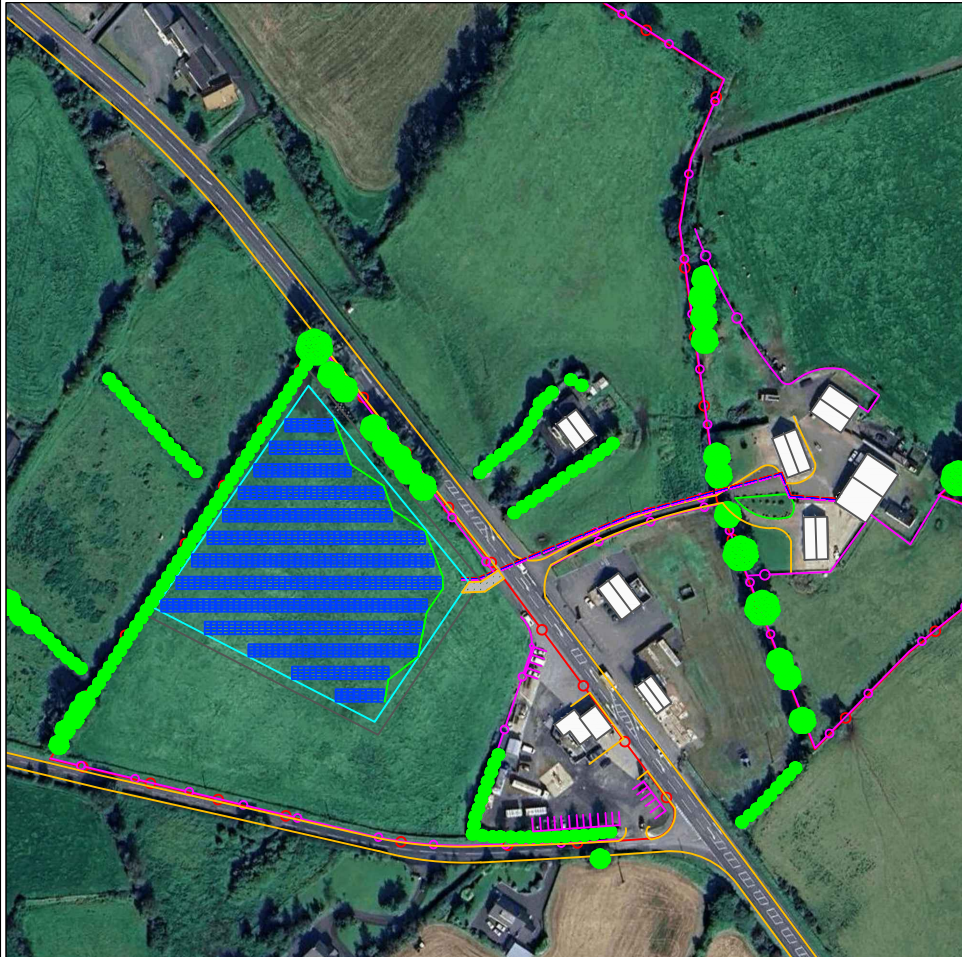


SOLAR PV GROUND MOUNT SYSTEM AT

897.60kWp, 805.00kWAC



SITE OVERVIEW PLAN

SCALE: 1:3000

GENERAL NOTES

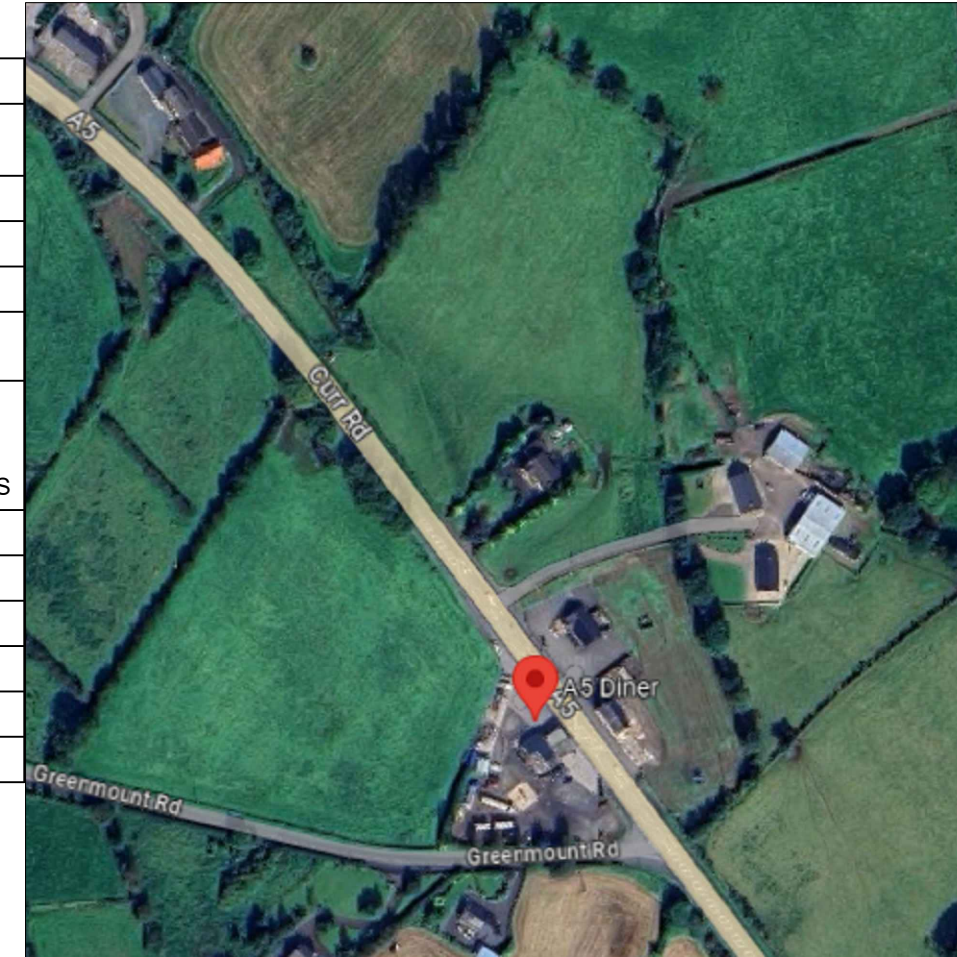
- THIS NEW SYSTEM SHALL COMPLY WITH ALL APPLICABLE REGULATIONS AND CODES, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS.
- DRAWINGS INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. FOLLOW DRAWINGS ALONG WITH OTHER TRADES TO VERIFY INSTALLATION CONDITIONS AND CLEARANCE,
- ALL DIMENSIONS MUST BE VERIFIED PRIOR TO WORK.
- REFER TO MODULES INSTALLATION MANUAL FOR BETTER UNPACKING, HANDLING, AND INSTALLATION.
- ALL NEW ELECTRICAL EQUIPMENTS SHALL HAVE SHORT CIRCUIT CURRENT RATING GREATER THAN OR EQUAL TO THE EXISTING EQUIPMENTS IN THE SITE.
- ALL MATERIALS USED DURING INSTALLATION SHALL BE MADE FROM CORROSION RESISTANT MATERIALS SUITABLE FOR THE LIFETIME OF THE SYSTEM.
- ANY CHANGES IN THE MODULES LAYOUT DUE TO UNFORSEEN OBSTRUCTION ON THE SITE SHALL BE REPORTED TO THE DESIGN ENGINEER, AND SHOULD BE MADE WITHOUT CHANGES IN STRINGS SIZE CONNECTED TO INVERTERS.
- ALL PV MODULES IN THE SAME STRINGS SHALL BE WITHIN SMAE ORIENTATION AND TILT ANGLE AND MAX. DIFFERENCE IS $\pm 5^\circ$.
- ALL PV WIRES SHALL BE AT LEAST 1000V RATED , FLEXIBLE DOUBLE ISOLATION, RESISTANCE TO UV AND O3, AND HALOGEN-FREE CERTIFIED.
- THE EQUIPMENTS USED ON THE DC SIDE SHALL BE CLASS II OR EQUIVALENT INSULATION.
- MINIMUM SIZE OF 6mm² COPPER CONDUCTOR TO BE USED FOR GROUNDING EXPOSED METALLIC FRAMES OF THE PV ARRAY.
- PV ARRAY WIRING SHOULD BE LAID IN SUCH A WAY THAT MINIMIZE CONDUCTIVE LOOPS TO REDUCE THE MAGNITUDE OF LIGHTING-INDUCED OVERVOLTAGES.
- ALL REQUIRED SAFETY SIGNS AND LABELS SHALL BE COMPLIANCE TO IEC REQUIREMENTS AND LOCAL REGULATION.

GENERAL NOTES:

PROJECT OWNER	
PROJECT ADDRESS	
PROJECT LOCATION	
TOTAL ROOF AREA	~10000 mt ²
MODULES COVERAGE	4224.64 mt ²
MODULES ROOF COVERAGE PERCENTAGE	42.25 %
MOUNTING SYSTEM	FIXED TILT STAND MOUNTING OF FRAMED PV MODULES WHIT PILES DRIVEN TO GROUND SOUTH ORIENTATION, LANDSCAPE MODULES
MODULE ORIENTATION	LANDSCAPE
AZIMUTH ANGLE	180°
TILT ANGLE	30°
MODULES WEIGHT	34 kg
MIN. ANNUAL TEMP.	-6.9°C
MAX. ANNUAL TEMP.	25.5°C

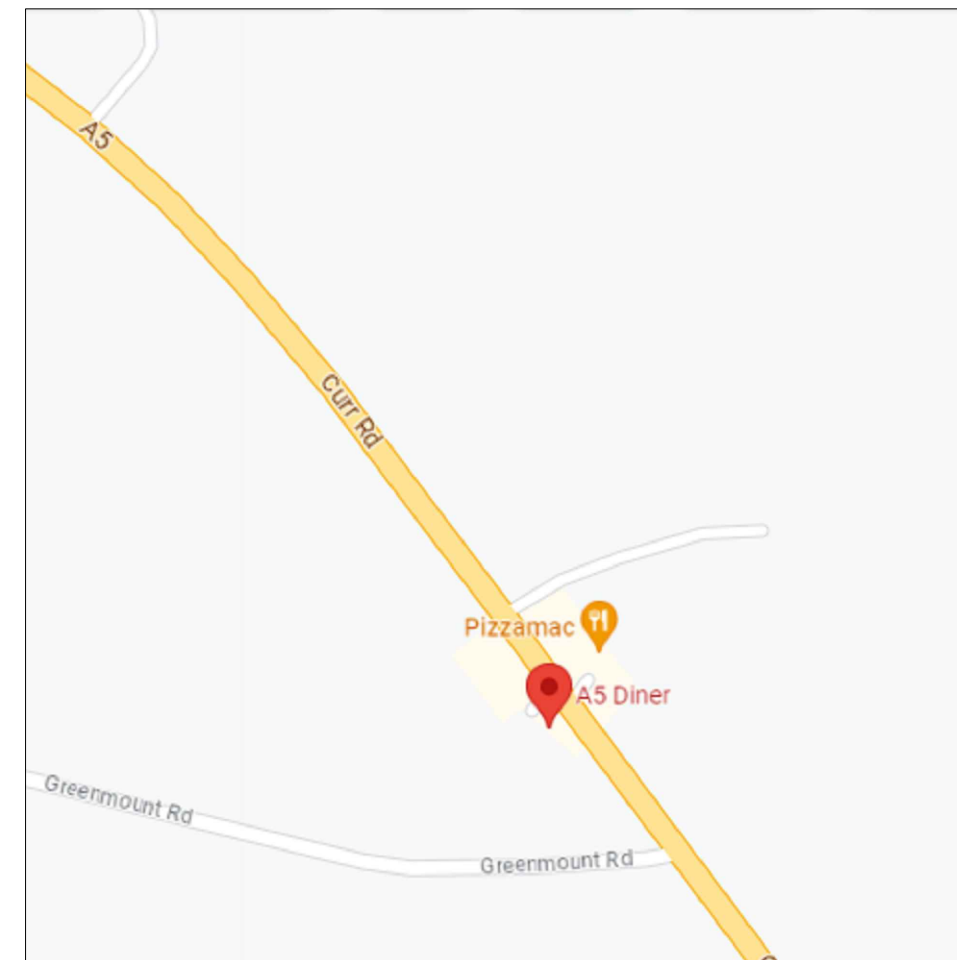
SYSTEM SUMMARY:

TOTAL STC DC SYSTEM SIZE	897.60 kWp
TOTAL AC SYSTEM SIZE	805.00 KWac
DC/AC RATIO	1.12
PV MODULES MAKE	LEAPTON SOLAR
PV MODULES TYPE	LP210*210-M-66-MH-660W
PV MODULES STC RATING	660 Wp
TOTAL PV MODULES QTY.	1360
INVERTERS MAKE	HUAWEI
INVERTERS TYPE/QTY.	7
DC SYSTEM VOLTAGE	1100 VDC
AC SYSTEM VOLTAGE	400 VAC @ POI



AERIAL VIEW

SCALE: NT



LOCATION MA

SCALE: NT

APPLICABLE CODES & REGULATIONS

ISO 9001 - QUALITY MANAGEMENT SYSTEM
ISO 45001 - OCCUPATIONAL HEALTH & SAFETY
IEC 62548 - PHOTOVOLTAIC (PV) ARRAYS - DESIGN REQUIREMENTS
IEC 60364 - ELECTRICAL INSTALLATION OF BUILDINGS
IEC 60947 - LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR
I.S.10101-2020 NATIONAL RULES FOR ELECTRICAL INSTALLATION

SYSTEM DESCRIPTION & OVERVIEW.

- THIS PROJECT IS A FIXED TILT GROUND MOUNT SOLAR PHOTOVOLTAIC (PV) GRID-INTERCONNECTED SYSTEM WITH TOTAL CAPACITY OF 897.60 KWp AND 805.00 KWac.
- THE SYSTEM TO BE INSTALLED ON ROOFTOPS AT -
- THE ENERGY PRODUCTION WILL SUPPLY LOADS IN THESE BUILDINGS, AND REMAINING GENERATED ENERGY TO BE CONTROLLED ACCORDING TO EXPORT/IMPORT REGULATION OF NEW METERING SYSTEM, WITH APPLICABILITY TO FEED INTO THE UTILITY GRID IN THE FUTURE.
- THIS SYSTEM WILL BE CONNECTED TO THE SITE LV ELECTRICAL SYSTEM WITH APPROPRIATE PROTECTION. THE SYSTEM DOES NOT INCLUDE ANY BACKUP SYSTEM (e.g. BATTERY, GENERATOR).

SCOPE OF WORKS

- SUPPLY AND INSTALL PV MODULES WITH A NEW MOUNTING SYSTEM.
- SUPPLY AND INSTALL NEW PV INVERTERS AND ELECTRICAL EQUIPMENT TO CONNECT THE NEW SYSTEM TO THE EXISTING LV SWITCHBOARD.
- WORKS INCLUDES ALL REQUIRED PROTECTION AND CONTROL EQUIPMENTS AND SYSTEMS TO FULLY OPERATE THE SYSTEM ACCORDING TO LOCAL REGULATIONS AND CODES.

SHEETS INDEX

G001	COVER SHEET
G100	OVERALL SITE PLAN
G101	SITE ACCESS, LOGISTIC, AND UNLOADING
G101	ROOF LAYOUT
G200	SINGLE LINE DIAGRAM
E100	SCHEDULE AND CALCULATIONS
E200	STRING WIRING PLAN
E300	DC WIRES ROUTING
E400	DC WIRES ROUTING
E410	OVERALL CABLES ROUTING PLAN
E500	MOUNTING SYSTEM DETAILS
E600	ELECTRICAL DETAILS - ELEVATION
E700	LIST OF MATERIALS
E800	DATASHEETS

DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE

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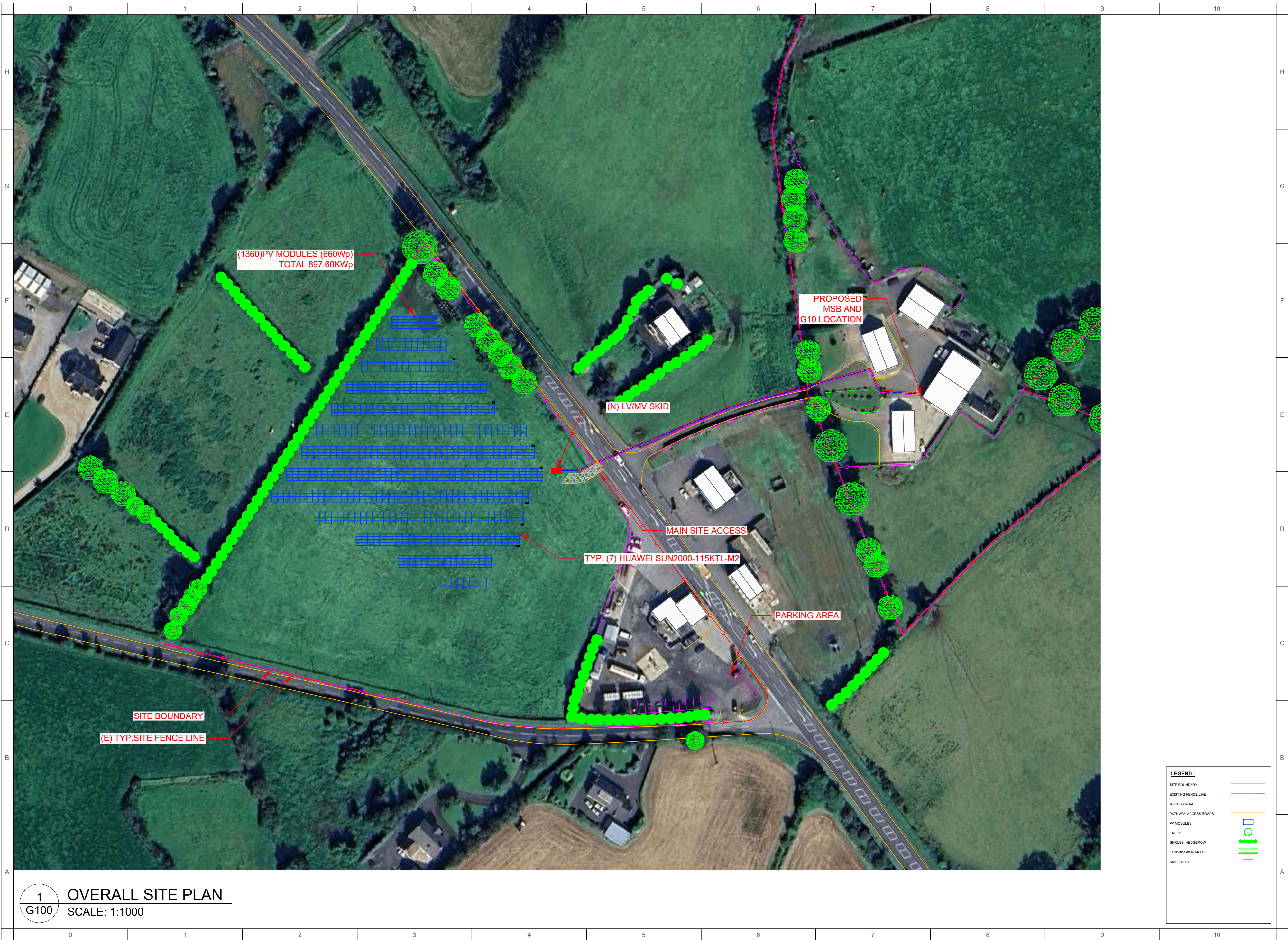
PROJECT

DC SYS. SIZE:	887.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210*210-M-66-MH-660W
MODULE QTY:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

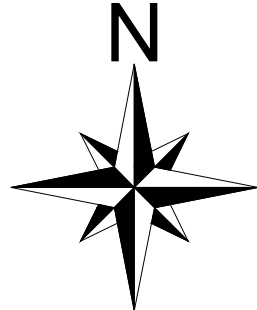
SHEET TITLE:

COVER PAGE

SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER: G001	



1 OVERALL SITE PLAN
G100 SCALE: 1:1000



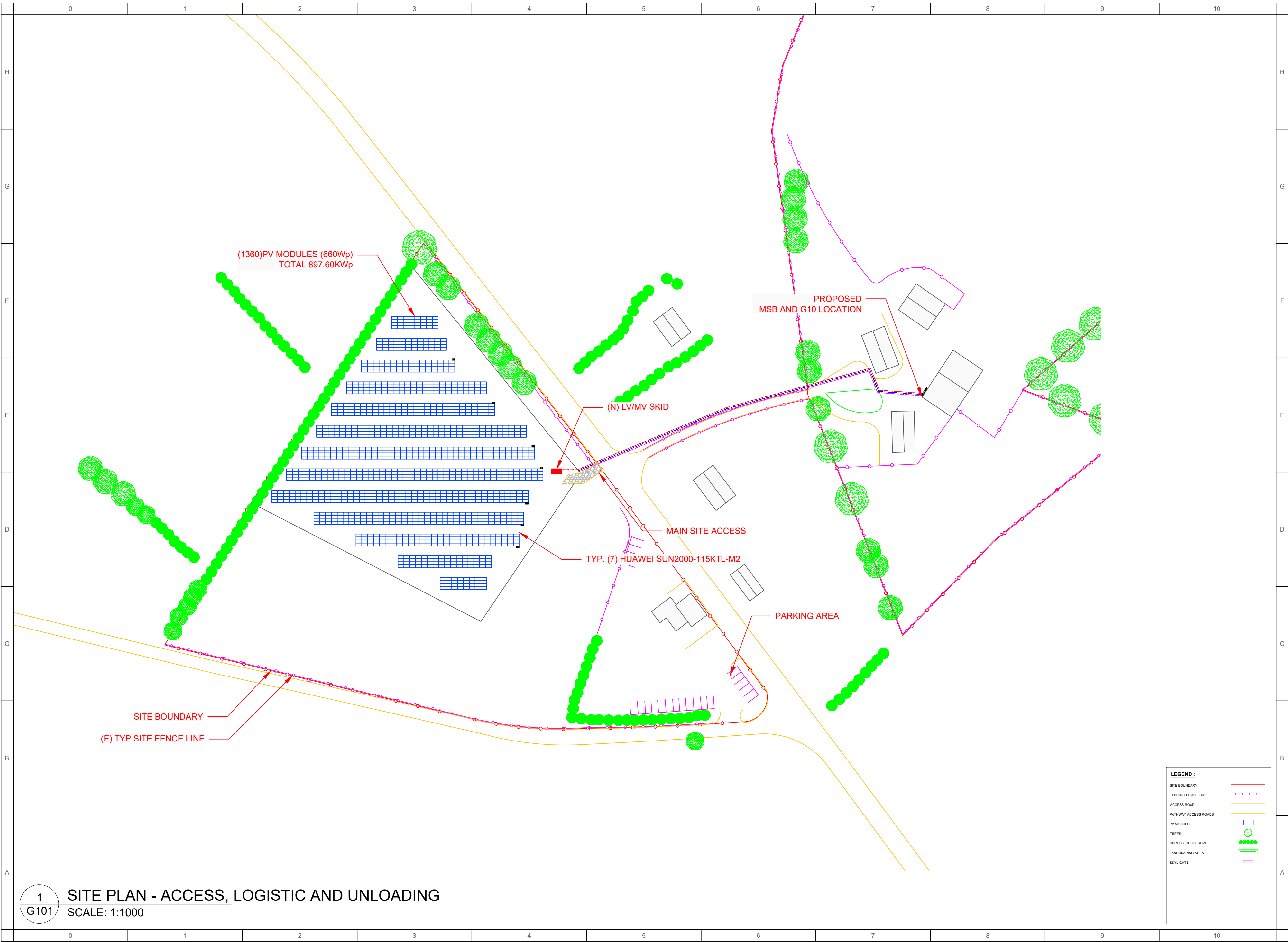
DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT	
DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:	
OVERALL SITE PLAN	
SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	G100



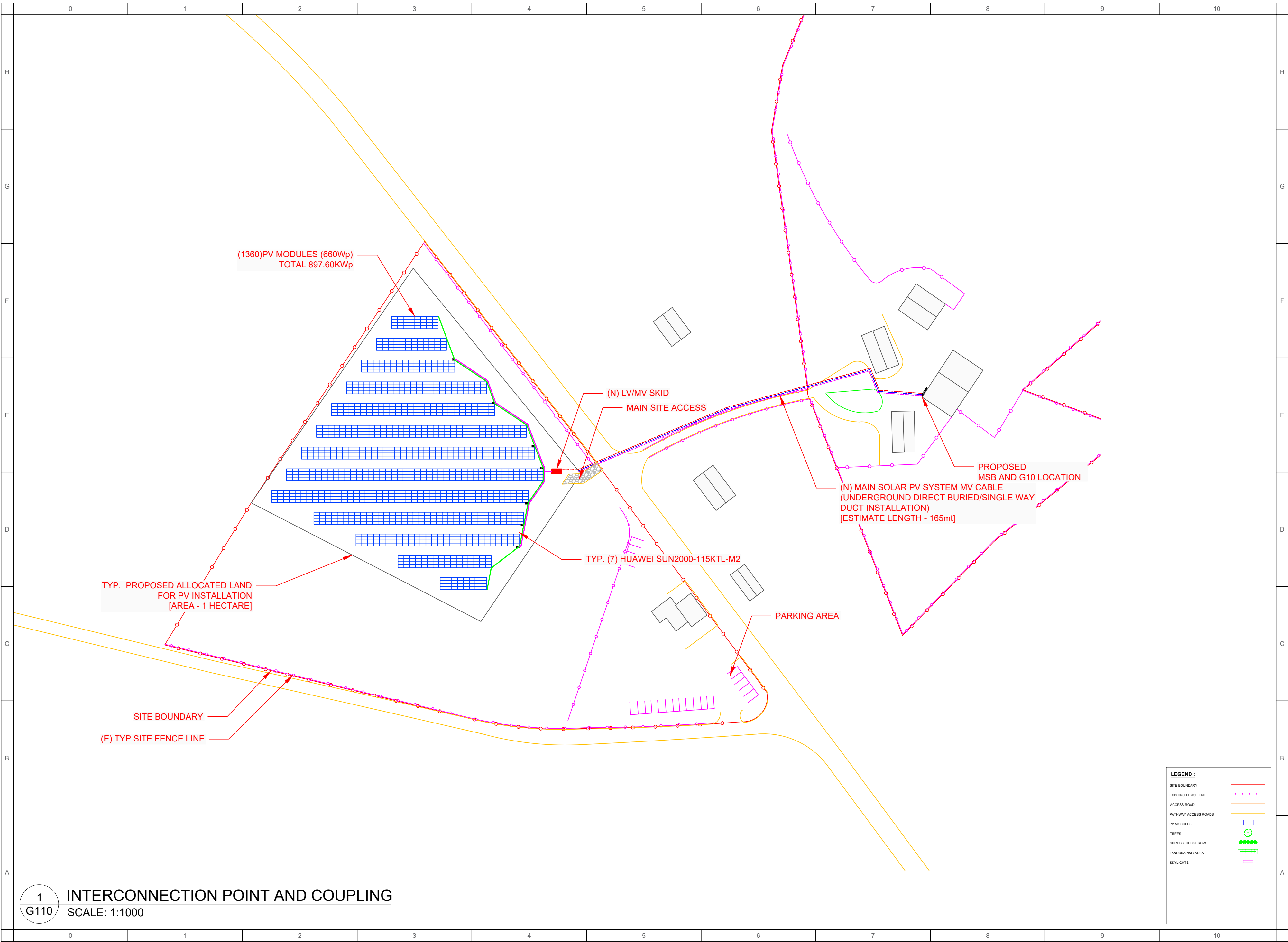
DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT	
DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:	
SITE PLAN ACCESS, LOGISTIC AND UNLOADING	
SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	G101



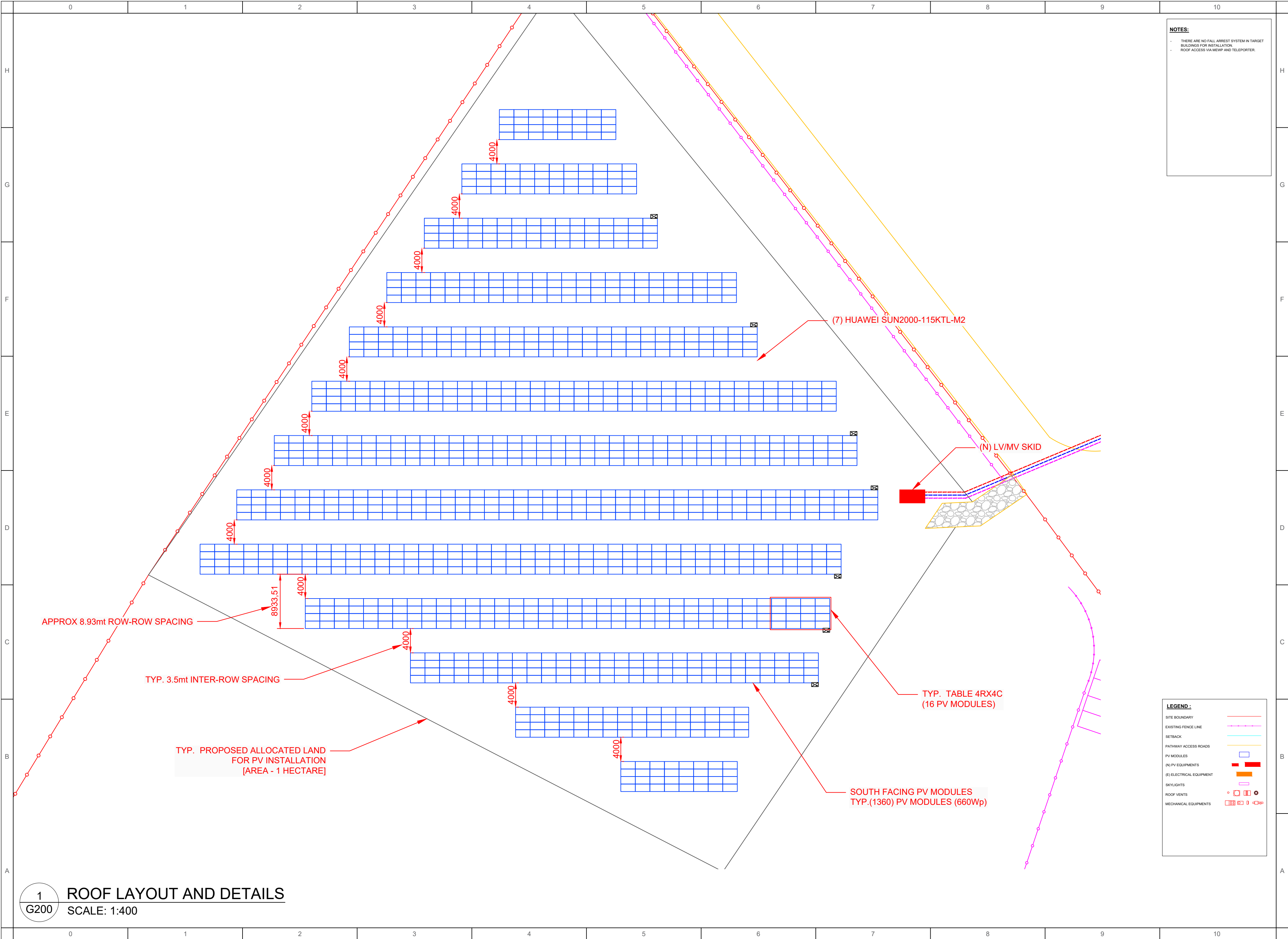
DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT	
DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:	
SITE PLAN ACCESS, LOGISTIC AND UNLOADING	
SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	G110



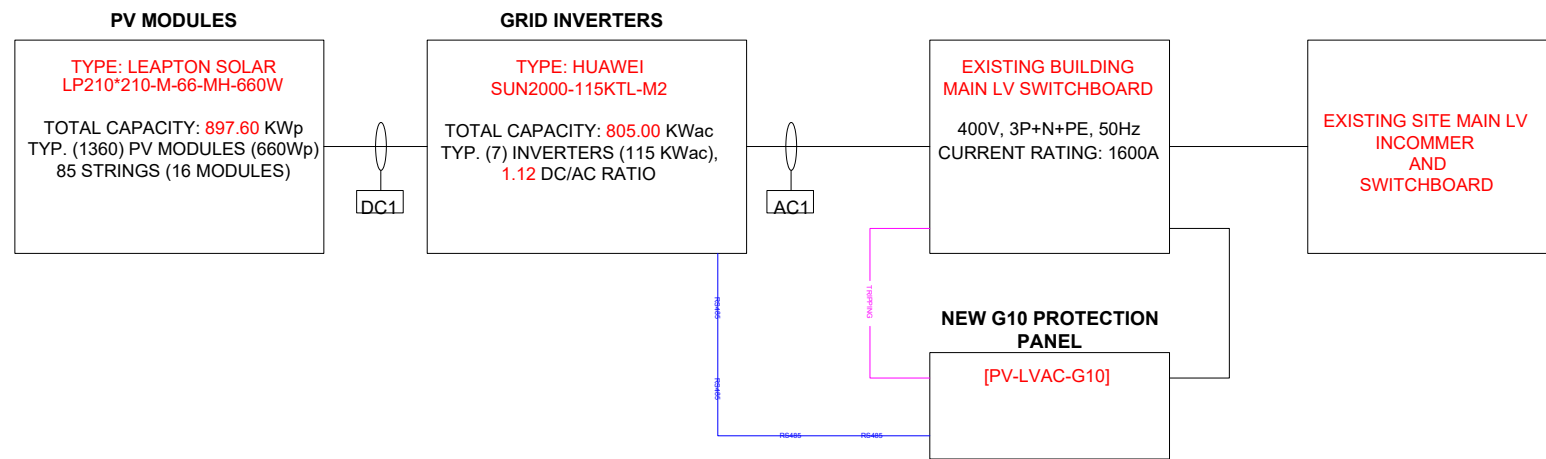
DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT	
DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:	
ROOF LAYOUT	
SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	G200



PV MODULES SPECIFICATIONS			
Model Number:	LEAPTON SOLAR LP210*210-M-66/MH-660W		
Power @ STC (Wp):	660	Voc Temp. Coef. (%/°C):	-0.25
Module efficiency STC:	21.25	Isc Temp. Coeff. (%/°C)	0.04
Voc (Vdc):	45.98	Max. System Voltage (Vdc):	1500
Vmp (Vdc):	38.01	Power Tolerance(W):	0~+5
Isc (A):	18.26	max. series fuse(A):	30
Imp (A):	17.36	Weight (Kg):	34
Dimensions (mm):	2384X1303X35		

ARRAY CONFIGURATION	
Inverters IDs:	INV1-INV-7
Inverters QTY.:	7
Inverter AC Power (KW):	805.00
PV Power STC (KW)	897.60
Inverter DC:AC Ratio:	1.1150
Modules QTY:	1360
Strings QTY:	85
PV Modules per String(QTY.):	(16x85)
Corrected Voc(@-6.7°C):	45.98
Max. Voc (V) [i.e. corrected Voc]:	777.98
Min. Operating Voltage (V) [Vmp]:	608
Max. Isc per MPPT(A)	18.6250
Max Operating Current per MPPT(A):	40.0000

INVERTERS SPECIFICATIONS			
Model Number:		HUAWEI SUN2000-115KTL-M2	
Nominal Power (kW ac):	115	Max. Array Power (KW)	-
Max. App. Power (kVA ac):	125	Max. DC Voltage (V):	1100
Rated AC Voltage (V):	400	DC Start Voltage (V)	200
Rated AC Grid Freq.(Hz):	50/60	MPPT Operating Voltage (V):	200-1000
Max. Out. Current (A) @400V:	182.3	Min. MPPT Voltage (V):	200
EU Efficiency:	98.4	Max. Current per MPPT(A):	30
Output Phases /line connection	3/3-(N)-PE	Max. Isc per MPPT(A):	40
		MPPT/Strings per MPPT:	10 / 2

1	AC CABLES SCHEDULE & CONFIGURATION
E200	SCALE: NTS

DC WIRES SCHEDULE FOR SOLAR PV SYSTEM									
TAG	STRINGS QUANTITIES	MAX. ESTIMATED WIRE LENGTH (mt)	# OF MODULES PER STRINGS	Total Vmp (Vdc)	Imp	CABLE CROSS SECTION AREA (mm2)	Max. Temp. of Cable	AVERAGE Vd (Vdc)	AVERAGE Vd (%)
DC-1	85	120	16	608	17.36	6	100	16.43	2.70

2 E200	AC CABLES SCHEDULE & CONFIGURATION SCALE: NTS
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AC CABLE SCHEDULE														
TAG	LABEL	FROM	TO	INSTALLION TYPE	INSTALLION SPECIFICATIONS	CABLE TYPE	CABLE SIZE	NO. OF PARALLEL CABLES	"SYSTEM VOLTAGE (V)"	"MAX. FULL LOAD CURRYING CURRENT (AMP)"	"BREAKER/ DISCONNECT SIZE (AMP)"	"ESTIMATED LENGTH (mt)"	"VOLTAGE DROP (V)"	"VOLTAGE DROP (%)"
AC1	(AC-PV)-(INV)	INV-1	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	65	7.382	1.85
AC1	(AC-PV)-(INV)	INV-2	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	40	4.453	1.14
AC1	(AC-PV)-(INV)	INV-3	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	14	1.590	0.40
AC1	(AC-PV)-(INV)	INV-4	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	5	0.568	0.14
AC1	(AC-PV)-(INV)	INV-5	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	18	2.044	0.51
AC1	(AC-PV)-(INV)	INV-6	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	27	3.066	0.77
AC1	(AC-PV)-(INV)	INV-7	[PV-LV-CSWB]	DIRECT BURIED	DEPTH OF BURIED = 60cm, SPACE = 30cm	AL/XLPE/LSF/AWG /LSF	(4X70mm²)+(1X35mm²)	1	400	227.87	225	36	4.089	1.02
AC2	(G10)-(MV)	[PV-LV-CSWB]	EXISTING SWITCHBOARD	FREE AIR	SPACE = CABLE DIAMETER	CU/XLPE/LSF/AWG /LSF	(4X240mm²)+(1X120mm²)	7	400	1595.1	1600	165	7.369	1.84

3 E200 AC CABLES SCHEDULE & CONFIGURATIONSCALE: NTS

DESIGN AND ENGINEERING

NOTES

[illegible]

PROJECT

DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210*210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:

**SCHEDULE AND
CALCULATION**

SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	E200

NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TELEPORTER.

DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE

NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

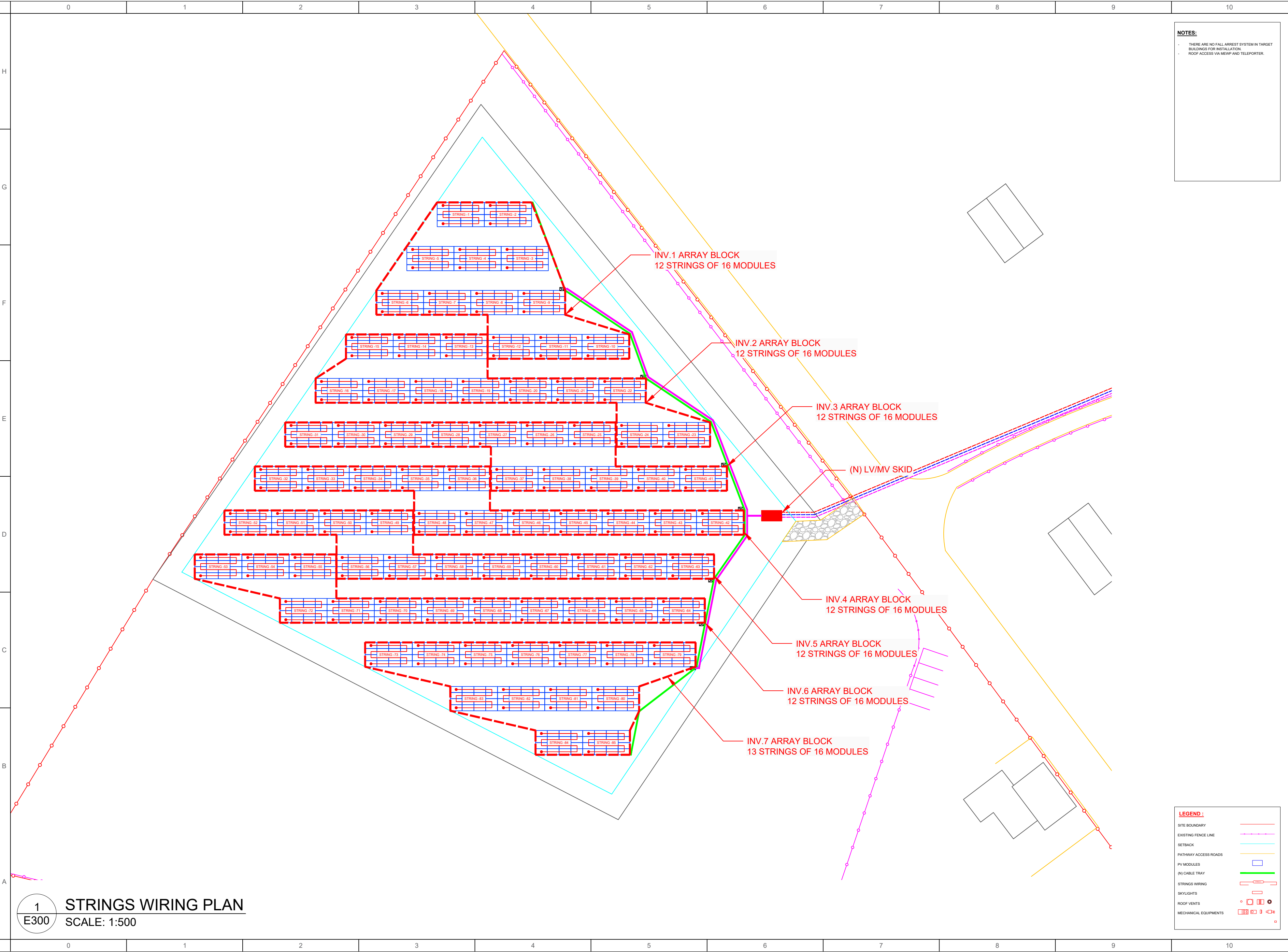
PROJECT

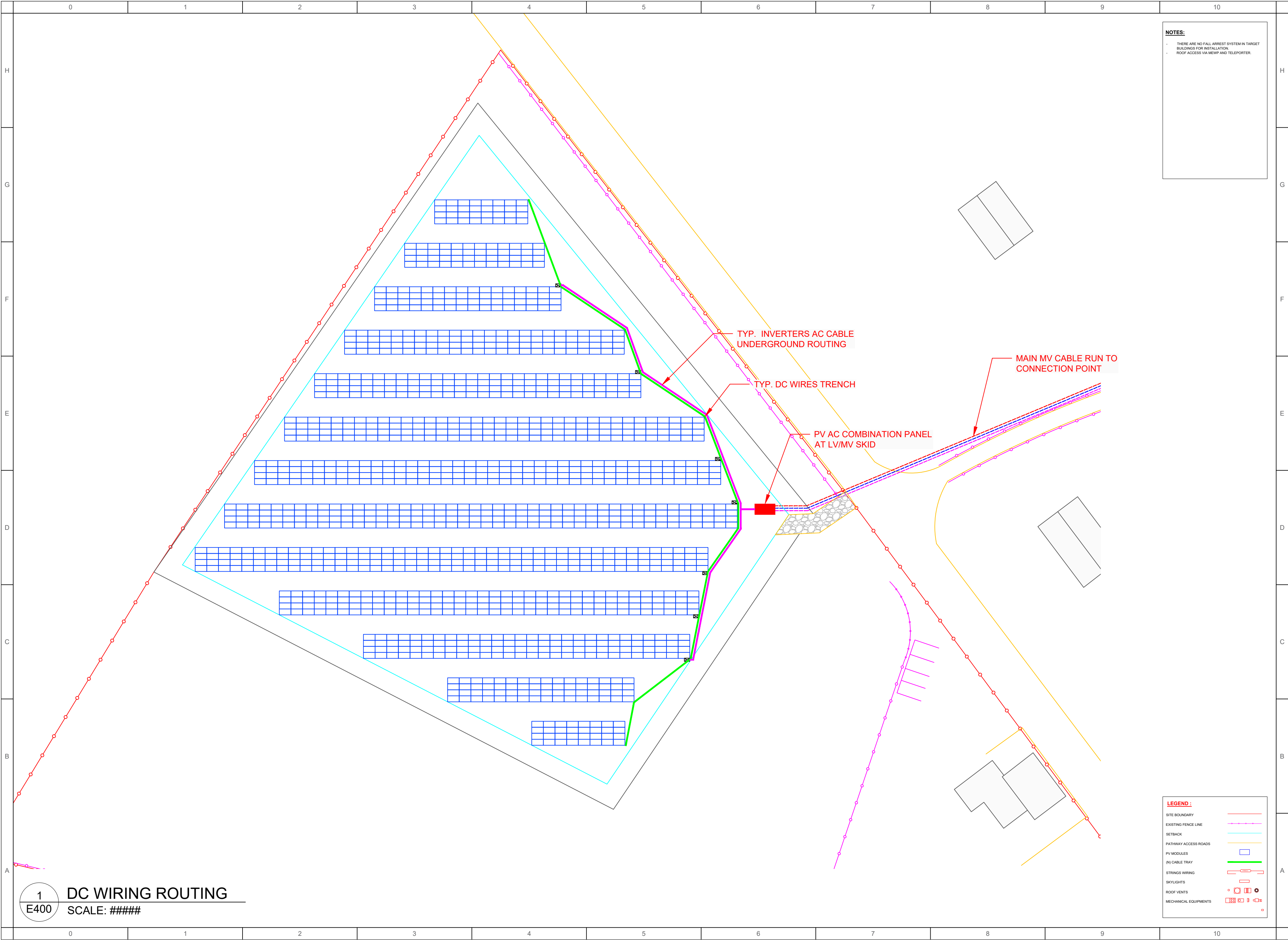
DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:

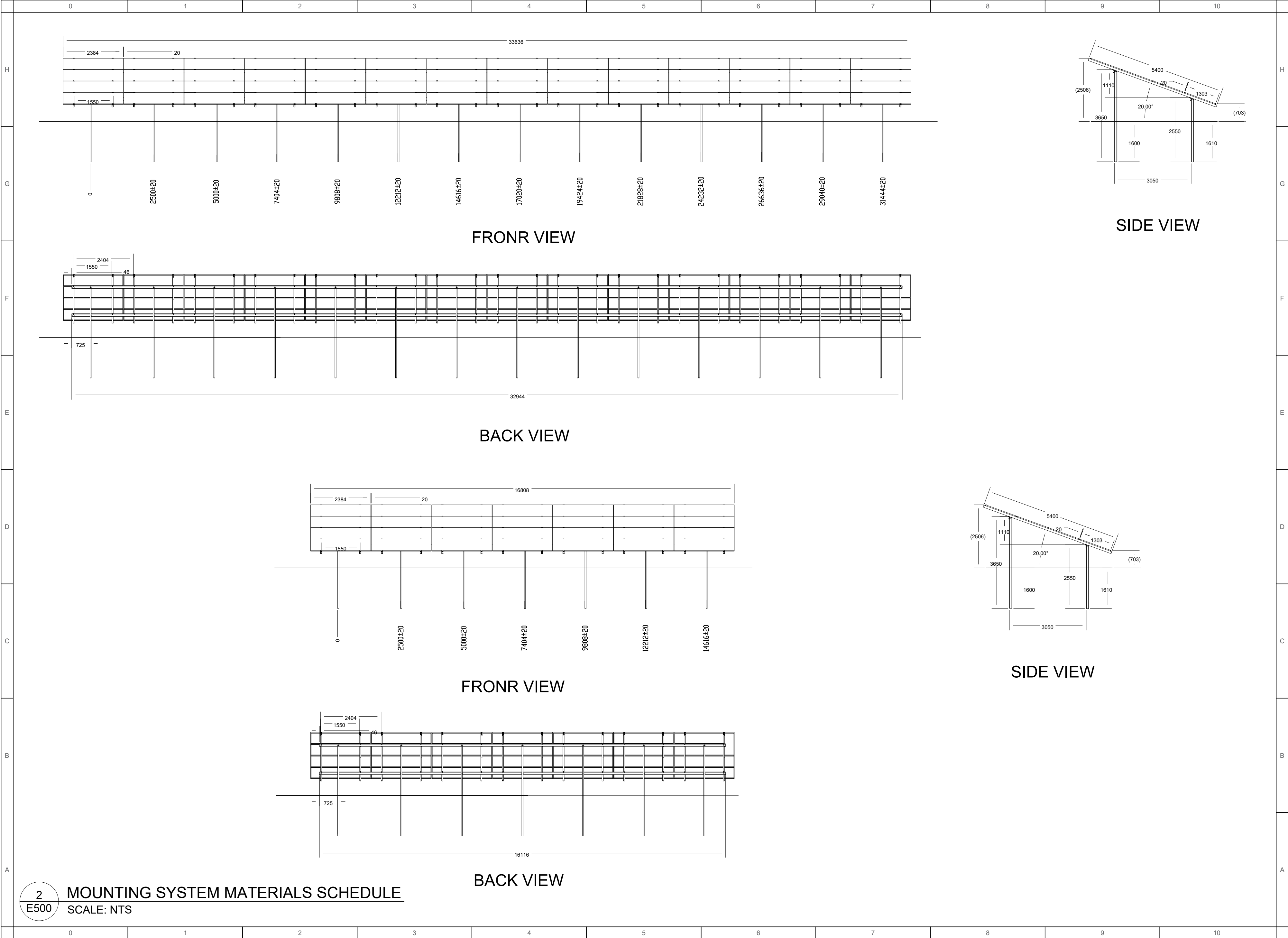
STRINGS WIRING PLAN

SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	E300





DESIGN AND ENGINEERING		
NOTES		
REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-
PROJECT		
DC SYS. SIZE: 897.60 KWDC		
AC SYS. SIZE: 805.00 KWAC		
MODULE TYPE: LEAPTON SOLAR		
MODULE QTY.: 1360		
INVERTER TYPE: HUAWEI SUN2000-115KTL-M2		
SHEET TITLE:		
STRINGS WIRING PLAN		
SHEET SIZE: A2		
PROJECT NO.: -		
DATE: -		
DESIGN BY: HH		
CHECKED BY: HH		
PM/PE: LB		
SHEET NUMBER: E400		



DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE		
NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT

DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210°210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:

MOUNTING SYSTEM DETAILS

SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	E500

SUN2000-115KTL-M2
Smart PV Controller



10
MPP Trackers



98.8% (@480V)
Max. Efficiency



String-level
Management



Smart I-V Curve Diagnosis
Supported



MBUS
Supported



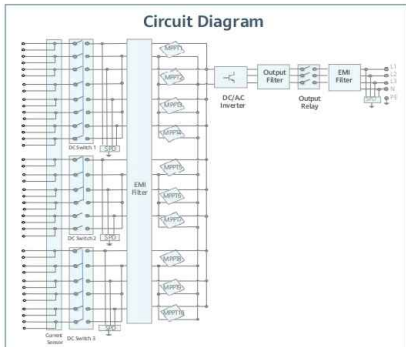
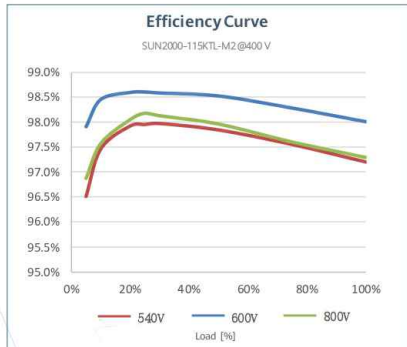
Support
Smart String Level
Disconnecter



Surge Arresters for
DC & AC



IP66
Protection



SOLAR.HUAWEI.COM/EL/

SUN2000-115KTL-M2
Technical Specification

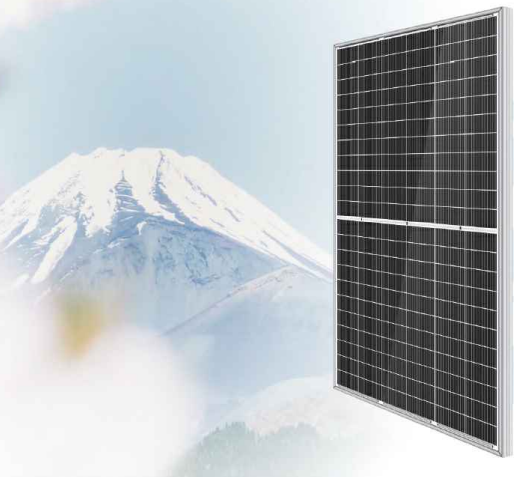
Technical Specification		SUN2000-115KTL-M2
Efficiency		
Max. efficiency		98.6% @400 V, 98.8% @480 V
European efficiency		98.4% @400 V, 98.6% @480 V
Input		
Max. Input Voltage ¹		1,100 V
Max. Current per MPPT		30 A
Max. Current per Input		30 A
Max. Short Circuit Current per MPPT		40 A
Start Voltage		200V
MPPT Operating Voltage Range ²		50V ~ 1,000 V
Nominal Input Voltage		600 V @400 Vdc, 720 V @480 Vdc
Number of MPP trackers		10
Max. Input number per MPPT tracker		2
Output		
Nominal AC Active Power		115,000 W
Max. AC Apparent Power		125,000 VA
Max. AC Active Power (cosφ=1)		125,000 W
Nominal Output Voltage		400 V / 480 V, 3W~(N)+PE
Rated AC Grid Frequency		50 Hz / 60 Hz
Nominal Output Current		166.0 A @400 V, 138.4 A @480 V
Max. Output Current		182.3 A @400 V, 151.9 A @480 V
Adjustable Power Factor Range		0.8 leading ~ 0.8 lagging
Max. Total Harmonic Distortion		< 3%
Protection		
Input-side Disconnection Device		Yes
Anti-Islanding Protection		Yes
AC Overcurrent Protection		Yes
DC Reverse-polarity Protection		Yes
PV-array String Fault Monitoring		Yes
DC Surge Arrester		Type II
AC Surge Arrester		Type I
DC Insulation Resistance Detection		Yes
Residual Current Monitoring Unit		Yes
Smart String Level Disconnecter		Yes
Communication		
Display		LED indicators, WLAN adaptor + FusionSolar APP
RS485		Yes
USB		Yes
Smart Dongle-4G		Smart Dongle ~ 4G / WLAN (Optional)
Monitoring BUS (MBUS)		Yes (Isolation transformer required)
General Data		
Dimensions (W x H x D)		1,035 x 700 x 365 mm
Weight (with mounting plate)		23 kg
Operating Temperature Range		-25°C ~ 60°C
Cooling Method		Smart Air Cooling
Max. Operating Altitude		4,000 m (13,123 ft.)
Relative Humidity		0 ~ 100%
DC Connector		Amphenol HeliSun HA
AC Connector		Waterproof Connector ~ OT/DT Terminal
Protection Degree		IP66
Topology		Transformerless
Nighttime Power Consumption		< 3.5 W
Standard Compliance (more available upon request)		
Certificate		EN 62109-1/-2, IEC 62109-1/-2, EN 9535, IEC 62116, IEC 61727, IEC 60666, IEC 61683
Grid Connection Standards		VDE-AR-N4105, EN 50549-1, EN 50549-2, RD 661, RD 1699, C10/11

¹ The maximum input voltage is the open link of the DC voltage. Any higher input DC voltage would probably damage inverter.
² Single DC input voltage beyond the operating voltage range may result in inverter tripping operation.

SOLAR.HUAWEI.COM/EL/



LP210*210-M-66-MH
Rated Power 650-670W



MBB Cell

New circuit design, lower internal current, lower internal resistance loss.



Higher Output Power

Module adopts 132 pcs of 210*210mm half cells, the maximum power can reach 670W.



Harsh Environmental Adaptability

Strict salt spray and ammonia corrosion test by TUV Nord.



Low Light Features

Higher performance under low light environment.



PID Protection

Ensure the attenuation probability caused by PID phenomenon is minimized.



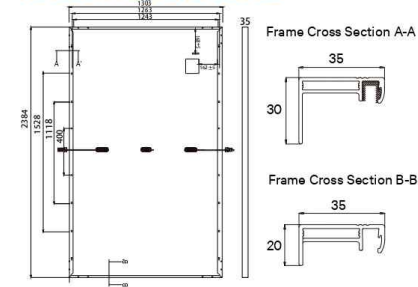
Load Capacity

Mechanical load tests including wind load 2400 Pa and snow load 5400 Pa done by TUV Nord.



Headquarter: Lepton Energy Co., Ltd.
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Tel: +86-512-88800088
info@leptonenergy.com
www.leptonpv.com

MECHANICAL DIAGRAMS



SPECIFICATIONS

Weight	34kg
Dimensions	2384mm*1303mm*35mm
Cell Dimensions	210*210mm
Cell Amount	66*2 pcs
Maximum System Voltage	1500V
Junction Box	IP68
Frame	Aluminum Alloy
Cable	4mm ² / N 320mm/1.320mm or customized length
Connector	MC4 compatible
Application Level	Class A

ELECTRICAL PARAMETERS AT STC

	650W	655W	660W	665W	670W
Open Circuit Voltage	45.58V	45.78V	45.98V	46.18V	46.38V
Short Circuit Current	18.16A	18.21A	18.26A	18.31A	18.36A
Maximum Power Voltage	37.61V	37.81V	38.01V	38.21V	38.41V
Maximum Power Current	17.28A	17.32A	17.36A	17.40A	17.44A
Module Efficiency	20.92%	21.09%	21.25%	21.41%	21.57%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL PARAMETERS AT NMOT

	491W	495W	499W	503W	507W
Open Circuit Voltage	42.30V	42.48V	42.67V	42.86V	43.04V
Short Circuit Current	14.89A	14.93A	14.97A	15.01A	15.06A
Maximum Power Voltage	34.86V	35.05V	35.24V	35.42V	35.61V
Maximum Power Current	14.09A	14.13A	14.16A	14.19A	14.23A
Module Efficiency	16.82%	16.94%	17.06%	17.18%	17.30%

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

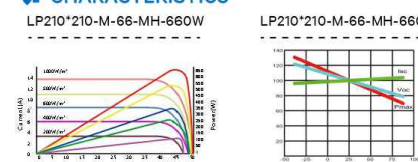
TEMPERATURE CHARACTERISTICS

NMOT	41±3°C	Temp Coefficient of ISC	+0.04%/°C
Temp Coefficient of VOC	-0.25%/°C	Temp Coefficient of Pmax	-0.34%/°C

PACKING CONFIGURATION

Modules/Pallet	32 Pieces	Modules/40'Container	576 Pieces
Packing Description	18 Pallets, Total=32x18=576 Pieces		

CHARACTERISTICS



MAXIMUM RATING

Output Tolerance	0~+5W
Operating Temperature	-40°C~+85°C
Wind Load/Snow Load	2400pa/5400pa
Fuse Current	30A



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SmartLogger3000B



Without SmartModule1000A



With SmartModule1000A



Smart

Connecting up to 150 inverters,
One-click commissioning



Simple

Deployment wizard allowed, including
parameters configuration, devices connection



Reliable

Safety improvement with built-in
lightning protection module

Technical Specification	SmartLogger3000B	SmartLogger3000B SmartModule1000A
Device Management		
Max. Number of Manageable Devices		200
Max. Number of Manageable Inverters		150
Communication Interface		
WAN	WAN x 1, 10 / 100 / 1,000 Mbps	LAN x 3, 10 / 100 / 1,000 Mbps
LAN	LAN x 1, 10 / 100 / 1,000 Mbps	SFP x 2, 100 / 1,000 Mbps
Optical Ethernet		MBUS x 1, 115.2 kbps, Compatible with PLC
MBUS		COA x 3, 1,200 / 2,400 / 4,800 / 9,600 / 19,200 / 115,200 bps
RS485		COA x 6, 1,200 / 2,400 / 4,800 / 9,600 / 19,200 / 115,200 bps
Digital / Analog Input / Output		DI x 4, DO x 2, AI x 4
Active DO		2
Lighting Protection Module		Yes
Communication Protocol		
Ethernet		Modbus-TCP, IEC 60870-5-104
RS485		Modbus-RTU, IEC 60870-5-103 (standard), DL / T645
Interaction		
LED		LED Indicator x 3
WEB		Embedded Web
USB		USB 2.0 x 1
APP		Communication by WLAN for Commissioning
Environment		
Operating Temperature Range		-40°C ~ 60°C (-40°F ~ 140°F)
Storage Temperature		-40°C ~ 70°C (-40°F ~ 158°F)
Relative Humidity (Non-condensing)		5% ~ 95%
Max. Operating Altitude		4,000 m (13,123 ft.)
Electrical		
AC Power Supply		100 V ~ 240 V, 50 Hz / 60 Hz
DC Power Supply		24 V, 0.8 A
Power Consumption		Typical 9 W, Max. 15 W
Mechanical		
Dimensions (W x H x D)		225 x 160 x 44 mm (8.9 x 6.3 x 1.7 inch)
Weight		350 x 160 x 44 mm (13.8 x 6.3 x 1.7 inch)
Protection Degree		IP20
Installation Options		Wall Mounting, DIN Rail Mounting, Tabletop Mounting, Integrated Inside SmartACU20000

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DESIGN AND ENGINEERING

NOTES

REVISION / RELEASE

NO.	DESCRIPTION	DATE
#1	ISSUED FOR CONSTRUCTION	-

PROJECT

DC SYS. SIZE:	897.60 KWDC
AC SYS. SIZE:	805.00 KWAC
MODULE TYPE:	LEAPTON SOLAR LP210*210-M-66-MH-660W
MODULE QTY.:	1360
INVERTER TYPE:	HUAWEI SUN2000-115KTL-M2

SHEET TITLE:

DATASHEETS

SHEET SIZE:	A2
PROJECT NO.:	-
DATE:	-
DESIGN BY:	HH
CHECKED BY:	HH
PM/PE:	LB
SHEET NUMBER:	E800