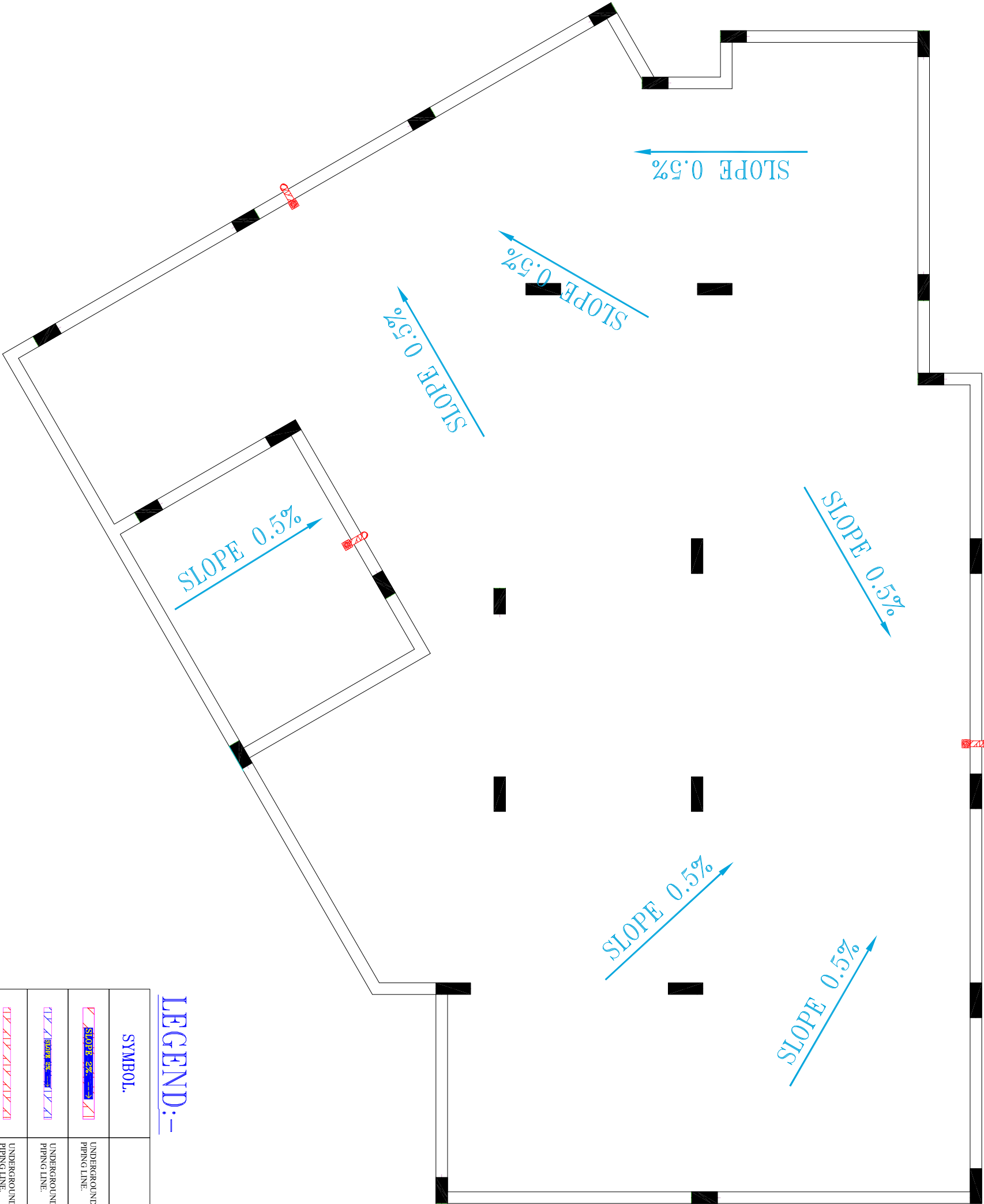
United Nations Development Programme (UNDP)	
Project:	Fourth Floor on UNDP Operation Building
Location:	Sana'a- Yemen
Drawing Title: Detail 7 for Frame Catcher	
Design By : UNDP Engineering Unit	
Drawing Type: Architecture	Status :
Date: 21 September 2022	Drawing No. 13



LEGEND:-

SYMBOL.	DESCRIPTION.
	UNDERGROUND 8.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	UNDERGROUND 6.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	UNDERGROUND 4.0 INCH RAIN DRAINAGE SCHEDULE 80 PVC PIPING LINE.
	INSIDE EXTERIOR WALLS 4.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	4.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	3.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	QUANTITY AND DIRECTION OF THE BUILDING FLOORING TILE



United Nations Development Programme (UNDP) 	
Project: Fourth Floor on UNDP Operation Building	
Location: Sana'a - Yemen	
Drawing Title: Plumbing Work	
Design By : UNDP Engineering Unit	
Drawing Type: Architecture	Status :
Date: 21 September 2022	Drawing No. 14



LEGEND:-

SYMBOL.	DESCRIPTION.
	UNDERGROUND 8.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	UNDERGROUND 6.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	UNDERGROUND 4.0 INCH RAIN DRAINAGE SCHEDULE 80 PVC PIPING LINE.
	INSIDE EXTERIOR WALLS 4.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	4.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	3.0 INCH WASTEWATER SCHEDULE 80 PVC PIPING LINE.
	QUANTITY AND DIRECTION OF THE BUILDING FLOORING TILE

United Nations Development Programme (UNDP)



Project:

Fourth Floor on UNDP Operation Building

Location:

Sana'a - Yemen

Drawing Title:

Rainwater Drainage

Design By :

UNDP Engineering Unit

Drawing Type:

Architecture

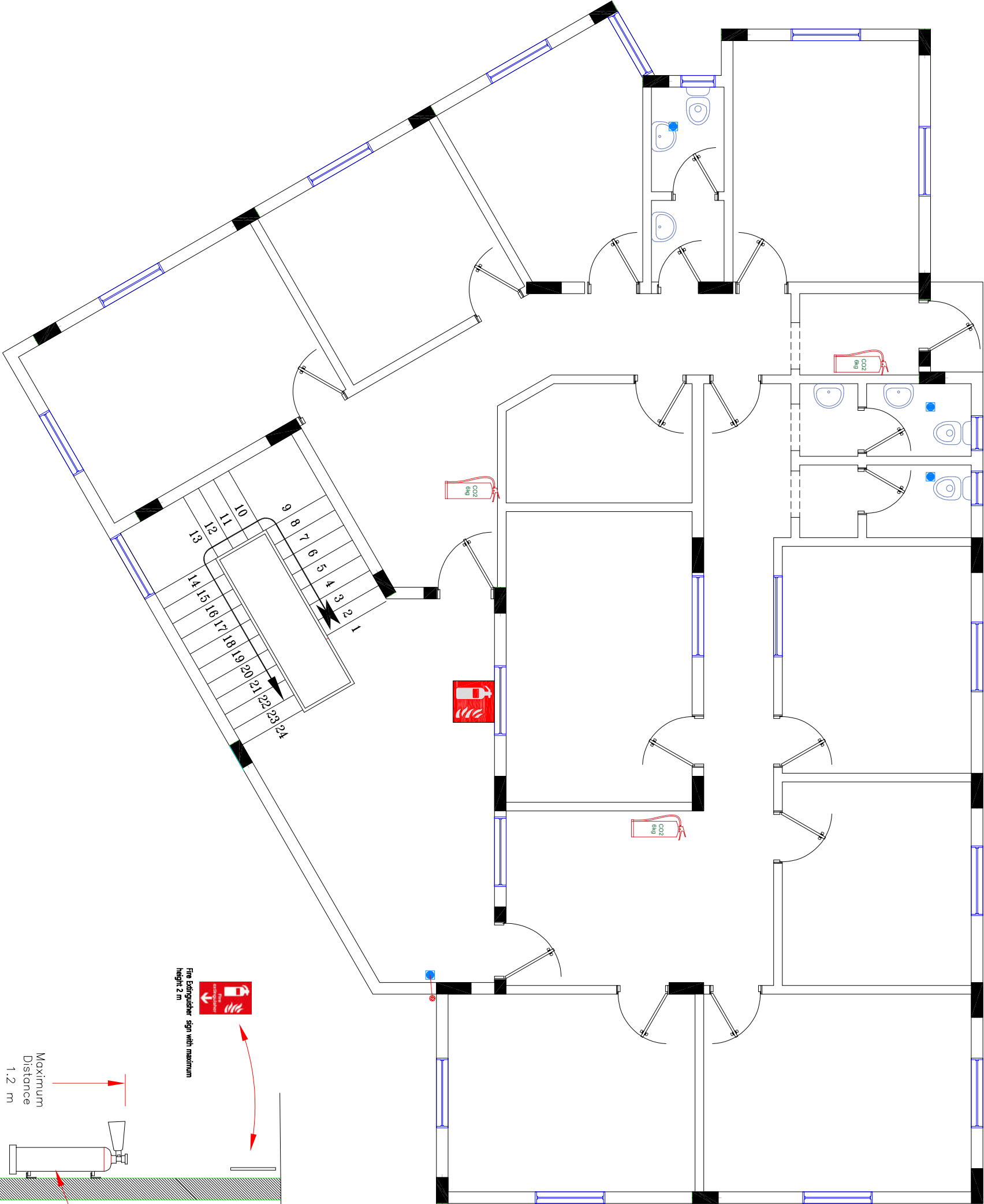
Date:

21 September 2022

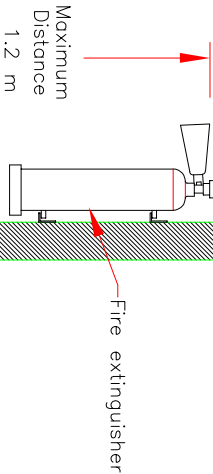
Status :

Drawing No.



15



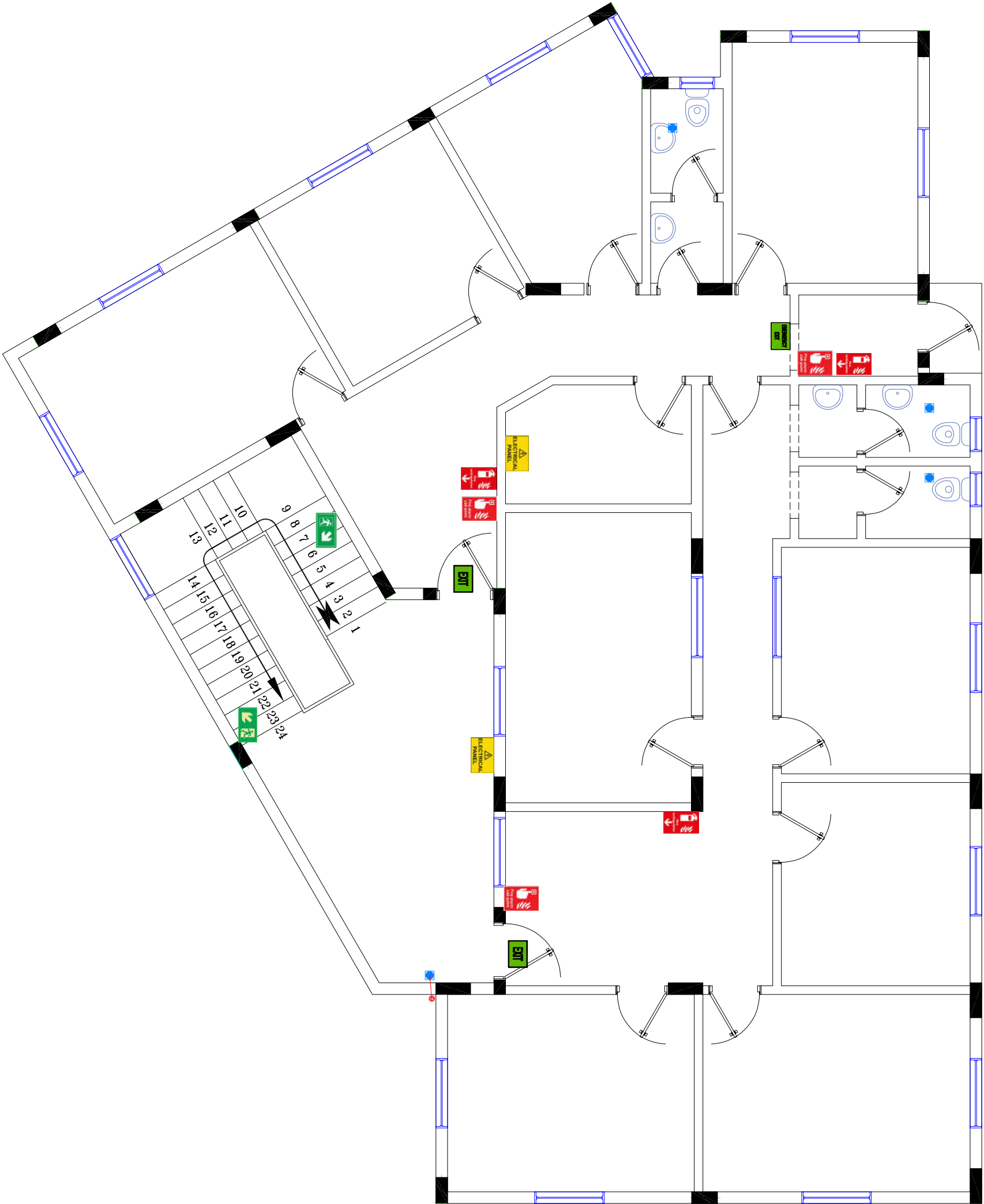
Fire extinguisher sign with maximum height 2 m









Detail for Fire Extinguisher

SIGNAGE SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	FIRE EXTINGUISHER Co2
	FIRE EXTINGUISHER Dry

United Nations Development Programme (UNDP)		
Project:	Fourth Floor on UNDP Operation Building	
Location:	Sana'a- Yemen	
Drawing Title: Fire Extinguisher		
Design By : UNDP Engineering Unit		
Drawing Type: Architecture	Status :	
Date: 21 September 2022	Drawing No. 16	



SIGNAGE SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	EXIT SIGNAGE
	FIRE EXTINGUISHER SIGNAGE
	NO SMOKING SIGNAGE
	ELECTRICAL PANEL SIGNAGE
	Fire alarm call point
	Escape route

United Nations Development Programme (UNDP)	
Project: Fourth Floor on UNDP Operation Building	
Location: Sana'a- Yemen	
Drawing Title: Signage Work	
Design By : UNDP Engineering Unit	
Drawing Type: Architecture	
Status :	
Date: 21 September 2022	
Drawing No. 17	

DRAWINGS

- STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE PERTINENT ARCHITECTURAL, ELECTRICAL, MECHANICAL, SANITARY AND OTHER STRUCTURAL DRAWINGS.
- REFERENCE TO BE MADE TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF FLOOR OPENINGS IN R.C. MEMBERS. THESE OPENINGS SHALL BE COORDINATED WITH THOSE SHOWN ON STRUCT'L, MECH'L, AND ELECT'L DWGS.
- DO NOT SCALE FROM THE DRAWINGS. ALL DIMENSIONS SHALL BE READ FROM DRAWINGS OR COMPUTED.
- UNLESS OTHERWISE INDICATED ON DRAWINGS ALL DIMENSIONS AND ELEVATIONS ARE IN m. REINFORCING BARS SIZES ARE IN mm.
- ANY POSSIBLE CHANGES TO SLEEVES OR OPENINGS IN STRUCTURAL ELEMENTS OTHER THAN SHOWN ON STRUCTURAL DWG'S MUST BE REPORTED TO THE STRUCTURAL ENGINEERS FOR VERIFICATION AND APPROVAL.
- FOR EXACT LOCATIONS AND DIMENSIONS OF OPENINGS IN FLOOR SLABS, REFER TO ARCHITECTURAL DRAWINGS.
- ALL SECTIONS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS BEFORE ERECTION OF FORMWORK. ANY DISCREPANCY MUST BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR CLARIFICATION.
- CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE METER, PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

DESIGN CRITERIA

- DESIGN AND CONSTRUCTION ARE IN ACCORDANCE WITH THE ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE STRUCTURES (ACI 318M-14), & UNIFORM BUILDING CODE (UBC 97) & ASTM.

CONCRETE:

Concrete mixture ingredients shall conform to the Specifications in the table:

Concrete Materials Specifications	
Mixture Ingredients	Specifications
Portland Cement	ASTM C150M
Aggregates	ASTM C33M
Water	ASTM C1602M
Water reduction & setting time modification admixtures	ASTM C494M
Producing flowing concrete admixtures	ASTM C1017M
Air entrainment admixtures	ASTM C260M

Concrete Production :

- Equipment for mixing and transporting concrete shall conform to Astm c94m or astm c685m.
- ready-mixed and site mixed concrete shall be batched,mixed,and delivered in accordance with astm c94m or astm c685m.

Preparation Of Equipment And Place Of Deposit

Preparation before concrete placement shall include the following:

- All equipment for mixing and transporting concrete shall be clean;
- Forms shall be properly coated;
- Masonry filler units that will be in contact with concrete shall be well drenched;
- Reinforcement shall be thoroughly clean of corrosion.
- Water shall be removed from place of deposit before concrete is placed.

Mixing Of Concrete

- ALL CONCRETE SHALL BE MIXED UNTIL THERE IS A UNIFORM DISTRIBUTION OF MATERIALS AND SHALL BE DISCHARGED COMPLETELY BEFORE MIXER IS RECHARGED.
- READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH REQUIREMENTS OF STANDARD SPECIFICATION FOR READY-MIXED CONCRETE" (ASTM C 94M) OR STANDARD SPECIFICATION FOR CONCRETE MADE BY VOLUMETRIC BATCHING AND CONTINUOUS MIXING" (ASTM C 685M).

Conveying Of Concrete

- Concrete shall be conveyed from mixer to place of final deposit by methods that will prevent separation or loss of materials.
- Conveying equipment shall be capable of providing a supply of concrete at site of placement without separation of ingredients and without interruptions sufficient to permit loss of plasticity between successive increments.

Depositing Of Concrete

- CONCRETE SHALL BE DEPOSITED AS NEARLY AS PRACTICAL IN ITS FINAL POSITION TO AVOID SEGREGATION DUE TO REHANDLING OR FLOWING.
- CONCRETING SHALL BE CARRIED ON AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY INTO SPACES BETWEEN REINFORCEMENT.
- CONCRETE THAT HAS PARTIALLY HARDENED OR BEEN CONTAMINATED BY FOREIGN MATERIALS SHALL NOT BE DEPOSITED IN THE STRUCTURE.
- RETEMPERED CONCRETE OR CONCRETE THAT HAS BEEN REMIXED AFTER INITIAL SET SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER.

- ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY SUITABLE MEANS DURING PLACEMENT AND SHALL BE THOROUGHLY WORKED AROUND REINFORCEMENT AND EMBEDDED FIXTURES AND INTO CORNERS OF FORMS.

Minimum Clear Concrete Cover To Reinforcing Steel

Concrete Cover				
Concrete Exposure	Member	Reinforcement	Specified Cover (mm)	
Cast against and permanently in contact with ground	All	All	75	
			No. 19 through No. 57 bars	50
			No. 16 bar and smaller	40
Exposed to weather or in contact with ground	All		40	
			No. 43 and No. 57 bars	40
			No. 36 bar and smaller	20
Not Exposed to Weather or in contact with ground	Slabs,Joist,and Walls		40	
			Primary reinforcement, stirrup, ties, spirals, and hoops	40

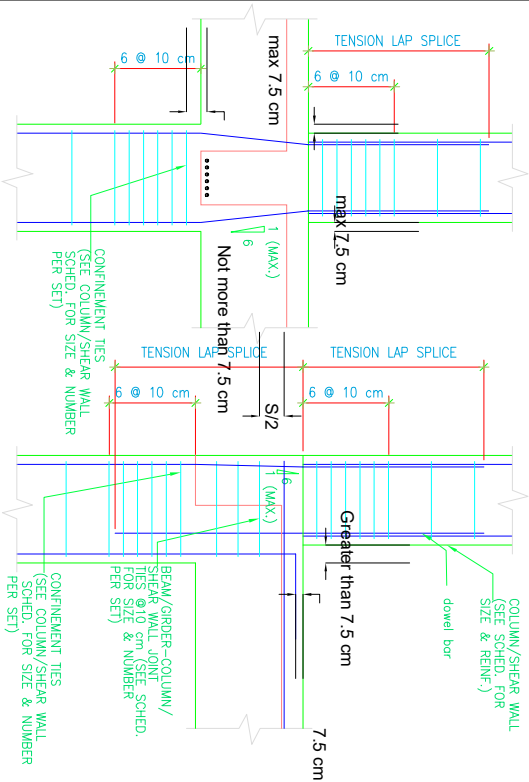
REINFORCING STEEL:

1. REINFORCING STEEL BARS TO BE ACCORDING TO ASTM A615 LATEST REVISION AND DENOTED BY : STRENGTH fy 280 MPa

REINFORCING Details:

SPACING LIMITS FOR REINFORCEMENT

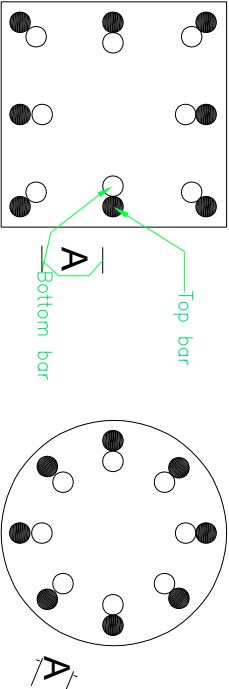
- THE MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER SHALL BE db, BUT NOT LESS THAN 25 MM.
 - WHERE PARALLEL REINFORCEMENT IS PLACED IN TWO OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER WITH CLEAR DISTANCE BETWEEN LAYERS NOT LESS THAN 25 MM.
 - IN SPIRALLY REINFORCED OR TIED REINFORCED COMPRESSION MEMBERS, CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL BE NOT LESS THAN 1.5 db NOR LESS THAN 40 MM CLEAR DISTANCE LIMITATION BETWEEN BARS SHALL APPLY ALSO TO THE CLEAR DISTANCE BETWEEN A CONTACT LAP SPlice AND ADJACENT SPlices OR BARS.
 - IN WALLS AND SLABS OTHER THAN CONCRETE JOIST CONSTRUCTION, PRIMARY FLEXURAL REINFORCEMENT SHALL NOT BE SPACED FARTHER APART THAN THREE TIMES THE WALL OR SLAB THICKNESS, NOR FARTHER APART THAN 450 MM.
- DEVELOPMENT LENGTH
- FOR DEVELOPMENT LENGTH AND TENSION LAP SPlice USE 50 Db.
 - FOR COMPRESSION LAP SPlice USE 40 Db.



Column Details:

BAR-SPACING REQUIREMENTS:

THE MINIMUM CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL NOT BE LESS THAN THE LARGER OF 1.5 TIMES THE LONGITUDINAL BAR DIAMETER, OR 40 mm OR 1/3 TIMES THE MAXIMUM SIZE OF THE COARSE AGGREGATE. THESE CLEAR-DISTANCE LIMITATIONS ALSO APPLY TO THE CLEAR DISTANCE BETWEEN LAP-SPliced BARS AND ADJACENT BARS OF LAP SPlices.



A shall not be less than 40 mm, 1.5 db, and 1/3 aggregate size.

OFFSET BENT LONGITUDINAL REINFORCEMENT:

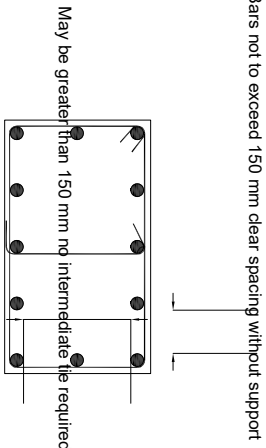
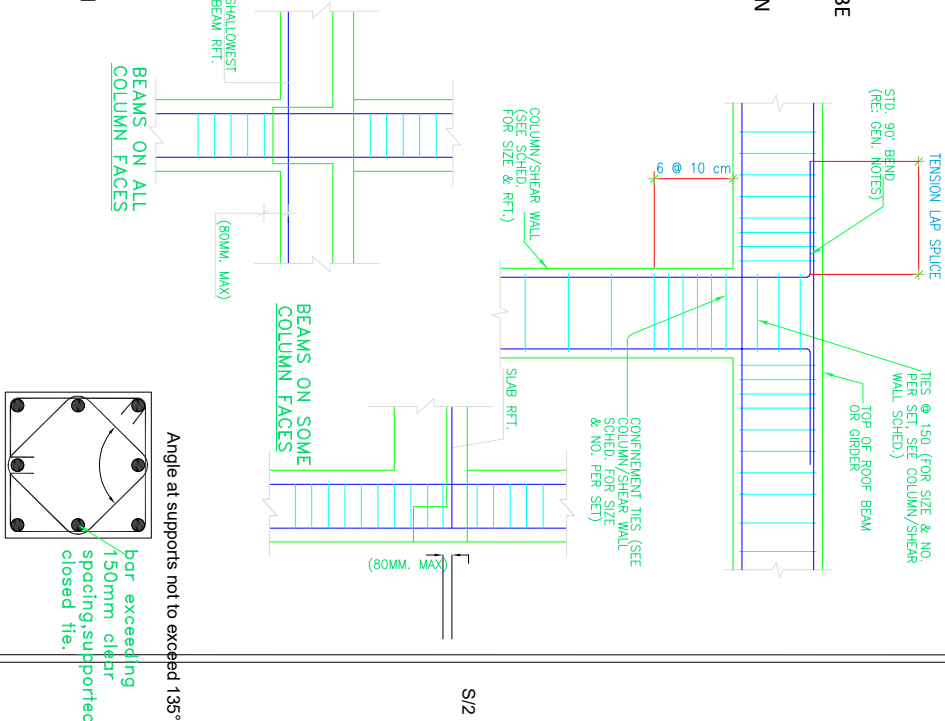
OFFSET BENT LONGITUDINAL BARS SHALL CONFORM TO THE FOLLOWING:

- SLOPE OF INCLINED PORTION OF AN OFFSET BAR WITH AXIS OF COLUMN SHALL NOT EXCEED 1 IN 6.
- PORTIONS OF BAR ABOVE AND BELOW AN OFFSET SHALL BE PARALLEL TO AXIS OF COLUMN.
- OFFSET BARS SHALL BE BENT BEFORE PLACEMENT IN THE FORMS.
- WHERE A COLUMN FACE IS OFFSET 75 MM OR GREATER, LONGITUDINAL BARS SHALL NOT BE OFFSET BENT. SEPARATE DOWELS, LAP SPliced WITH THE LONGITUDINAL BARS ADJACENT TO THE OFFSET COLUMN FACES, SHALL BE PROVIDED.

TIES

TIE REINFORCEMENT FOR COMPRESSION MEMBERS SHALL CONFORM TO THE FOLLOWING:

- ALL NONPRESTRESSED BARS SHALL BE ENCLOSED BY LATERAL TIES, AT LEAST NO. 10 IN SIZE FOR LONGITUDINAL BARS NO. 32 OR SMALLER, AND AT LEAST NO. 13 IN SIZE FOR NO. 36, NO. 43, NO. 57, AND BUNDLED LONGITUDINAL DEFORMED WIRE OR WELDED WIRE REINFORCEMENT OF EQUIVALENT AREA SHALL BE PERMITTED.
- VERTICAL SPACING OF TIES SHALL NOT EXCEED 16 LONGITUDINAL BAR DIAMETERS, 48 TIE BAR OR WIRE DIAMETERS, OR LEAST DIMENSION OF THE COMPRESSION MEMBER.
- TIES SHALL BE ARRANGED SUCH THAT EVERY CORNER AND ALTERNATE LONGITUDINAL BAR SHALL HAVE LATERAL SUPPORT PROVIDED BY THE CORNER OF A TIE WITH AN INCLUDED ANGLE OF NOT MORE THAN 135 DEG AND NO BAR SHALL BE FARTHER THAN 150 MM CLEAR ON EACH SIDE ALONG THE TIE FROM SUCH A LATERALLY SUPPORTED BAR. WHERE LONGITUDINAL BARS ARE LOCATED AROUND THE PERIMETER OF A CIRCLE, A COMPLETE CIRCULAR TIE SHALL BE PERMITTED.
- TIES SHALL BE LOCATED VERTICALLY NOT MORE THAN ONE-HALF A TIE SPACING ABOVE THE TOP OF FOOTING OR SLAB IN ANY STORY, AND SHALL BE SPACED AS PROVIDED HEREIN TO NOT MORE THAN ONE-HALF A TIE SPACING BELOW THE LOWEST HORIZONTAL REINFORCEMENT IN SLAB OR DROP PANEL ABOVE.
- CIRCULAR TIES SHALL BE PERMITTED WHERE LONGITUDINAL BARS ARE LOCATED AROUND THE PERIMETER OF A CIRCLE.
- ANCHORAGE OF INDIVIDUAL CIRCULAR TIES SHALL BE IN ACCORDANCE WITH:
 - ENDS SHALL OVERLAP BY AT LEAST 150 MM
 - ENDS SHALL TERMINATE WITH STANDARD HOOKS THAT ENGAGE A LONGITUDINAL BAR.
 - OVERLAPS AT ENDS OF ADJACENT CIRCULAR TIES SHALL BE STAGGERED AROUND THE PERIMETER ENCLOSING THE LONGITUDINAL BARS.



United Nations Development Programme (UNDP)	
Project:	Fourth Floor on UNDP Operation Building
Location:	Sana'a- Yemen
Drawing Title:	Main Notes
Design By : UNDP Engineering Unit	
Drawing Type-Structure	Status :
Date: 21 September 2022	Drawing No. (19)

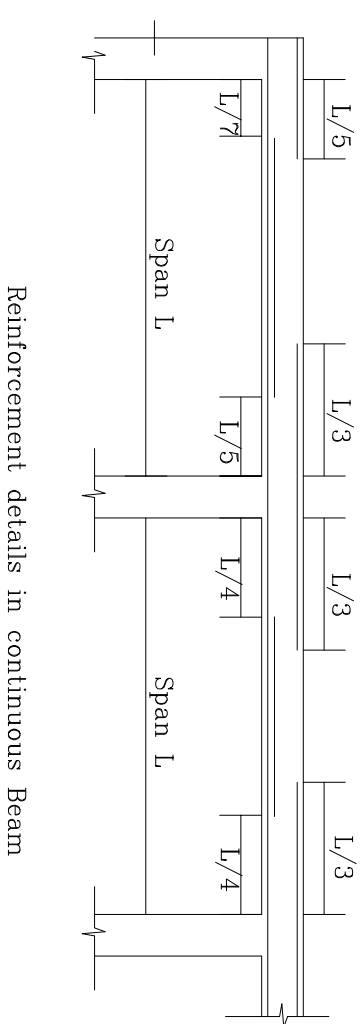
BEAM DETAILS :

BAR-SPACING REQUIREMENTS:

THE MINIMUM CLEAR DISTANCE BETWEEN LONGITUDINAL BARS SHALL NOT BE LESS THAN THE LARGER OF 1.5 TIMES THE LONGITUDINAL BAR DIAMETER, OR 40 mm OR $\frac{1}{3}$ TIMES THE MAXIMUM SIZE OF THE COARSE AGGREGATE. THESE CLEAR-DISTANCE LIMITATIONS ALSO APPLY TO THE CLEAR DISTANCE BETWEEN LAP-SPLICED BARS AND ADJACENT BARS OF LAP SPLICES.

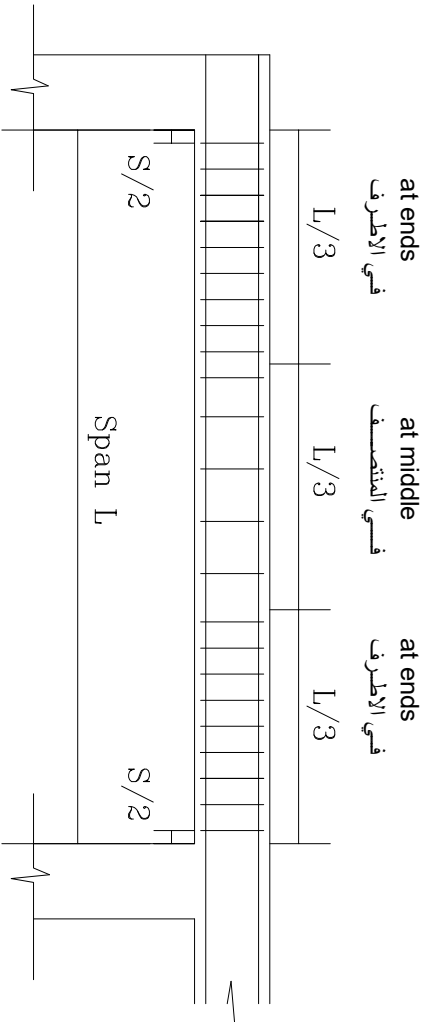
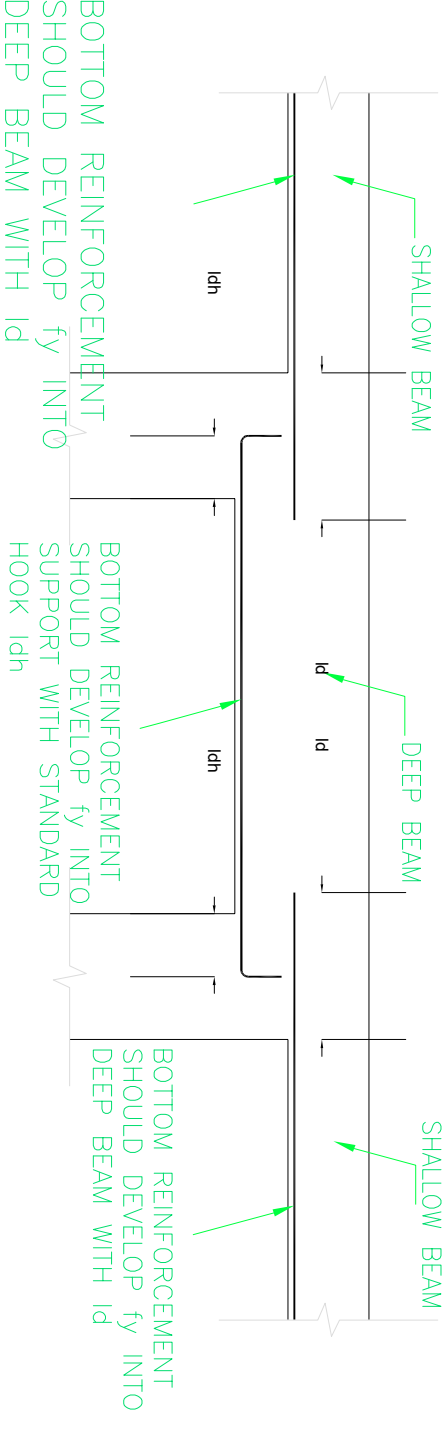
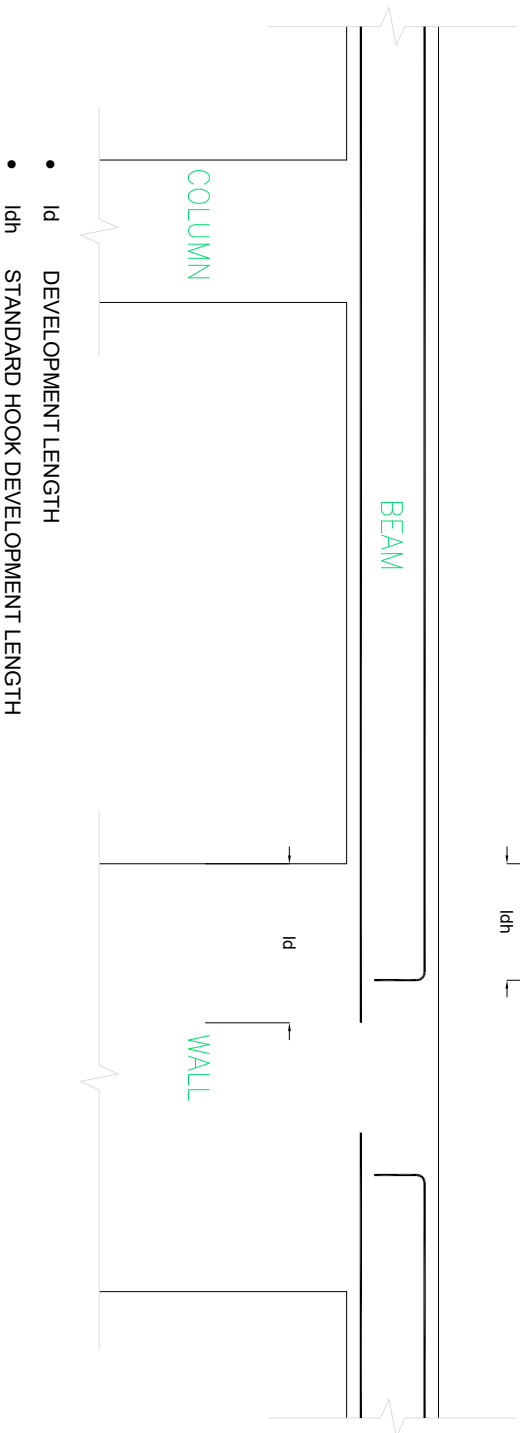
STRUCTURAL INTEGRITY REINFORCEMENT

- AT LEAST ONE-QUARTER OF THE MAXIMUM POSITIVE MOMENT REINFORCEMENT,BUT NOT LESS THAN TWO BARS SHALL BE CONTINUOUS.
- AT LEAST ONE-SIXTH OF THE NEGATIVE MOMENT REINFORCEMENT AT THE SUPPORT,BUT NOT LESS THAN TWO BARS SHALL BE CONTINUOUS.
- LONGITUDINAL REINFORCEMENT SHALL BE ENCLOSED BY CLOSED STIRRUPS OR HOOPS ALONG THE CLEAR SPAN OF THE BEAM.
- LONGITUDINAL STRUCTURAL INTEGRITY REINFORCEMENT AT NONCONTINUOUS SUPPORTS SHALL BE ANCHORED TO DEVELOP f_y AT THE FACE OF THE SUPPORT.
- IF SPLICES ARE NECESSARY IN CONTINUOUS STRUCTURAL INTEGRITY REINFORCEMENT ,THE REINFORCEMENT SHALL BE SPLICED IN ACCORDANCE WITH:
 - POSITIVE MOMENT REINFORCEMENT SHALL BE SPLICED AT OR NEAR THE SUPPORT.
 - NEGATIVE MOMENT REINFORCEMENT SHALL BE SPLICED AT OR NEAR MIDSPAN.
 - SPLICES SHALL BE CLASS B TENSION LAP SPLICES.
- IF THE DEPTH OF A CONTINUOUS BEAM CHANGES AT A SUPPORT,THE BOTTOM REINFORCEMENT IN THE DEEPER MEMBER SHOULD BE TERMINATED INTO THE SUPPORT WITH A STANDARD HOOK AND THE BOTTOM REINFORCEMENT IN THE SHALLOWER MEMBER SHOULD BE EXTENDED INTO AND FULLY DEVELOPED IN THE DEEPER MEMBER.



Reinforcement details in continuous Beam

ANCHORAGE OF REINFORCEMENT INTO WALL



Stirrups Reinforcement details in Beam

United Nations Development Programme (UNDP)	
Project:	Fourth Floor on UNDP Operation Building
Location:	Sana'a- Yemen
Drawing Title: Main Notes	
Design By : UNDP Engineering Unit	
Drawing Type-Structure	Status :
Date: 21 September 2022	Drawing No. 20

GENERAL

G. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONTRACT DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G. 2DIMENSIONS ARE AS SHOWN. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.

G. 3SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.

G. 4DURING CONSTRUCTION THE STRUCTURE WILL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.

G. 5ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATED CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.

G. 6REFER TO ARCHITECTURAL DRAWINGS FOR BRICK WALL THICKNESSES WHERE NOT MENTIONED ON THESE DRAWINGS AND FOR FALLS IN SLABS, EXTRA PACKINGS, CONSTRUCTION JOINTS, FILLING MATERIALS AND ALL OTHER ARCHITECTURAL FEATURES.

FLOOR USAGE	DESIGN LIVE LOAD
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Office	2.4 kN/M2
COMRCALTION	4.0 kN/M2
ROOFS	1.5 kN/M2
STAIR CASES	5.0 kN/M2

G. 7THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS.

G. 8REFER TO ARCHITECTURAL DRAWINGS FOR THE DIFFERENT CONSTRUCTION MATERIALS TO BE USED IN THE PROJECT.

CONCRETE

C. 1ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND AMERICAN CONCRETE CODE AC318-M (1995-REINFORCED CONCRETE STRUCTURES).

C. 2CONCRETE QUALITY: - MINIMUM CONCRETE CUBE STRENGTH (f'c MPA) IS IN TABLE OR AS STATED IN DRAWING NOTES

ELEMENT	SLUMP	MAX AGG SIZE	MINIMUM CONCRETE CUBE STRENGTH f'c MPA
LINING SLABS	80	20	21
FOOTINGS & WALLS			
COLUMNS	80	20	26
BEAMS & SLABS	80	20	26

C. 3CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE AS INDICATED ON DRAWINGS OR THE TABLE BELOW (U.N.O.):-

ELEMENT	CONCRETE COVER		
	CAST AGAINST & EXPOSED TO EARTH	EXPOSED TO EARTH OR WEATHER	NOT EXPOSED TO WEATHER OR EARTH
A) PAD FOOTINGS	75	-	-
B) STRIP FOOTINGS	75	-	-
C) SLABS, WALLS & RIBS 20MM BARS OR WIRE AND SMALLER	75	35	20
D) BEAMS LONGTUDINAL REINF. TIES & STIRRUPS	75	50	40
E) COLUMNS LONGTUDINAL REINF. TIES & STIRRUPS	75	50	40
	75	40	25

C. 4SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.

C. 5CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER. THICKNESS, IF ANY.

C. 6BEAM DEPTHS INCLUDE SLAB.

C. 7NO HOLES OR CHASES ON THE STRUCTURAL DRAWINGS SHALL NOT BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

C. 8PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER. THE CONCRETE COVER TO EMBEDDED PIPES OR CONDUITS SHALL BE A MINIMUM OF 20MM.

REINFORCEMENT

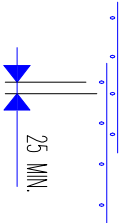
R. 1REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

R. 2SPICES IN THE REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPICES. WHERE THE LAP LENGTH IS NOT SHOWN IT WILL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.

R. 3WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.

R. 4REINFORCEMENT: - YIELDING STRESS OF STEEL IS GRADE 60ASTM 420- MPA OR GRADE 40ASTM - 280MPA AS STATED IN DRAWING NOTES.

TYPICAL FABRIC LAP:-



R. 5ALL REINFORCEMENT FABRIC SHALL BE SUPPLIED AS FLAT SHEETS.

R. 6PLACE SUFFICIENT BAR CHAIRS UNDER BOTTOM REINFORCING RODS AND TOP CROSSROADS IN SLABS TO ALLOW THEM TO BE SUPPORTED IN THEIR CORRECT POSITIONS DURING CONCRETING. 900MM CENTERS BOTH WAYS. NOT GREATER THAN

R. 7ADDITIONAL TOP REINFORCEMENT SHOULD BE USED ON EXPOSED ROOF SLABS TO CONTROL SHRINKAGE AND IMPROVE WATERPROOFING.

United Nations Development Programme (UNDP)

Project: Fourth Floor on UNDP Operation Building

Location: Sana'a- Yemen

Drawing Title: Main Notes

Design By : UNDP Engineering Unit

Drawing Type: Structure

Status :

Date: 21 September 2022

Drawing No. (21)



REMARKS: -

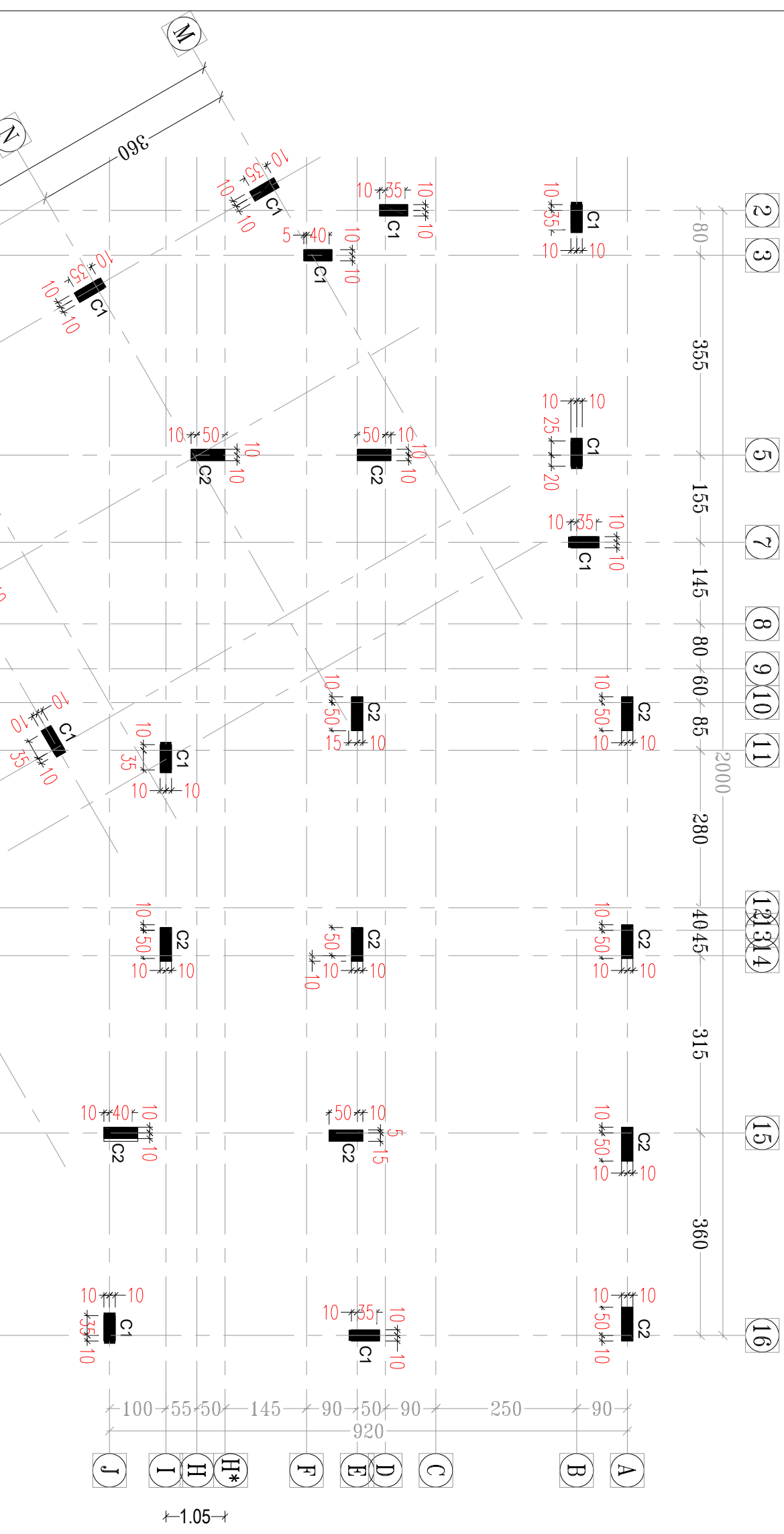
1. ALL DIMENSIONS AND ELEVATIONS ARE IN CENTIMETERS AND METERS RESPECTIVELY, UNLESS OTHERWISE MENTIONED.
2. BUILDING WAS DESIGNED TO SUPPORT ONLY TWO REINFORCEMENT CONCRETE FLOORS AS SHOWN IN THE ARCHITECTURAL AND STRUCTURE PLANS.

CONCRETE: -

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND AMERICAN CONCRETE CODE AC308-M (1995)-REINFORCED CONCRETE STRUCTURES).
2. ORDINARY PORTLAND CEMENT SHALL BE USED IN CONCRETE.
3. CONCRETE COVER FOR REINFORCEMENT BARS SHALL BE 20MM.
4. CONCRETE QUALITY: - MINIMUM CONCRETE CURE STRENGTH (FC') IS 20MPA.
5. CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE 5.0 CENTIMETERS.
6. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.

REINFORCEMENT: -

1. REINFORCEMENT IS REPRESENTED DIAGRAMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
2. YIELDING STRESS OF STEEL IS GRADE 40ASTM / 280- MPa OR GRADE 40ASTM / 280- MPA AS STATED IN DRAWING NOTES.
3. ALL REINFORCEMENT FABRIC SHALL BE SUPPLIED AS FLAT SHEETS.



COLUMNS R.C. TABLE DETAILS.

COLUMN NO	DIMENSIONS IN CM		REIN.	STIRRUPS	COLUMN QTY	QTY INMTQ.	REMARKS
C1	20	45	6 Ø 16	1 Ø 8 @ 15 CM	15		
C2	20	60	8 Ø 16	2 Ø 8 @ 15 CM	12		

United Nations Development Programme (UNDP)

Project: Fourth Floor on UNDP Operation Building

Location: Sana'a- Yemen

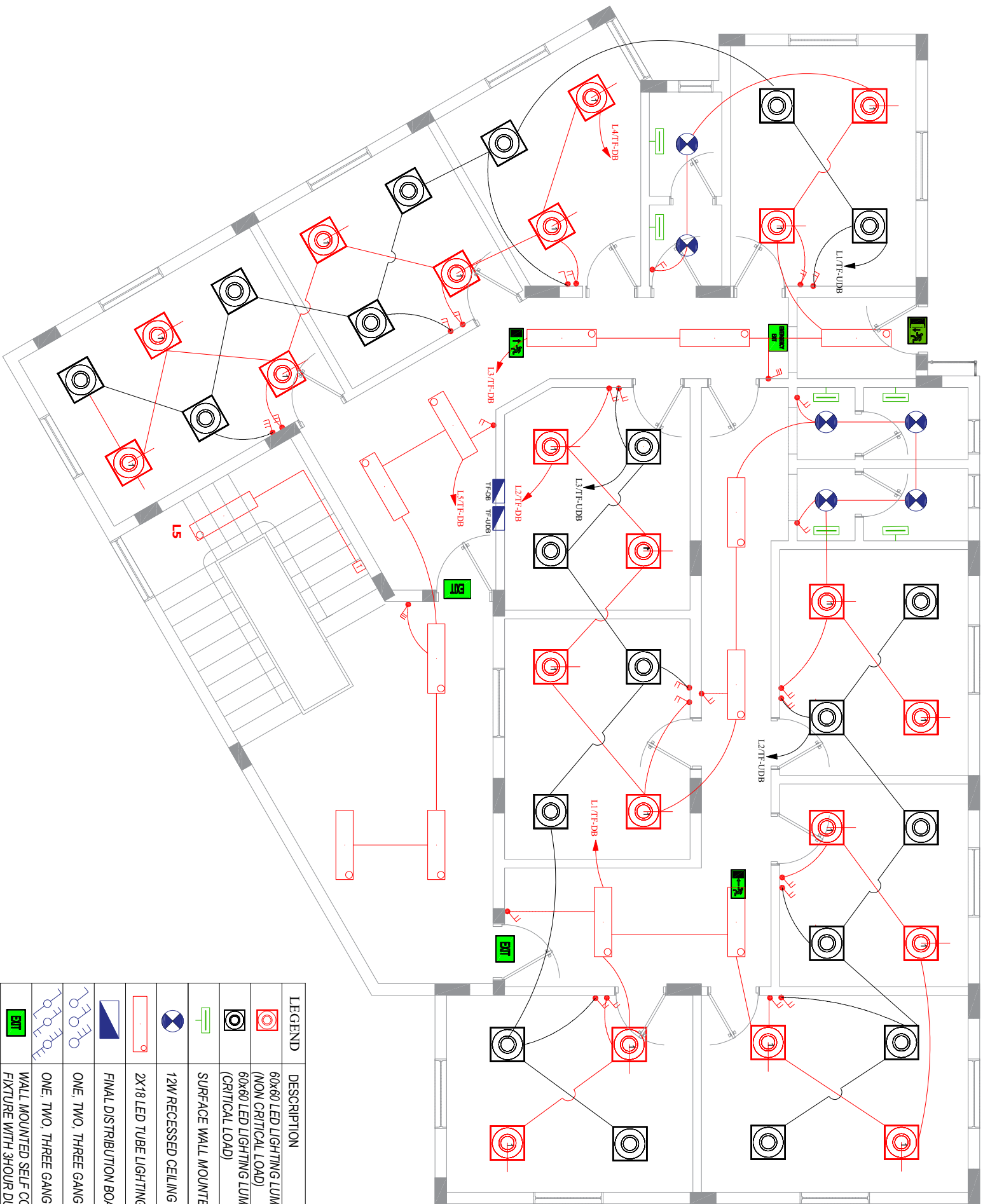
Drawing Title: Columns

Design By : UNDP Engineering Unit

Drawing Type-Structure

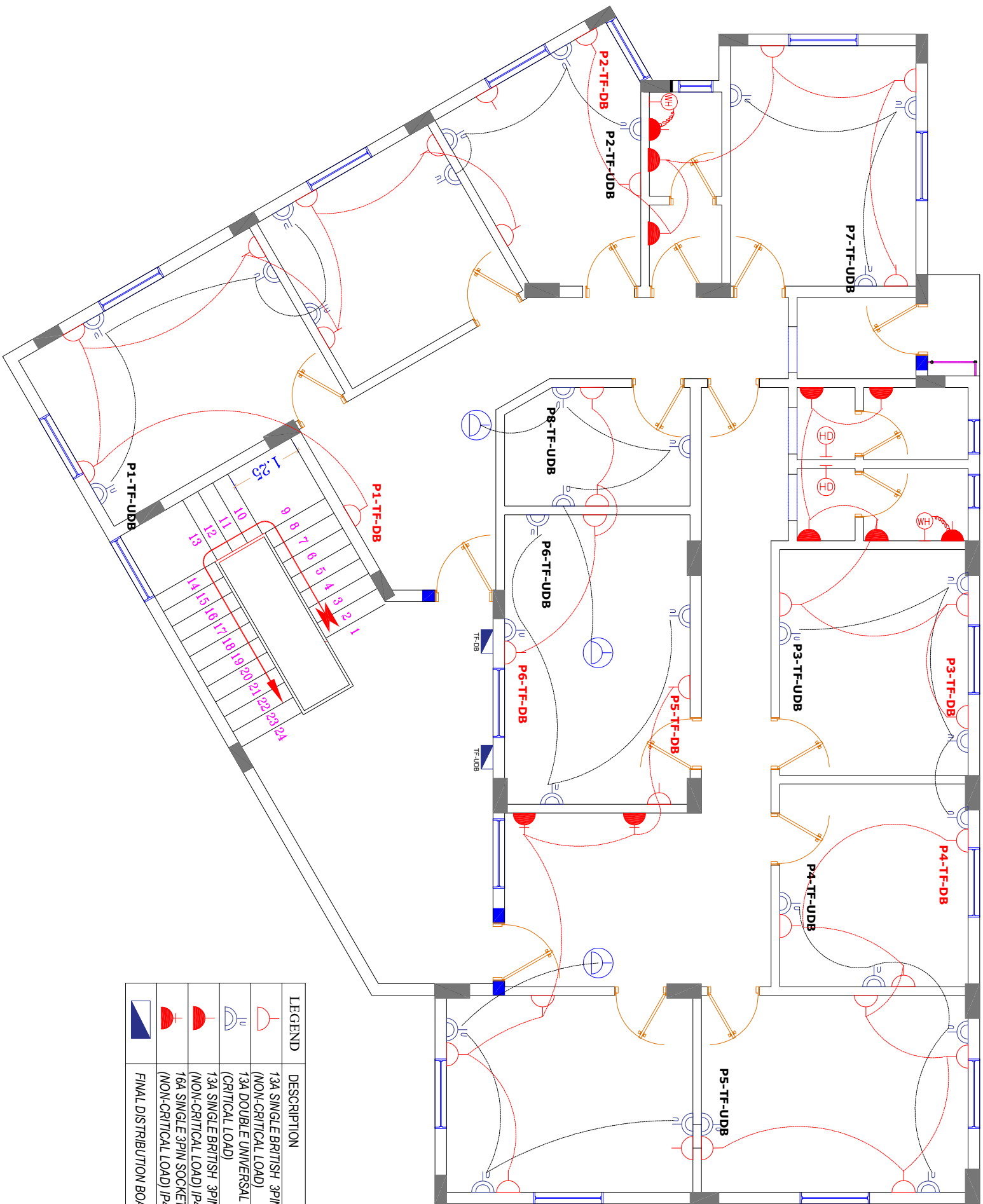
Date: 21 September 2022






Drawing No. (22)

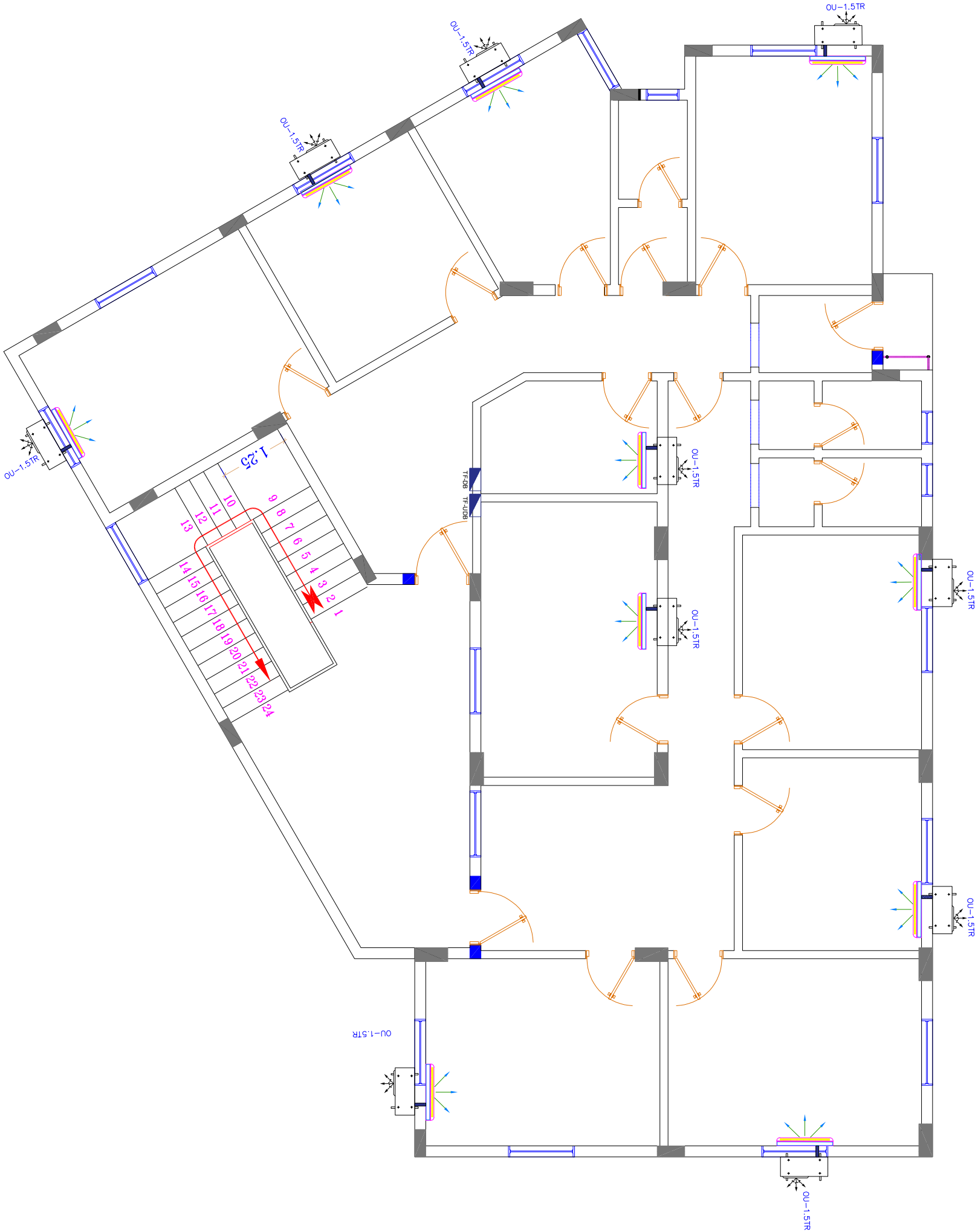


LEGEND	DESCRIPTION
	60x60 LED LIGHTING LUMINAIRE WITH FIXTURE (NON CRITICAL LOAD)
	60x60 LED LIGHTING LUMINAIRE WITH FIXTURE (CRITICAL LOAD)
	SURFACE WALL MOUNTED MIRROR LIGHTING
	12W RECESSED CEILING DOWNLIGHTPANEL
	2X18 LED TUBE LIGHTING FIXTURE
	FINAL DISTRIBUTION BOARD
	ONE, TWO, THREE GANG ONE WAY
	ONE, TWO, THREE GANG TWO WAY
	WALL MOUNTED SELF CONTAIN EXIT LIGHTING
	CEILING MOUNTED SELF CONTAIN EXIT LIGHTING
	FIXTURE WITH 3HOUR DURATION BATTERY

United Nations Development Programme (UNDP)	
Project:	Fourth Floor on UNDP Operation Building
Location:	SANAA - Yemen
Drawing Title: Plan for Lighting	
Design By : UNDP Engineering Unit	
Drawing Type: Electrical	Status: FINAL
Date: 21 September 2022	Drawing No. 24



LEGEND	DESCRIPTION
	13A SINGLE BRITISH 3PIN SOCKET WITH SHUTTER (NON-CRITICAL LOAD)
	13A DOUBLE UNIVERSAL 3PIN SOCKET WITH SHUTTER (CRITICAL LOAD)
	13A SINGLE BRITISH 3PIN SOCKET WITH SHUTTER (NON-CRITICAL LOAD) IP44
	16A SINGLE 3PIN SOCKET WITH SHUTTER (NON-CRITICAL LOAD) IP44
	FINAL DISTRIBUTION BOARD



United Nations Development
Programme (UNDP)

Project: Fourth Floor on UNDP
Operation Building

Location: SANAA - Yemen

Drawing Title: Plan for AC

Design By : UNDP Engineering Unit

Drawing Type: Electrical

Date: 21 September 2022



Status FINAL

Drawing No. 26