ELECTRICAL SERVICES DRAWING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	STANDARD WATERPROOF IP65 COMPACT FLUORESCENT FITTING WITH POLYCARBONATE OPAL DIFFUSER AND INTEGRAL GEAR FOR 16W/28W/38W 2DLAMPS. AS THORN LAMP TYPE: ENERGY SAVING LAMP		10A 1 GANG 1 WAY SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	DECORATIVE RECESSED SPOT LIGHT LUMINAIRE LAMP TYPE: 1x10W LED LAMP		10A 2 GANG 1 WAY SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	15W DOWNLIGHTING LUMINAIRE LAMP TYPE: ENERGY SAVING LAMP		10A 1 GANG 1 WAY INTERMEDIATE SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	DECORATIVE CEILING RECESSED DOWNLIGHT LUMINAIRE LAMP TYPE: 1x12W LED LAMP		10A 1 GANG 2 WAY SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	BULK HEAD EXTERNAL WALL LIGHTING FITTING LAMP TYPE: 1 X 18ENERGY SAVING LAMP		10A 2 GANG 2 WAY SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	COMPACT FLOURESCENT WALL MOUNT MIRROR LIGHT LAMP TYPE: ENERGY SAVING LAMP		10A 1 WAY DIMMER SWITCH WHITE MOULDED RANGE, FLUSH TO BS 3676: PART 1:1989, SCHNEIDER
	EXTRACTOR FAN POWER POINT		20A, 1GANG DOUBLE POLE AC SWITCH WHITE MOULDED RANGE TO BS 3676: PART 1:1989, SCHNEIDER
E	HANGING/WALL/CEILING EMERGENCY EXIT SIGN FITTING LAMP TYPE: 1x8W LED LAMP		20A, 1GANG DOUBLE POLE KITCHEN HOOD SWITCH WHITE MOULDED RANGE TO BS 3676: PART 1:1989, SCHNEIDER
	SUPERGRID 8000 COMPRISING OF: 1 GANG COVER PLATE 8200 - 1NO, 20A DOUBLE POLE + INDICATOR MODULE WITH PREPRINTED LEGEND 8023WH - 1NO.		13A 1 GANG DOUBLE POLE WHITE MOULDED SOCKET OUTLET FLUSH TO BS 1363:PART 2:1995
N	WHITE WALL OUTLET FOR WATER HEATER		13A 2 GANG DOUBLE POLE WHITE MOULDED SOCKET OUTLET FLUSH TO BS 1363:PART 2:1995
	FUSE SWITCH		20A 2 GANG DOUBLE POLE WHITE MOULDED SOCKET OUTLET FLUSH TO BS 1363:PART 2:1995
	SINGLE STAND ALONE SOLAR STREET LIGHTING LUMINAIRE MOUNTED ON A 6m STAIN-LESSPOLE .LAMP TYPE: 50W LED LAMP		TELEVISION OUTLET
	DOUBLE HEAD STAND ALONE SOLAR STREET LIGHTING LUMINAIRE MOUNTED ON A 6m STAIN-LESSPOLE .LAMP TYPE: 2 X 50W LED LAMP		LV PANEL
	DOME IP CCTV CAMERA		MANUAL CALL POINT
	FIXED OUTDOOR BULLET IP CCTV CAMERA		SOUNDER
	NVR + 42" CCTV MONITORING SCREEN	S	OPTICAL SMOKE DETECTOR
	VOICE OUTLET	H	OPTICAL HEAT DETECTOR
	DATA OUTLET	FAP	FIRE ALARM PANEL
	45A DOUBLE POLE COOKER UNIT WITH 13A SINGLE SOCKET OUTLET WITH NEON INDICATORS		DISTRIBUTION BOARD + ASSOCIATED MCCB
	SUPERGRID 8000 COMPRISING OF: 1 GANG COVER PLATE 8200 - 1NO, 20A DOUBLE POLE + INDICATOR MODULE WITH PREPRINTED LEGEND 8023WH - 1NO.		CONSUMER UNIT
N	WHITE WALL OUTLET FOR WATER HEATER		15A 1 GANG DOUBLE POLE WHITE MOULDED SOCKET OUTLET
	FUSE SWITCH		HAND DRIER POWER POINT
	CEILING FAN + REGULATOR		11W CEILING SPEAKER
	PROJECTOR	M	UTILITY'S PRE-PAID METERN
	SEMI RECESS/SURFACE DOWNLIGHTING FITTING, WITH ALUMINIUM REFLECTOR, THORN/EQUAL LAMP TYPE: 1 x 10W LED LAMP	PAS	PUBLIC ADDRESS SYSTEM

Electrical Legend

General notes

- All dimension are in milimetres
- All Work must be supervised by an Engineer.
- This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.

drawn	A.O.A.
designed	A.O.A.
checked	Engr. Bashir Tanko
scale	N.T.S.
date	FEBRUARY, 2025

client: QUATAR CHARITY ORGANISATION

Job tittle: PROPOSED CLINIC (175M^2)

location: AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.

consultant

Adress: No.7 Owerri street, War College, Gwarimpa, Abuja.
Contact: 08061278047, 08032913535

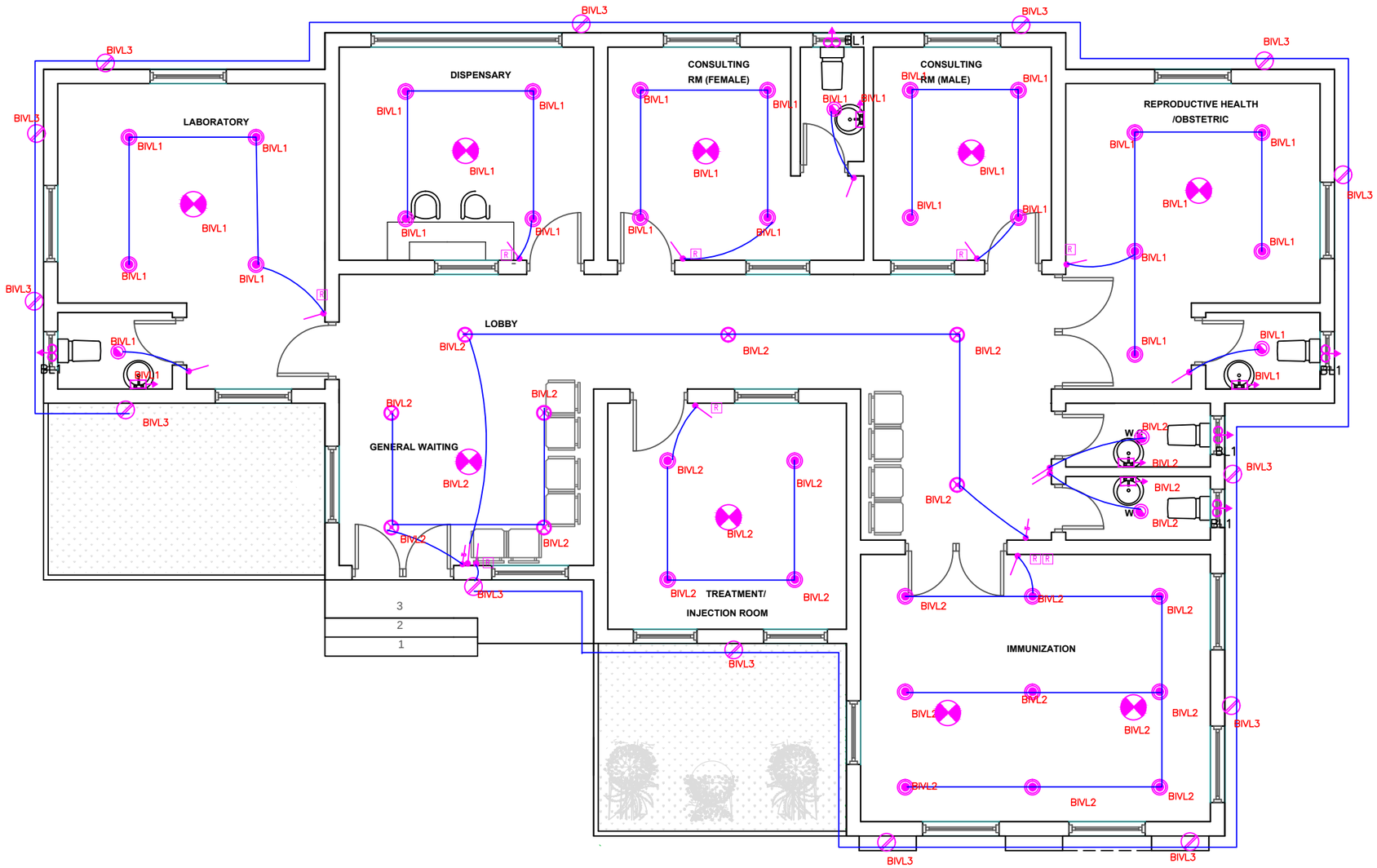
sheet title: ELECTRICAL LEGEND

Job no.

sheet no.: E01

Seal

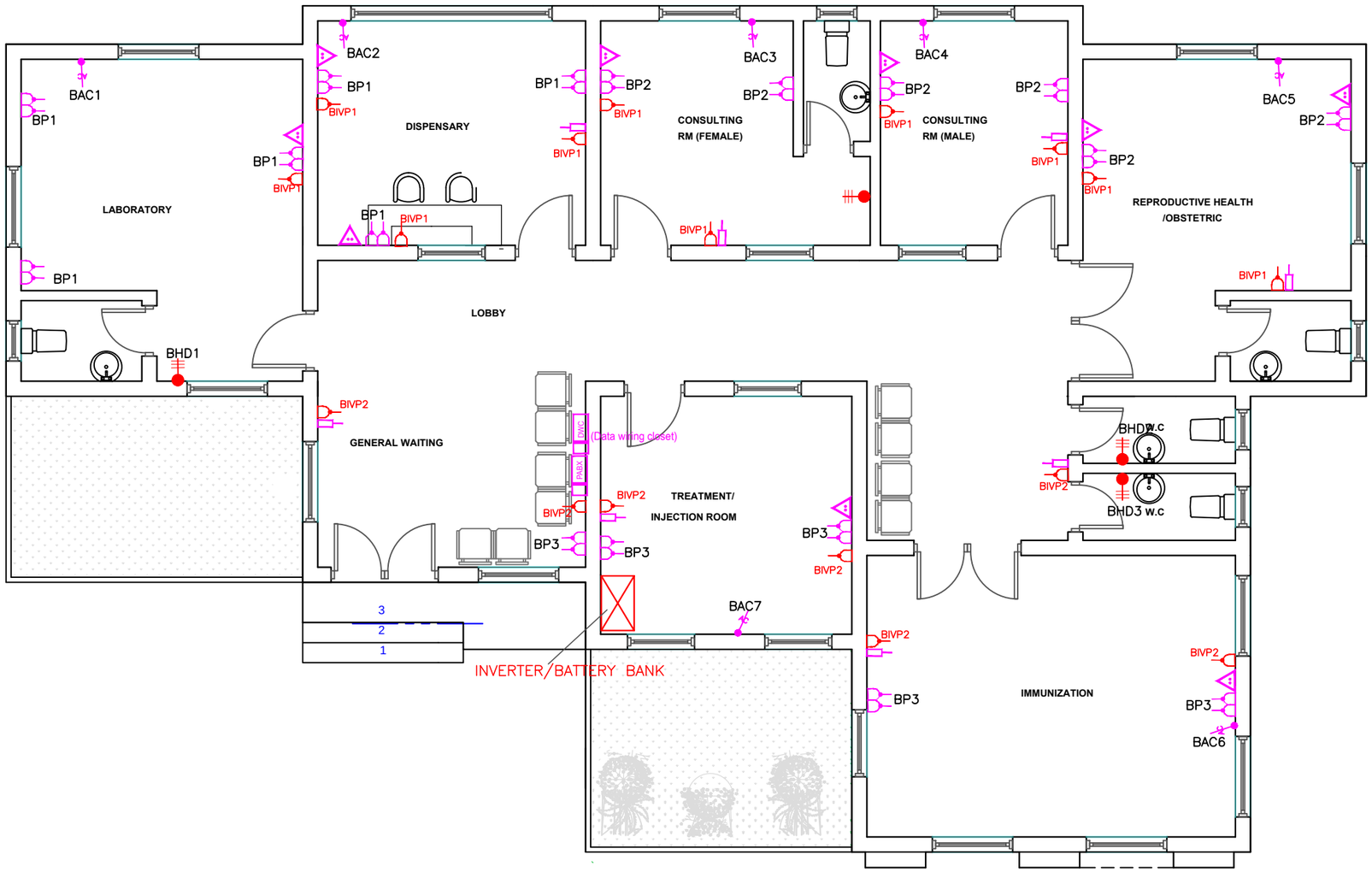
CLINIC (175M²)



PROPOSED CLINIC: (150M^2)

LIGHTING POINT LAYOUT

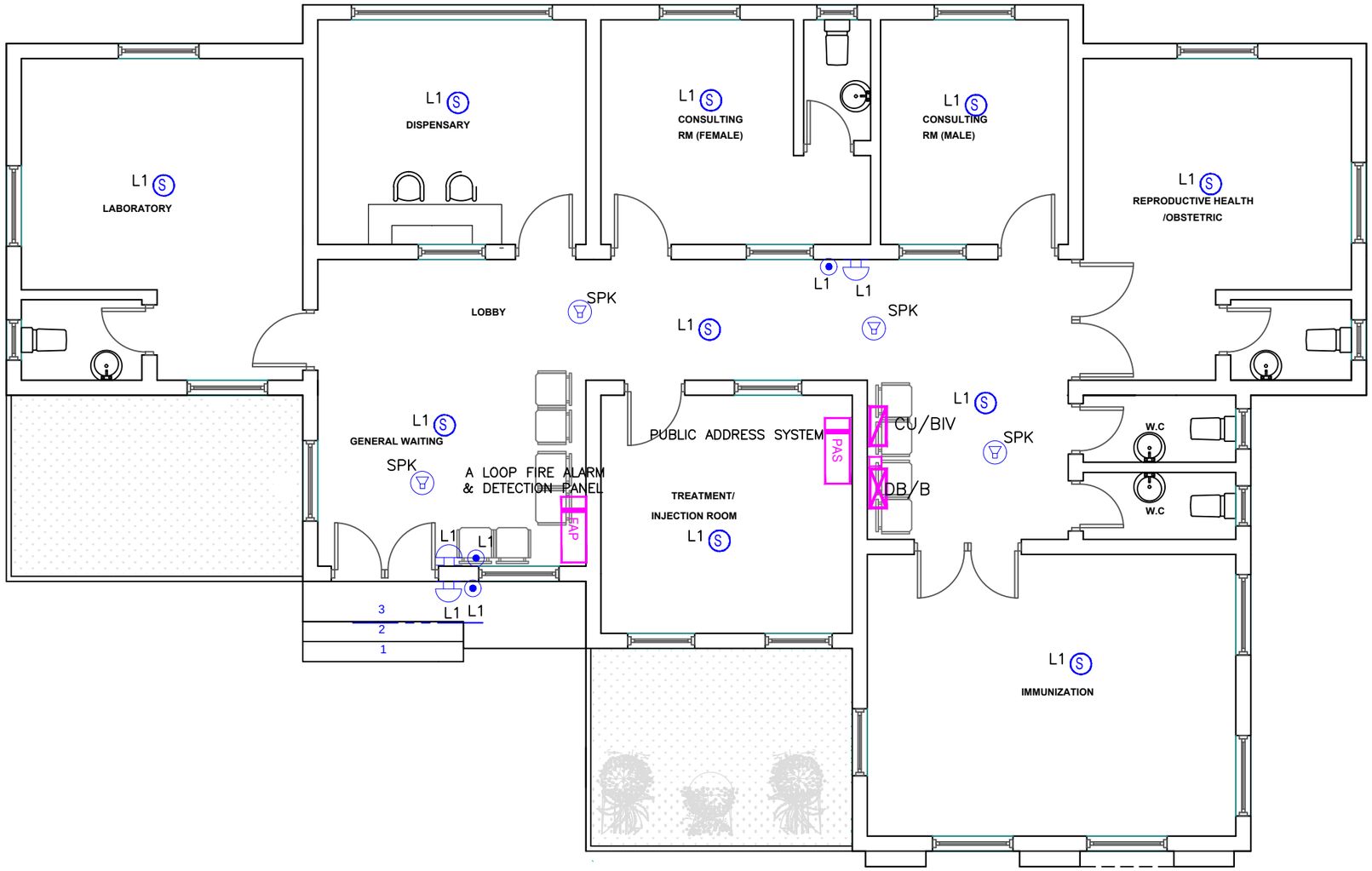
General notes	drawn	A.O.A.	client	Job tittle	consultant		sheet title / Seal
◦ All dimension are in milimetres	designed	A.O.A.	QUATAR CHARITY ORGANISATION	PROPOSED CLINIC (175M^2)			LIGHTING POINT LAYOUT
◦ All Work must be supervised by an Engineer.	checked	Engr. Bashir Tanko		location			
◦ This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.	scale	1:100		AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.	Adress	No.7 Owerri street, War College, Gwarimpa, Abuja.	Job no. / sheet no. E02
	date	FEBRUARY, 2025			Contact	08061278047, 08032913535	



PROPOSED CLINIC: (150M²)

POWER, TV, VOICE AND DATA POINT LAYOUT

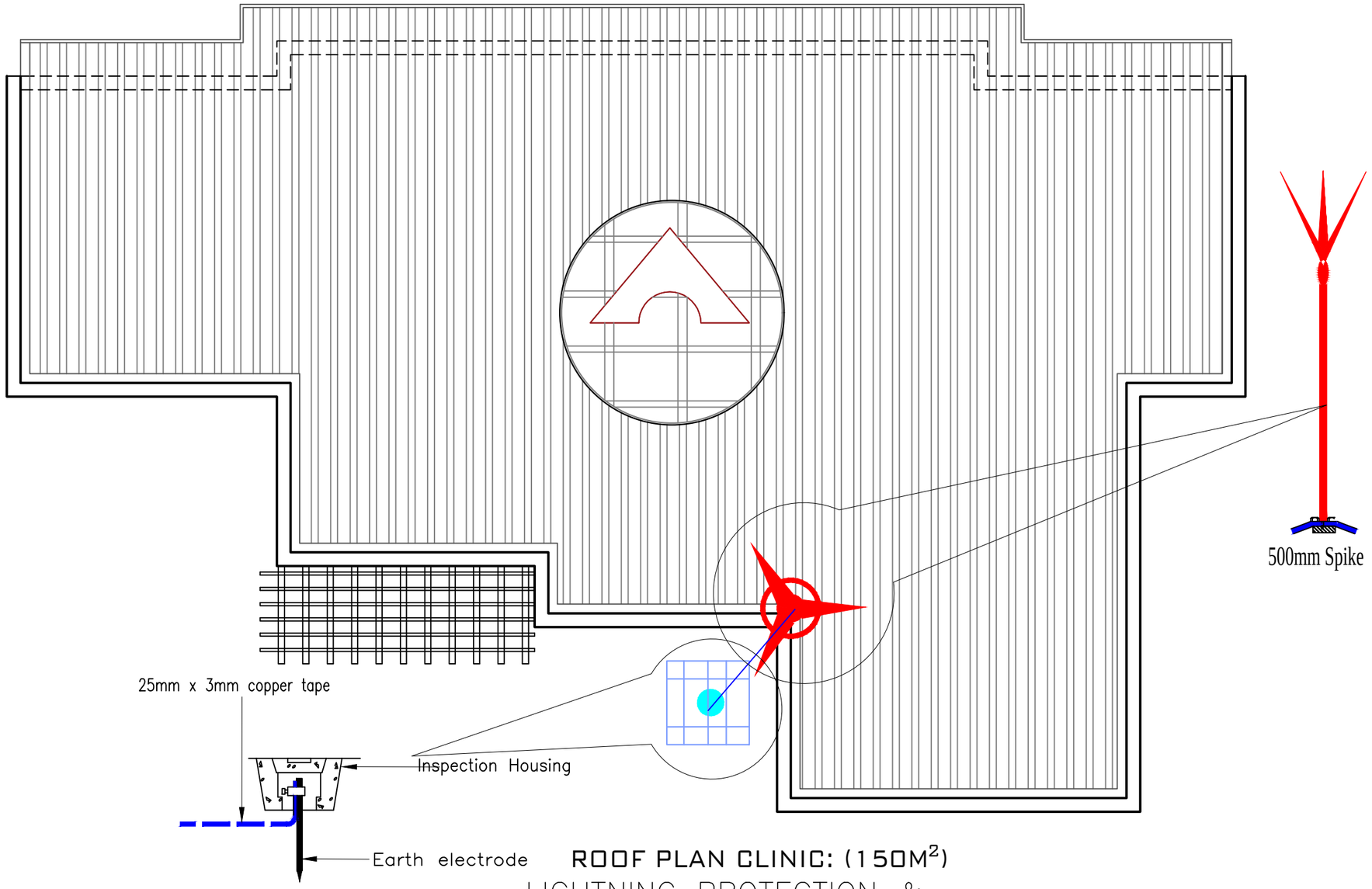
General notes	drawn	A.O.A.	client	Job tittle	consultant	sheet title	Seal
◦ All dimension are in milimetres ◦ All Work must be supervised by an Engineer. ◦ This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.	designed	A.O.A.	QUATAR CHARITY ORGANISATION	PROPOSED CLINIC (175M²)		POWER, TV, VOICE & DATA POINT LAYOUT	
	checked	Engr. Bashir Tanko		location			
	scale	1:100		AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.	Adress	No.7 Owerri street, War College, Gwarimpa, Abuja.	Job no. / sheet no. E03
	date	FEBRUARY, 2025			Contact	08061278047, 08032913535	



PROPOSED CLINIC: (150M^2)

PAS AND FIRE DETECTION & ALARM POINT LAYOUT

General notes							
◦ All dimension are in milimetres ◦ All Work must be supervised by an Engineer. ◦ This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.	drawn	A.O.A.	client	Job tittle	consultant		sheet title	Seal
	designed	A.O.A.	QUATAR CHARITY ORGANISATION	PROPOSED CLINIC (175M^2)			PAS AND FIRE DETECTION & ALARM POINT LAYOUT	
	checked	Engr. Bashir Tanko		location				
	scale	1:100		AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.	Adress	No.7 Owerri street, War College, Gwarimpa, Abuja.	Job no.	sheet no. E04
	date	FEBRUARY, 2025			Contact	08061278047, 08032913535		



ROOF PLAN CLINIC: (150M²)

LIGHTNING PROTECTION & EARTHING LAYOUT

General notes

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drawn	A.O.A.
designed	A.O.A.
checked	Engr. Bashir Tanko
scale	1:100
date	FEBRUARY, 2025

client: QUATAR CHARITY ORGANISATION

Job tittle: PROPOSED CLINIC (175M²)

location: AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.

consultant

Adress: No.7 Owerri street, War College, Gwarimpa, Abuja.

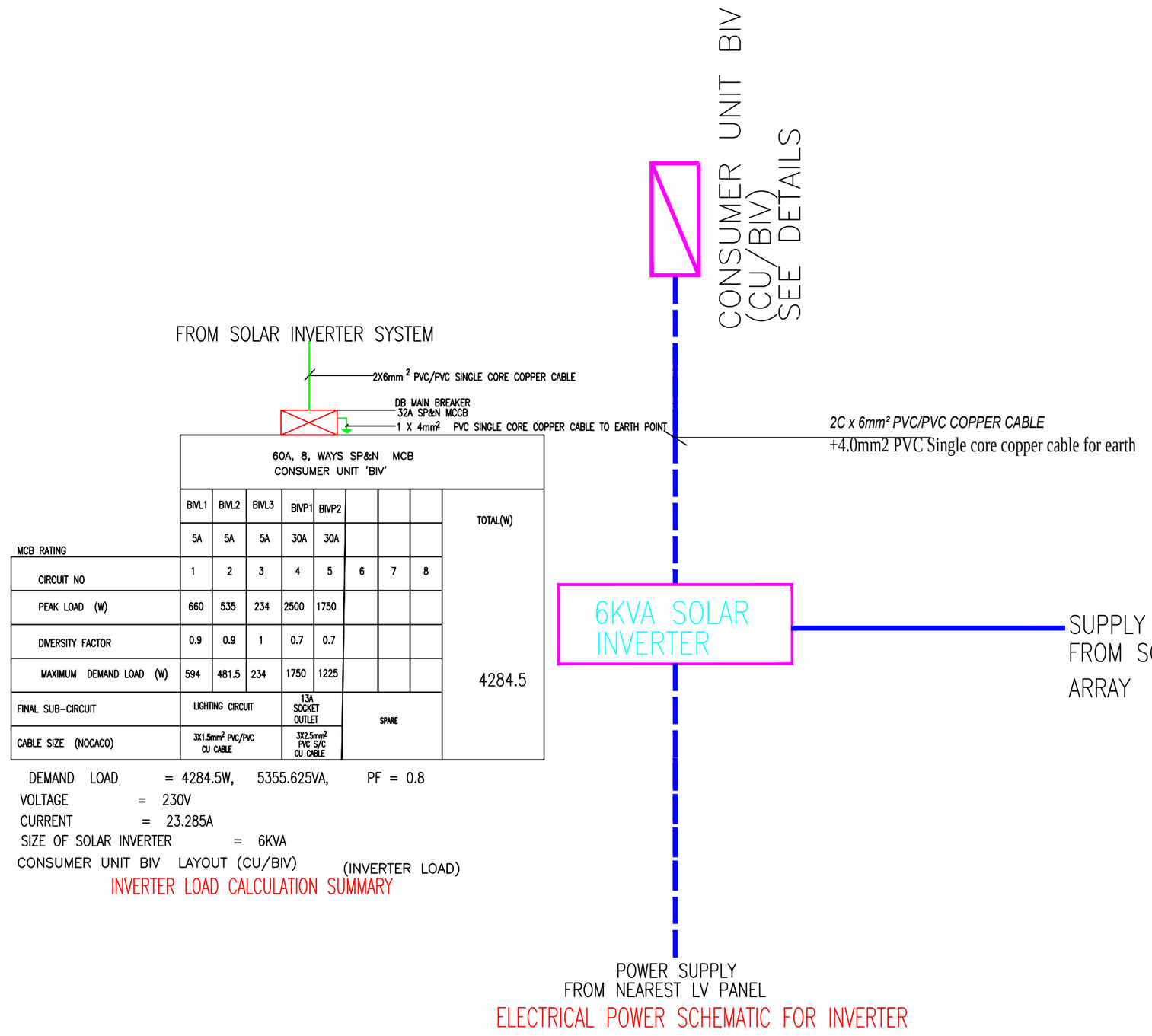
Contact: 08061278047, 08032913535

sheet title: LIGHTNING PROTECTION & EARTHING LAYOUT

Job no.

sheet no.: E05

Seal



60A, 8, WAYS SP&N MCB
CONSUMER UNIT 'BIV'

MCB RATING	BIVL1	BIVL2	BIVL3	BIVP1	BIVP2				TOTAL(W)
	5A	5A	5A	30A	30A				
CIRCUIT NO	1	2	3	4	5	6	7	8	
PEAK LOAD (W)	660	535	234	2500	1750				
DIVERSITY FACTOR	0.9	0.9	1	0.7	0.7				
MAXIMUM DEMAND LOAD (W)	594	481.5	234	1750	1225				4284.5
FINAL SUB-CIRCUIT	LIGHTING CIRCUIT			13A SOCKET OUTLET		SPARE			
CABLE SIZE (NOCACO)	3X1.5mm² PVC/PVC CU CABLE			3X2.5mm² PVC S/C CU CABLE					

DEMAND LOAD = 4284.5W, 5355.625VA, PF = 0.8
VOLTAGE = 230V
CURRENT = 23.285A
SIZE OF SOLAR INVERTER = 6KVA
CONSUMER UNIT BIV LAYOUT (CU/BIV)

(INVERTER LOAD)
INVERTER LOAD CALCULATION SUMMARY

ELECTRICAL POWER SCHEMATIC FOR INVERTER

General notes
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drawn	A.O.A.
designed	A.O.A.
checked	Engr. Bashir Tanko
scale	N.T.S.
date	FEBRUARY, 2025

client: QUATAR CHARITY ORGANISATION

Job tittle: PROPOSED CLINIC (175M²)

location: AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.

consultant

Adress: No.7 Owerri street, War College, Gwarimpa, Abuja.

Contact: 08061278047, 08032913535

sheet title: INVERTER DISTRIBUTION BOARD DETAILS

Job no.

sheet no.: E06

Seal

FROM NEAREST LT(0.415KV) ON SITE

4 X 25mm² PVC/PVC COPPER CABLE

DB MAIN BREAKER
80A TP&N MCCB
1 X 6mm² PVC SINGLE CORE COPPER CABLE

100A, 12, WAYS TP&N MCB DISTRIBUTION BOARD 'A'

		1			2			3			4			5			6			7			8			9			10			11			12			TOTAL(W)
		AL1	AP1	AP2	AP3	AP4	AP5	AP6	AAC1	AAC2	AAC3	AAC4	AAC5	AAC6	AAC7	AAC8	AAC9	AAC10	AAC11	AAC12	AAC13	AAC14	AAC15	AAC16	AAWH1	AAWH2	AAHD1	AHD2	AHD3	WBP	CU/IV							
MCD RATING		10A	30A	30A	30A	30A	30A	30A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A	20A							
CIRCUIT NO		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
PEAK LOAD (W)		180	2500	2500	2500	3000	3000	2500	750	1500	1500	1000	1000	2000	1000	750	750	750	750	1000	1000	750	750	750	1500	1500	1500	1500	1500	2000	6778							
DIVERSITY FACTOR		1	0.7	0.7	0.7	0.7	0.7	0.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1							
LOAD (W)	RED PHASE	180		1750			2100		750	1500				2000			750	750								1500		1500		2000								14780
	YELLOW PHASE		1750					1750				1000				750									1500		1500				6778							15028
	BLUE PHASE				1750	2100					1500		1000		1000				750	1000	1000	750	750	750					1500									15350
FINAL SUB-CIRCUIT		LIGHTING CIRCUIT	13A SOCKET OUTLETS					AC CIRCUIT																	WATER HEATER	HAND DRYER			WATER BOOSTER PUMP	INVERTER LOAD	SPARES							45158
CABLE SIZE (NOCACO)		3 X 1.5mm² PVC S/C CU CABLE	3 X 2.5mm² PVC S/C CU CABLE in Ring Main Circuit					3 X 4mm² PVC S/C CU CABLE																					3 X 4mm² PVC S/C CU CABLE	3 X 10mm² PVC S/C CU CABLE							

DEMAND LOAD (75% DF) = 33868.5W, 42335.625VA PF = 0.8

VOLTAGE = 415V

CURRENT = 58.902A

SIZE OF GEN. SET = 50KVA

DISTRIBUTION BOARD 'A' (DB/A) (GROUND FLOOR) (RAW POWER)

LOAD SUMMARY

General notes

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drawn	A.O.A.
designed	A.O.A.
checked	Engr. Bashir Tanko
scale	N.T.S.
date	FEBRUARY, 2025

client: QUATAR CHARITY ORGANISATION

Job tittle: PROPOSED CLINIC (375M²)

location: AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.

consultant

Adress: No.7 Owerri street, War College, Gwarimpa, Abuja.

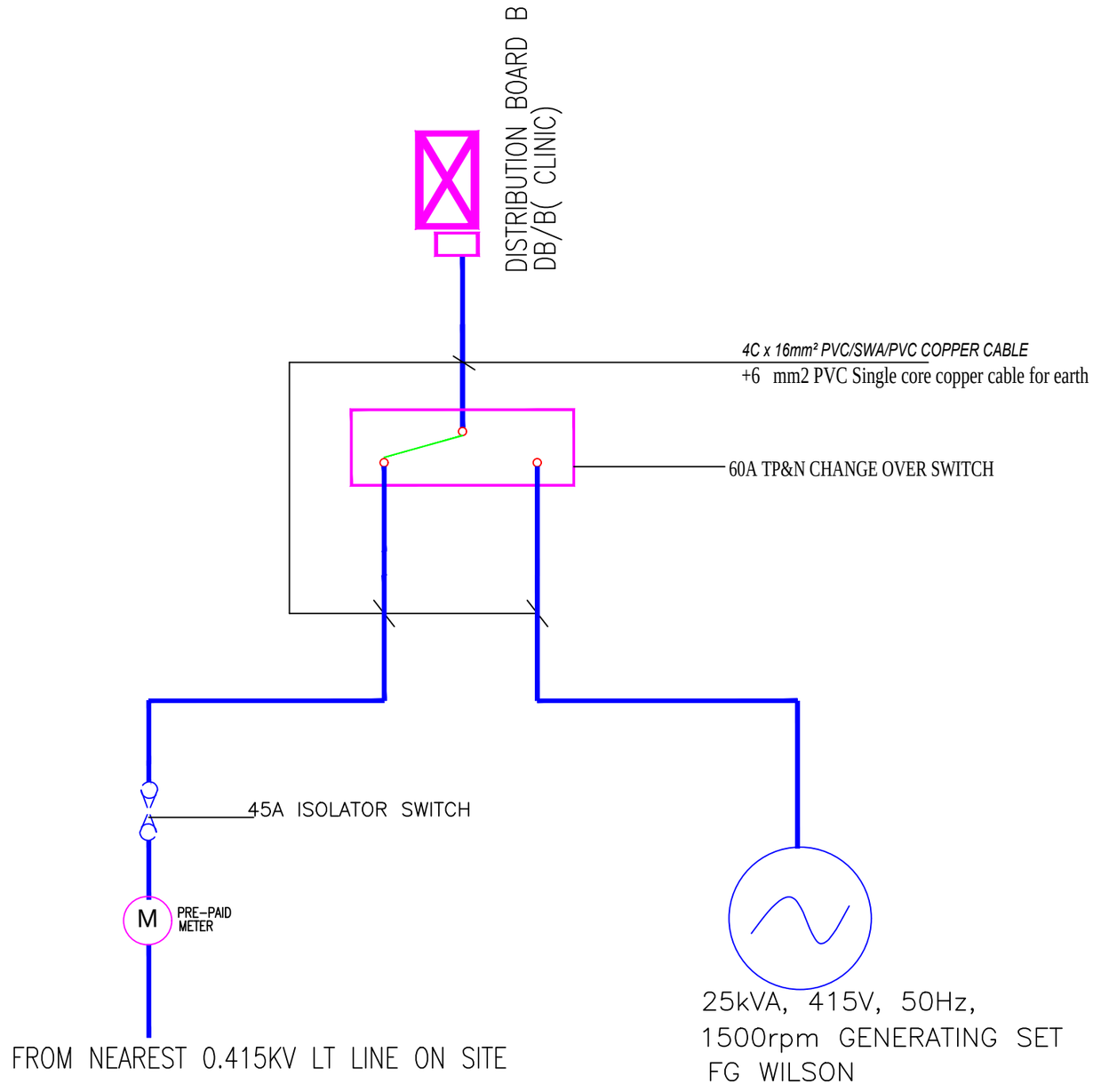
Contact: 08061278047, 08032913535

sheet title: RAW POWER DISTRIBUTION BOARD DETAILS

Job no.

sheet no.: E07

Seal



ELECTRICAL POWER SCHEMATIC LAYOUT

General notes

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drawn	A.O.A.
designed	A.O.A.
checked	Engr. Bashir Tanko
scale	N.T.S.
date	FEBRUARY, 2025

client: QUATAR CHARITY ORGANISATION

Job tittle: PROPOSED CLINIC (175M²)

location: AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.

consultant

Adress: No.7 Owerri street, War College, Gwarimpa, Abuja.

Contact: 08061278047, 0803291353S

sheet title: ELECTRICAL POWER SCHEMATIC LAYOUT

Job no.

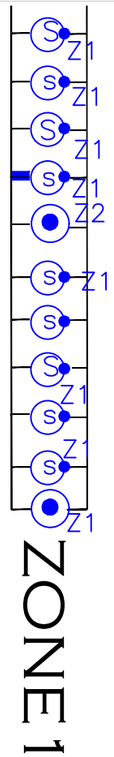
sheet no.: E08

Seal

FIRE ALARM SOUNDER CIRCUITS

CONVECTIONAL
A ZONE FIRE ALARM PANEL
GENT

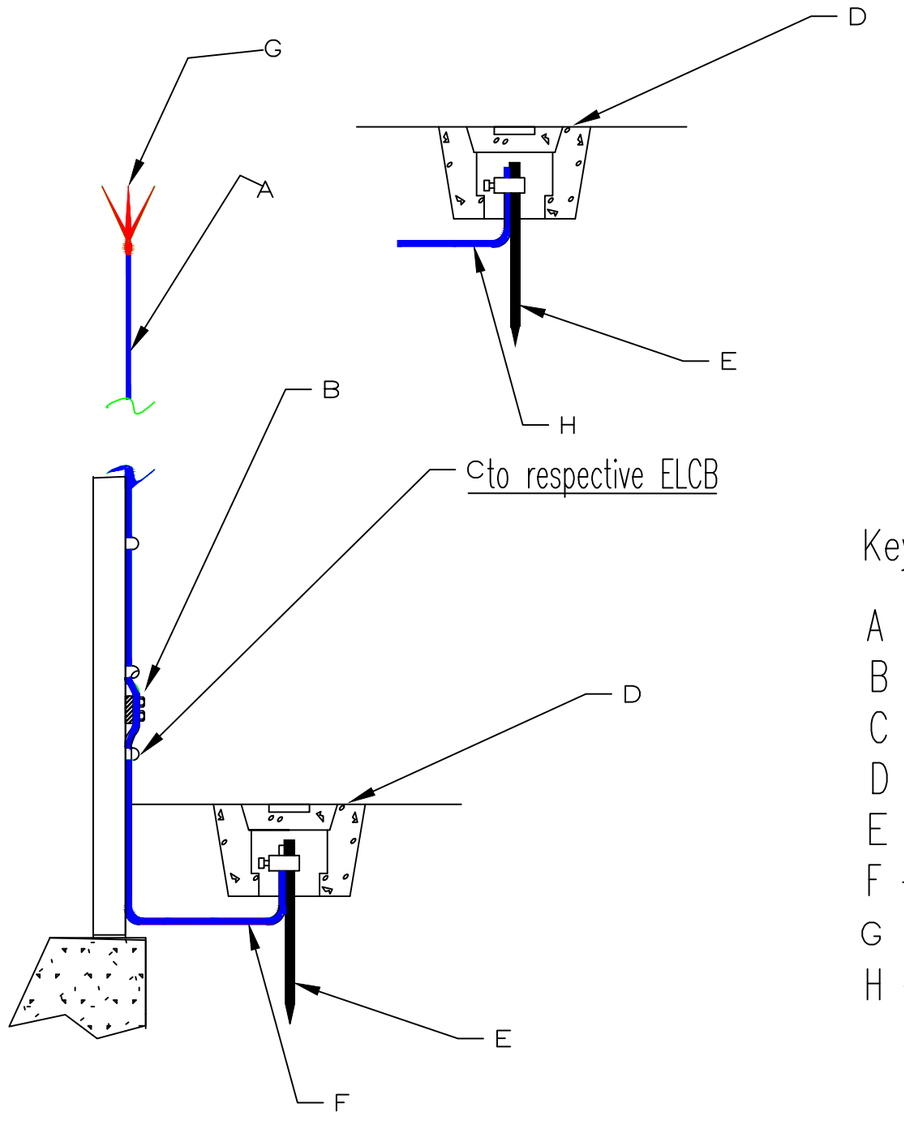
2 CORE 1.5MM2 PVC/PVC FIRE ALARM RESISTANT CABLE



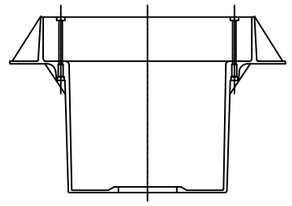
DETECTORS ZONING CIRCUITS

FIRE DETECTION & ALARM SYSTEM SCHEMATIC

General notes	drawn	A.O.A.	client	Job tittle	consultant	sheet title	Seal
◦ All dimension are in milimetres	designed	A.O.A.	QUATAR CHARITY ORGANISATION	PROPOSED CLINIC (175M²)		FIRE DETECTION & ALARM SYSTEM SCHEMATIC	
◦ All Work must be supervised by an Engineer.	checked	Engr. Bashir Tanko		location			
◦ This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.	scale	N.T.S.		AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.	Adress	No.7 Owerri street, War College, Gwarimpa, Abuja.	Job no. / sheet no. E09
	date	FEBRUARY, 2025			Contact	08061278047, 08032913535	



Lightning Arrestor detail



Earth Pit detail

LIGHTING ARRESTOR DETAILS LAYOUT

Key

A – Tapper Pointed Air Rod 600mm
B – Test Point
C – Clip
D – Inspection Housing
E – Earth electrode (2.4m Deep)
F – 25mm x 3mm copper tape
G – Copper Spike
H – 6mm^2 PVC S/C copper cable

LIGHTNING PROTECTION AND EARTHING DETAILS

General notes	drawn	A.O.A.	client	Job tittle	consultant		sheet title / Seal
○ All dimension are in milimetres	designed	A.O.A.	QUATAR CHARITY ORGANISATION	PROPOSED CLINIC (175M^2)			LIGHTNING PROTECTION AND EARTHING DETAILS
○ All Work must be supervised by an Engineer.	checked	Engr. Bashir Tanko		location			
○ This drawing is only allowed to be used for its intended purpose. Handing out this to a third party is not permitted nor usage for other purposes permitted without our special permission.	scale	N.T.S.		AT RED BRICKS HOUSING ESTATE ALONG MAIDUGURI ROAD , DAMATURU, YOBE STATE.	Adress	No.7 Owerri street, War College, Gwarimpa, Abuja.	Job no. / sheet no. E10
	date	FEBRUARY, 2025			Contact	08061278047, 08032913535	