Electrical Sub Contractor | PV Solar Specialist Sub Contractor

MAIN SUPPLY

GROUND FLOOR
MAIN LV PANEL

TBC 400A

TBC 400A

TBC 300kVA

2

SCHNEIDER
PM5320
METER

M

400/5
CLASS1 CTS

AUTOMATIC
CHANGE OVER IN
MAIN LV PANEL

DB-MLV-E (MAIN ESSENTIAL PANEL)

400A | 100A | 100A | 100A

1 | 1

Imax = XXA | Imax = XXA | Imax = XXA | Imax = XXA

EXISTING - IT
NETWORK

5 X 10.2 kWH
BATTERY BANK

B | B | B

+/- 650 VDC

INV-01
50KW
3PHASE

INV-02
50KW
3PHASE

Ⓐ

6mm² Cu PVC 1800V DC CABLING.
(MULTISTRAND UV RESISTANT
COLOUR CODED)

ALL PANELS TO BE
550 WATT PV PANELS.

1 String-01-A:Wp = 8800 W	10 String-01-B:Wp = 8800 W	19 String-01-A:Wp = 8800 W
28 String-01-A:Wp = 8800 W	38 String-01-B:Wp = 8800 W	46 String-01-A:Wp = 8800 W
55 String-01-A:Wp = 8800 W	64 String-01-B:Wp = 8800 W	73 String-01-A:Wp = 8800 W
82 String-01-A:Wp = 8800 W	91 String-01-B:Wp = 8800 W	100 String-01-A:Wp = 8800 W

Ⓐ = COMBINER BOX C/W 8 No. 2 POLE 40A DC CIRCUIT BREAKERS, 2P 40kA 1000V SURGE ARRESTOR AND 2P 40A 1000V FUSE HOLDERS WITH 1000V CYLINDER TYPE 10 x 38mm FUSES, MOUNTED ALONGSIDE INVERTER.

LEGEND

- AC Cables
- PV DC Cables
- DC Cables
- Ethernet Cable (RJ45)

Drawing Notes

1. Bi Directional current flow
2. Inverter to Signal Generator to Startup When Inverter battery @ 35% SOC

GENERAL NOTES

This drawing is issued for Electrical purposes only, and should be read in conjunction with the Electrical Specification. Setting out of Electrical and Electronic accessories are to be as indicated on Architects details.

Refer to Architects and Structural Drawings for all building dimensions, latest building revisions and services.

Do not scale this drawing.

All work to comply with relevant Standards, Codes of Practice, Specification and Regulations.

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NOTES: (1) – Contractor to ensure max distance between draw boxes 20 metres notwithstanding anything to contrary. (2) – Draw boxes required after every second 90 deg. bend or 180 deg. total of slow bends. (3) – All unwired conduits to be provided with draw wires. These will be withdrawn and checked at random. (4) – Cast in conduits to be spaced 35mm. minimum.

- S 100x100 CONDUIT BOX.
- S 100x100 CONDUIT BOX AT 500AFFL.
- S 100x100 CONDUIT BOX AT 1400AFFL.
- L 100x50 CONDUIT BOX
- L 100x50 CONDUIT BOX AT 300AFFL.
- L 100x50 CONDUIT BOX AT 1400AFFL.
- ROUND CONDUIT BOX.
- C CLUSTER BOX (SIZE AS NOTED).

- ROUND DRAW BOX
- S 100x100 DRAW BOX
- P 100x50 BOX BEHIND POWER SKIRTING
- CONDUIT TURNED UP ("U" FOR DOWN)
- DOWN CONDUCTOR TO EARTH OR EARTH TIE.

ROUND CONDUIT BOX FOR:
DM – DOOR MONITOR
CAM – CAMERA
AA – ACCESS ALARM
AC – 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–IN
- 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.
- TELEPHONE JUNCTION BOX.
- INTERCOM JUNCTION BOX.
- DATA/COMMS JUNCTION BOX.
- SECURITY, ETC. JUNCTION BOX
- DISTRIBUTION BOARD POSITION.
- DB–1 BOARD DESIGNATION NUMBER.

- 16A SANS 164–1 SWITCHED SOCKET OUTLET (SSO).
- 16A SANS 164–1 DOUBLE SSO.
- 16A SANS 164–1 SSO ON PEDESTAL.
- 16A SANS 164–2 3 PIN SSO.
- 16A SANS 164–1 & 164–2 COMBINATION SSO.
- 16A SANS 164–4 RED SSO (OT SHAVED EARTH PIN)
- 16A SANS 164–4 RED SSO ON PEDISTAL
- 3 PHASE C–FORM SSO.
- 2 POLE ISOLATOR
- 3 POLE ISOLATOR
- 4 POLE ISOLATOR

- 6A SANS 164–3 U/S SOCKET OUTLET.
- SINGLE LEVER ONE WAY LIGHT SWITCH.
- INTERMEDIATE LIGHT SWITCH
- TWO WAY LIGHT SWITCH
- MOTION SENSOR
- LIGHT SWITCH WITH MOTION SENSOR

- LINEAR LUMINAIRE
- BULKHEAD/DOWNLIGHTER, ETC.
- WALL MOUNTED LUMINAIRES
- POLE MOUNTED LUMINAIRE.

- TELEPHONE POINT.
- TELEPHONE POINT ON PEDESTAL.
- DIRECT OUTSIDE LINE TELEPHONE POINT (CALL BOX).
- TV OUTLET.
- DATA/COMMS OUTLET.

- BELL PUSH.
- BELL OUTLET.
- SIGN POINT.
- CLOCK OUTLET.
- PHOTOCELL

- 3 REFERENCE TO QUANTITY i.e. 3No.
- 2 REFERENCE TO A DETAIL i.e. DETAIL 2.
- 4 REFERENCE TO AN ELECTRICAL NOTE i.e. NOTE 4.
- #34 REFERENCE TO A STANDARD DRAWING i.e. STANDARD DRAWING No.34

- 6 CABLE NUMBER – REFER CABLE SCHEDULE FOR DETAILS.
- D LUMINAIRE TYPE "D" – REFER LUMINAIRE SCHEDULE.

REV	DATE	BY	DESCRIPTION	CHK
0	13/09/24	CW	Original Issue	

REVISIONS

Approved in Principle
Justin McKelvie-King
Pr Eng : 20120548

PROJECT/SERVICES

Makhaza Police Station
Electrical Installation

TITLE

Grid Tied Photovoltaic System - System Schematic

ENGINEER:	DRAWN BY	DATE:	CHECKED	SCALE:
MK	CW	04/09/24	MK	NTS

PAPER SIZE: A1

PROJECT No.	DRAWING No.	SHEET:	REV:
23037	701	1	A

FILE:11_FILE LAYERS:14_LAYERS

A1_MST_1