DRAWING NOTES:

LIGHTNING PROTECTION EARTH TERMINATION:

1. 1.8m Copper earth rods driven into the ground and interconnected to test box with 50mm² PVC cable in 25mm conduit.

LIGHTNING PROTECTION DOWN CONDUCTORS:

2. 50mm² Cu PVC insulated cables to be bonded to roof structure.
3. Contractor to ensure horizontal steelwork is continuous between roof stub columns.

LIGHTNING PROTECTION AIR TERMINATION NETWORK:

4. Steel roof covering and steel roof structure to be utilised as air termination.
5. 9.5mm ∅ Aluminium circular conductor fixed to parapet wall / building structure with propriatory fixings.
6. 9.5mm ∅ Cu Tails between 50mm² Cu PVC air termination and down conductors.
7. 9.5mm ∅ Aluminium circular conductor connecting parapet conductor to parapet concrete steelwork.
8. Suitable bonds between dissimilar metals to be utilised.

LIGHTNING PROTECTION TESTING:

9. Impedance readings are to be carried out at the Electrode positions as indicated. The reading should be less than 10Ω.
10. Should the required readings not be achieved, then a 70mm² copper conductor, installed in cast in 25mm pvc conduit, is to connect the air termination network and 1.8m copper earth rods driven into the ground at 3m spacings interconnected with 70mm² BCEW until 10Ω is achieved at each point.

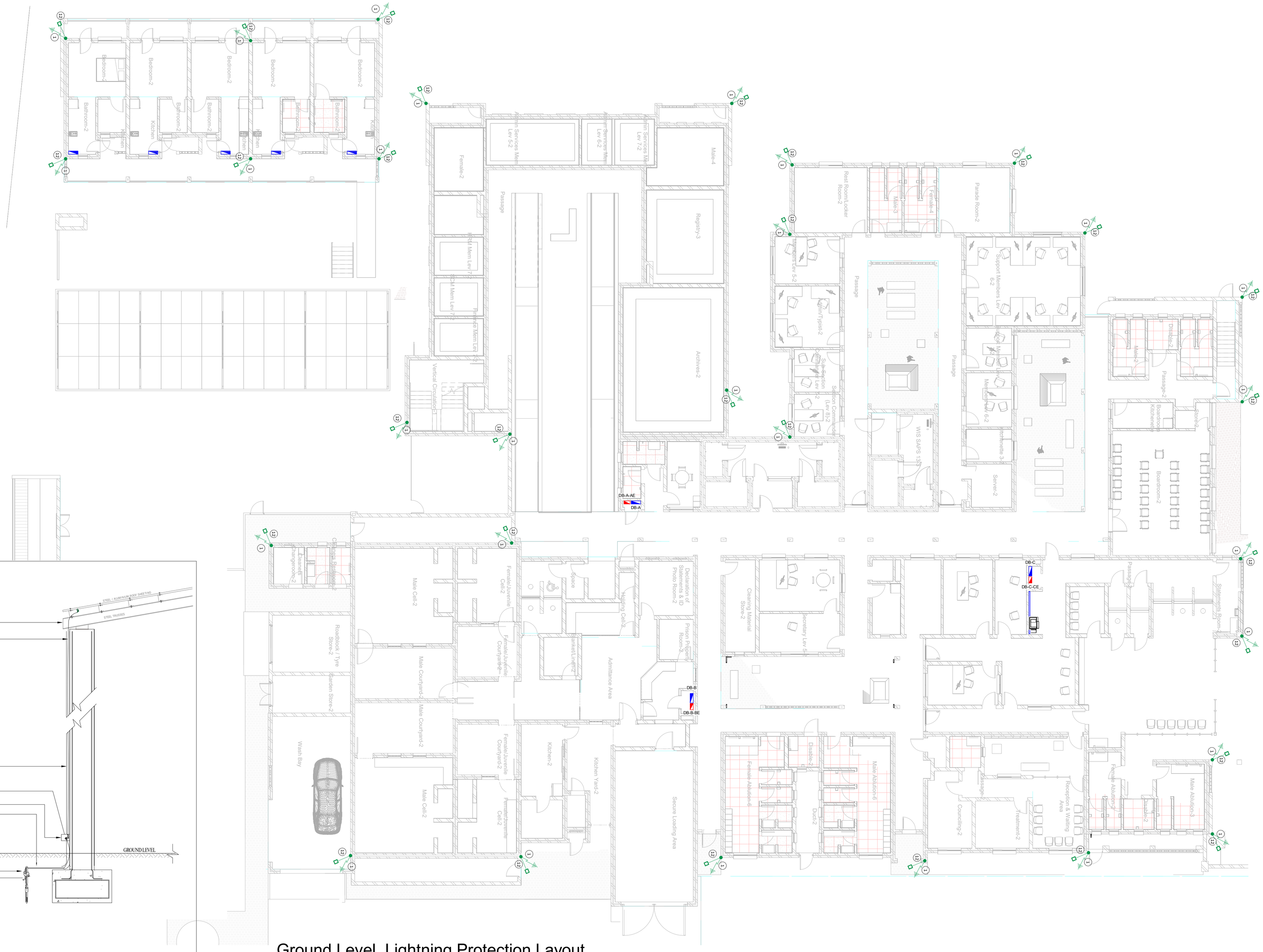
BONDING

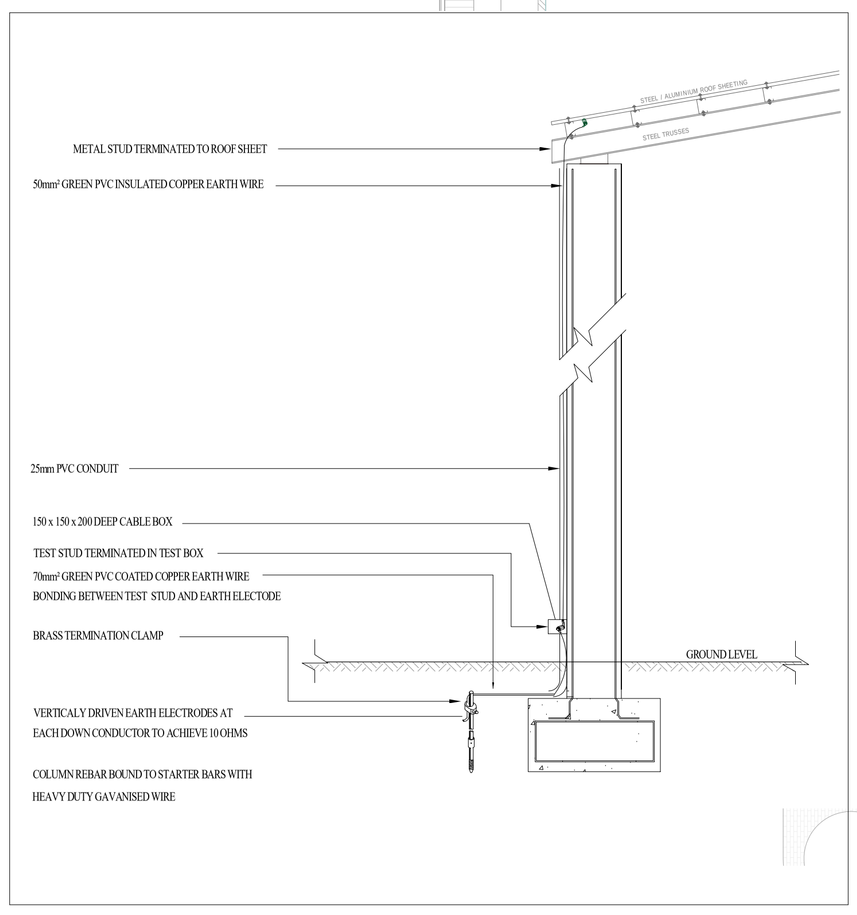
25mm² Cu Tails between column steelwork.

All steel pipework and roof metalwork is to be bonded together with 25mm² PVC insulated Cu wire.

EARTHING NOTES:

11. Interconnected copper earthrods used as telecommunications earth mat. 2 x 70mm² PVC/Cu conductors to earth bar in Room.
12. 1.8m copper earthrods interconnected with 70mm² BCEW spaced at 3mts to achieve less than 1 OHMS. (Refer note 9 & 10).
13. 2 x 70mm² PVC/Cu conductors to earth bar in Substation.
14. Earth Resistivity testing to be undertaken at locations indicated.





LIGHTNING PROTECTION DETAIL

N.T.S

Ground Level_Lightning Protection Layout

1:125

NOTES: (1) - CONTRACTOR TO ENSURE MAX DISTANCE BETWEEN DRAW BOXES TO BE 20 METERS NOTWITHSTANDING ANYTHING TO CONTRARY. (2) - DRAW BOXES REQUIRED AFTER EVERY 90 DEGREE BEND OR 180 DEGREE TOTAL OF SLOW BENDS. (3) - ALL UNWIRED CONDUITS TO BE PROVIDED WITH DRAW WIRES. THESE WILL BE WITDRAWN AND CHECKED AT RANDOM. (4) - CAST IN CONDUITS TO BE SPACED AT A MINUMUM OF 35MM.

- S 100 x 100 CONDUIT BOX
- S 100 x 100 CONDUIT BOX AT 500AFFL
- S 100 x 100 CONDUIT BOX AT 1400AFFL
- L 100 x 50 CONDUIT BOX
- L 100 x 50 CONDUIT BOX AT 300AFFL
- L 100 x 50 CONDUIT BOX AT 140AFFL
- C ROUND CONDUIT BOX
- C CLUSTER BOX(SIZE AS NOTED)
- R ROUND DRAW BOX
- S 100 x 100 DRAW BOX
- P 100 x 100 BOX BEHIND POWER SKIRTING
- CONDUIT TURNED UP
- U ("D" FOR DOWN)
- DOWN CONDUCTOR TO EARTH TIE
- DM CAM etc. ROUND CONDUIT BOX FOR: DM - DOOR MONITOR; CAM - CAMERA; AA - ACCESS CONTROL; CR - CARD READER; COM - COMMUNICATION/INTERCOM; BGM - BACK GROUND MUSIC; EL - ELECTRIC LOCK/STRIKE
- 20mm. DIA. CONDUIT
- 25mm. DIA. CONDUIT
- 32mm. DIA. CONDUIT
- 50mm. DIA. CONDUIT
- SECTION OF CONDUIT OMMITED FOR CLARITY
- S SURFIX
- U TWIN AND EARTH
- CABLE ROUTE
- OC OVERHEAD CAST
- OS OVERHEAD ON SURFACE OR LAID ON CEILING
- FC FLOOR SLAB CAST-IN
- FS FLOOR SURFACE(IN FLOOR VOID)
- POWER SKIRTING
- TRUNKING
- CABLE SLEEVE
- CABLE TRAY/LADDER
- 150 SQUARE GALV. STEEL DRAW TRAY SIZE AS SHOWN
- T TELEPHONE JUNCTION BOX
- I INTERCOM JUNCTION BOX
- D DATA/COMMS JUNCTION BOX
- S SECURITY, ETC. JUNCTION BOX
- DISTRIBUTION BOARD POSITION
- DB-1 BOARD DESIGNATION NUMBER
- CCTV CAMERA
- CCTV CAMERA ON AUTO PANNING MOUNT
- CCTV CAMERA ON PAN & TILT MOUNT
- CCTV CAMERA ON AUTO PANNING IN DISCRETE OPAQUE DOME COVER
- INFRARED OR ULTRASONIC MOTION DETECTOR
- DOOR MONITOR - FLATLINE OF SYMBOL FACES ATTACK SIDE
- P 220 VOLT POWER OUTLET FACILITY
- S SIGNAL OUTLET 2x4/4x4 FLUSH CONDUIT BOX.
- S SECURITY CONTROL PANEL/ JUNCTION BOX
- ELECTRIC LOCK/STRIKE
- KEY SWITCH
- P O FLOOR PEDAL SWITCH
- O SPRING RETURN PUSH BUTTON/LEVER RELEASE
- AA - ACCESS ALARM; AC - ACCESS CONTROL; CR - CARD READER; EO - EXIT OVERRIDE; AO - ALARM OVERRIDE
- DM - DOOR MONITOR; CAM - CAMERA; ER - ELECTRIC RELEASE; EL - ELECTRIC LOCK/STRIKE; MA - MOTION ALARM
- INTERCOM MASTER STATION
- INTERCOM SLAVE/SUBSTATION
- INTERCOM CALL PUSH BUTTON UNIT
- HORN/TRUMPET LOUDSPEAKER
- CEILING FLUSH MOUNTED LOUDSPEAKER
- WALL MOUNTED LOUDSPEAKER
- TALK-BACK WALL MOUNTED LOUDSPEAKER
- OR ACCESS CONTROL CARD READER
- OR POLE MOUNTED ACCESS CONTROL CARD READER
- C COMMUNICATION PANEL/JUNCTION BOX
- F FIRE ALARM PANEL/JUNCTION BOX
- B BREAK GLASS UNIT
- MICROPHONE
- ALARM BELL
- SMOKE IONISATION DETECTOR
- HEAT DETECTOR

GENERAL NOTES:

All boundaries, dimensions and levels are to be checked on site before construction and any discrepancies are to be reported to the Architect.

Partial Service: Any discrepancies with site or other information is to be advised to the Architect and direction or approval is to be sought before the implementation of the detail.

Do not scale this drawing.

For the purpose of coordination, all relevant parties must check this information prior to implementation and report any discrepancies to the Architect.

FOR INFORMATION

REVISIONS

NO.	DATE	DESCRIPTION	REV BY:
P01	2024/10/16	For Information	JSK

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FOR THE PURPOSE OF COORDINATION, ALL RELEVANT PARTIES MUST CHECK THIS INFORMATION PRIOR TO IMPLEMENTATION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.

Designed By:

Signature: Date:

IBUYA Consulting Engineers

"POWERING DEVELOPMENT"

Client: DUT

Signature: Date:

PROJECT:
23044 - Msinsini Police Station

ADDRESS:

DRAWING TITLE:
GF_Lightning Protection Layout

Services:	DATE:
Electronics	09/10/24
Paper Size: A1	SCALE: As indicated

Drawn:	Checked:	Approved:
JSK	MH	MH

IBUYA PROJECT NO.	REVISION:
23044	P01
IBUYA DRAWING NO.: 900	

DOCUMENT NO.