



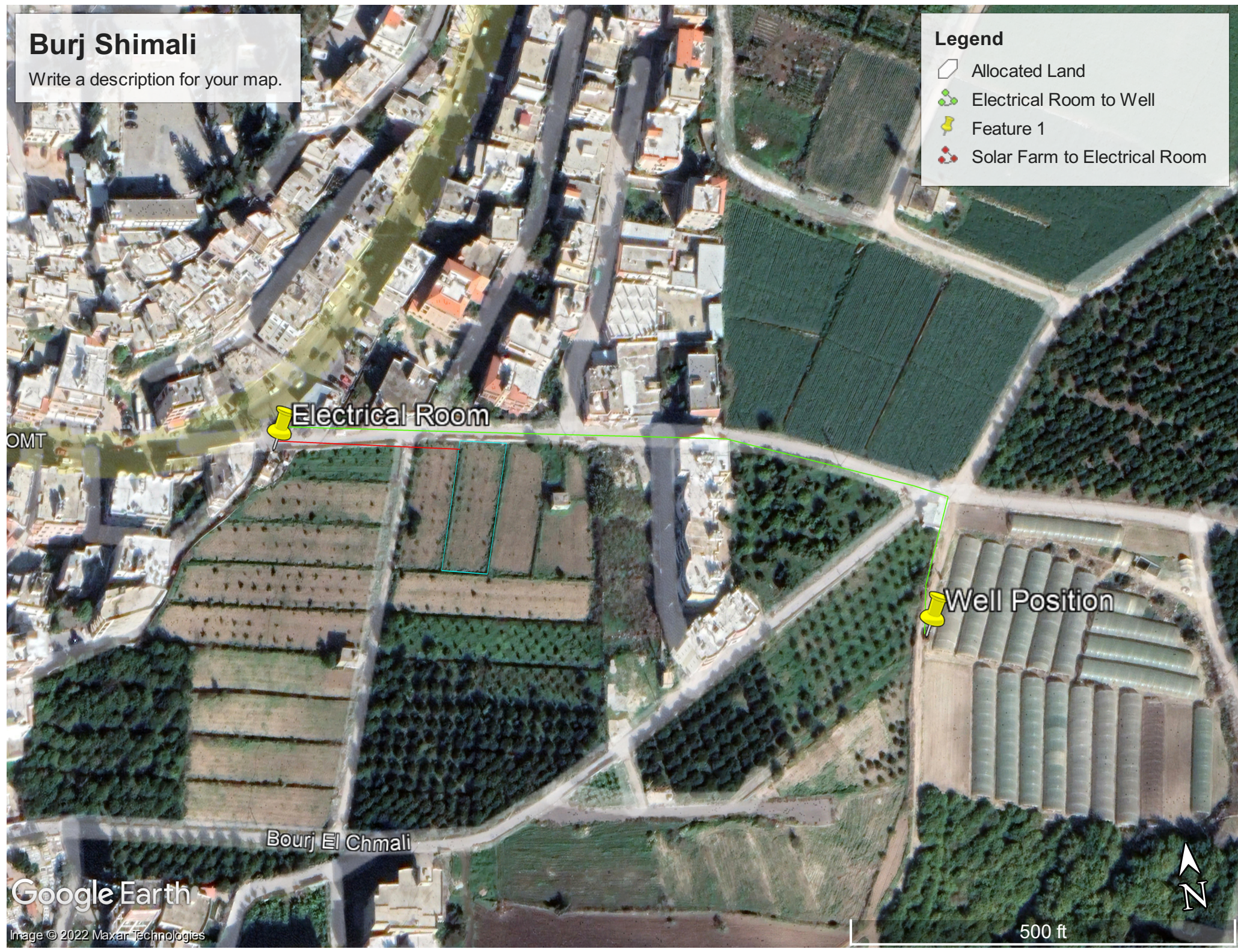


# Burj Shimali

Write a description for your map.

## Legend

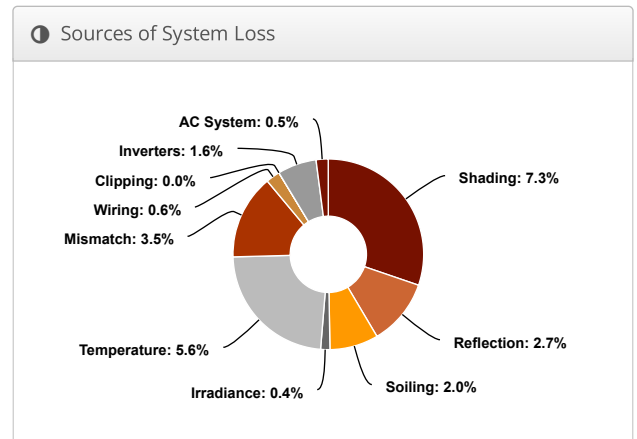
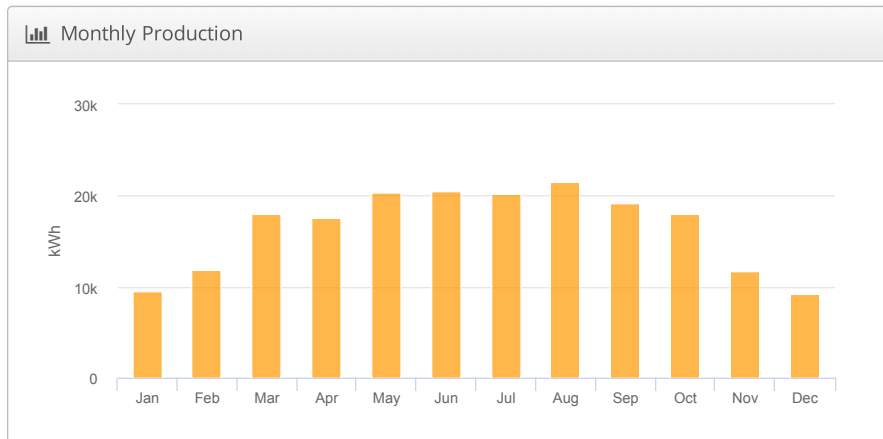
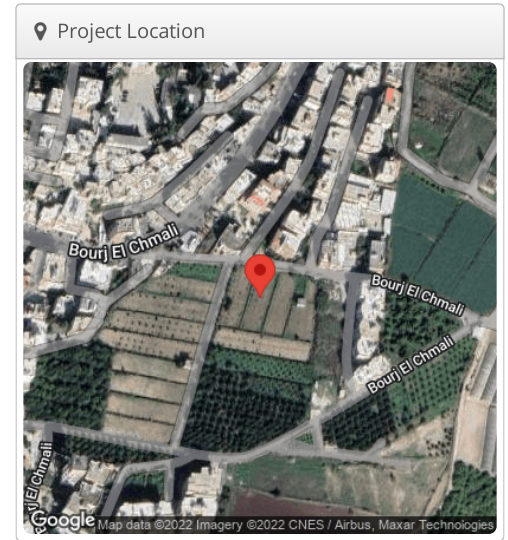
-  Allocated Land
-  Electrical Room to Well
-  Feature 1
-  Solar Farm to Electrical Room



# Design 1 burj shmali, lebanon

Report	
Project Name	burj shmali
Project Description	SOLAR PUMP
Project Address	lebanon
Prepared By	Ali Sharafeddeen alisharafeddeen@gmail.com

System Metrics	
Design	Design 1
Module DC Nameplate	120.9 kW
Inverter AC Nameplate	132.0 kW Load Ratio: 0.92
Annual Production	197.8 MWh
Performance Ratio	78.1%
kWh/kWp	1,636.5
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	db521e2a86-2412ee95dd-fac614960f-d08cdc56b5



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m <sup>2</sup> )	Annual Global Horizontal Irradiance	1,877.3	
	POA Irradiance	2,096.2	11.7%
	Shaded Irradiance	1,942.6	-7.3%
	Irradiance after Reflection	1,889.7	-2.7%
	Irradiance after Soiling	1,851.9	-2.0%
	<b>Total Collector Irradiance</b>	<b>1,852.0</b>	<b>0.0%</b>
Energy (kWh)	Nameplate	224,016.5	
	Output at Irradiance Levels	223,160.0	-0.4%
	Output at Cell Temperature Derate	210,581.4	-5.6%
	Output After Mismatch	203,247.1	-3.5%
	Optimal DC Output	202,074.8	-0.6%
	Constrained DC Output	202,074.2	0.0%
	Inverter Output	198,841.0	-1.6%
	<b>Energy to Grid</b>	<b>197,846.8</b>	<b>-0.5%</b>
Temperature Metrics			
	Avg. Operating Ambient Temp		23.1 °C
	Avg. Operating Cell Temp		33.5 °C
Simulation Metrics			
	Operating Hours		4653
	Solved Hours		4653

☁ Condition Set												
Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
	East-West	-3.56	-0.075	3°C								
	Carport	-3.56	-0.075	3°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											
Module Characterizations	Module		Uploaded By		Characterization							
	TSM-DE21 650 (Trina Solar)		HelioScope		Spec Sheet Characterization, PAN							
Component Characterizations	Device			Uploaded By		Characterization						
	XG66KTR-L (INVT Solar)			HelioScope		Spec Sheet						

📦 Components		
Component	Name	Count
Inverters	XG66KTR-L (INVT Solar)	2 (132.0 kW)
Home Runs	6 mm2 (Copper)	4 (80.8 m)
Combiners	2 input Combiner	2
Combiners	3 input Combiner	2
Strings	10 AWG (Copper)	10 (122.0 m)
Module	Trina Solar, TSM-DE21 650 (650W)	186 (120.9 kW)

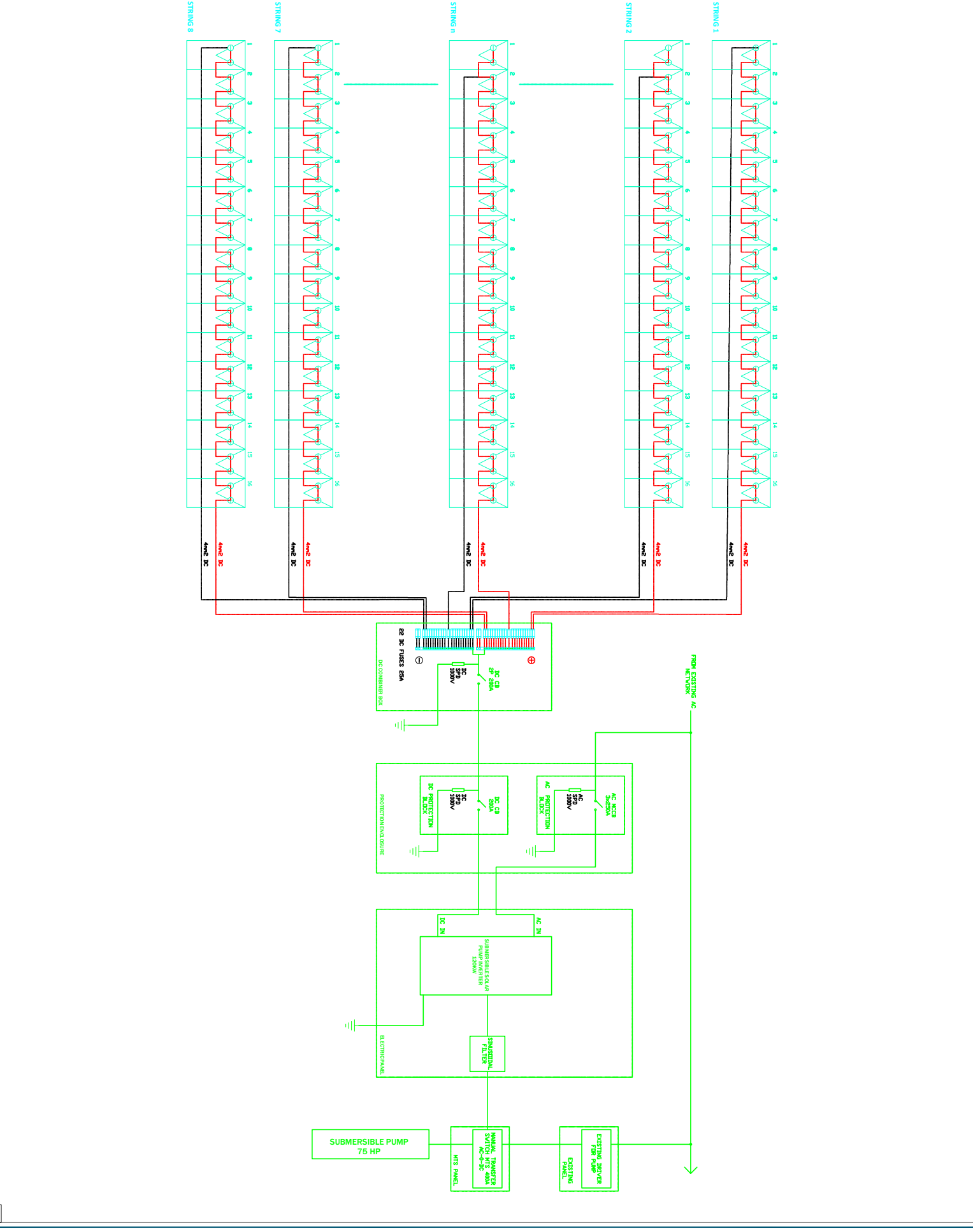
🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	6-23	Along Racking

🏗 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Portrait (Vertical)	30°	180°	1.3 m	1x1	186	186	120.9 kW

Detailed Layout







**NOTE:**

- ELECTRICAL LAYOUT DRAWINGS ARE INDICATIVE OF THE SYSTEM'S COMPONENTS AND THEY SHALL BE USED TO NOT SCALE FROM THESE DRAWINGS.
- THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS AND SPECIFICATIONS FOR THE APPROVAL OF THE SUPERVISION ENTRY AT THE DATE OF THE APPROVAL OF THE DRAWINGS.
- THE CONTRACTOR HAS TO FINISH COMPLETE INSTALLATION OF THE EQUIPMENT WITHIN THE APPROVAL OF THE SUPERVISION ENTRY AT THE DATE OF THE APPROVAL OF THE DRAWINGS.
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**LEGEND:**

NO.	DATE	REVISION	% SUBMITTALS

**DESIGNED BY:** [Signature]

**CHECKED BY:** [Signature]

**DATE:** 2024-03-15

**SCALE:** 1:100

**SHEET NO.:** 01 OF 01

**PROJECT:** 120 KWp SOLAR FARM

**LOCATION:** BONY CHINMALI WELL SOLAR POWERED PUMPING STATION