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WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

A05 SD 019 / WV SUDAN / SDBLN/11/21

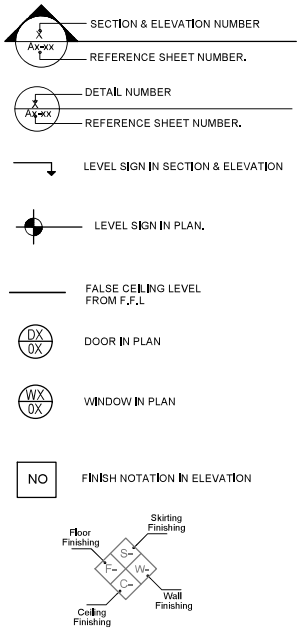
VIP-LATRINE - FOUR DOORS UNIT (LAT-4)

REVISION 01

DECEMBER.2022

ARCHITECTURAL DRAWINGS

SYMBOLS



ABBREVIATION

NTS	-	NOT TO SCALE
F.F.L	-	FINISH FLOOR LEVEL
C.L	-	CONCRETE LEVEL
T.O.S	-	TOP OF SLAB
T.O.P	-	TOP OF PARAPET
T.O.R	-	TOP OF ROOF
S.W.L	-	SIDE WALK LEVEL
A.S.L	-	AGRICULTURE SOIL LEVEL
R.L	-	ROAD LEVEL
C/L	-	CENTER LINE
C/C	-	CENTER TO CENTER
DIA	-	DIAMETER
DIM	-	DIMENSION
R.C	-	REINFORCED CONCRETE

GENERAL NOTES

- UNLESS OTHERWISE INDICATED ALL DIMENSIONS ARE IN MILLIMETERS & ALL LEVELS ARE IN MILLIMETERS.
- PROJECT LEVEL ±0.00 =EXISTING MAIN ASPHALT ROAD AT MAIN ENTRANCE. LEVELS ON SITE TO BE DETERMINED BY THE SITE ENGINEER.
-ALL DRAWINGS SHALL NOT BE SCALED. ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
- ALL DRAWINGS FOR ALL TRADES SHALL BE READ IN CONJUNCTION FOR PROPER COORDINATION.
- ANY INCONSISTENCY OR DISCREPANCY IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCEMENT OF THE WORK.
- THE FOLLOWING CLAUSE SHALL BE READ AFTER ALL MENTIONED MANUFACTURERS' NAMES "OR AN EQUAL APPROVED BY THE ENGINEER".
- ALL SHADES AND COLORS SHOULD BE FINALLY APPROVED ON SITE ACCORDING TO THE SUBMITTED SAMPLES AND TO BE APPROVED BY OWNER.
- ALL EXPOSED CONCRETE EDGES SHOULD BE CHAMFERED 2x2cm.
- ALL DOORS OF KITCHENS, BATHROOMS, TOILETS, BALCONIES, SERVICE ROOMS & EXTERNAL DOORS SHOULD HAVE 3cm. THICK GRANITE THRESHOLD EXPOSED EDGES SHALL BE PENCIL ROUNDED.
- ALL PLASTERED WALL CORNERS SHALL HAVE GALVANIZED STEEL BEADS.
- ALL JOINTS BETWEEN REINFORCED CONCRETE AND BRICK WORK WALL SHALL HAVE A MINIMUM OF 20cm EXPANDED METAL MESH.
- ALL EXPOSED CEMENT SAND SCREED FLOORING SHOULD BE TREATED WITH A LIQUID BASED SODIUM SILICATE SOLUTION TO PROVIDE HARDNESS, DUST PROOFING & OIL PROOFING UNLESS NOTED OTHERWISE.
- ALL CEMENT AND SAND SCREED FLOORS WHICH ARE TO RECEIVE FLOOR COVERINGS SHALL BE TREATED WITH A LEVELING COMPOUND .
- THE GRANITE FLOORING SHALL HAVE A PENETRATIVE SEALANT SURFACE COATING FORMULATED FROM HIGH PERFORMANCE NON YELLOWING RESINS & SOLVENTS, ALL BACK SURFACES SHALL BE COATED WITH APPROVED QUALITY SEALANT.
- OPENINGS SHOULD HAVE REINFORCED CONCRETE LINTELS & SILLS.
- ALL BRICK WALLS TO SERVICE SHAFTS ENCLOSURES SHALL BE PLASTER ONLY. NO PAINT IS REQUIRED, UNLESS OTHERWISE NOTED.
- ALL EXPOSED STRUCTURAL STEEL WORK TO BE FINISHED WITH RED OXIDE PRIMER AND THREE COATS OF GLOSSY SYNTHETIC ENAMEL PAINT; THE PRIMER SHALL BE SPECIAL ANTI-CORROSIVE TYPE.
- ALL ACCESSIBLE SERVICE SHAFTS SHALL BE PROVIDED WITH STEEL GRATING PLATFORMS.
- FOR FIRE HOSE CABINETS, F.H.C'S. WET SERVICE ROOMS, BATHROOMS, BALCONIES, TOILETS, KITCHENS & SHAFT FLOORS SHOULD HAVE TWO LAYERS OF COLD APPLIED BITUMINOUS WATER PROOFING OVER CONCRETE SLAB.
- ALL ELECTRICAL ROOMS CLOSET THAT HAVE COMMON WALLS WITH WET MECHANICAL SHAFTS OR SPACE, SHALL HAVE THESE WALLS TREATED WITH A WATERPROOFING MEMBRANE SPECIFIED.
- ALL F.H.C'S SHALL HAVE " 1200x1200mm. " POWDER COATED ALUMINUM GLASS OPENINGS.
- ALL TIMBER WORK TO BE CONSISTED OF FIRST GRADE HARD TEAK WOOD, CLEAN, WELL-SEASONED AND TREATED WITH APPROPRIATE , CHEMICAL PRESERVATIVES AND OBTAINED FROM AN APPROVED SOURCE .
- ALL CHECKERED PLATE LOCATED ON PLANS ARE SCHEMATIC; THE CONTRACTOR SHALL INSTALL THIS PLATE AFTER THE INSTALLATION OF MECHANICAL WORK, AND SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
- ALL SHAFTS AT BASE LEVEL TO BE BLOCKED WITH CONCRETE AFTER INSTALLATION.
- THE CONTRACTOR SHALL LAY HORIZONTAL GALVANIZED STEEL REINFORCEMENT STRIPS AT EACH SECOND COURSE OF BRICK WALL.
- ALL HANDRAILS AND GUARDRAILS SHALL MEET OSHA REQUIREMENT TO BE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 150 Kg APPLIED AT ANY POINT ON THE RAIL AND IN ANY DIRECTION.
- ALL EXTERNAL DOORS TO HAVE 3 cm. THICK GRANITE SADDLE OF WHICH 13mm. OUT PROJECTION . ALL EDGES SHALL BE TRULY ROUNDED .
- CONSTRUCTION JOINTS AT ADEQUATE LOCATION FOR FLOORS,SLABS & WALLS SHALL BE SUGGESTED BY THE CONTRACTOR & APPROVED BY THE ENGINEER.
- ALL CONSTRUCTION JOINTS TO BE SEALED BY ELASTIC EPOXY SEALANT .
- ALL DOOR FRAMES TO BE AT 10 cm. FROM ADJACENT WALL UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL LAY HORIZONTAL GALVANIZED STEEL REINFORCEMENT STRIPS AT EACH SECOND COURSE OF BLOCK WALL.
- DURING CONSTRUCTION & FOR ALL UNDER GROUND WORKS, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE DEWATERING SYSTEM DUE TO INFILTRATION OF WATER ,OR AS DESCRIBED IN THE SOIL REPORT; HOWEVER THE CONTRACTOR SHALL INVESTIGATE THE SITUATION UPON THE SITE HANDING-OVER TO HIM & SHALL DO HIS OWN RESEARCH & TESTS & HE WILL BE HELD RESPONSIBLE FOR THE ACTUAL & FUTURE SITUATION DUE TO THE POSSIBLE RISE OF GROUND WATER LEVEL.
- SAMPLES FROM THREE DIFFERENT SUPPLIERS SHALL BE ALWAYS SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.

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-RL. ROAD LEVEL
-WL. WALK LEVEL
-T.O.S TOP OF SLAB
-C.L CONCRETE LEVEL
-F.L FINISHING LEVEL

REV.	DATE	PURPPOE OF ISSUNCE
01	15/12/22	DETAILED FINAL
00	07/04/22	DETAILED FINAL
00	17/03/22	DETAILED DRAFT

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

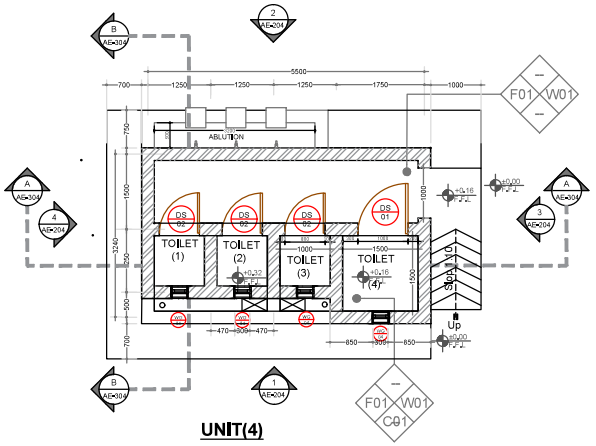
A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

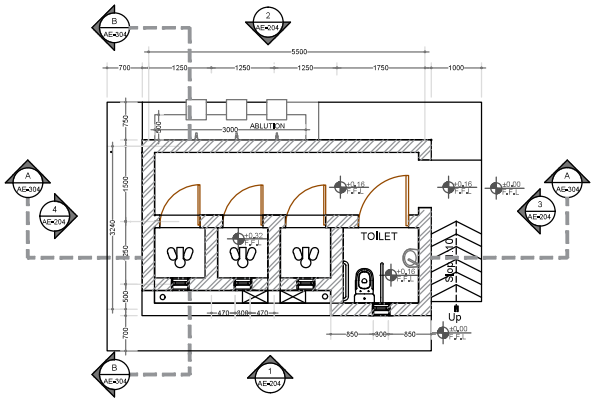
BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ARCHITECTURAL WORKS
ARCHITECTURE NOTES AND SYMBOLS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	HMS	SOM
DAWNING NO.		SHEET NO.
AE-LAT-4-001		1OF1
SCALE	REVISION NO.	DATE.
N.T.S	01	DECEMBER 2022



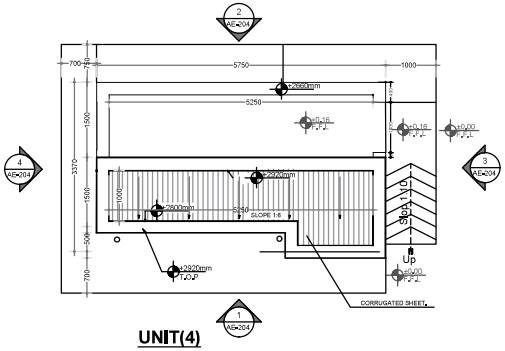
UNIT(4)

GROUND FLOOR PLAN



UNIT(4)

GROUND FURNITURE PLAN



UNIT(4)

ROOF PLAN

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-WL. WALK LEVEL
-T.O.S TOP OF SLAB
-C.L CONCRETE LEVEL
-F.L FINISHING LEVEL

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WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

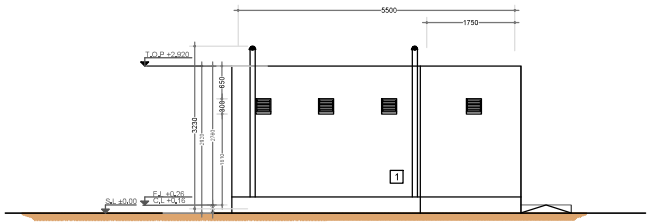
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ARCHITECTURAL WORKS
FLOOR PLAN

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	HMS	SOM

DAWNING NO.	SHEET NO.
AE-LAT-4-101	1OF1

SCALE	REVISION NO.	DATE.
1:100	01	DECEMBER 2022



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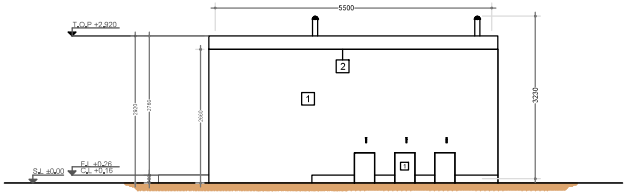

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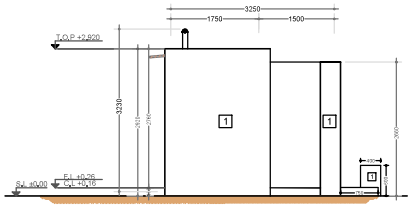

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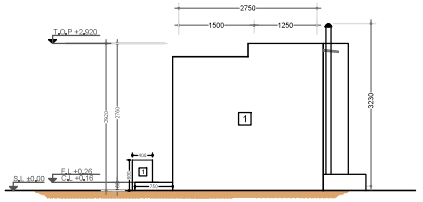

ELEVATION (4)

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-F.L FINISHING LEVEL

LEGEND :-

ELEVATION FINISH:

1	WEATHER PROOF POLYURETHANE PAINT
2	CORRUGATED SHEET, REFER TO FINISH SCHEDULE.

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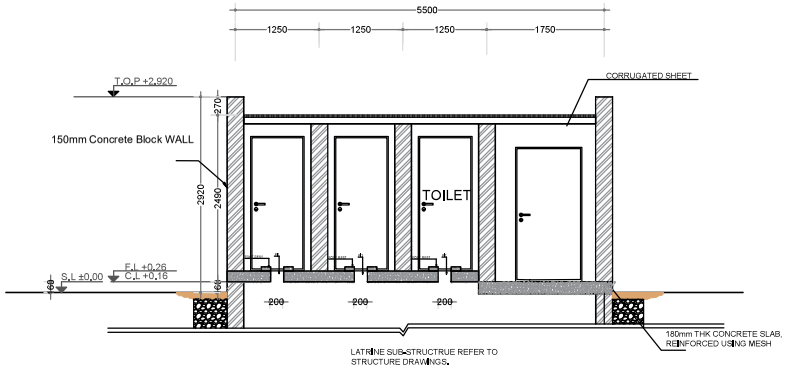
WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

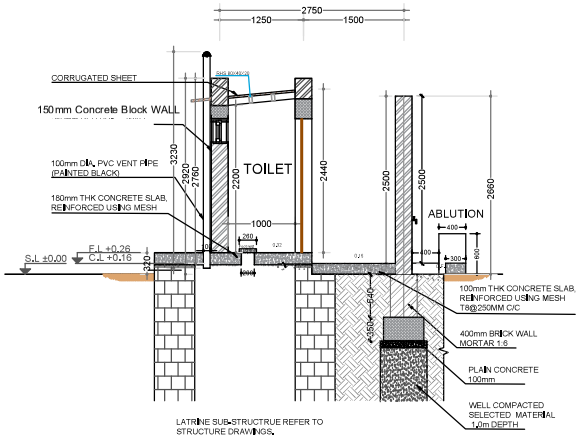
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ARCHITECTURAL WORKS
ELEVATIONS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	HMS	SOM
DAWNING NO.		SHEET NO.
AE-LAT-4-201		1OF1
SCALE	REVISION NO.	DATE.
1:100	01	DECEMBER 2022



SECTION A-A



SECTION B-B

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WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ARCHITECTURAL WORKS
SECTIONS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	HMS	SOM

DAWNING NO.	SHEET NO.
AE-LAT-4-301	1OF1

SCALE	REVISION NO.	DATE.
1:75	01	DECEMBER 2022

DOORS SCHEDULE:

	TYPE	SIZE W.	SIZE H.	DESCRIPTION	NUMBER GR.	TOTAL
DOORS	DS 01	1000 X 2000		ONE LEAF POWDER COATED STEEL HINGED DOOR. GALVANIZED STEEL FRAME (1.5mm THICK) AND LEAF SHEET (1.25mm THICK) SECURED DOOR, COMPLETE WITH: • HIDDEN HINGES. • DOOR STOPPER. • SECURED LOCK. • SOFT CLOSING.	1	1
	DS 02	800 X 2500			3	3

FINISHES SCHEDULE:

SCHEDULE OF FINISHES

FLOORS FINISH		WALL FINISHES		CEILING FINISHES	
MARK	DESCRIPTION	MARK	DESCRIPTION	MARK	DESCRIPTION
F01	"CEMENT FINISH"	W01	"INTERNAL PAINTING WALLS"	C01	"CORRUGATED SHEETS "
	FINISH:.. SMOOTH CEMENT FINISH. SIZE:.. — COLOR:.. GRAY. MANUFACTURER:.. REFER TO SCHEDULE OF PREFERRED PRODUCT AND MANUFACTURER. REMARKS:.. CONCRETE FLOOR 100 MM THICKNESS. MATERIAL, APPLICATION & SPECIFICATIONS AS PER MANUFACTURER'S WRITTEN RECOMMENDATION TO ENGINEER APPROVAL.		FINISH:.. MATT FINISH MASTIC EMULATION WALL PAINT SIZE:.. — COLOR:.. TO BE SELECTED FROM MANUFACTURER'S STANDARD RANGE, TO ARCHITECT'S APPROVAL MANUFACTURER:.. NILE , NATIONAL OR EQUIVALENT REMARKS:.. METHOD OF APPLICATION, OF wall FINISH, AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING SANDING EVERY LAYERS , CRAKE FILLER , 1 COAT OF SEALER , 2 COATS OF POTTY ONE HORIZONTAL AND ONE VERTICAL , 3 COATS OF SELECTED PAINT AND PROTECTION LAYER ,TO ARCHITECT'S APPROVAL.		SIZE:.. 0.6 MM THICK. COLOR:.. TO BE SELECTED FROM MANUFACTURER'S STANDARD RANGE FOR ARCHITECT . MANUFACTURER:.. REFER TO SCHEDULE OF PREFERRED PRODUCT AND MANUFACTURER. REMARKS:.. METHOD OF INSTALLATION AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
		W02	"WEATHERPROOF POLYURETHANE PAINT"		
			FINISH:.. POLYURETHANE PAINT SIZE:.. — COLOR:.. TO BE SELECTED FROM MANUFACTURER'S STANDARD RANGE,TO ARCHITECT'S APPROVAL MANUFACTURER:.. NILE , NATIONAL OR EQUIVALENT REMARKS:.. METHOD OF APPLICATION, OF wall FINISH, AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING SANDING EVERY LAYERS , CRAKE FILLER , 1 COAT OF SEALER , 2 COATS OF POTTY ONE HORIZONTAL AND ONE VERTICAL, 3 COATS OF SELECTED PAINT AND PROTECTION LAYER ,TO ARCHITECT'S APPROVAL.		

STRUCTURAL DRAWINGS

1.0 GENERAL:

1.1 THE STRUCTURAL DRAWINGS ARE TO BE REFERED FOR STRUCTURAL MEMBERS, SIZE AND REINFORCEMENT ARRANGEMENT. EXACT DIMENSIONS AND DETAILS AS PER ARCHITECTURAL DRAWINGS. IN CASE OF DISCREPANCIES REFER TO THE ENGINEER FOR CLARIFICATIONS PRIOR TO TAKING UP OF RELATED WORKS.

1.2 STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, ELECTRICAL, SANITARY AND A/C DRAWINGS. ANY POCKETS TO BE MADE IN CONCRETE TO HAVE PRIOR APPROVAL OF THE ENGINEER.

1.3 NO DIMENSIONS ARE TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

1.4 IN CASE OF DISCREPANCIES IN DETAILS OR MISSING DETAILS, THE ENGINEER MUST BE APPROACHED FOR DECISION PRIOR TO TAKING UP RELATED WORKS. ENGINEER'S DECISION IN SUCH MATTERS SHALL BE FINAL WITHOUT ANY EXTRA CLAIM.

1.5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SETTING OUT OF WORKS, FOR CORRECTNESS OF POSITION, LEVELS AND ALIGNMENTS OF ALL PARTS OF THE WORKS AND FOR QUALITY AND FINAL FINISHES. IF AT ANY TIME DURING THE PROGRESS OF WORKS ANY ERROR IS DETECTED AT ANY PART, THE CONTRACTOR SHALL RECTIFY THE SAME AT HIS OWN EXPENSE. THE CHECKING/APPROVAL BY THE ENGINEER SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE ABOVE.

1.6 ANY TEST REQUIRED BY THE ENGINEER ON MATERIALS, SOIL STRATA, WORKMANSHIP OR ON COMPLETE WORKS SHALL BE CARRIED OUT BY THE CONTRACTOR AS INSTRUCTED BY THE ENGINEER AT THE CONTRACTOR'S COST. ALL EQUIPMENT REQUIRED FOR SUCH TEST SHALL BE SUPPLIED BY THE CONTRACTOR ON DEMAND BY THE ENGINEER, FREE OF COST.

1.7 DESIGN AND CONSTRUCTION TO COMPLY WITH BS 8110-1997. ONLY BASIC REQUIREMENTS ARE GIVEN HERE. FOR FURTHER REQUIREMENTS REFER TO SPECIFICATIONS AND BS 8110.

1.8 THE SUPER IMPOSED LOAD ASSUMED IN DESIGN IS IN ACCORDANCE WITH BS 6399-1984.

1.9 WATER TANK DESIGN AND CONSTRUCTION TO COMPLY WITH BS 8007. CRACK WIDTH TO BE LIMITED TO 0.1mm CLASS "A" CONDITION OF EXPOSURE.

1.10 WHEREVER FILLING IS REQUIRED, IT SHALL BE FILLED WITH WELL GRADED CLEAN SAND OF APPROVED QUALITY, IN LAYERS, NOT MORE THAN 200mm. EACH COMPACTED LAYER SHALL ATTAIN A DRY DENSITY WHICH SHOULD BE A MINIMUM OF 95% OF OPTIMUM DENSITY AS SHOWN BY PROCTOR TEST.

1.11 WATER TABLE IS VERIFIED BY SOIL REPORT.

1.12 DEWATERING TO BE ALLOWED FOR WHEREVER REQUIRED.

1.13 ALL DRAINAGE MANHOLES SHALL BE EXECUTED WITH R.C.

1.14 ALL SHUTTERING MATERIAL SHALL BE NEW AND UNUSED.

1.15 ALL FOOTINGS , BLINDING , TIE BEAMS AND STRAP BEAMS SHALL BE PROTECTED WITH 2 COATS OF BITUMEN PAINT TO ENGINEER'S APPROVAL.

1.16 A LAYER OF 1000 GAUGE POLYTHENE SHEET SHALL BE LAID ABOVE ALL BLINDING PLAIN CONCRETE. (TYPICAL).

1.17 A 50mm PLAIN CONCRETE LAYER SHALL BE LAID UNDER ALL FOUNDATION.

1.18 THE CONTRACTOR SHALL SUBMIT FOR THE ENGINEER'S APPROVAL THE METHOD STATEMENT FOR CASTING THE GROUND SLABS WITH SHOP DRAWINGS SHOWING THE DETAILS & LOCATIONS FOR THE EXPANSION JOINTS, CONSTRUCTION/CONTRACTION JOINTS AND TRENCHES.

1.19 THE SOIL BEARING CAPACITY AT FOUNDATION LEVEL IS 200 KN/m2

2.0 CONCRETE:

2.1 DESIGNED MIX TO BS. 5328

NOMINAL MAXIMUM SIZE OF AGGREGATE 20mm.

MIX No.	1	2	3
GRADE (BS. 8110)	C25	C30	C15
MIN. CEMENT CONTENT (Kg/m3)	275	275	275
MAX. CEMENT CONTENT (Kg/m3)	450	450	325
MAX. FREE W/C RATIO	0.65	0.65	0.65
SLUMP (mm) AT SITE USING SUPER PLASTISIZER	150	150	75*

* WITHOUT PLASTISIZER

MIX No.2 – COLUMNS– FOUNDATION & FOUNDATION BEAMS
MIX No.1 SUSPENDED SLABS, STAIRS, WALLS & SUSPENDED BEAMS
MIX No.2 – SLAB ON GRADE
MIX No.3 – BLINDING, MASS CONCRETE INFILL

2.2 MINIMUM SIX NUMBERS OF CONCRETE CUBES SHALL BE TAKEN FROM EACH DAY'S CONCRETING OR EACH 100m3 CONCRETE AS DECIDED BY THE ENGINEER. CUBE TEST RESULTS MUST BE SUBMITTED THE ENGINEER IMMEDIATELY AFTER TESTING.

2.3 MAXIMUM PERCENTAGE (BY WEIGHT) OF SALT CONTENTS PERMISSIBLE IN AGGREGATES USED FOR CONCRETE, HOLLOW BLOCKS, & HOURDI BLOCKS, ETC.

(a) CHLORIDES AS CL-COURSE AGGREGATES-0.03% AND FINE AGGREGATES-0.06%.
(b) SULPHATES AS SO4-COURSE AGGREGATES-0.2% AND FINE AGGREGATES 0.4%.

2.4 CLEAN AND WASHED SAND TO BE USED FOR ALL CONCRETE WORKS AND SHALL HAVE LOCAL APPROVED CERTIFICATE.

2.5 SUFFICIENT CAMBER SHOULD BE PROVIDED TO SHUTTERING WORK OF R.C SLAB IN ACCORDANCE WITH BS 8110.

2.6 ALL CONCRETE WORKS TO BE CURED FOR AT LEAST SEVEN CONSECUTIVE DAYS.

2.7 THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE CONCRETING PLAN SHOWING BAY NUMBERS AND THE SUCCESSION OF CONCRETING, AT LEAST TWO WEEKS IN ADVANCE OF THE CONCRETING DATE.

2.8 CONCRETE COVER BLOCK –MINIMUM CRUSHING STRENGTH 5N/mm2.

2.9 UNIT WEIGHT OF LIGHT WEIGHT SAND CEMENT SCREED (AT ROOF) SHALL BE 700 kg/m3.

2.10 UNDERGROUND PLAIN CONCRETE SHALL BE GRADE 20/10 WITH MINIMUM CEMENT CONTENT OF 250kg/m3.

3.0 REINFORCEMENT

3.1 THE REINFORCEMENT USED TO R.C. WORKS ARE AS FOLLOWS:
MARKED AS (Y) OR (T) HIGH YIELD STRENGTH DEFORMED BARS WITH MINIMUM CHARACTERISTIC STRENGTH OF 460N/mm2.
STEEL REINFORCEMENT TO COMPLY WITH BS 4449, BS 4461, BS 4483 AND CUT AND BENT TO BS 4466.

3.2 THE CLEAR COVER TO THE REINFORCEMENT INCLUDING LINKS SHALL BE AS FOLLOWS:
- FOUNDATIONS, BASEMENT WALLS, TIE BEAMS & SUBSTRUCTURE COLUMNS = 50mm.
- INTERIOR COLUMNS IN SUPERSTRUCTURE = 20mm.
- EXTERIOR COLUMNS IN SUPERSTRUCTURE = 30mm.
- BEAMS = 30mm.
- SLABS = 25mm.
- EXTERNAL EXPOSED R.C. SURFACE = 40mm.

3.3 NO ADDITIONAL LAP IN MAIN REINFORCEMENT SHALL BE PROVIDED WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE LAP LENGTH SHALL BE 50d FOR TENSION AS WELL AS COMPRESSED BARS, EXCEPT WHERE SHOWN OTHERWISE.

4.0 CONCRETE MASONRY BLOCKS:

4.1 MASONRY BLOCKS FOR LOAD BEARING WALLS SHALL BE SOLID BLOCKS HAVING MINIMUM CRUSHING STRENGTH OF 12.5 N/mm2. AND FOR NON LOAD BEARING WALLS SHALL BE HOLLOW BLOCKS WITH MINIMUM CRUSHING STRENGTH OF 7.5 N/mm2, UNLESS NOTED OTHERWISE (REFER TO ARCH. DWGS.)

4.2 ALL JOINTS BETWEEN COLUMNS AND BLOCKWORK TO BE PROVIDED WITH S/S ANCHORS AT 450mm (OR EVERY ALTERNATIVE LAYER).

4.3 MORTAR 1:3 CEMENT\SAND. MINIMUM CUBE STRENGTH 5 N/mm2.

4.4 WALL TIES IN ACCORDANCE WITH BS 1248 FIG. 2 CP 121 PART 1.73.

4.5 ALL CONCRETE AND BLOCK JOINTS TO HAVE 300mm WIDE EXPANDED METAL SECURED ON BOTH SIDES FOR PLASTERING. ALSO PCV COATED CORNER BEADS AND PLASTER STOPS TO BE PROVIDED AT ALL CORNERS AND PLASTER EDGE AS REQUIRED BY THE CONSULTANT.

4.6 ALL CONCRETE BLOCKS SUPPLIED TO SITE SHALL HAVE LOCAL MUNICIPALITY APPROVAL CERTIFICATE AND SHALL COMPLY WITH LOCAL ORDER NO.44 & RELEVANT BRITISH STANDARDS.

4.7 DESIGN AND CONSTRUCTIONS OF LOAD BEARING WALLS SHALL COMPLY WITH BS 5628:PART 1:1978. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION METHOD STATEMENT PRIOR TO COMMENCING THE WORKS.

5.0 STABILITY REINFORCEMENT:

5.1 PERIPHERAL TIES:
–PROVIDE 2Y12 PERIPHERAL TIES AT EVERY EDGE OF THE BUILDING LAPPED WITH THE TOP REINFORCEMENT OF THE BEAMS A DISTANCE AT LEAST 750mm.

5.2 INTERNAL TIES:
–THE TOP LAP LENGTH FOR SLAB REINFORCEMENT SHALL BE 650 OR 50 DIA. WHICHEVER IS GREATER.

5.3 COLUMN TIES:
–2Y16 L-BARS SHALL BE PROVIDED AT EVERY CORNER OF THE BUILDING ALL AROUND WITH THE TOP STEEL OF THE PERIPHERAL BEAMS A DISTANCE AT LEAST EQUAL TO 1500mm.

5.4 2Y12 STRAIGHT HORIZONTAL BARS SHALL BE EXTENDED THROUGHOUT THE PERIPHERAL LENGTH OF ANY EXTERNAL AND AT FLOOR LEVEL AND SHOULD BE LAPPED WITH TOP REINFORCEMENT OF THE ADJOINING BEAMS DISTANCE AT LEAST EQUAL TO 1500mm.

5.5 VERTICAL TIES:
–ALL VERTICAL BARS OF COLUMNS AND WALLS SHALL PROJECT A DISTANCE AT LEAST EQUAL TO 800mm OR 50 X DIA. WHICHEVER IS GREATER ABOVE AND EMBEDDED IN FLOOR SLAB.

6.0 STRUCTURAL STEELWORK:

6.1 UNLESS OTHERWISE STATED, STRUCTURAL STEELWORK FOR STANDARD SECTIONS SHALL BE GRADE 43 TO BS 4360.
BUILT-UP SECTIONS ARE MADE FROM HOT ROLLED PLATES CONFORMING TO ASTM A572M GRADE 50 (OR EQUIVALENT) HAVING A MINIMUM YIELD STRENGTH OF 34.5 KN/CM2.

6.2 CONTRACTOR SHALL PREPARE SCALED COMPLETE FABRICATION DRAWINGS WITH THE SUPPORT OF DESIGN CALCULATIONS FOR THE APPROVAL OF THE ENGINEER.

6.3 WHERE REQUIRED, THE CONTRACTOR SHALL PREPARE DETAILS OF JOINTS COMPLETE WITH SUPPORTING CALCULATIONS, FIXING SPECIFICATIONS, WELD PREPARATION SHEETS AND LIKE, ALL TO THE APPROVAL OF THE ENGINEER.

6.4 NO JOINTS OTHER THAN THOSE INDICATED WILL BE ACCEPTABLE EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

6.5 THE CONTRACTOR SHALL PREPARE, FOR THE APPROVAL OF THE ENGINEER, A METHOD STATEMENT FOR THE ERECTION OF STRUCTURAL STEELWORK AND CLADDING (WHERE APPROPRIATE). THE METHOD STATEMENT SHALL INCLUDE DETAILS OF PROVISIONS MADE TO ENSURE THE STABILITY OF THE STRUCTURE DURING ERECTION.

6.6 PROTECTIVE TREATMENT OF STRUCTURAL STEELWORK SHALL BE AS FOLLOWS (MATERIAL DESCRIPTIONS BASED ON INTERNATIONAL PAINTS REFERENCES):

a) SAND BLASTED TO SA 2 1/2
b) ONE COAT EPIGRIP M400 ZP EPOXY PRIMER (75 MICRONS)
c) ONE COAT EPIGRIP L653T HIBUILD (125 MICRONS)
d) TWO COATS RESISTEX M137T SPECIAL FINISH (50 MICRONS EACH COAT)

NOTE:
COLOUR OF FINISH COAT TO BE SELECTED BY THE ARCHITECT.
COLOUR OF UNDERCOAT TO SUIT FINISH COAT COLOUR.

6.7 ALL ANCHOR BOLTS ARE HOT DIP GALVANIZED WITH MINIMUM YIELD STRENGTH 248 MPA.
6.8 ALL BOLTS SHALL BE OF GRADE 8.8.

7.0 SOIL PREPARATION

7.1 THE FOLLOWING PROCEDURE SHALL BE ADOPTED FPR SOIL PREPARATION AT EACH BLOCK:–

(a) EXCAVATE THE TOP SOIL TO THE PROPOSED FOUNDATION LEVEL.
(b) FLOOD THE SITE WITH WATER.
(c) LEVEL AND COMPACT THE REVEALED SURFACE USING A HEAVY ROLLER COMPACTOR TO A MINIMUM OF 98% PROCTOR MAXIMUM DRY DENSITY.

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CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

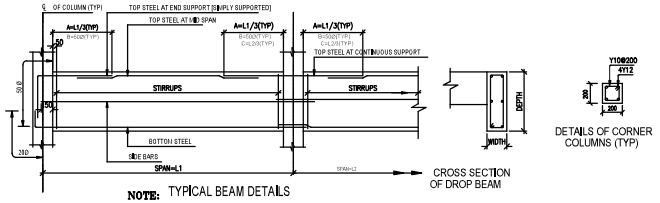
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
GENERAL NOTES

DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

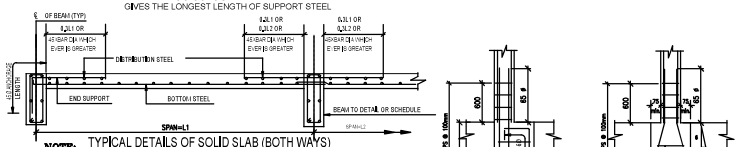
DRAWING NO.	SHEET NO.
S-LAT-4-001	1 OF 1

SCALE	REVISION NO.	DATE.
N.T.S	01	DECEMBER,2022



NOTE: TYPICAL BEAM DETAILS

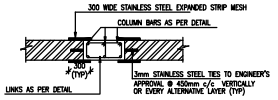
DIMENSION (A) , (B) & (C) MAY GOVERN DEPENDING ON WHICH GIVES THE LONGEST LENGTH OF SUPPORT STEEL



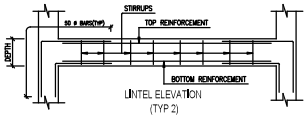
NOTE: TYPICAL DETAILS OF SOLID SLAB (BOTH WAYS)

ALL BOTTOM BARS WITHIN 1/5 OF SHORT SPAN FROM ALL EXTERIOR COLUMNS (IN BOTH DIRECTIONS)SHOULD HAVE AT LEAST 45ø ANCHORAGE LENGTH PAST

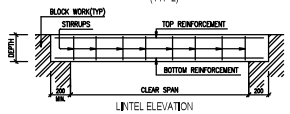
TYPICAL COLUMN JUNCTIONS



TYPICAL CONNECTION DETAIL OF R.C. COLUMN AND BLOCK WALL.



LINTEL ELEVATION (TYP 2)



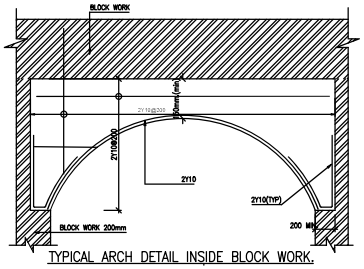
LINTEL ELEVATION (TYP 1)

SCHEDULE OF LINTELS REINFORCEMENT

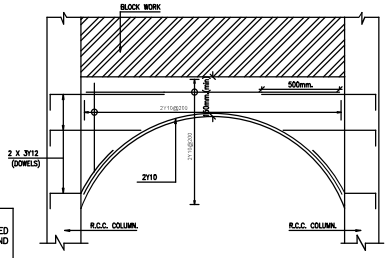
LINTEL WIDTH → / CLEAR SPAN	B=100 TOP REINF.	B=100 BOTTOM REINF.	B=150 TOP REINF.	B=150 BOTTOM REINF.	B=200 TOP REINF.	B=200 BOTTOM REINF.	DEPTH	STIRRUPS
<2000	1Y10	1Y14	2Y10	2Y12	2Y10	2Y12	200	Y8@100
2000–3000	1Y10	1Y16	2Y10	2Y14	2Y10	2Y14	250	Y8@150
3000–4000	1Y10	1Y20	2Y10	2Y16	2Y10	2Y16	300	Y8@175
4000–5000	1Y10	1Y20	2Y10	2Y16	2Y10	2Y16	400	Y8@200
5000–6000	1Y10	1Y20	2Y10	2Y16	2Y10	2Y16	500	Y8@200

TYPICAL DETAILS OF LINTELS

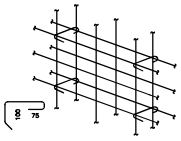
NOTE:
FOR ALL SILLS AND LINTELS BETWEEN COLUMNS AND NOT SUPPORTED BY A WALL, PROVIDE DOWELS IN THE COLUMN OF SAME SIZE AND NUMBER AS THE REINFORCEMENT OF THE LINTEL OR SILL. THESE DOWELS SHALL EXTEND 50 BAR ø FROM THE FACE OF THE COLUMN AND SHALL BE EMBEDDED 50 BAR ø IN THE COLUMN.



TYPICAL ARCH DETAIL INSIDE BLOCK WORK.

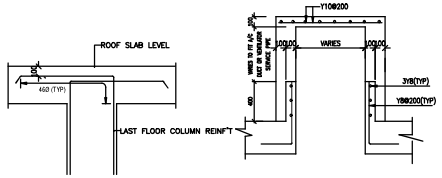


TYPICAL ARCH DETAIL CONNECTED TO R.C. COLUMN.



TYPICAL DETAIL FOR VERTICAL REINFORCEMENT IN WALLS WITH HOOKS

NOTE:

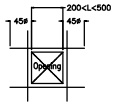


STANDARD TRIMMING DETAILS FOR STRUCTURAL OPENINGS

A. TRIMMER BARS TO STRUCTURAL OPENINGS SHALL BE PROVIDED AS DETAILED HEREIN. DIAMETER OF TRIMMER BARS SHALL BE SIMILAR TO BIGGER REINFORCING BARS OF THE STRUCTURE THROUGH WHICH THE OPENING IS FORMED.

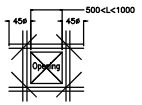
B. NO TRIMMER BARS ARE REQUIRED FOR OPENINGS NOT GREATER THAN 200MM WIDE, BUT NO REINFORCING BARS SHALL BE CUT, REINFORCING BARS SHALL BE ADJUSTED IN POSITION TO AVOID OPENING.

C. UNLESS OTHERWISE SHOWN IN THE STRUCTURAL DRAWINGS, TRIMMING BARS DETAILS FOR THE DIFFERENT SIZE OPENINGS ARE AS SHOWN:



ONE NO. TRIMMING BAR ON EACH SIDE AND EACH FACE OF THE OPENING. DIAMETER (ø) OF TRIMMING BARS SHALL BE GREATEST DIAMETER OF BARS AFFECTED STRUCTURE

200mm<max. dimension of openign<500mm
L : Maximun dimension of opening

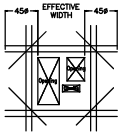


NOTES ON REPLACEMENT BARS

1. SHALL NOT BE LESS THAN NOS. OF BARS CUT BY OPENING.
2. MINIMUN 2 NOS. EACH FACE AND BAR DIAMETER (ø) SHALL BE EQUAL TO THE GREATEST DIAMETER OF BARS CUT BY THE OPENING.
3. BOTH PERPENDICULAR AND DIAGONAL TRIMMING BARS SHALL BE PROVIDED AS SHOWN ABOVE AND ON EACH FACE OF THE STRUCTURE.

500mm<max. dimension of opening<1000mm

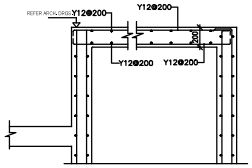
D. WHEN THE DISTANCE BETWEEN OPENINGS IS LESS THAN 1.5 TIMES THE WIDTH OF THE LARGEST OPENING, THE GROUP SHALL BE TREATED AS A SINGLE OPENING WITH AN EFFECTIVE WIDTH AND LENGTH AS SHOWN:



Trimming details for a group of openings

NOTES ON REPLACEMENT BARS

1. SHALL NOT BE LESS THAN NOS. OF BARS CUT BY OPENING.
2. MINIMUN 2 NOS. EACH FACE AND BAR DIAMETER (ø) SHALL BE EQUAL TO THE GREATEST DIAMETER OF BARS CUT BY THE OPENING.
3. BOTH PERPENDICULAR AND DIAGONAL TRIMMING BARS SHALL BE PROVIDED AS SHOWN ON EACH FACE OF THE STRUCTURE.



DETAIL OF LIFT SLAB

ABBERIVATIONS:-

(T) TOP
(B) BOTTOM
(L.W.) LENGTH VARIES
(B.W.) BOTH WAYS
(E.F.) EACH FACE
(E.W.) EACH WAY
(AV.) AVERAGE

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00	17/03/2022	DRAFT DETAIL

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WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

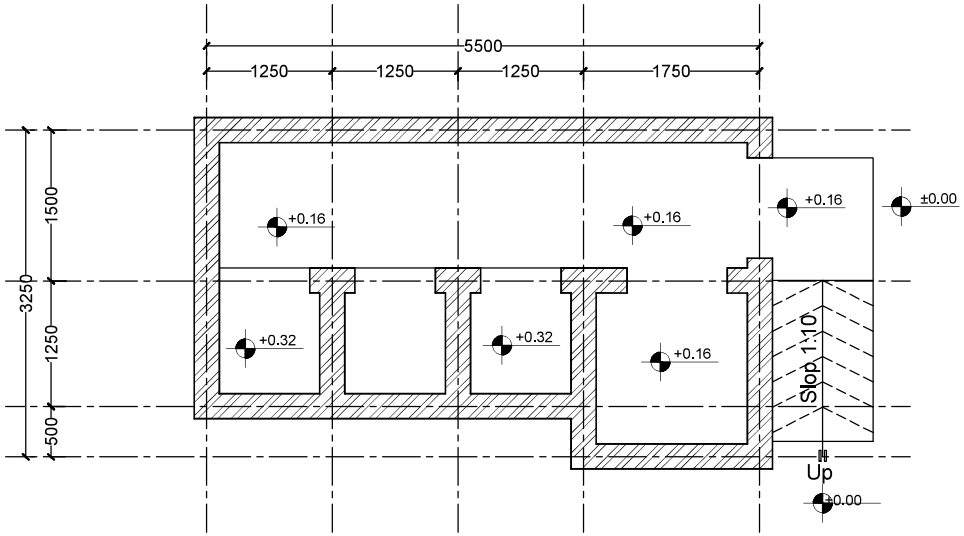
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
STANDARD DETAILS

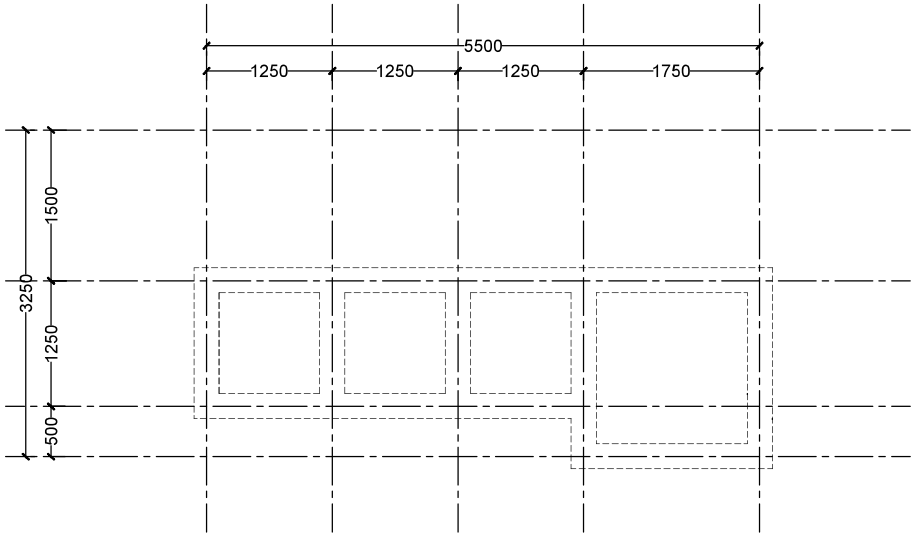
DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-002	1 OF 1

SCALE	REVISION NO.	DATE.
N.T.S	01	DECEMBER,2022



UNIT(4) GENERAL PLAN



LINTEL BEAM LAYOUT

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Design Criteria:

1- Material properties:
- -Fy = 460 Mpa for steel bar reinforcement.
- -Fcu = 25 Mpa for reinforced concrete.
- -Py = 235 Mpa for all steel members.

2-Structure system:
- 2-1: Foundation system:
  - Crushed stone strip footing fill by sand.
- 2-2: Flooring:
  - Slab on grade rest on well compacted selected material.
- 2-3: ALL BRICK WALL, mortar designation(iii), minimum brick strength =5N/mm2.

3- Add additives for the concrete under sewerage drain water.

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WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
GENERAL PLAN AND LINTEL BEAM LAYOUT

DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-101	1 OF 2

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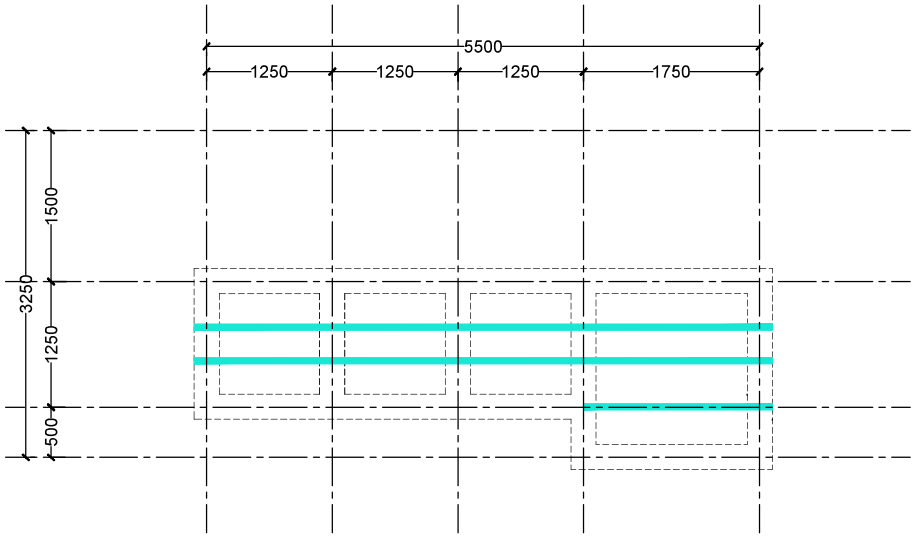

ROOF PLAN

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- -Py = 235 Mpa for all steel members.

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  - Crushed stone strip footing fill by sand.
- 2-2: Flooring:
  - Slab on grade rest on well compacted selected material.
- 2-3: ALL BRICK WALL, mortar designation(iii), minimum brick strength =5N/mm2.

3- Add additives for the concrete under sewerage drain water.

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WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
ROOF PLAN

DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-101	2 OF 2

SCALE	REVISION NO.	DATE.
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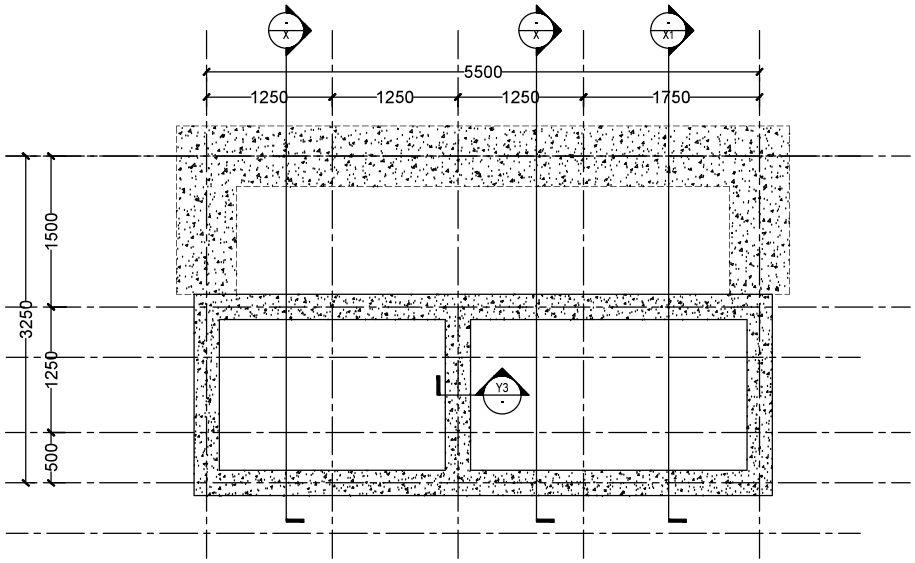
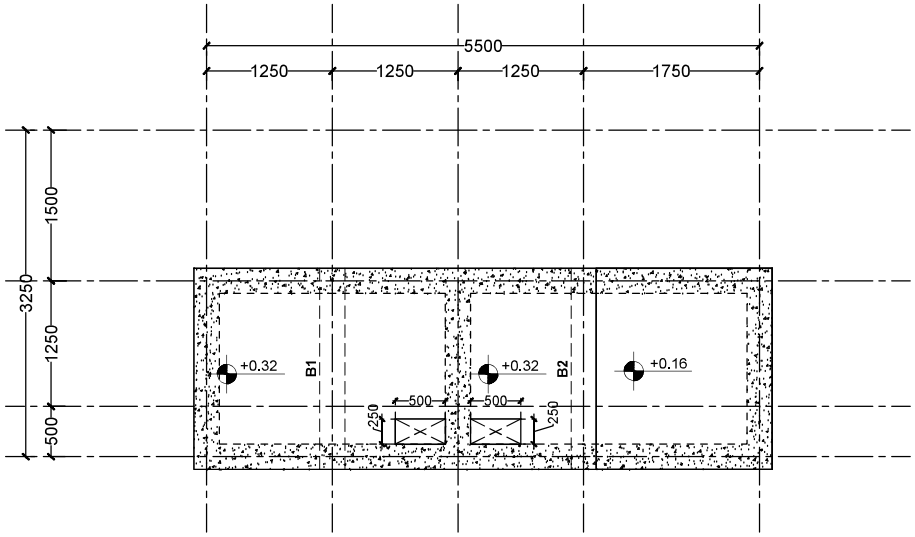


CONCRETE PIT WALLS & STRIP FOUNDATION LAYOUT



PIT COVER SLAB LAYOUT

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PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS

FOUR DOORS LATRINE (LAT-4)

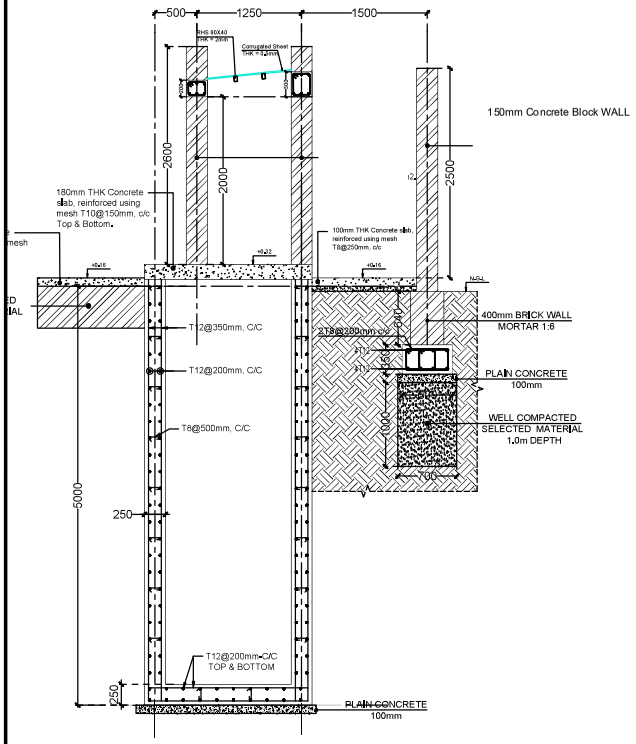
CIVIL WORKS

OPTION 2 (CONCRETE PIT) WALLS, FOUNDATION, & COVER SLAB LAYOUTS

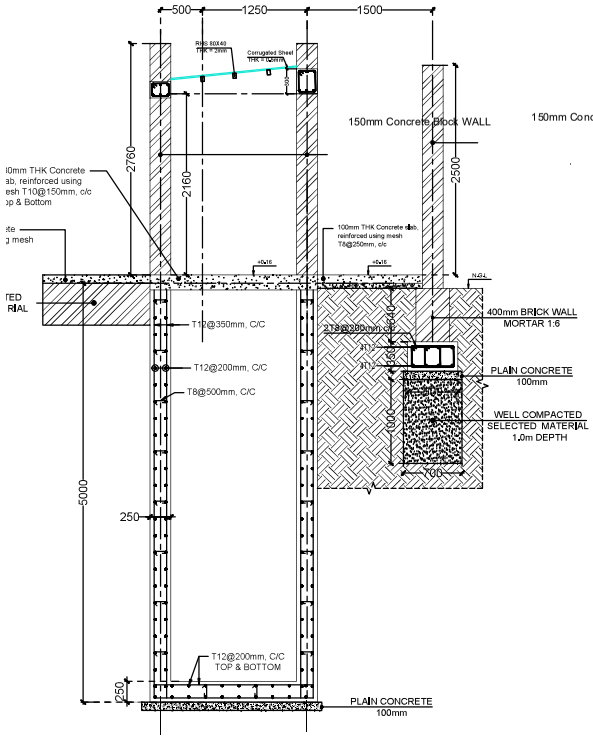
DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-103	1 OF 2

SCALE	REVISION NO.	DATE.
1:50	01	DECEMBER.2022



SECTION (X)
SCALE 1:60



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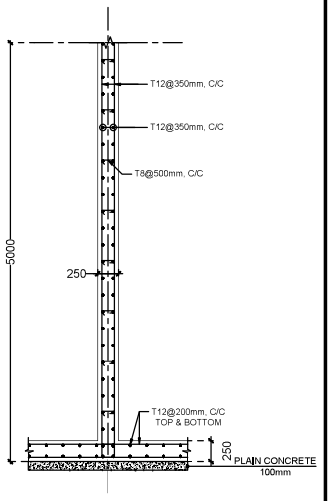
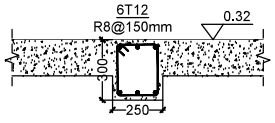
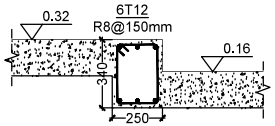
SCALE 1:60



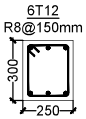
SECTION (Y3)
SCALE 1:60



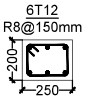
BEAM B(1)
SCALE. 1:25



BEAM (B2)
SCALE. 1:25



GRADE BEAM DETAILS
SCALE. 1:25



LENTIL BEAM DETAILS
SCALE. 1:25

MURTADA MAAZ CONSULTANCY
MURTADA MAAZ BUILDING, OBAID KHATIM STREET
KHARTOUM - SUDAN
TEL : +249-183-780911 /+249-183-795326
P.O. BOX : 13614 -CODE: 11111
E-MAIL : MMC@MURTADAMAAZ.COM
WEBSITE : WWW.MURTADAMAAZ.COM

Design Criteria:

1- Material properties:
- -Fy = 460 Mpa for steel bar reinforcement.
- -Fcu = 25 Mpa for reinforced concrete.
- -Py = 235 Mpa for all steel members.

2-Structure system:
- 2-1: Foundation system:
  - Crushed stone strip footing fill by sand.
- 2-2: Flooring:
  - Slab on grade rest on well compacted selected material.
- 2-3: ALL BRICK WALL, mortar designation(iii), minimum brick strength =5N/mm2.

3- Add additives for the concrete under sewerage drain water.

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/2022	FINAL DETAIL
01	07/04/2022	FINAL DETAIL
00	17/03/2022	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

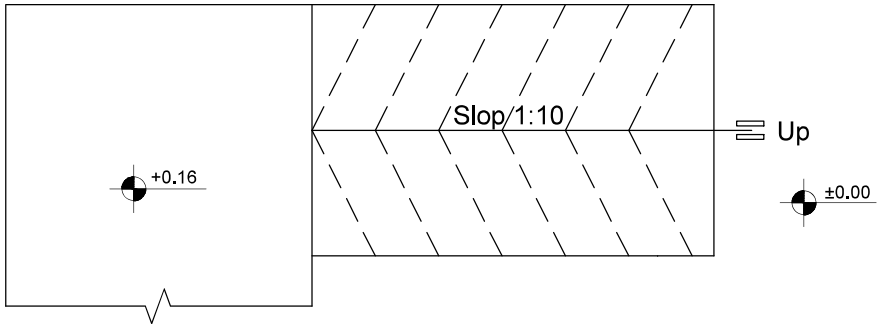
DRAWING TITLE:-

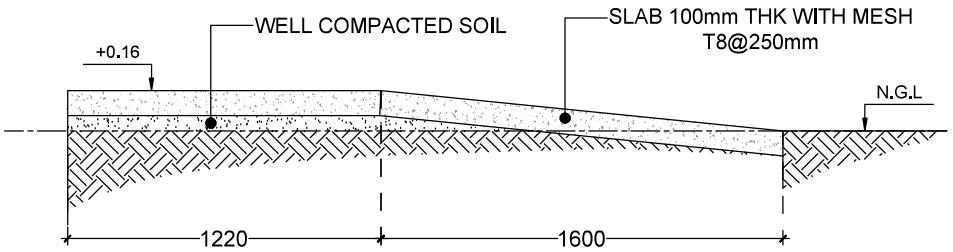
BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
OPTION 2 (CONCRETE PIT) SECTIONS DETAILS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-103	2 OF 2

SCALE	REVISION NO.	DATE.
As Indicated	01	DECEMBER,2022





RAMP SECTION
General Details

MURTADA MAAZ
CONSULTANCY
MURTADA MAAZ BUILDING, OBAID KHATIM STREET
KHARTOUM - SUDAN
TEL : +249-183-780911 /+249-183-795326
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3- Add additives for the concrete under sewerage drain water.

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/2022	FINAL DETAIL
00	07/04/2022	FINAL DETAIL
00	17/03/2022	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

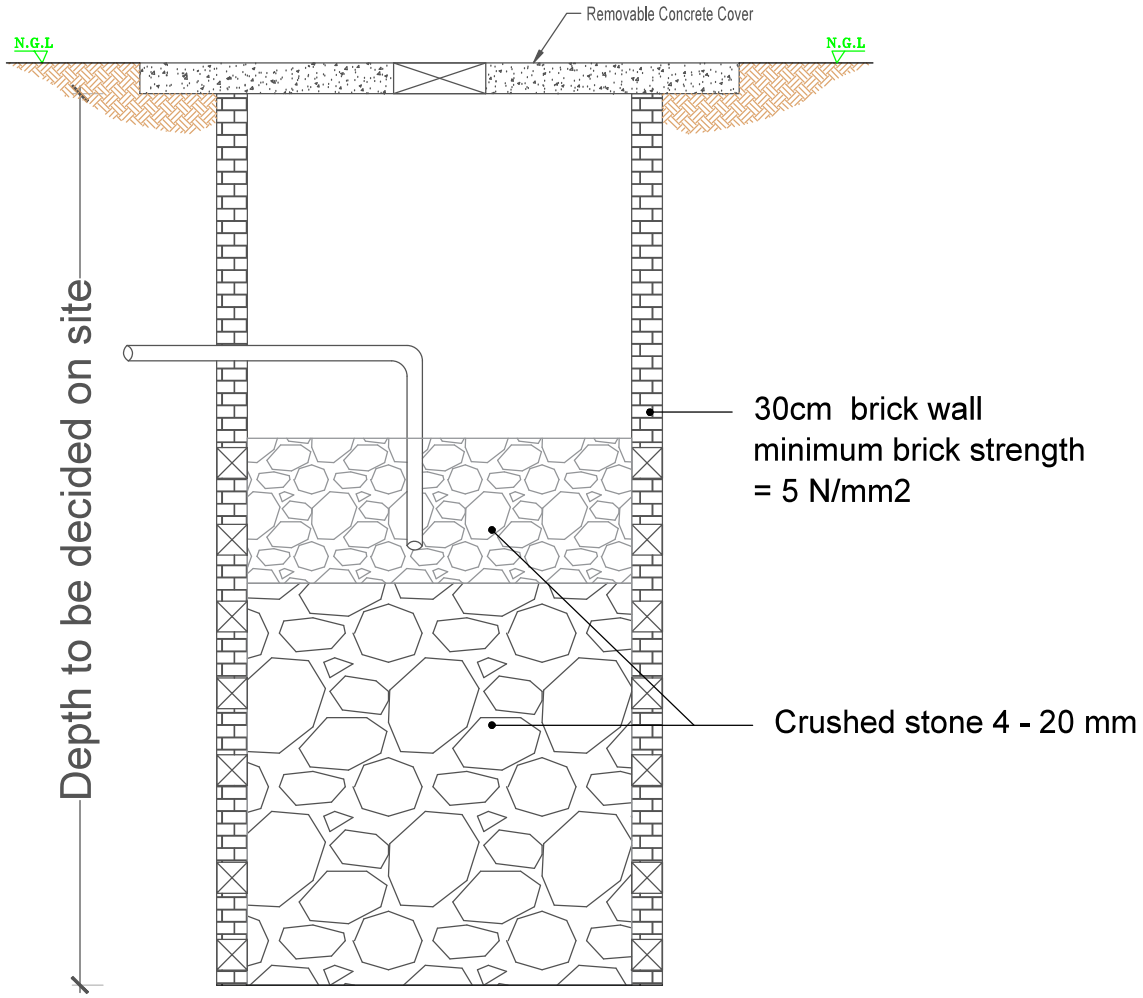
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
CIVIL WORKS
GENERAL RAMP DETAIL

DESIGNED BY:	DRAWN BY:	APPROVED BY:
AOM	SSZ	AAA

DRAWING NO.	SHEET NO.
S-LAT-4-105	1 OF 1

SCALE	REVISION NO.	DATE.
1:50	01	DECEMBER,2022



SOAKAWAY DETAILS

MURTADA MAAZ
CONSULTANCY
MURTADA MAAZ BUILDING, OBAID KHATIM STREET
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E-MAIL : MMC@MURTADAMAAZ.COM
WEBSITE : WWW.MURTADAMAAZ.COM

NOTES :-

1. NO DIMENSIONS ARE TO BE SCALED FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETERS & ALL LEVELS ARE IN METER FROM FLOOR FINISH LEVEL UNLESS OTHERWISE STATED NOTED.
3. BUILDER TO CHECK ALL DIMENSIONS AT SITE PRIOR TO CONSTRUCTION, ASSEMBLY OR FABRICATION OF ALL WORKS.
4. ALL WORKS ARE TO BE CARRIED OUT TO SUDAN AND OTHER RELEVANT CODES OF CONSTRUCTION.

-FLOOR TILES SHOULD BE REVISED BY CONTRACTOR ACCORDING TO ACTUAL DIMENSION ON SITE.

-RL. ROAD LEVEL
-WL. WALK LEVEL
-T.O.S TOP OF SLAB
-C.L CONCRETE LEVEL
-F.L FINISHING LEVEL

BUILD UP AREA = 40.6m2

LEGEND :-

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/2022	FINAL DETAIL
00		FINAL DETAIL
00		DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
TEN DOORS LATRINE (LAT-4)
HAND WASH FACILITY - CIVIL WORKS
GENERAL SOAK AWAY DETAILS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	SAE	SOM

DRAWING NO.	SHEET NO.
S-LAT-4-301	1 OF 1

SCALE	REVISION NO.	DATE.
1:50	01	DECEMBER.2022

MECHANICAL DRAWINGS

GENERAL NOTES:

01 : ALL PPRC PIPES SHALL BE IN MILLIMETER INDICATING NOMINAL DIAMETER.

02 : ALL PVC PIPES SHALL BE IN MILLIMETER INDICATING NOMINAL DIAMETER.

03 : ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

04 : DRAWINGS ARE DIAGRAMMATIC, ALL WORKS SHALL BE EXECUTED AS PER APPROVED SHOP DRAWING.

05 : ALL MECHANICAL DRAWINGS SHALL BE COORDINATED WITH ELECTRICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS.

06 : NO MEASUREMENT SHALL BE TAKEN FROM THESE DRAWINGS.

07 : MECHANICAL SERVICES SHALL NOT CUT IN ANYWAY STRUCTURAL RIBS, BEAMS OR ANY OTHER STRUCTURAL ELEMENTS UNLESS PRIOR APPROVAL IS GRANTED.

08 : SLEEVES SHALL BE PROVIDED ON ALL DUCTS AND PIPES PENETRATING WALLS AND WOOD FRAMES FOR ALL WALL-MOUNTED GRILLES AND EQUIPMENT.

09 : CONTRACTOR SHALL NOT PURCHASE ANY PIECE OF EQUIPMENT PRIOR TO ENGINEER'S APPROVAL ON THE SHOP DRAWINGS AND ALL SELECTED EQUIPMENT SUBMITTAL.

10 : CONTRACTOR SHALL EXECUTE ALL ELECTRICAL WORKS RELATED TO MECHANICAL SYSTEM INCLUDING ALL CONTROLS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM TO THE SATISFACTION OF THE ENGINEER AND AS PER APPROVED SHOP DRAWINGS.

11 : CONTRACTOR TO PROVIDE FLEXIBLE CONNECTIONS ON ALL DUCTS & PIPES CROSSING EXPANSION JOINTS

12 : MECHANICAL CONTRACTOR TO COORDINATE BEAM AND SLOPE PENETRATIONS WITH STRUCTURAL SHOP DWGS. AND SUBMIT BUILDERS WORK FOR APPROVAL.

13 : ALL MECHANICALS SERVICES UNDERGROUND SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS. PROVIDE APPROVED TYPE OF WARNING TAPE BEFORE FINAL BACKFILLING.

14 : CONTRACTOR SHALL SUBMIT 3 SETS OF AS-BUILT DRAWING AND O & M MANUALS FOR ALL THE INSTALLED SYSTEMS AND EQUIPMENT.

15 : CONTRACTOR IS RESPONSIBLE TO PROVIDE EXPANSION AND CONTRACTION COMPENSATOR FITTINGS FOR ALL MECHANICAL SYSTEMS AND EQUIPMENTS INSTALLED ACROSS THE EXPANSION JOINT IN STRUCTURAL FRAMING.

16 : CONTRACTOR IS RESPONSIBLE TO SUBMIT MECHANICAL SYSTEM METHOD OF STATEMENT FOR APPROVAL

17 : CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL MECHANICAL MATERIALS FOR APPROVAL

18 : CONTRACTOR IS RESPONSIBLE TO SUBMIT (3 SETS) OF MECHANICAL SYSTEM SHOP DRAWINGS COORDINATION DRAWINGS FOR APPROVAL WITH IN (4 WEEK FROM THE PROJECT CONTRACT

19 : CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL MECHANICAL MATERIALS FOR INSPECTION TO SITE

20 : CONTRACTOR IS RESPONSIBLE TO SUBMIT SAMPLE OF EACH NEW MECHANICAL INSTALLATION WORK FOR APPROVAL

URTADA MAAZ
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00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

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WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDI9NG INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
MECHANICAL WORKS
GENERAL NOTES

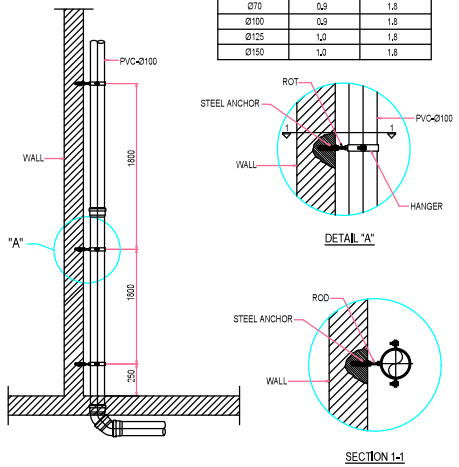
DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

DAWNING NO.	SHEET NO.
M-LAT-4-00	1OF1

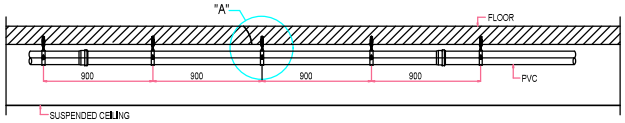
SCALE	REVISION NO.	DATE.
NTS	01	DECEMBER,2022

CONSOLE DISTANCES FOR PVC PIES

PIPE DIAMETER	VERTICAL	HORIZONTAL
Ø50	0,9	1,2
Ø70	0,9	1,8
Ø100	0,9	1,8
Ø125	1,0	1,8
Ø150	1,0	1,8



PVC PIPE SUPPORT DETAIL (ON WALL)
SCALE N.T.S



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PIPE DIAMETER	VERTICAL	HORIZONTAL
Ø50	0,9	1,2
Ø70	0,9	1,8
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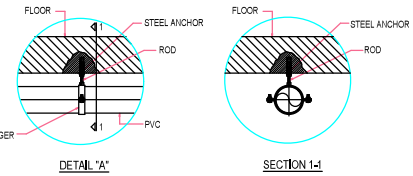
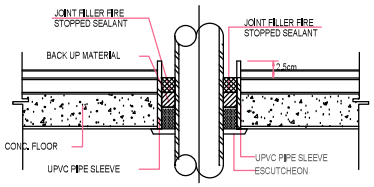
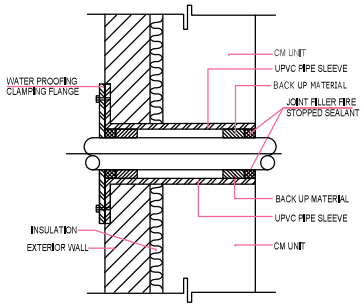


PVC PIPE SUPPORT DETAIL (SUSPENDED CEILING)
SCALE N.T.S



PIPE SLEEVE THRU FLOOR
SCALE N.T.S



PIPE SLEEVE THRU EXTERIOR WALL
OR FOUNDATION WALL (BELOW GRADE)
SCALE N.T.S

URTADA MAAZ
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WEBSITE : WWW.MURTADAMAAZ.COM

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/22	DETAILED FINAL
00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

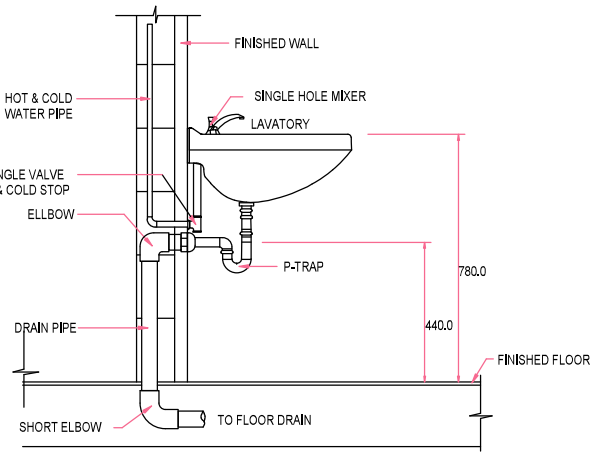
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
MECHANICAL WORKS
MECHANICAL DETAILS (SHEET 1 OF 3)

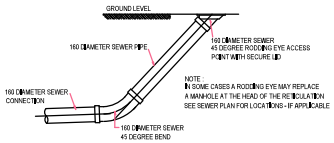
DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

DAWNING NO.	SHEET NO.
MD-LAT-4-01	1OF3

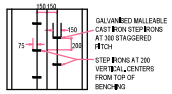
SCALE	REVISION NO.	DATE.
NTS	01	DECEMBER,2022



LAVATORY DETAILS
SCALE N.T.S

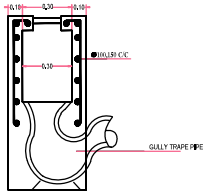


DETAIL OF SEWER RODDING EYE
SCALE N.T.S

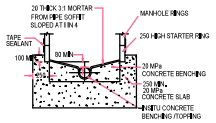


SECTION

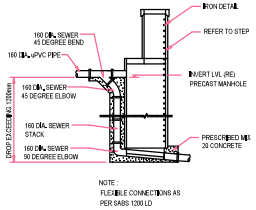
DETAIL OF STEP IRONS
SCALE N.T.S



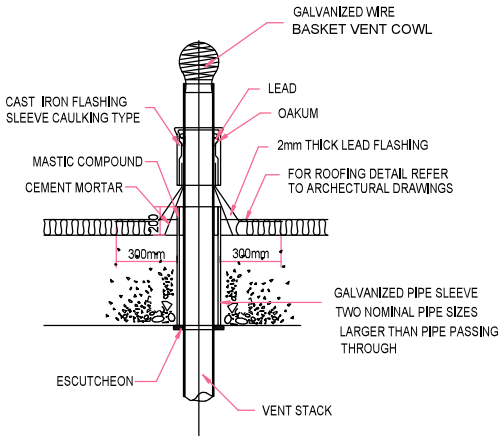
GULLY TRAP DETAILS



DETAIL OF BENCHING
SCALE N.T.S

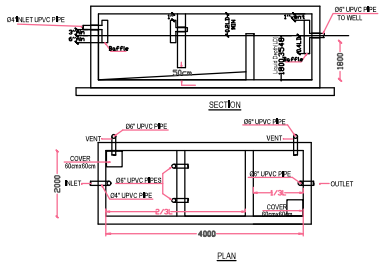


CONVENTIONAL DROP CONNECTIONS
SCALE N.T.S

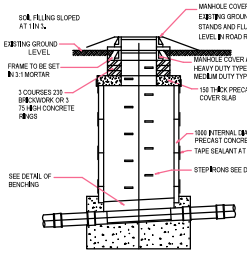


VENT STACK (ROOF TERMINAL DETAIL)
SCALE N.T.S

Note
Each compartments (3) shall be with access (60 cm x 60 cm)



SEPTIC TANK DETAIL
SCALE N.T.S



PRECAST CONCRETE RING MANHOLE
SCALE N.T.S
(FOR DEPTHS BETWEEN 0.750 METRES AND 3.500 METRES)

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00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

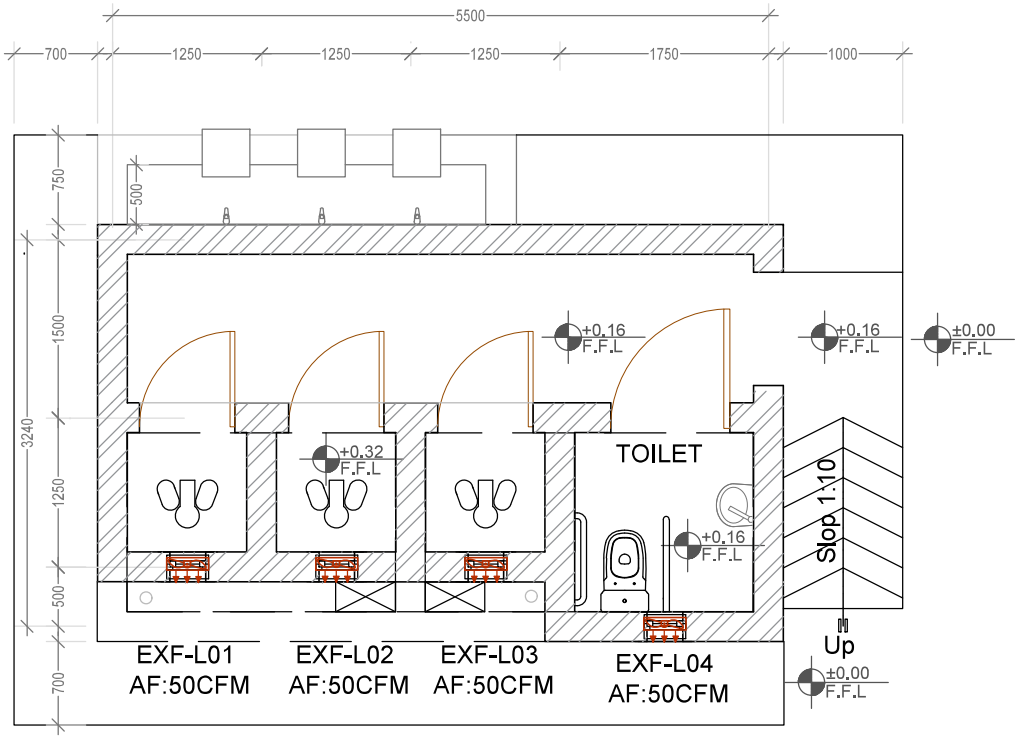
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
MECHANICAL WORKS
MECHANICAL DETAILS (SHEET 2 OF 3)

DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

DAWNING NO.	SHEET NO.
MD-LAT-4-02	2OF3

SCALE	REVISION NO.	DATE.
NTS	01	DECEMBER,2022



UNIT(4)

VENTILATION SYSTEM

MURTADA MAAZ CONSULTANCY

MURTADA MAAZ BUILDING, OBAID KHATIM STREET
KHARTOUM - SUDAN
TEL : +249-183-780911 /+249-183-795326
P.O. BOX : 13614 -CODE: 11111
E-MAIL : MMC@MURTADAMAAZ.COM
WEBSITE : WWW.MURTADAMAAZ.COM

NOTES:-

1- ALL DIMENSION ON MILLIMETER UNLESS OTHERWISE NOTED.

2- FOR EQUIPMENT SCHEDULE REFER TO EQUIPMENT SCHEDULE.

ABBREVIATIONS:-

AF AIR FLOW.

LEGEND:-

WALL TYPE EXHAUST FAN.

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/22	DETAILED FINAL
00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDI9NG INFRA-STRUCTURE IN SUDAN

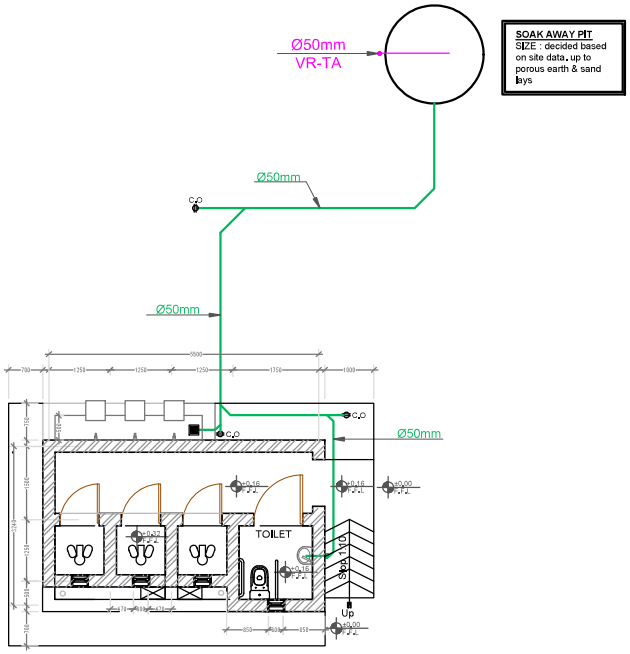
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
MECHANICAL WORKS
VENTILATION SYSTEM

DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

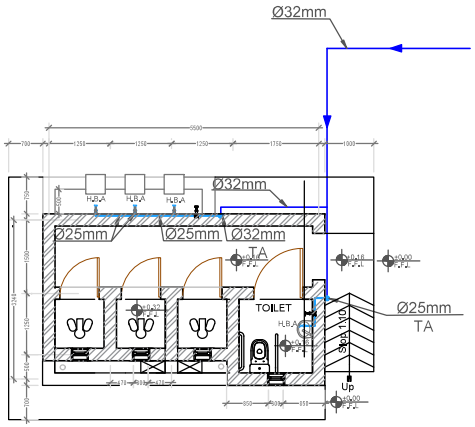
DAWNING NO.	SHEET NO.
MW-LAT-4-01	1OF3

SCALE	REVISION NO.	DATE.
1:100	01	DECEMBER,2022



UNIT(4)

DRAINAGE SYSTEM



UNIT(4)

WATER SUPPLY SYSTEM

MURTADA MAAZ CONSULTANCY

MURTADA MAAZ BUILDING, OBAID KHATIM STREET
KHARTOUM - SUDAN
TEL : +249-183-780911 /+249-183-795326
P.O. BOX : 13614 -CODE: 11111
E-MAIL : MMC@MURTADAMAAZ.COM
WEBSITE : WWW.MURTADAMAAZ.COM

NOTES & LEGEND:-

1. ALL DIMENSION ON MILLIMETER UNLESS OTHER WISE NOTED.
2. FOR MECHANICAL DETAILS & INSTALLATION REFER TO MECHANICAL DETAILS DRAWING.
3. FOR CONSTRUCTION DETAILS REFER TO STRUCTURAL DRAWINGS.
4. ALL THE SIZES (PPR PIPES) PRESENTED THE OUTER DIAMETER (PN 20).

DRAINAGE:-

- WASTE WATER PIPE
- WASTE WATER RISER
- FLOOR DRAIN
- C.O FLOOR CLEAN OUT

PIPE SIZE	SLOPE
Ø75	1.0%
Ø50	2.0%

WATER SUPPLY:-

- H.B.A HAND WASH BASIN ACCESSORIES
- TA TO ABOVE
- DOMESTIC WATER RISER
- PPR COLD WATER PIPE RUN INSIDE WALL
- PPR COLD WATER PIPE RUN UNDER GROUND
- ISOLATING VALVE
- GATE VALVE

REV	DATE	PURPPOE OF ISSUNCE
01	15/12/22	DETAILED FINAL
00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDI9NG INFRA-STRUCTURE IN SUDAN

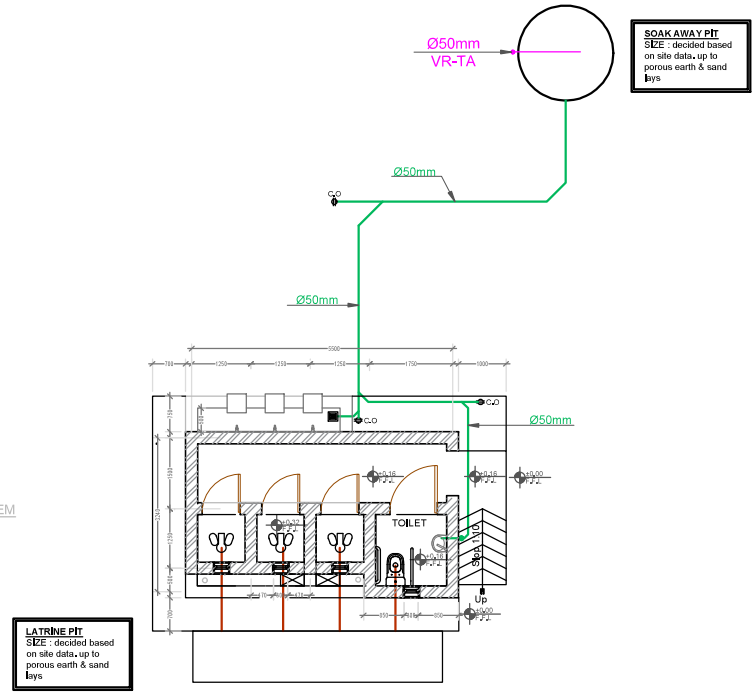
DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
MECHANICAL WORKS
DRAINAGE & WATER SUPPLY SYSTEMS

DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

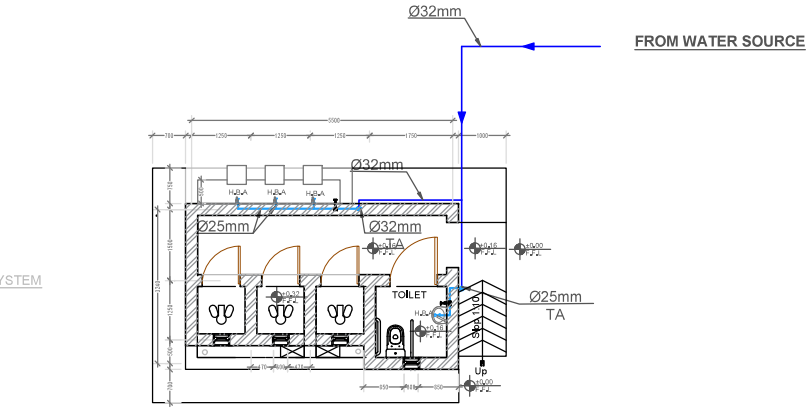
DAWNING NO.	SHEET NO.
MW-LAT-4-02	2OF3

SCALE	REVISION NO.	DATE.
1:100	01	DECEMBER,2022



UNIT(4)

DRAINAGE SYSTEM



UNIT(4)

WATER SUPPLY SYSTEM

URTADA MAAZ
CONSULTANCY

MURTADA MAAZ BUILDING, OBAID KHATIM STREET
KHARTOUM - SUDAN
TEL : +249-183-780911 /+249-183-795326
P.O. BOX : 13614 -CODE: 11111
E-MAIL : MMC@MURTADAMAAZ.COM
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3. FOR CONSTRUCTION DETAILS REFER TO STRUCTURAL DRAWINGS.
4. ALL THE SIZES (PPR PIPES) PRESENTED THE OUTER DIAMETER (PN 20).

DRAINAGE:-

- WASTE WATER PIPE
- WASTE WATER RISER
- FLOOR DRAIN
- FLOOR CLEAN OUT C.O

PIPE SIZE	SLOPE
Ø75	1.0%
Ø50	2.0%

WATER SUPPLY:-

- H.B.A HAND WASH BASIN ACCESSORIES
- TA TO ABOVE
- DOMESTIC WATER RISER
- PPR COLD WATER PIPE RUN INSIDE WALL
- PPR COLD WATER PIPE RUN UNDER GROUND
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REV	DATE	PURPPOE OF ISSUNCE
01	15/12/22	DETAILED FINAL
00	07/04/22	DETAILED FINAL
00	17/03/22	DRAFT DETAIL

CLIENT:-

World Vision

WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDI9NG INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS

FOUR DOORS LATRINE (LAT-4)

MECHANICAL WORKS

DRAINAGE & WATER SUPPLY SYSTEMS POUR-FLUSH

DESIGNED BY:	DRAWN BY:	APPROVED BY:
N.A.A	N.A.A	A.A.A

DAWNING NO.	SHEET NO.
MW-LAT-4-03	3OF3

SCALE	REVISION NO.	DATE.
1:100	01	DECEMBER,2022

GENERAL ELECTRICAL NOTES

1: THE ELECTRICAL INSTALLATIONS HEREIN SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, NFPA99 AND IEE .

2: THE TYPE OF POWER SERVICE TO BE SUPPLIED SHALL BE 415V, 3PH, 50 HERTZ.

3: THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF EXISTING POWER SUPPLY AND ALSO THE ACTUAL LOCATION OF THE EXISTING TELEPHONE CABLE FACILITIES FOR CONNECTION.

4: THE CONTRACTOR SHALL COORDINATE THE LOCATION OF LIGHTING FIXTURES WITH MECHANICAL AND OTHER DEVICES TO BE INSTALLED IN CEILING.

5: UNLESS OTHERWISE SPECIFIED THE MINIMUM SIZE OF WIRE AND CONDUIT SHALL BE 2.5MM SQ COPPER AND 20 MM DIAMETER RESPECTIVELY.

6: ALL SERVICE ENTRANCE EQUIPMENT SUCH AS POWER AND LIGHTING PANELS SHALL BE PROPERLY CONNECTED TO BUILDING earth GRID.

7: Earth ALL METALLIC CONDUITS, STRUCTURAL STEEL SUPPORTS, CABINETS AND EQUIPMENT IN ACCORDANCE WITH THE NEC. EARTH MOTOR BASES AND FRAMES BY PULLING A SEPARATE CONDUCTOR WITH THE MOTOR FEEDER.

8: METALLIC CONDUITS OR DUCTS SHALL CONTAIN AN INSULATED GROUNDING CONDUCTOR.

9: MAKE FIRM GROUND TO WIRING SYSTEM. GROUND CONDUCTORS AS INDICATED ON THE DRAWINGS MUST BE CONTINUOUS FROM ORIGIN TO TERMINATION AND PROPERLY BONDED WITH LUGS AT BOTH ENDS.

10: ALL MATERIALS TO BE USED SHALL BE NEW AND OF THE APPROVED TYPE FOR THE LOCATION AND PURPOSE.

11: STANDARD TYPES OF ACCESSORIES, SPLICING DEVICES, TERMINATION AND OTHER APPARATUS FOR THE ENTIRE ELECTRICAL INSTALLATIONS SHALL BE USED.

12: LIGHT SWITCHES SHALL BE MOUNTED 1.20 M. FROM FINISHED FLOOR LEVEL UNLESS OTHERWISE INDICATED.

13: POWER SOCKETS SHALL BE MOUNTED 0.5 M. FROM FINISHED FLOOR LEVEL UNLESS OTHERWISE INDICATED.

14: TOP OF THE DISTIBUTION PANELS SHALL BE 1.8M FROM FINISH FLOOR. WALL MOUNTED LIGHTING FIXTURES INCLUDING EXIT SIGN SHALL BE 0.2M ABOVE DOOR LINE. SOCKET FOR SPLIT UNIT SHALL BE 1.8M FROM FINISH FLOOR.

14: ALL CONDUITS AND WIREWAYS LOCATED AND/OR INDICATED ARE DIAGRAMATIC; EXACT LOCATIONS IN ROOMS, WALL PENETRATIONS, ETC., SHALL BE DETERMINED BY THE ENGINEER AT THE JOB SITE.

16: PROVIDE 20/25 MM DIAMETER EMPTY CONDUIT STUB-UP WITH CAPS INSIDE CEILING FROM ALL FLUSH MOUNTED PANELBOARDS CORRESPONDING TO THE NUMBER OF SPARE 15/20 AMPERE BRANCH CIRCUIT.

17: THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSULT AND COORDINATE POWER SERVICE REQUIREMENTS OF THE PROJECT.

18: ALL FLUORESCENT LIGHTING FIXTURES SHALL BE PROVIDED WITH HIGH POWER FACTOR, THERMAL PROTECTOR AND ELECTRONIC BALLAST OF THE CORRECT RATING, CORRESPONDING TO THE NUMBER OF FLUORESCENT LAMPS ATTACHED TO THE FIXTURE HOUSING, UNLESS OTHERWISE NOTED.

19: THE STANDARD SIZE OF WIRE TO BE USED SHALL BE IN METRIC STANDARD (SI UNITS).

20: ALL WIRES AND CABLES PASSING FROM ROOM TO ROOM SHALL BE PROVIDED WITH SLEEVES AND SEALED TO PREVENT PASSAGE OF AIR/MOISTURE.

21: UNLESS OTHERWISE INDICATED, SIZE OF BRANCH CIRCUIT WIRES SHALL BE AS FOLLOWS:

BRANCH C.B.	BRANCH CKT. WIRE
10/15A	2.5 SQ.MM GRD, 2.5 SQ.MM PVC
20A	4.0 SQ.MM GRD, 4.0 SQ.MM PVC
32A	6.0 SQ.MM GRD, 6.0 SQ.MM PVC

22: ALL MAIN AND BRANCH BREAKERS OF SWITCHBOARDS SHALL BE MOLDED CASE CIRCUIT BREAKER (MCCB)

23: ALL LIGHT FIXTURES, IN AREAS SUBJECT TO WET/DAMP LOCATIONS LIKE KITCHEN & LAUNDRY SHALL HAVE MINIMUM PROTECTION DEGREE OF "IP44", AND MINIMUM PROTECTION DEGREE OF "IP54" FOR OUTDOOR

24: VERIFY LOCATIONS AND RATINGS OF ALL MECHANICAL EQUIPMENT/THERMOSTATS AT SITE AND AS PER MECHANICAL PLANS PRIOR TO EXECUTION OF ELECTRICAL WORKS.

25: CONTRACTOR IS TO CHECK ALL VOLTAGE DROP IN SYSTEM AGAINST CABLE SIZES/LENGTH. VOLTAGE DROP ANYWHERE IN TOTAL SYSTEM FROM POWER SOURCE TO CONSUMER ON EACH CIRCUIT SHALL NOT EXCEED 4% .

26: EARTH RESISTANCE ANYWHERE IN THE SYSTEM SHALL NOT EXCEED 5 OHMS.

27: CONTRACTOR TO SUBMIT SHOP DRAWING FOR ALL SYSTEMS FOR APPROVAL PRIOR TO EXECUTION OF WORK.

28: ALL EQIPMENT COMPONENTS SHALL BE RATED TO OPERATE AT 50°C AMBIENT TEMPERATURE.

29: THE NUMBER OF WIRES INSIDE EACH CONDUIT SHALL BE AS RECOMMENDED STANDARED.

30: CONFIRM FRAME SIZES OF ALL BREAKERS WITH RESPECT TO CABLE SIZES.

31: CONTRACTOR TO CHECK SHORT CIRCUIT LEVEL AT ALL SWITCH/PANELBOARD PRIOR TO ORDERING OF THE ABOVE.

32: ALL DISTRIBUTION BOARDS SHALL BE RATED FOR TOTAL CONNECTED LOADS BEFORE A DIVERSITY FACTOR IS APPLIED.

33: CO-ORDINATE LOCATIONS OF ALL PANTRY EQUIPMENT AT SITE AND THEIR RATINGS TO MATCH ELECTRICAL WORKS.

34: ALL STRUCTURES NEED TO BE EARTHED AS PER IEE.

35: CHECK FURNITURE LAYOUT PRIOR TO ROUGH-IN WORKS.

36: WHILE WIRING OF FIXTURES, ALL WIRES SHALL BE SPLICED AT FIXTURES.

37: THE ENTIRE 11KV/415V POWER NETWORK SHOULD BE INSPECTED BY CONTRACTOR WITH ENGINEER'S WRITTEN APPROVAL WHEN TESTED & COMMISSIONED BY MANUFACTURER'S REPRESENTATIVE.

38: EACH MOTOR OR ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH NO-LOAD ISOLATING SWITCH BESIDE ITS LOCATION.

39: VERIFY SUFFICIENT SPACE AVAILABILITY IN SHAFTS/CHASES FOR LOW VOLTAGE BUS DUCTS/CABLES & LOW CURRENT CABLES.

40: CABLES AND WIRES FOR INTERNAL INSTALLATIONS SHALL BE RATED 750/450 VOLTS. CABLES FOR OUTSIDE INSTALLATIONS SHALL BE RATED 1000/600 VOLTS.

41: CABLES FOR SPLIT UNITS MUST BE CONNECTED TO SEPARATE BREAKERS IN DISTRIBUTION PANEL (FOR EACH) WITH MINIMUM SIZE OF WIRE 6 SQ.MM COPPER AND 32A CIRCUIT BREAKER.

42: CIRCUIT BREAKERS SUPPLYING POWER TO AIR HANDLING AND FAN COIL UNITS ARE PROVIDED WITH SHUNT TRIP AND ARE INTERLOCKED WITH FIRE ALARM SYSTEM TO - TRIP IN CASE OF FIRE.

43: LOW CURRENT AND COMMUNICATION CABLES SHALL HAVE SEPARATE RACEWAYS & TO BE SEGREGATED FROM LOW VOLTAGE CABLES.

43: ALL CONDUIT RUNS IMBEDDED IN CONCRETE AND CONDUITS INSIDE DOUBLE WALL PARTITIONS TO BE POLYVINYL CHLORIDE (PVC) TYPE.

44:

a) THE MINIMUM SIZE OF THE SHEET FOR DRAWING SHOULD BE A2.

b) SHOP DRAWING SHOULD BE TO SCALE AND DIMENSIONS.

c) SECTION , DETAILS AND VIEWS TO BE PROVIDED IN THE SHOP DRAWING.

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NOTES :-

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(5) SECTION , DETAILS AND VIEWS TO BE PROVIDED IN THE SHOP DRAWING.
(6) FOR THE LIGHT FIXTURES DESCRIPTION REFER TO DWG NO. EL00.
(7) LIGHTING FIXTURES SHALL NOT ACCOE-LODATE LAMPS WITH MORE WATTAGE THAN SHOWN ON THE DRAWING NOEL00.

TYPE	SYMBOL	DESCRIPTION
1		ONE GANG SWITCH
2		DITTO, BUT WEATHER PROOF
3		TWO GANG SWITCH
4		DITTO, BUT WEATHER PROOF
5		TRIPLE GANG SWITCH
6		TWO WAY ONE GANG SWITCH
7		DITTO, BUT WEATHER PROOF
8		TWO WAY TWO GANG SWITCH
9		DITTO, BUT WEATHER PROOF
10		THREE GANG SWITCH
11		FAN SWITCH

REV.	DATE	PURPPOE OF ISSUNCE
00	07/04/22	DETAILED FINAL
00	17/03/22	DETAILED DRAFT

CLIENT:-

World Vision
WORLD VISION INTERNATIONAL - SUDAN

PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

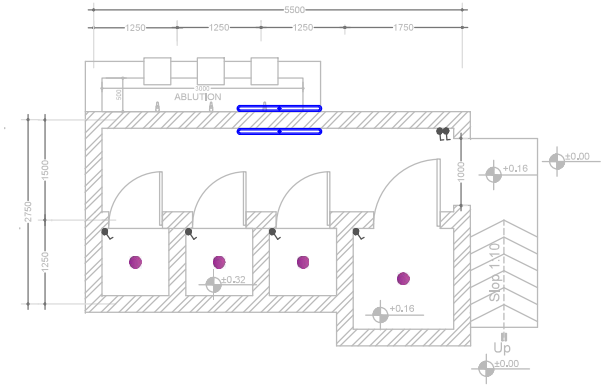
BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ELECTRICAL WORKS
GENERAL NOTES

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	SAE	SOM
DAWNING NO.		SHEET NO.
E-LAT-4-00		1OF1
SCALE	REVISION NO.	DATE.
N.T.S	00	APRIL 2022

ELECTRICAL DRAWINGS

LIGHT FIXTURES LEGEND

TYPE	SYMBOL	DESCRIBTION
1	—	E 1506 UPM as ARLIGHT, IP65, 4000K, 42W, 4200lm, surface mounted, code: EUPM.1506.45.40, equivalent and approved.
2	•	FIXED JET AS ONE LIGHT , IP44, 3000K, 36WATT, CODE 67435/M/N , SURFACE MOUNTED OR EQUIVALENT



UNIT(4)

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REV.	DATE	PURPPOE OF ISSUNCE
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PROJECT :-

A05 SD 019 / WV SUDAN / SDBLN/11/2021

WASH AND BUILDING INFRA-STRUCTURE IN SUDAN

DRAWING TITLE:-

BUILDING WORKS
FOUR DOORS LATRINE (LAT-4)
ELECTRICAL WORKS
LIGHTING PLAN

DESIGNED BY:	DRAWN BY:	APPROVED BY:
SAE	SAE	SOM
DAWNING NO.		SHEET NO.
EL-LAT-4-01		1OF1
SCALE	REVISION NO.	DATE.
1:75	00	APRIL 2022