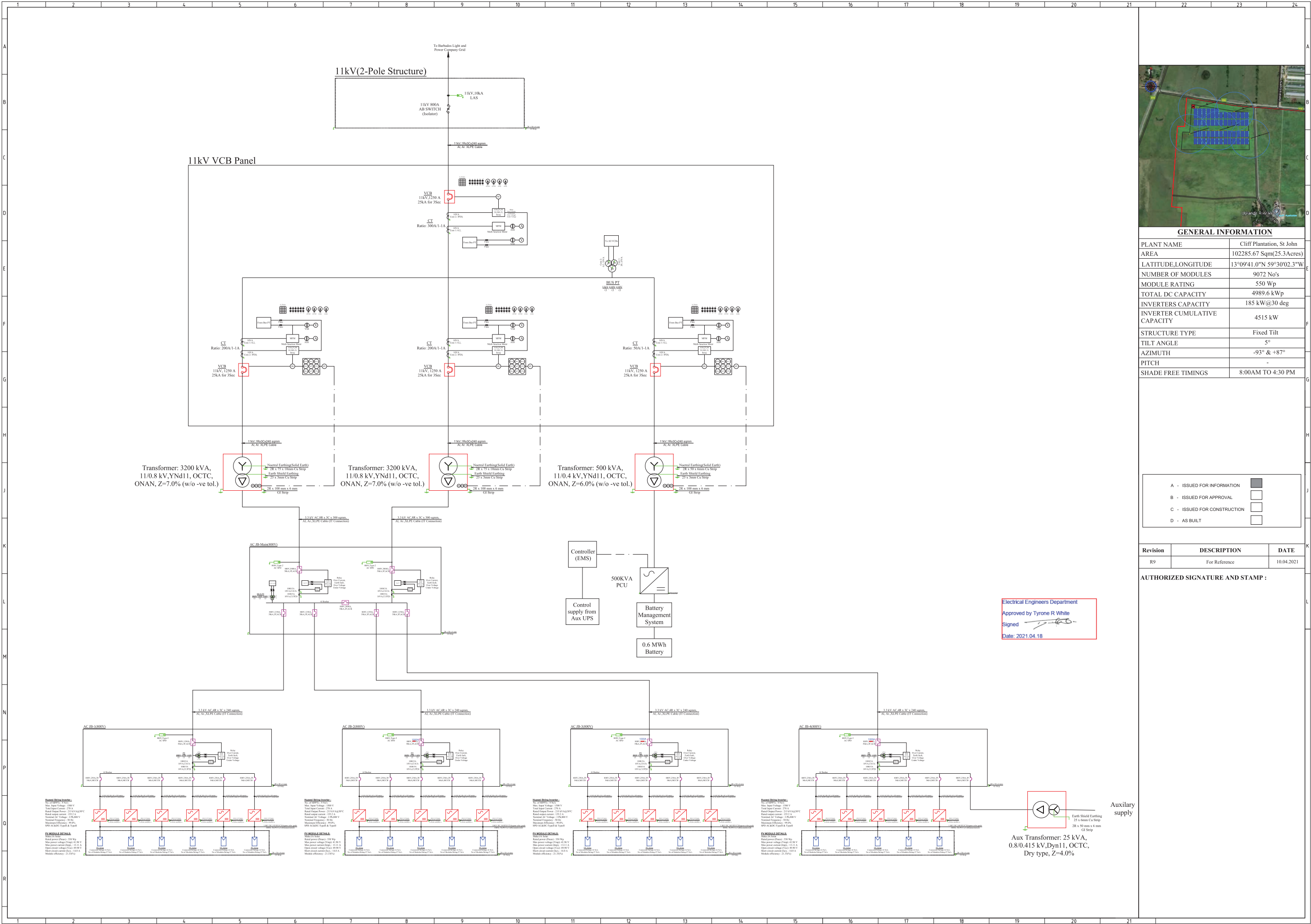




GENERAL INFORMATION	
PLANT NAME	Cliff Plantation, St John
AREA	102285.67 Sqm(25.3Acres)
LATITUDE, LONGITUDE	13°09'41.0"N 59°30'02.3"W
NUMBER OF MODULES	9072 No's
MODULE RATING	550 Wp
TOTAL DC CAPACITY	4989.6 kWp
INVERTERS CAPACITY	185 kW@30 deg
INVERTER CUMULATIVE CAPACITY	4515 kW
STRUCTURE TYPE	Fixed Tilt
TILT ANGLE	5°
AZIMUTH	-93° & +87°
PITCH	-
SHADE FREE TIMINGS	8:00AM TO 4:30 PM

A - ISSUED FOR INFORMATION	
B - ISSUED FOR APPROVAL	
C - ISSUED FOR CONSTRUCTION	
D - AS BUILT	

Revision	DESCRIPTION	DATE
R9	For Reference	10.04.2021

AUTHORIZED SIGNATURE AND STAMP :

Electrical Engineers Department
Approved by Tyronne R White
Signed
Date: 2021.04.18

Aux Transformer: 25 kVA,
0.8/0.415 kV, Dyn11, OCTC,
Dry type, Z=4.0%



GENERAL INFORMATION	
PLANT NAME	Cliff Plantation, St John
AREA	97027.61 Sqm(23.97Acres)
LATITUDE, LONGITUDE	13°09'41.0"N 59°30'02.3"W
NUMBER OF MODULES	9072 No's
MODULE RATING	550 Wp
TOTAL DC CAPACITY	4989.6 kWp
INVERTERS CAPACITY	215 kW@30 deg
INVERTER CUMULATIVE CAPACITY	4515 kW
STRUCTURE TYPE	Fixed Tilt
TILT ANGLE	5°
AZIMUTH	-90° & +90°
PITCH	-
SHADE FREE TIMINGS	8:00AM TO 4:30 PM

A - ISSUED FOR INFORMATION	
B - ISSUED FOR APPROVAL	
C - ISSUED FOR CONSTRUCTION	
D - AS BUILT	

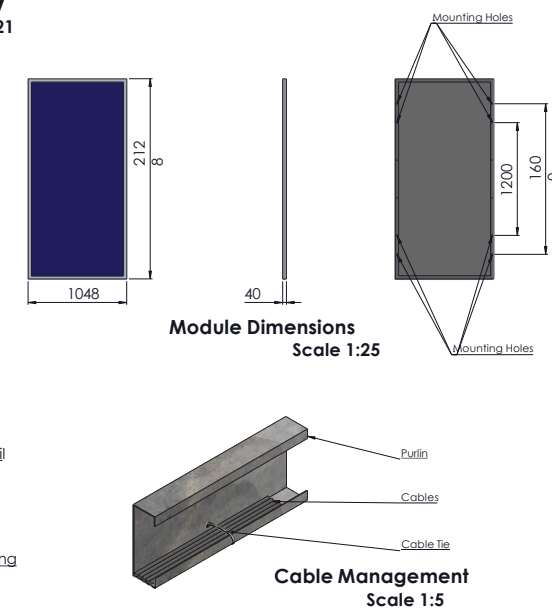
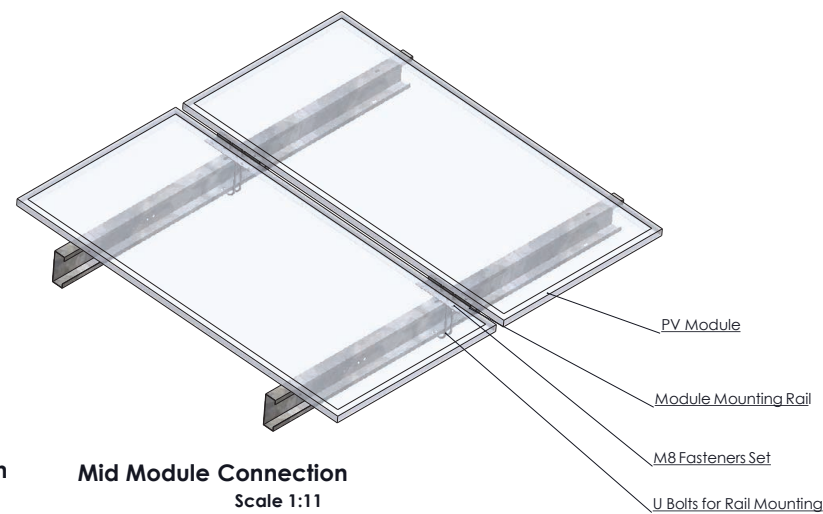
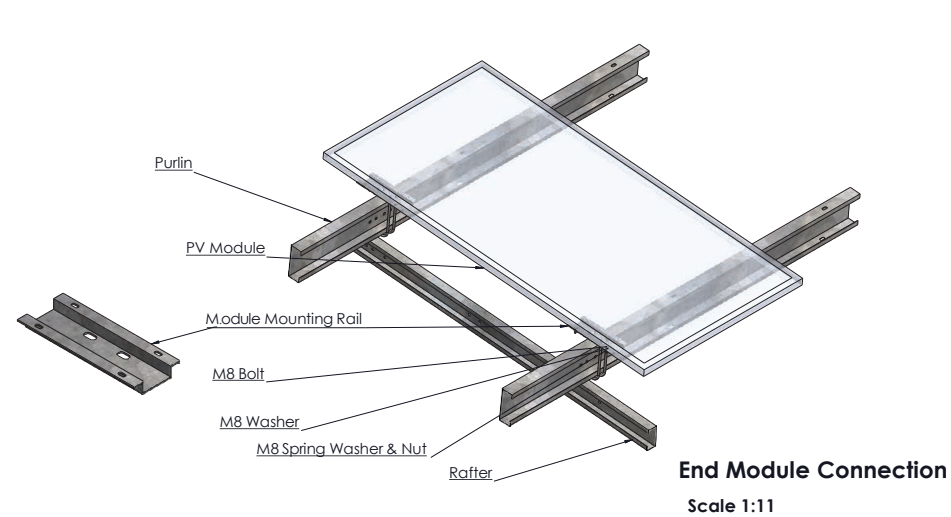
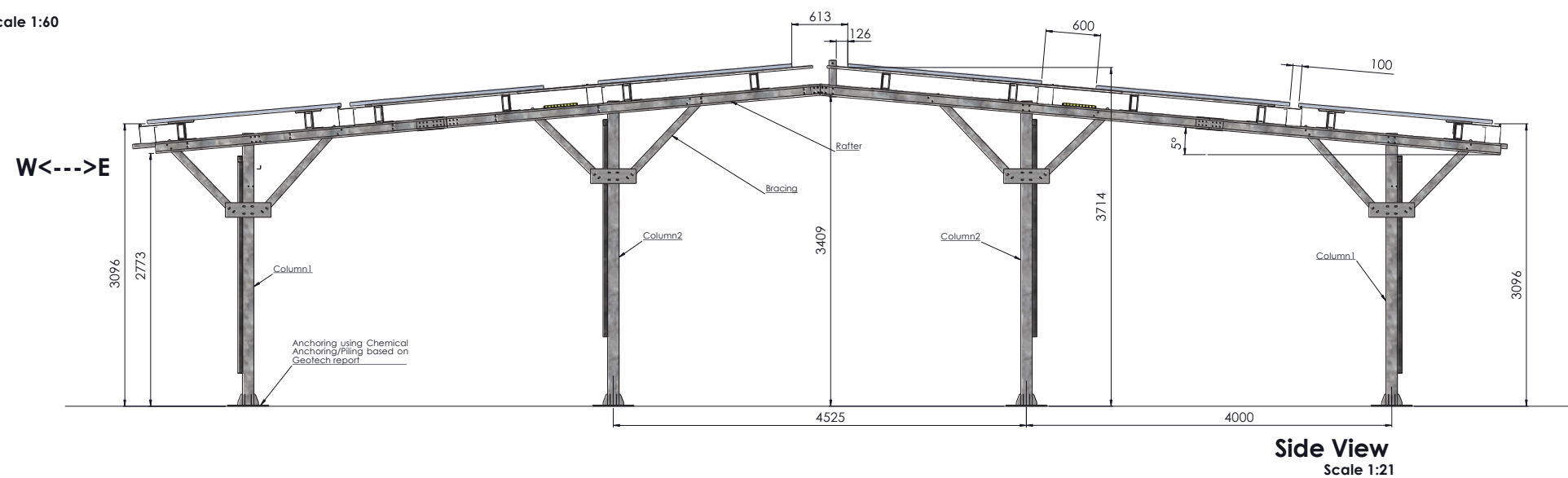
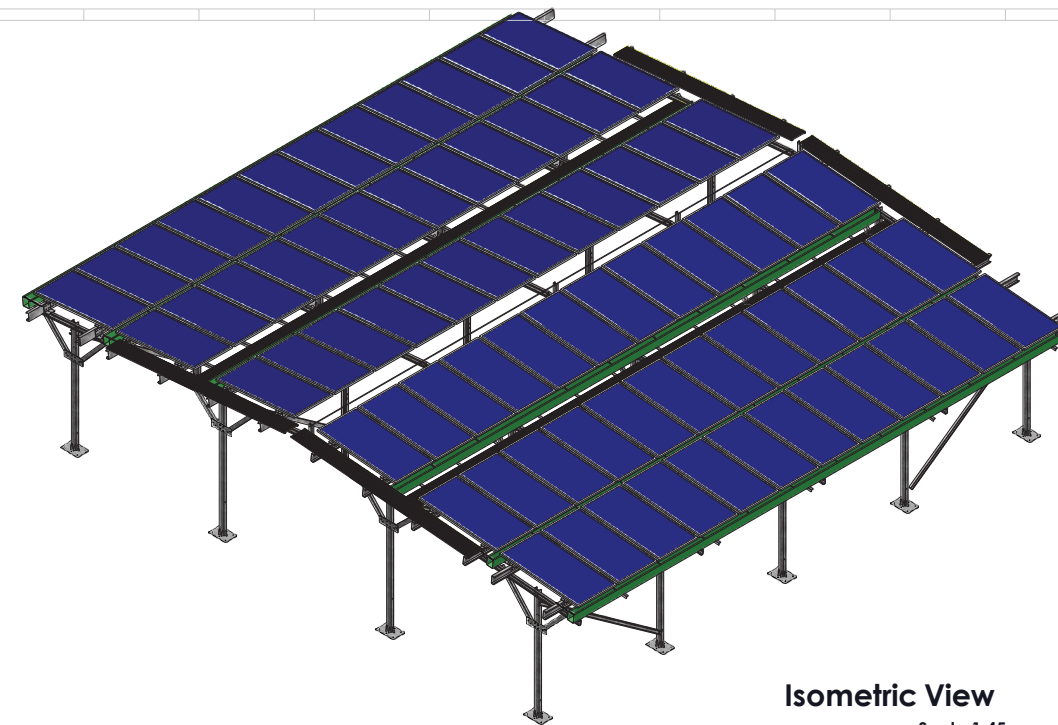
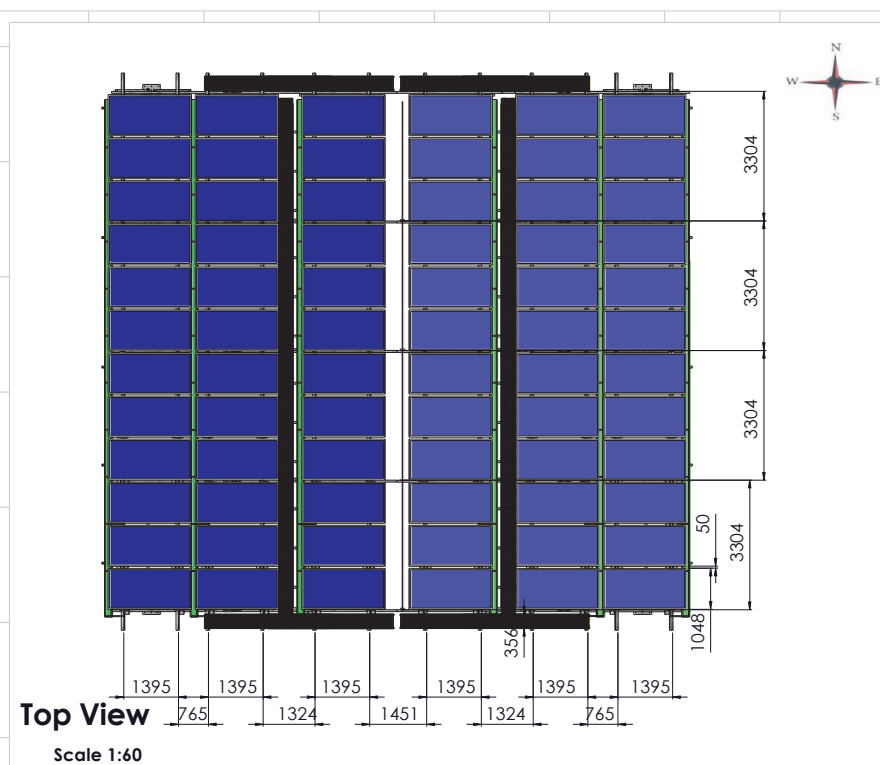
Revision	DESCRIPTION	DATE
R10	For Reference	26.04.2021

AUTHORIZED SIGNATURE AND STAMP :

PROJECT :
4989.6 kWp/4515 kW Solar PV Farmshed Plant

CLIENT :
PAN AFRICA SOLAR LTD

TITLE :
Plant Layout



SITE LOCATION	CLIFF PLANTATION
STRUCTURE TYPE	ELEVATED SHED STRUCTURE
STRUCTURE TILT ANGLE	5 DEG EAST WEST
MODULE ARRANGMENT	2X3P
MIN. MODULE CLEARANCE	3100mm
DESIGN WIND SPEED	135 Miles Per Hour (60.3 mtr/sec)
CODES USED	ASCE 7-10
STRUCTURAL MATERIAL :	
COLUMN POST	Mild Steel E250, HDG 100 Microns
RAFTER, PURLINS & OTHER MEMBERS	PosiMAC 340
ACCESSORIES	Mild Steel E250, HDG 100 Microns
FASTENERS	SS 316 A4, 70

A. - ISSUED FOR PROPOSAL ☐

B. - ISSUED FOR APPROVAL ☒

C.- ISSUED FOR CONSTRUCTION D ☐

- AS BUILT ☐

REV NO.	DESCRIPTION	DATE
A	ISSUED FOR PROPOSAL	07.04.2021
C	ISSUED FOR APPROVAL	03.05.2021

AUTHORIZED SIGNATURE AND STAMP:

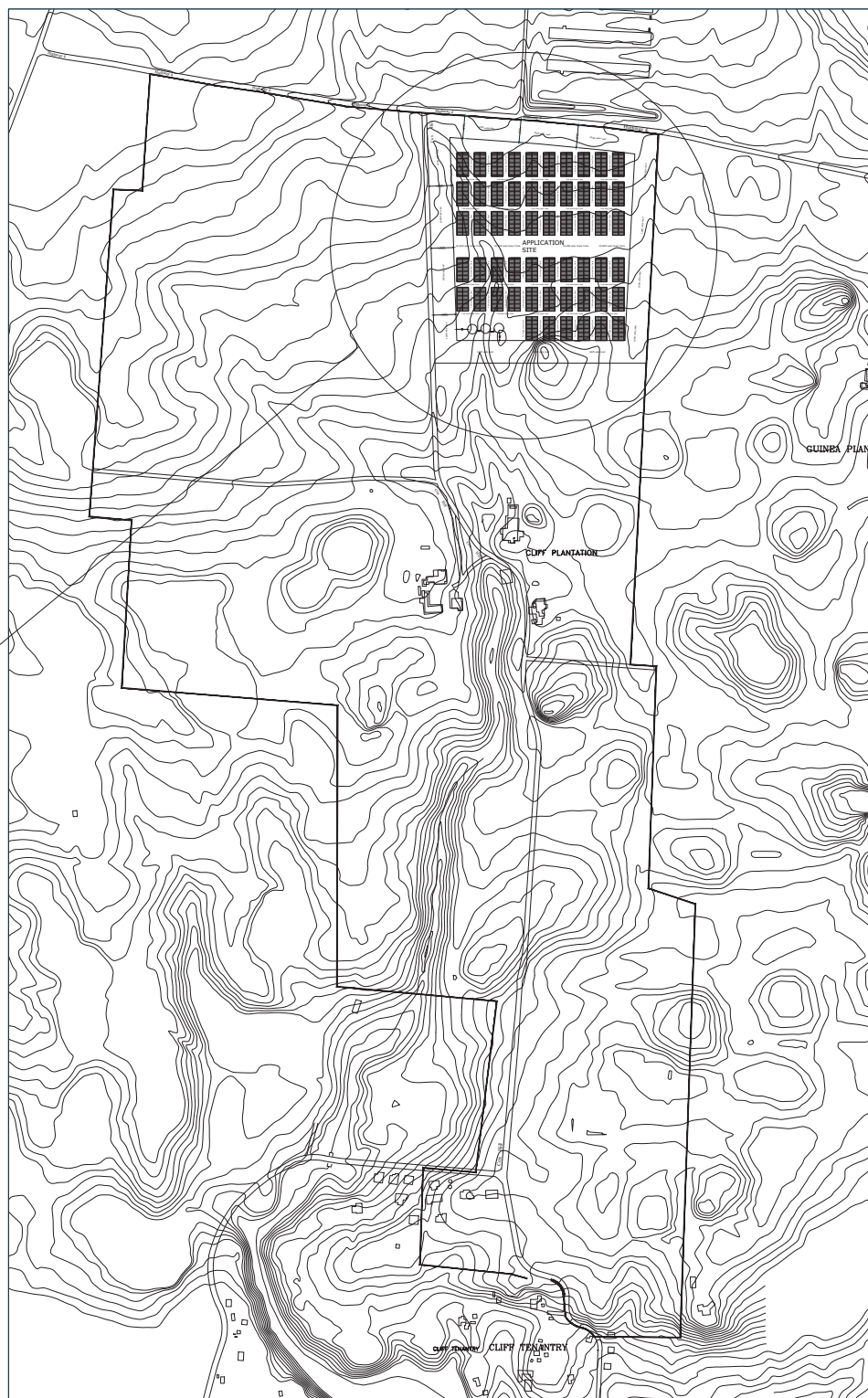
PROJECT:
4.9MWp Solar PV Rooftop Plant

CLIENT : **PAN AFRICA SOLAR**

TITLE :

MODULE MOUNTING STRUCTURE GA

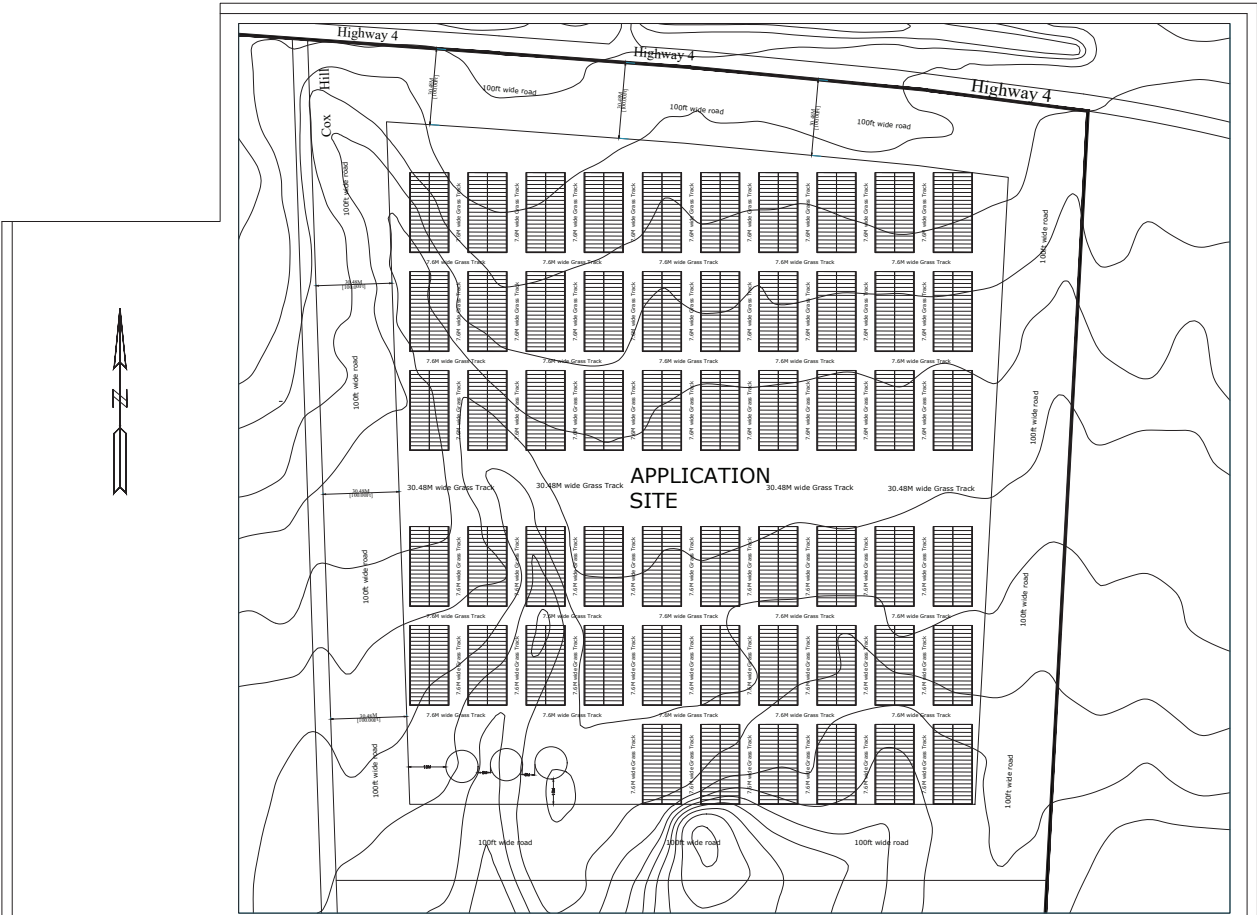
NORTH-EAST
PLANTATION
SITE



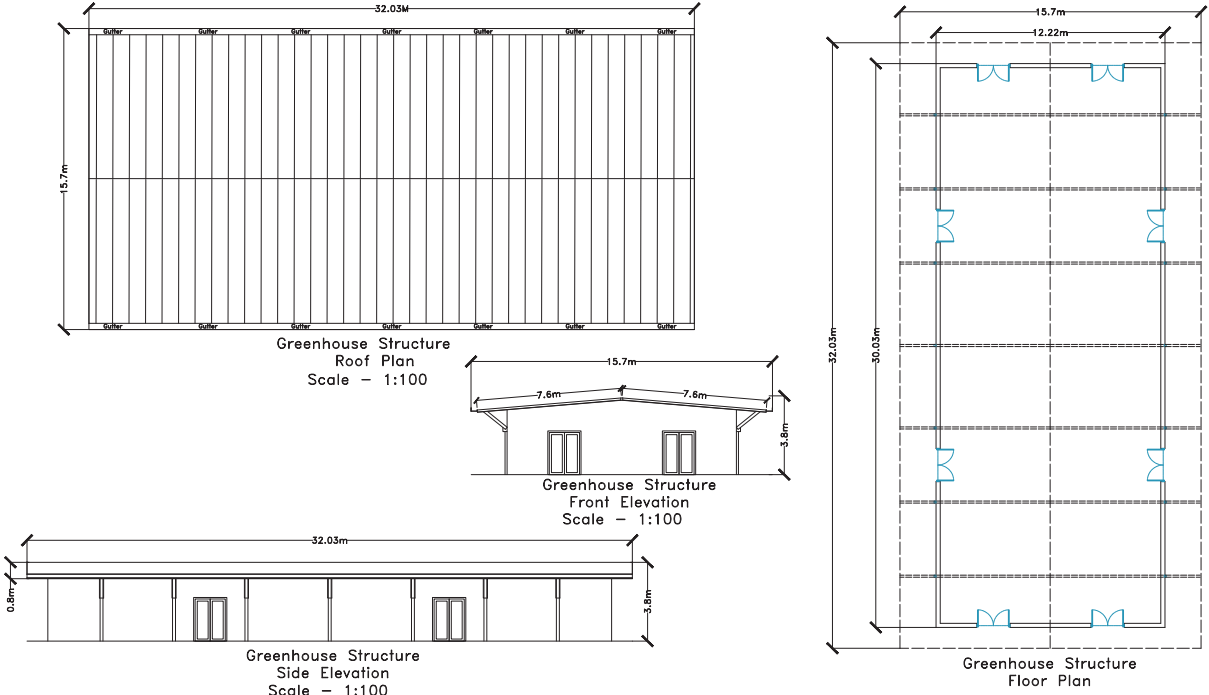
SITE PLAN (1:2500)

Erection of Greenhouse Structures at Cliff Plantation,

PO BOX 5048, WARRENS,
ST. MICHAEL, BARBADOS
TEL: 822 1639



NORTH-EAST EXTRACT SITE PLAN (1:500)



Erection of Greenhouse Structures at Cliff Plantation,

24KV OUTDOOR TYPE ICOG PANEL – TRF.

Customer : Pieter de Vries Solar Consultancy

PROJECT :

PO. No. :

PANEL NAME : 24KV Outdoor ICOG Panel – TRF.

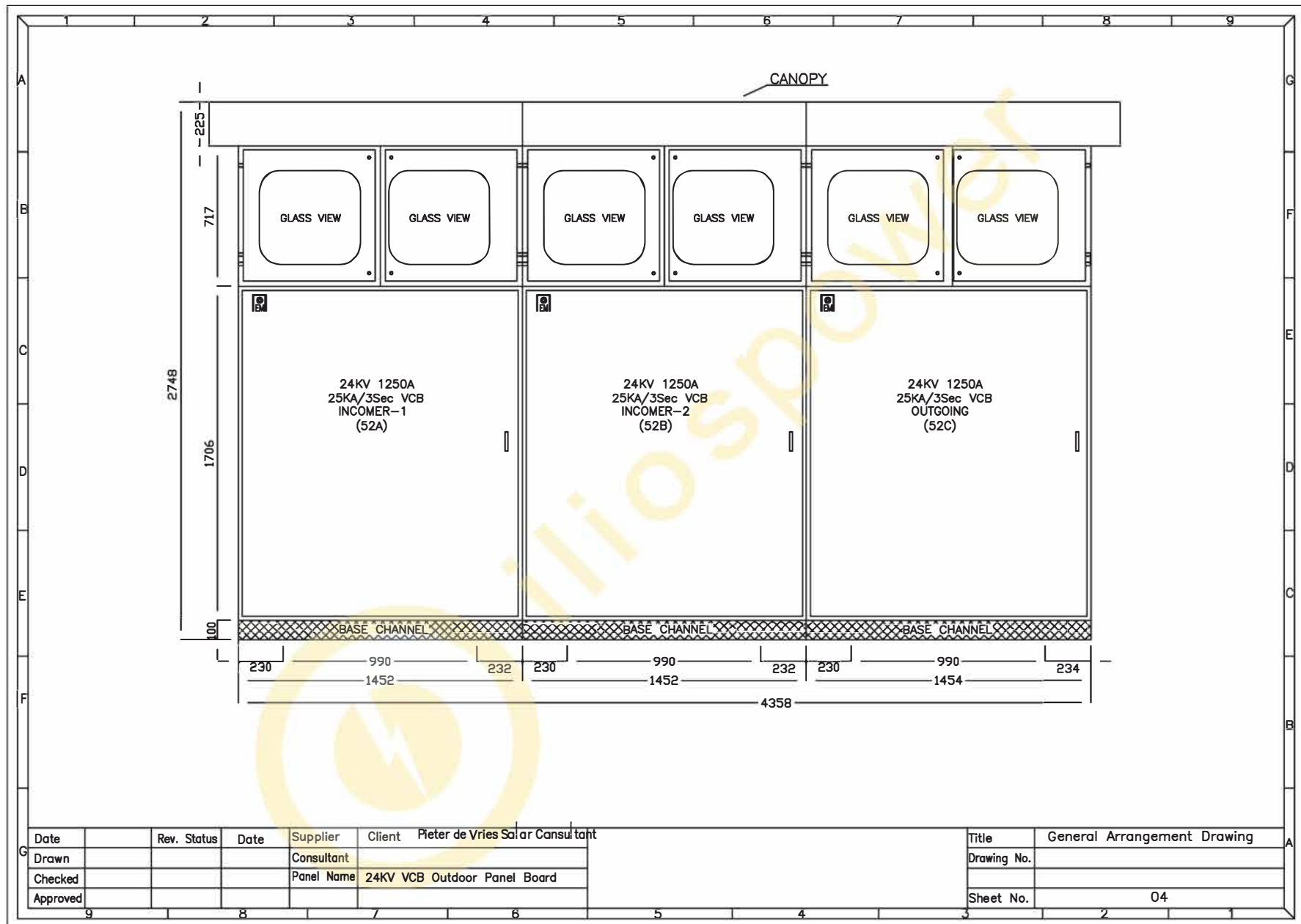
QTY. : 1No

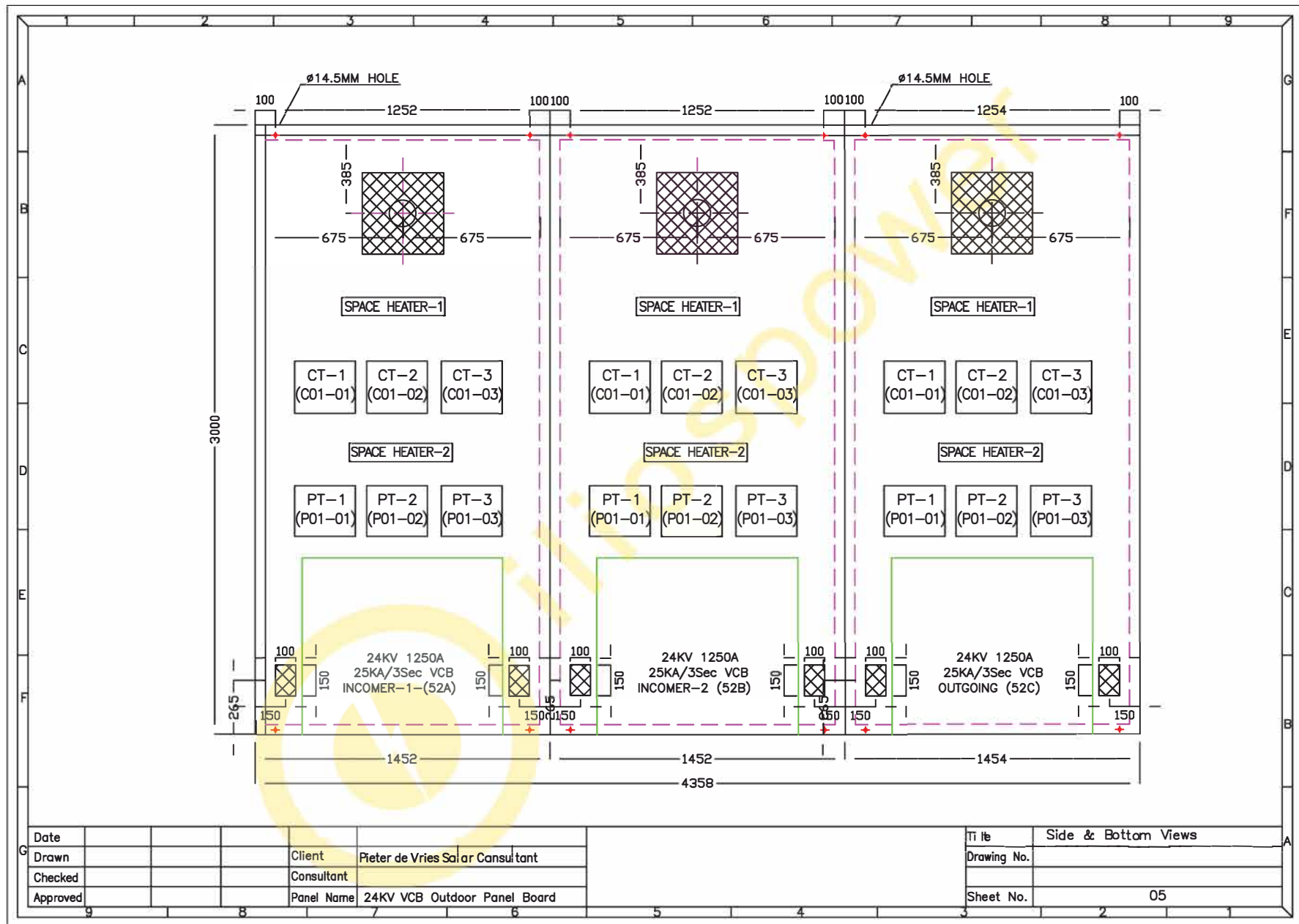
PANEL SL. No. :

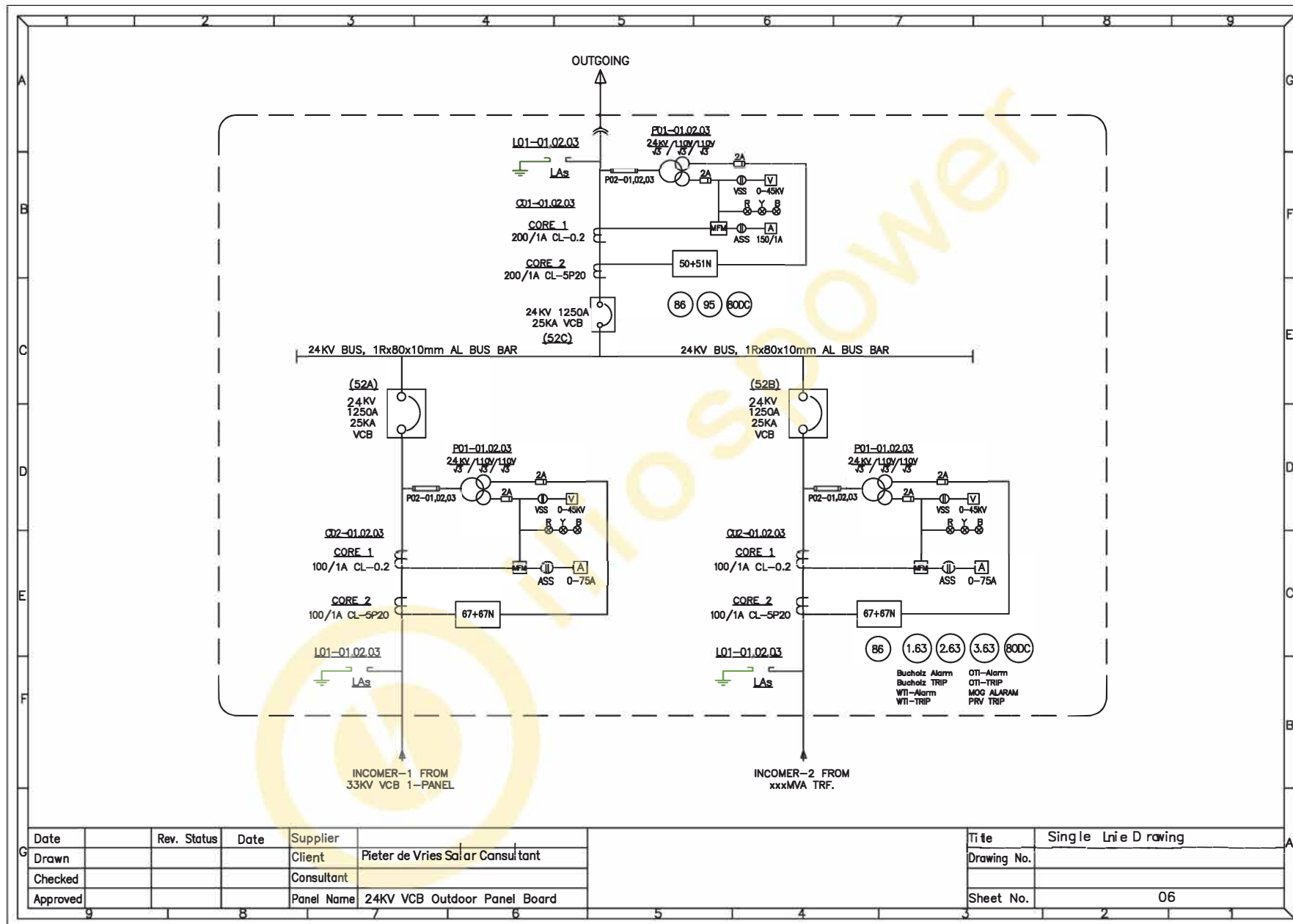
PANEL DRAWING No. :

Date	Rev. Status	Date				Title	Project Details
Drawn			Pieter de Vries Solar Consultant			Drawing No.	
Checked							
Approved						Sheet No	01

1. SWITCHBOARD					5. BUS BAR CLEARANCES BETWEEN				
FREE STANDING FLOOR MOUNTED, FIXED TYPE.					PHASE TO PHASE : 300MM				
PROTECTION : IP:54, OUTDOOR INSTALLATION					PHASE TO EARTH : 270MM				
OUTGOING CABLE : FROM BOTTOM					6. WIRING				
2. CONSTRUCTIONAL DETAILS					WIRES : 1100V GRADE PVC INSULATED				
MAIN FRAME : 2.0mm CRCA SHEET					SINGLE CORE COPPER FLEXIBLE FRLS WIRES				
DOORS : 2.0mm CRCA SHEET					DC CONTROL CIRCUIT : 1.5Sqmm – GRAY COLOUR				
COVERS : 2.0mm CRCA SHEET					AC CONTROL CIRCUIT : 1.5Sqmm – WHITE COLOUR				
GLAND PLATE UNDRILLED : 3.0mm CRCA SHEET					CT CIRCUIT : 2.5Sqmm RED/YELLOW/BLUE/BLACK				
BASE CHANNEL : 100x50x6MM					PT CIRCUIT : 1.5Sqmm RED/YELLOW/BLUE/BLACK				
3. PAINTING					EARTHING : 2.5Sqmm GREEN				
CHEMICAL TREATMENT : 8-TANK PROCESS					7. TERMINAL BLOCKS				
PAINT THICKNESS : 80-100 Microns					CT's & PTs : DISCONNECTING TYPE				
PANEL SHADE : RAL-7032					CONTROL TERMINALS : CLIP ON TYPE				
BASE PLATE : RAL-7032					8. DANGER BOARDS SHALL BE PROVIDED				
BASE FRAME : BLACK					9. NAME PLATES SHALL BE CNC CUTTING WHITE LETTERS ON BLACK CORE.				
4. BUS BAR					10. MAKE OF COMPONENTS SHALL BE AS PER BOQ				
I/C & O/G BUS LINKS : 60X10MM									
MAIN BUS BAR : ---									
MATERIAL : ALUMINIUM, E-91E GRADE									
CURRENT DENSITY : 0.8A/Sqmm FOR MAIN BUS BAR									
EARTH BUS BAR SIZE : 1Rx50x06mm COPPER									
INSULATION SLEEVES : HT INSULATED SLEEVES SHALL BE PROVIDED FOR									
: GREEN SLEEVE FOR EARTHING.									
SHROUDS : SHROUDS SHALL BE PROVIDED IN BETWEEN PHASES WITH									
INSULATORS : FRP									







1. SWITCHBOARD

FREE STANDING FLOOR/WALL MOUNTED, FIXED TYPE SINGLE FRONT OPERATION.
PROTECTION : IP: 42, INDOOR INSTALLATION
CABLE ENTRY : FROM BOTTOM

2. CONSTRUCTIONAL DETAILS

MAIN FRAME : 2.0mm CRCA SHEET
FEEDER DOORS : 1.6mm CRCA SHEET UPTO 500mm
: 2.0mm CRCA SHEET ABOVE 600mm
COVERS : 1.6mm CRCA SHEET
GLAND PLATE UNDRILLED : 2.0mm CRCA SHEET
BASE CHANNEL : 75x40x6mm ISMC

3. PAINTING

PANEL SHADE : RAL-7032/35
BASE PLATE : RAL-7032/35
COATING THICKNESS : 70-100MICRONS
BASE FRAME : BLACK
LIFTING ANGLE : ORANGE

4. BUS BAR

MATERIAL : ALUMINIUM
CURRENT DENSITY : 0.8A/Sqmm FOR MAIN BUS BAR
EARTH BUS BAR SIZE : 1Rx50x06mm AL.
INSULATION SLEEVES : COLOUR CODED HEAT SHRINKBLE PVC SLEEVE
: FOR R,Y,B FOR PHASES & BLACK FOR NEUTRAL.
: GREEN SLEEVE FOR EARTHING.
INSULATORS : FRP/SMC/DMC

S.No.	PANEL NAME	QTY.	PHASE BUS BAR	NEUTRAL BUS BAR
1.	ACJB PANEL	1No	1Rx125x10mm	1Rx125x06mm
2.	SUB ACDB PANEL	1No	1Rx20x10mm	1Rx20x06mm

5. WIRING

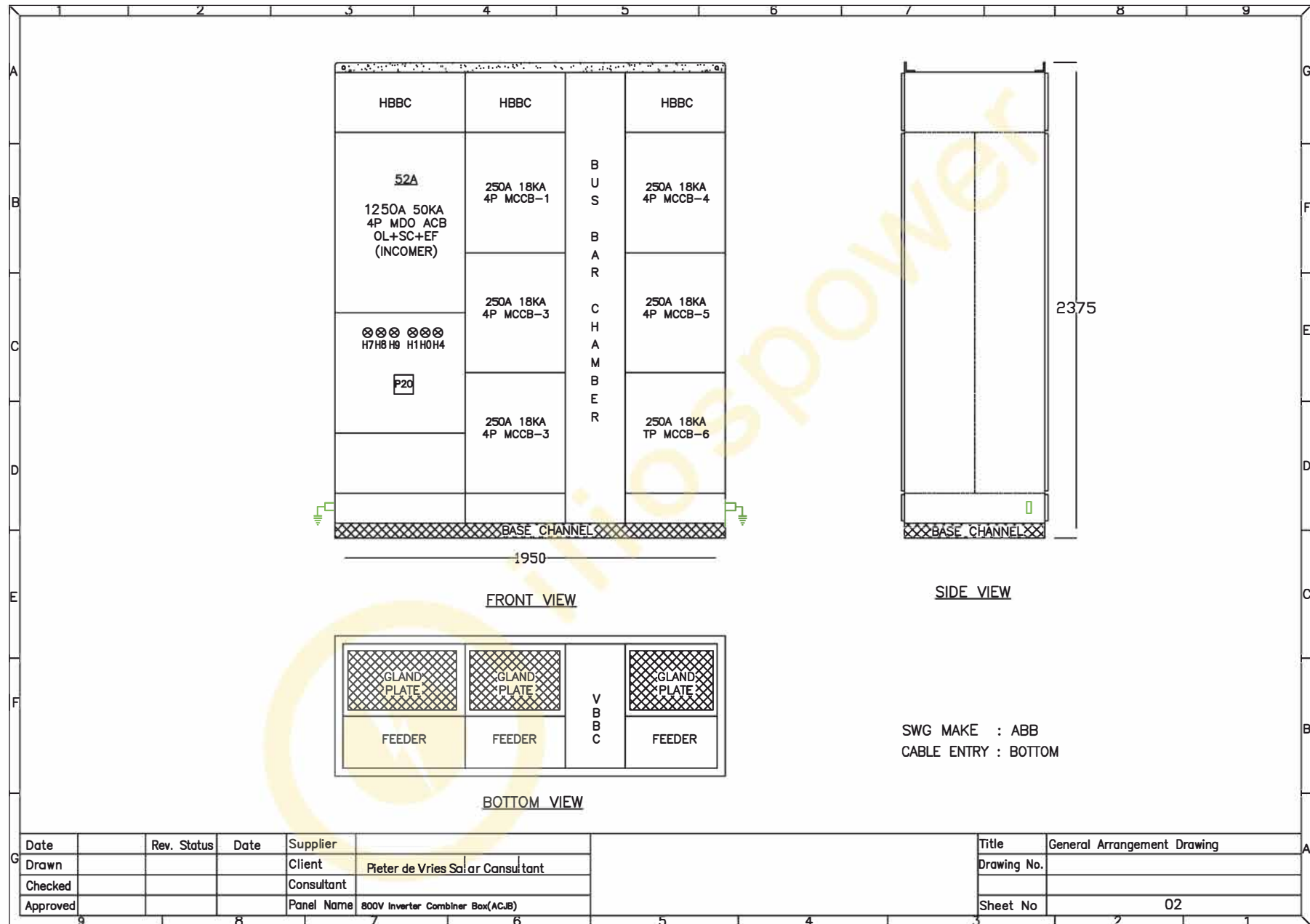
WIRES : 1100V GRADE PVC INSULATED
: SINGLE CORE COPPER FLEXIBLE WIRE
CONTROL CIRCUIT : 1.0Sqmm - GREY COLOUR
CT CIRCUIT : 1.5Sqmm RED/YELLOW/BLUE/BLACK
PT CIRCUIT : 1.5Sqmm RED/YELLOW/BLUE/BLACK
EARTHING : 2.5Sqmm GREEN
POWER WIRING : AS PER FEEDER RATING

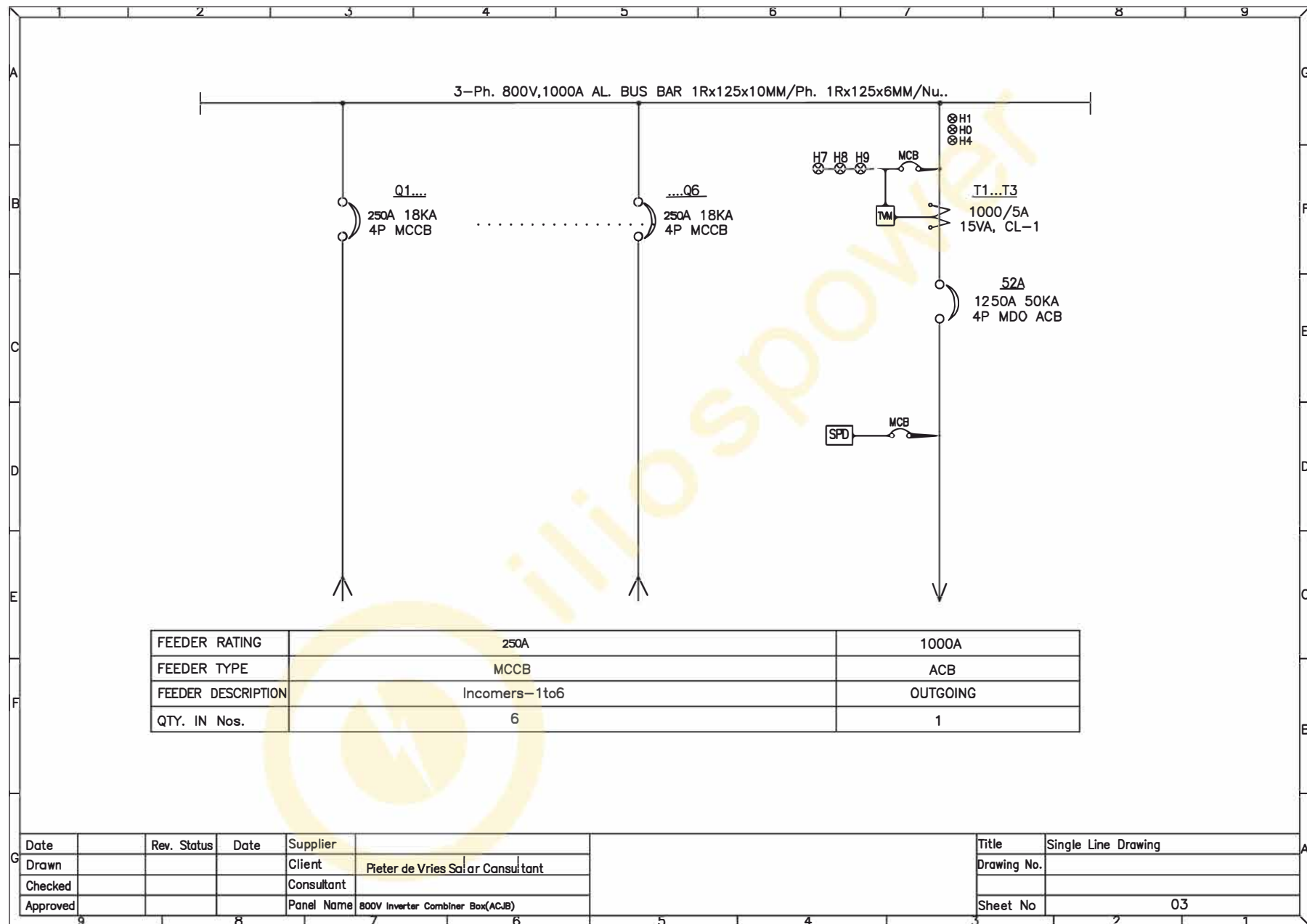
6. LEGEND

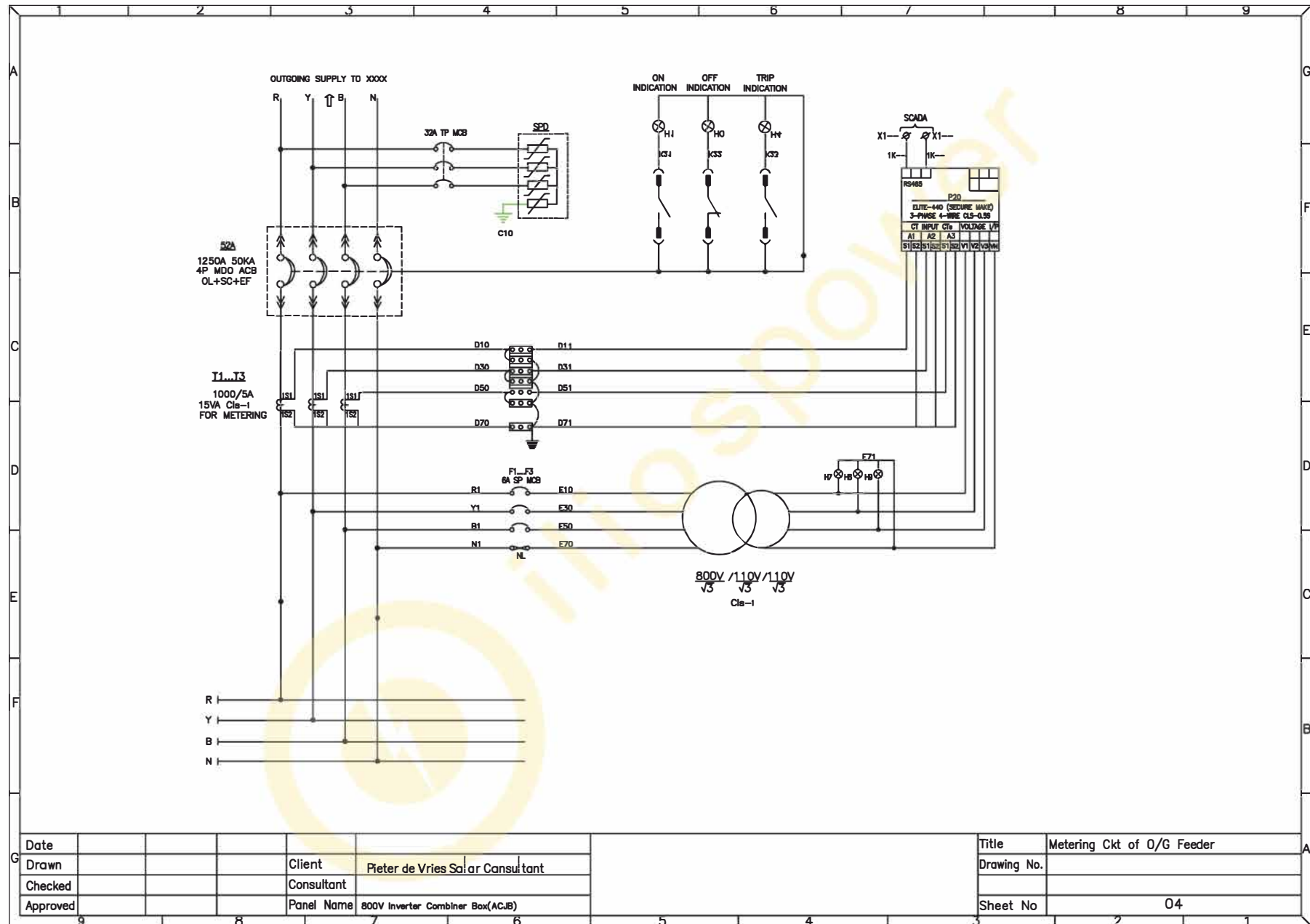
H0 : OFF INDICATION - GREEN
H1 : ON INDICATION - RED (FORWARD)
H2 : ON INDICATION - RED (REVERSE)
H4 : TRIP INDICATION - AMBER
H5 : TRIP CIRCUIT SUPERVISION INDICATION - WHITE
H6 : SPRING CHARGE INDICATION- BLUE
H7 : R-PHASE INDICATION - RED
H8 : Y-PHASE INDICATION - YELLOW
H9 : B-PHASE INDICATION - BLUE
P1 : AMMETER
P4 : VOLTMETER
P20 : MFM METER
P21 : ENERGY METER
S11 : AMMETER SELECTOR SWITCH
S12 : VOLTMETER SELECTOR SWITCH
S13 : LOCAL / REMOTE SELECTOR SWITCH
Q1 : MCCB
Q11 : SFU
Q20 : POWER CONTACTOR
K1....K5 : AUX. CONTACTOR
K80 : OVER LOAD RELAY
S0 : STOP PUSH BUTTON
S1 : START PUSH BUTTON
F1.....F5.....Fx : CONTROL FUSE / MCB
MPR : MOTOR PROTECTION RELAY
CF : COOLING FAN
TS : TOGGLE SWITCH

Date		Rev. Status	Date	Supplier	
Drawn				Client	Pieter de Vries Sar ar Consul tant
Checked				Consultant	
Approved				Panel Name	800V Inverter Combiner Box(ACJB)

Title	General Constructional Details
Drawing No.	
Sheet No	01







Date					
Drawn				Client	Pieter de Vries Sal ar Consultant
Checked				Consultant	
Approved				Panel Name	800V Inverter Combiner Box(ACJB)

Title	Metering Ckt of O/G Feeder
Drawing No.	
Sheet No	04