GENERAL NOTES

1.1.1 PROJECT NOTES:

1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.

1.1.3 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4: PV MODULES: UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE INVERTERS: UL 1741 CERTIFIED, IEEE 1547, 929, 519 COMBINER BOX(ES): UL 1703 OR UL 1741 ACCESSORY

1.1.4 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.

1.1.5 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING [NEC 110.3].

1.1.6 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

1.2.1 SCOPE OF WORK:

1.2.2 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE OFF-GRID PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE GROUND MOUNT ARRAY PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.

1.3.1 WORK INCLUDES:

1.3.2 PV GROUND MOUNT SYSTEM INSTALLATION - CUSTOM GROUND MOUNT SYSTEM

1.3.3 PV MODULE AND INVERTER INSTALLATION - PHILADELPHIA SOLAR PS-MNB108(HCBF)-430W / EG4 ELECTRONICS EG4 FLEXBOSS21 (240V)

1.3.4 PV EQUIPMENT GROUNDING

1.3.5 PV LOAD CENTERS (IF INCLUDED)

1.3.6 PV METERING/MONITORING (IF INCLUDED)

1.3.7 PV DISCONNECTS

1.3.8 PV GROUNDING ELECTRODE & BONDING TO (E) GEC

1.3.9 PV FINAL COMMISSIONING

1.3.10 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV

1.3.11 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

1.3.12 TRENCHING (IF NECESSARY)

SCOPE OF WORK

SYSTEM SIZE:	STC: 18 X 430W = 7.740KW PTC: 18 X 408.5W = 7.353KW (18) PHILADELPHIA SOLAR PS-MNB108(HCBF)-430W (1) EG4 ELECTRONICS EG4 FLEXBOSS21 (240V) (1) EG4 ELECTRONICS GRID BOSS (2) EG4-LIFE POWER PRO BATTERY 14.3KW
ATTACHMENT TYPE:	CUSTOM GROUND MOUNT SYSTEM
MSP UPGRADE:	NO

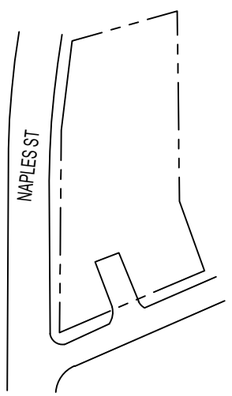
NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
ASSESSOR'S #: 33-0-155

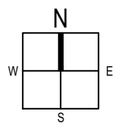
01 AERIAL PHOTO

NOT TO SCALE



02 PLAT MAP

NOT TO SCALE



SHEET LIST TABLE

PROJECT INFORMATION

OWNER
NAME: SAMEER SAJID

PROJECT MANAGER:
NAME:
PHONE:

CONTRACTOR:
NAME: SAMEER SAJID
PHONE:

AUTHORITIES HAVING JURISDICTION

BUILDING:	TOWN OF MILFORD
ZONING:	TOWN OF MILFORD
UTILITY:	NATIONAL GRID

DESIGN SPECIFICATIONS

OCCUPANCY:	II
CONSTRUCTION:	SINGLE-FAMILY
ZONING:	RESIDENTIAL
GROUND SNOW LOAD:	40 PSF
WIND EXPOSURE:	B
WIND SPEED:	120 MPH

APPLICABLE CODES & STANDARDS

BUILDING:	MASSACHUSETTS BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR), MASSACHUSETTS RESIDENTIONAL BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR)
ELECTRICAL:	NEC 2023
FIRE:	IFC 2021

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757

LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE
2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

COVER PAGE

DATE: 02.27.2025

DESIGN BY: B.A.

CHECKED BY: V.G.

REVISIONS

T-001.00
(SHEET 1)

2.1.1 SITE NOTES:

2.1.2 THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A WITH STORAGE BATTERIES.

2.1.3 THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING OR MECHANICAL.

2.1.4 PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26.

2.2.1 EQUIPMENT LOCATIONS

2.2.2 ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.

2.2.3 WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31 (A),(C) AND NEC TABLE 310.15 (B)(1).

2.2.4 JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.

2.2.5 ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.

2.2.6 ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.

2.2.7 ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

2.2.8 SOLAR ARRAY LOCATION SHALL BE ADJUSTED ACCORDINGLY TO MEET LOCAL SETBACK REQUIREMENTS.

2.3.1 STRUCTURAL NOTES:

2.3.2 RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.

2.3.3 JUNCTION BOX WILL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS. IT SHALL BE SEALED PER LOCAL REQUIREMENTS.

2.3.4 ALL PV RELATED ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.

2.4.1 GROUNDING NOTES:

2.4.2 GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.

2.4.3 PV SYSTEMS REQUIRE AN EQUIPMENT GROUNDING CONDUCTOR. ALL METAL ELECTRICAL EQUIPMENT AND STRUCTURAL COMPONENTS BONDED TO GROUND, IN ACCORDANCE WITH 250.134 OR 250.136(A). ONLY THE DC CONDUCTORS ARE UNGROUNDED.

2.4.4 PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.

2.4.5 METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURE CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).

2.4.6 EACH MODULE WILL BE GROUNDED USING WEEB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEEBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS.

2.4.7 THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.

2.4.8 GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119]

2.4.9 THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 AND AHJ.

2.4.10 DC PV ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION MEETING THE REQUIREMENTS OF 690.41(B)(1) THROUGH (3) TO REDUCE FIRE HAZARDS

2.6.1 DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:

2.6.2 DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).

2.6.3 DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.

2.6.4 BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED. THEREFORE BOTH MUST OPEN WHERE A DISCONNECT IS REQUIRED, ACCORDING TO NEC 690.13.

2.6.5 ISOLATING DEVICES OR EQUIPMENT DISCONNECTING MEANS SHALL BE INSTALLED IN CIRCUITS CONNECTED TO EQUIPMENT AT A LOCATION WITHIN THE EQUIPMENT, OR WITHIN SIGHT AND WITHIN 10 FT. OF THE EQUIPMENT. AN EQUIPMENT DISCONNECTING MEANS SHALL BE PERMITTED TO BE REMOTE FROM THE EQUIPMENT WHERE THE EQUIPMENT DISCONNECTING MEANS CAN BE REMOTELY OPERATED FROM WITHIN 10 FT. OF THE EQUIPMENT, ACCORDING TO NEC 690.15 (A).

2.6.6 PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12(A) THROUGH (D)

2.6.7 ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9, AND 240.

2.6.8 BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED, THEREFORE BOTH REQUIRE OVER-CURRENT PROTECTION, ACCORDING TO NEC 240.21. (SEE EXCEPTION IN NEC 690.9)

2.6.9 IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL1699B.

2.7.1 WIRING & CONDUIT NOTES:

2.7.2 ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.

2.7.3 ALL CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.

2.7.4 EXPOSED PV SOURCE CIRCUITS AND OUTPUT CIRCUITS SHALL USE WIRE LISTED AND IDENTIFIED AS PHOTOVOLTAIC (PV) WIRE [690.31 (C)]. PV MODULES WIRE LEADS SHALL BE LISTED FOR USE ON PV ARRAYS, ACCORDING TO NEC 690.31 (A).

2.7.5 PV WIRE BLACK WIRE MAY BE FIELD-MARKED WHITE [NEC 200.6 (A)(5)].

2.7.6 MODULE WIRING SHALL BE LOCATED AND SECURED UNDER THE ARRAY.

2.7.7 ACCORDING TO NEC 200.7, UNGROUNDED SYSTEMS DC CONDUCTORS COLORED OR MARKED AS FOLLOWS:

DC POSITIVE- RED, OR OTHER COLOR EXCLUDING WHITE, GRAY AND GREEN

DC NEGATIVE- BLACK, OR OTHER COLOR EXCLUDING WHITE, GRAY AND GREEN

2.7.8 AC CONDUCTORS COLORED OR MARKED AS FOLLOWS:

PHASE A OR L1- BLACK

PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE

PHASE C OR L3- BLUE, YELLOW, ORANGE*, OR OTHER CONVENTION

NEUTRAL- WHITE OR GRAY

* IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].

2.7.9 ELECTRICAL WIRES IN TRENCH SHALL BE AT LEAST 18IN. BELOW GRADE (RESIDENTIAL).

CONTRACTOR

SAJIDSOLAR

PHONE:

ADDRESS: 2 NAPLES ST
MILFORD, MA 01757

LIC. NO.:

HIC. NO.:

ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

NOTES

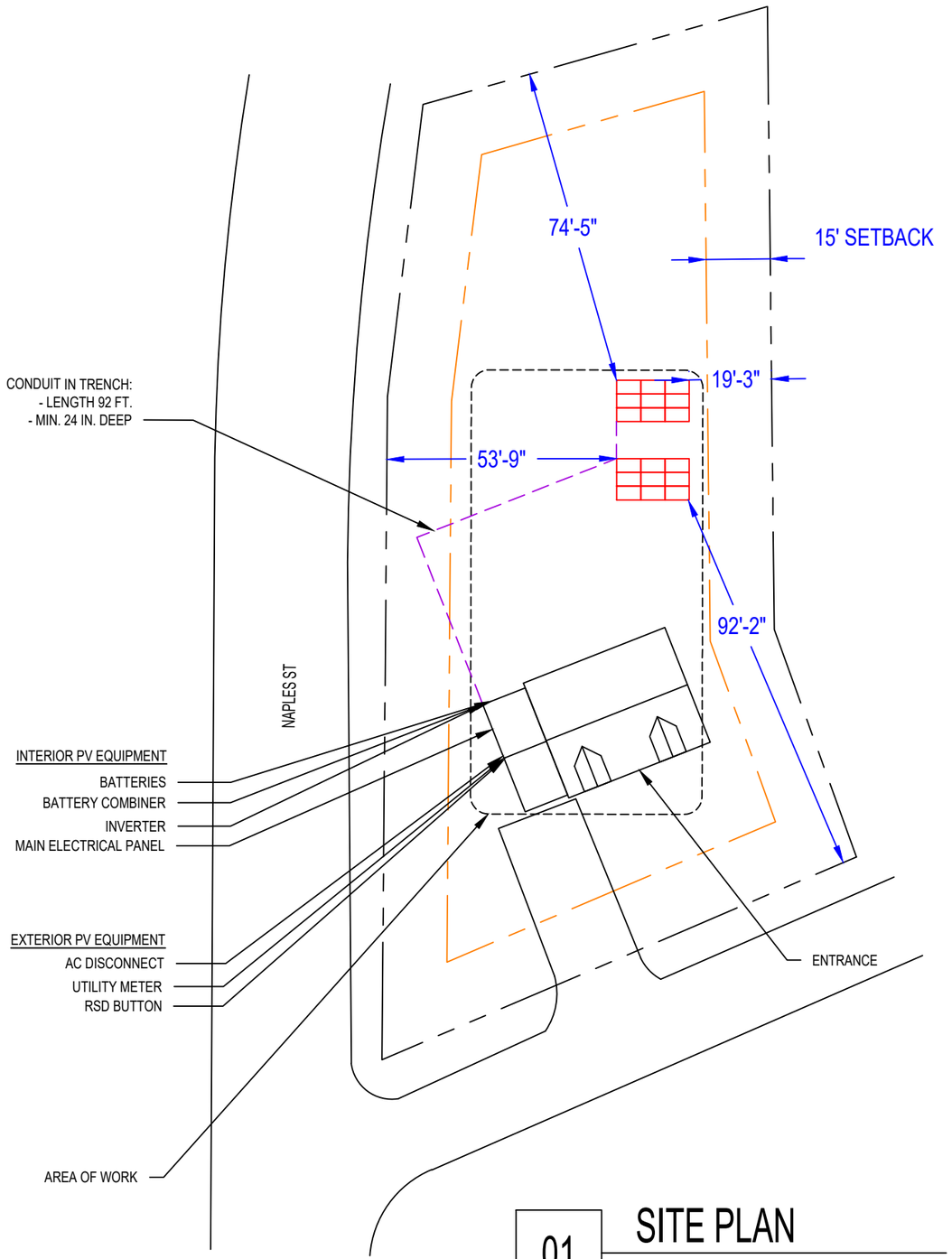
DATE: 02.27.2025

DESIGN BY: B.A.

CHECKED BY: V.G.

REVISIONS

G-001.00



01 SITE PLAN

1/32" = 1'-0"

0 16' 32'

N W E S

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

PROPERTY LINE

CONDUIT

SETBACK LINE

NOTE: ALL CONSTRUCTION WORK WILL ABIDE BY THE ESB 750 & ESB 756. INSTALLATIONS WILL NOT INCLUDE ANY KIND OF TAPS, METER COLLARS OR ADAPTERS INSIDE METER SOCKETS, METER CABINETS OR ANYWHERE THERE ARE UN-METERED CONDUCTORS. ANY METERING AND DISCONNECTS WILL NEED TO BE GROUPED, POTENTIALLY LOCATED OUTSIDE AND 24/7 LOCKABLE AND ACCESSIBLE, IN ACCORDANCE WITH ESB 7.1.1. ANY JUNCTION BOX OR TROUGH FOR LINE SIDE TAP WILL NEED TO BE 24/7 LOCKABLE AND ACCESSIBLE. ALL EQUIPMENT & FINAL EQUIPMENT LOCATIONS WILL NEED TO BE APPROVED BY NATIONAL GRID PRIOR TO INSTALLATION

STORAGE CHARGING CAPACITY 24 KWH
STORAGE CHARGING CAPABILITY
GENERATION ONLY
STORAGE DISCHARGING CAPABILITY
RESTRICTED ELECTRIC GRID OR ON SITE LOAD

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757

LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

SITE PLAN

DATE: 02.27.2025

DESIGN BY: B.A.

CHECKED BY: V.G.

REVISIONS

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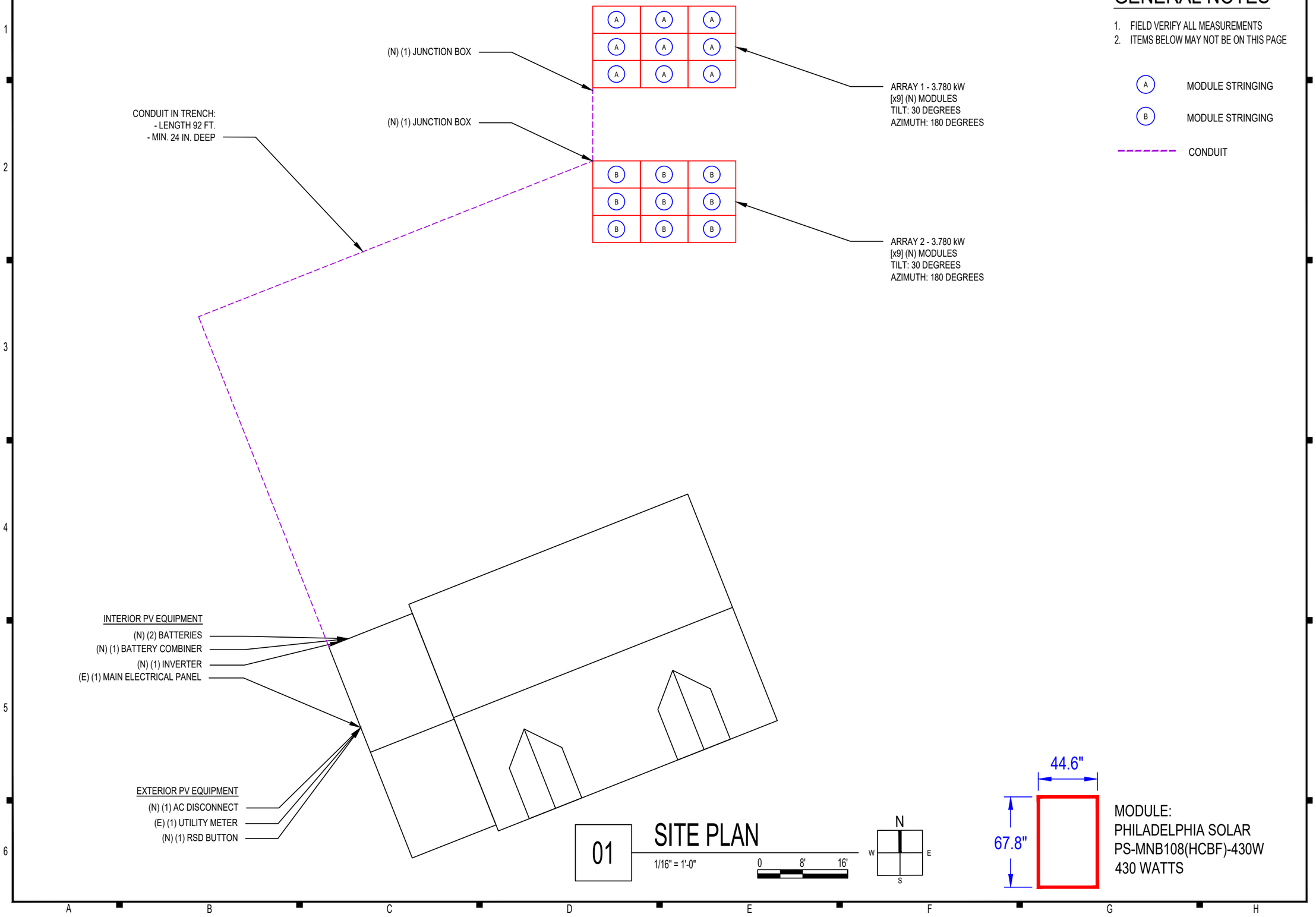


GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

A — MODULE STRINGING

B — MODULE STRINGING

CONDUIT

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757
LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

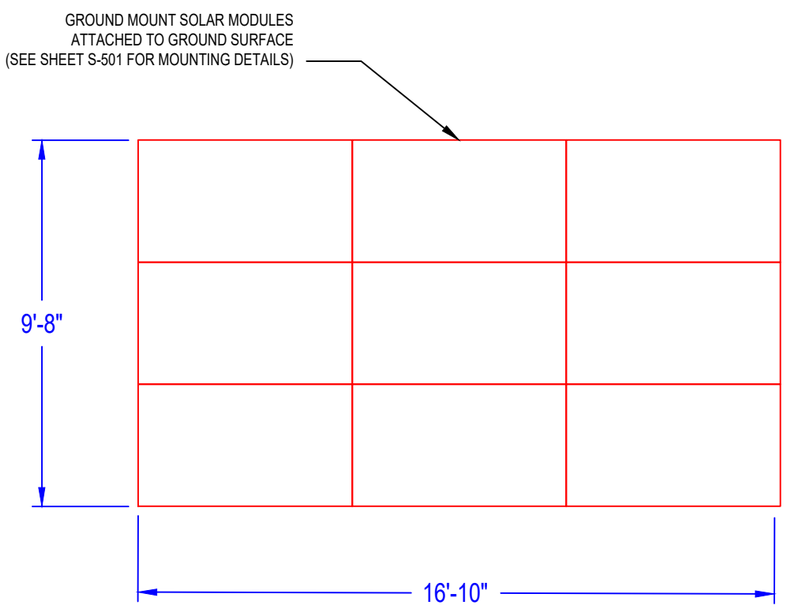
PAPER SIZE: 11" x 17" (ANSI B)

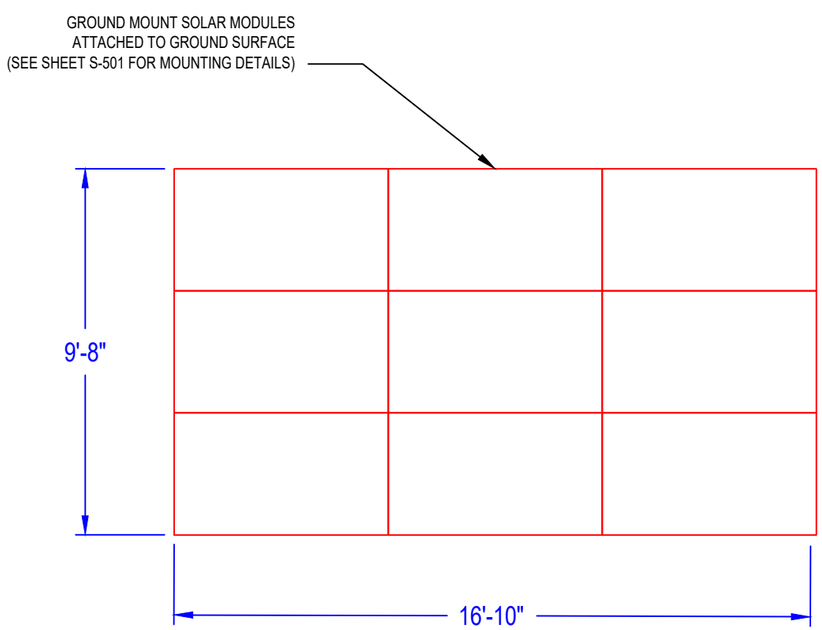
ELECTRICAL PLAN

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

A-102.00



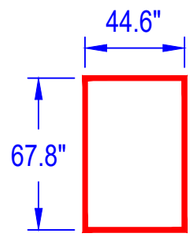


01 SOLAR ATTACHMENT PLAN

1/4" = 1'-0"

0 2' 4'

N
W E
S



MODULE:
PHILADELPHIA SOLAR
PS-MNB108(HCBF)-430W
430 WATTS

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757

LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

SOLAR ATTACHMENT PLAN

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

A-103.00

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

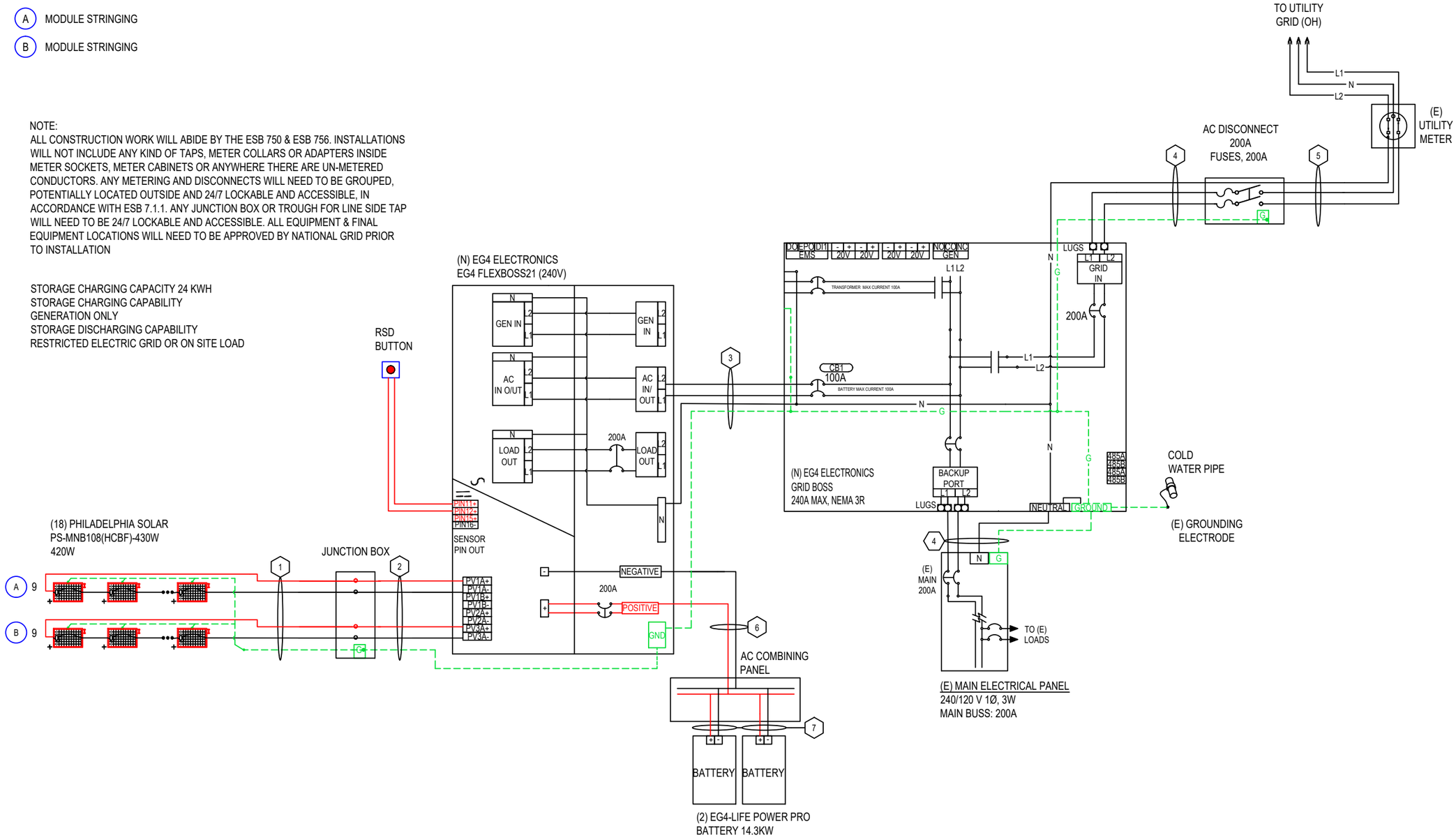
ID	TYPICAL	CONDUCTOR	CONDUIT	CURRENT-CARRYING CONDUCTORS IN CONDUIT	OCPD	EGC	TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	AMP. @ TERMINAL	VOLTAGE DROP
1	2	10 AWG PV WIRE, COPPER	FREE AIR	2	N/A	6 AWG BARE, COPPER	0.96 (31.1 °C)	1	17.66A	22.08A	55A	52.8A	75°C	50A	
2	1	10 AWG THWN-2, COPPER	0.75" DIA PVC-40	4	N/A	10 AWG THWN-2, COPPER	0.96 (31.1 °C)	1	17.66A	22.08A	40A	38.4A	75°C	35A	0.64%
3	1	3 AWG THWN-2, COPPER	1.25" DIA PVC-40	2	90A	8 AWG THWN-2, COPPER	0.96 (31.1 °C)	1	-	100A	115A	110.4A	75°C	100A	
4	2	3/O AWG THWN-2, COPPER	2" DIA PVC-40	2	200A	6 AWG THWN-2, COPPER	0.96 (31.1 °C)	1	-	200A	225A	216A	75°C	200A	
5	1	3/O AWG THWN-2, COPPER	2" DIA PVC-40	2	200A	-	0.96 (31.1 °C)	1	-	200A	225A	216A	75°C	200A	
6	1	3/O AWG THWN-2, COPPER	2" DIA PVC-40	2	200A	6 AWG THWN-2, COPPER	0.96 (31.1 °C)	1	-	200A	225A	216A	75°C	200A	
7	2	3/O AWG THWN-2, COPPER	2" DIA PVC-40	2	200A	6 AWG THWN-2, COPPER	0.96 (31.1 °C)	1	-	200A	225A	216A	75°C	200A	

(A) MODULE STRINGING

(B) MODULE STRINGING

NOTE:
ALL CONSTRUCTION WORK WILL ABIDE BY THE ESB 750 & ESB 756. INSTALLATIONS WILL NOT INCLUDE ANY KIND OF TAPS, METER COLLARS OR ADAPTERS INSIDE METER SOCKETS, METER CABINETS OR ANYWHERE THERE ARE UN-METERED CONDUCTORS. ANY METERING AND DISCONNECTS WILL NEED TO BE GROUPED, POTENTIALLY LOCATED OUTSIDE AND 24/7 LOCKABLE AND ACCESSIBLE, IN ACCORDANCE WITH ESB 7.1.1. ANY JUNCTION BOX OR TROUGH FOR LINE SIDE TAP WILL NEED TO BE 24/7 LOCKABLE AND ACCESSIBLE. ALL EQUIPMENT & FINAL EQUIPMENT LOCATIONS WILL NEED TO BE APPROVED BY NATIONAL GRID PRIOR TO INSTALLATION

STORAGE CHARGING CAPACITY 24 KWH
STORAGE CHARGING CAPABILITY
GENERATION ONLY
STORAGE DISCHARGING CAPABILITY
RESTRICTED ELECTRIC GRID OR ON SITE LOAD



CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757
LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

LINE DIAGRAM

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

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SYSTEM SUMMARY		
	INVERTER #1	
	MPPT #1	MPPT #2
MODULES IN SERIES	9	9
ARRAY VMP	291.78V	291.78V
ARRAY IMP	13.28A	13.28A
ARRAY VOC	345.78V	345.78V
ARRAY MAX VOC	385.4V	385.4V
ARRAY ISC	14.13A	14.13A
ARRAY STC POWER	7,740W	
ARRAY PTC POWER	7,353W	
MAX AC CURRENT	66.7A	
MAX AC POWER	12,000W	
DERATED (CEC) AC POWER	7,125W	

MODULES										
REF.	QTY.	MAKE AND MODEL	PMAX	PTC	ISC	IMP	VOC	VMP	TEMP. COEFF. OF VOC	FUSE RATING
PM1-18	18	PHILADELPHIA SOLAR PS-MNB108(HCBF)-430W	430W	408.5W	14.13A	13.28A	38.42V	32.42V	-0.096V/°C (-0.25%/°C)	30A

INVERTERS										
REF.	QTY.	MAKE AND MODEL	AC VOLTAGE	GROUND	OCPD RATING	RATED POWER	MAX OUTPUT CURRENT	MAX INPUT CURRENT	MAX INPUT VOLTAGE	CEC WEIGHTED EFFICIENCY
I1	1	EG4 ELECTRONICS EG4 FLEXBOSS21 (240V)	240V	FLOATING	90A	12000W	66.7A	2X26A, 1X15A	600V	96.9%

DISCONNECTS				
REF.	QTY.	MAKE AND MODEL	RATED CURRENT	MAX RATED VOLTAGE
SW1	1	EATON DG224NRK OR EQUIV.	200A	240VAC

OCPDS			
REF.	QTY.	RATED CURRENT	MAX VOLTAGE
CB1	1	100A	600VDC
F1-2	2	200A	600VDC

ASHRAE EXTREME LOW	-20.9°C (-5.6°F), SOURCE: NORTH CENTRAL STATE (41.92°; -71.48°)
ASHRAE 2% HIGH	31.1°C (88°F), SOURCE: NORTH CENTRAL STATE (41.92°; -71.48°)

CONTRACTOR

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SAJID RESIDENCE

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MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

DESIGN TABLES

DATE: 02.27.2025

DESIGN BY: B.A.

CHECKED BY: V.G.

REVISIONS

E-602.00

LABELING NOTES
1.1 LABELING REQUIREMENTS BASED ON THE 2020 NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE 608.12, OSHA STANDARD 1910.145, ANSI Z535
1.2 MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
1.3 LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
1.4 LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8" AND PERMANENTLY AFFIXED.
1.5 ALERTING WORDS TO BE COLOR CODED. "DANGER" WILL HAVE RED BACKGROUND; "WARNING" WILL HAVE ORANGE BACKGROUND; "CAUTION" WILL HAVE YELLOW BACKGROUND. [ANSI Z535]
1.6 ALL SIGNAGE MUST BE PERMANENTLY ATTACHED AND BE WEATHER RESISTANT/SUNLIGHT RESISTANT AND CANNOT BE HAND-WRITTEN PER NEC 110.21(B)

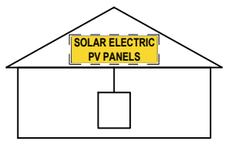
⚠ WARNING
ELECTRICAL SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL 1
AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (2" X 4").
[NEC 690.13].

⚠ WARNING
POWER SOURCE
OUTPUT CONNECTION
DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL 2
AT POINT OF INTERCONNECTION OVERCURRENT DEVICE (2" X 4").
[NEC 705.12(B)(3)(2)].

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN



TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY

LABEL 3
AT RAPID SHUTDOWN SYSTEM (3 3/4" X 5 1/4"). [NEC 690.56(C)(1)(A)].

PHOTOVOLTAIC POWER SOURCE

LABEL 4
AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS (5 3/4" X 1 1/8").
[NEC 690.31(G)]

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL 5
AT RAPID SHUTDOWN DISCONNECT SWITCH (5 1/4" X 2").
[NEC 690.56(C)(3)].

⚠ CAUTION
MULTIPLE SOURCES OF POWER

LABEL 6
AT UTILITY METER (5 3/4" X 1 1/8")
[NEC 690.56(B)]

⚠ WARNING
THREE POWER SUPPLY
SOURCES: UTILITY GRID, BATTERY AND PV SOLAR ELECTRIC SYSTEM

LABEL 7
AT POINT OF INTERCONNECTION (2 3/4" X 1 5/8").
[NEC 705.12(B)(3)]

⚠ WARNING
SOLAR ELECTRIC CIRCUIT BREAKER IS BACKFED

LABEL 8
AT POINT OF INTERCONNECTION (2" X 1").
[NEC 705.12(B)(3)]

INTERACTIVE PHOTOVOLTAIC SYSTEM CONNECTED
PHOTOVOLTAIC SYSTEM DISCONNECT LOCATED
WEST SIDE OF THE HOUSE

DIRECTORY
PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION (5 3/4" X 1 1/8").
[NEC 690.56(B)]

WHERE THE PV SYSTEMS ARE REMOTELY LOCATED FROM EACH OTHER, A DIRECTORY IN ACCORDANCE WITH 705.10 SHALL BE PROVIDED AT EACH PV SYSTEM DISCONNECTING MEANS.
PV SYSTEM EQUIPMENT AND DISCONNECTING MEANS SHALL NOT BE INSTALLED IN BATHROOMS
[NEC 690.4(D),(E)]

PHOTOVOLTAIC SOLAR AC DISCONNECT

LABEL 9
AT EACH AC DISCONNECTING MEANS (4" X 1").
[NEC 690.13(B)].

PHOTOVOLTAIC SOLAR DC DISCONNECT

LABEL 10
AT EACH DC DISCONNECTING MEANS (4" X 1").
[NEC 690.13(B)].

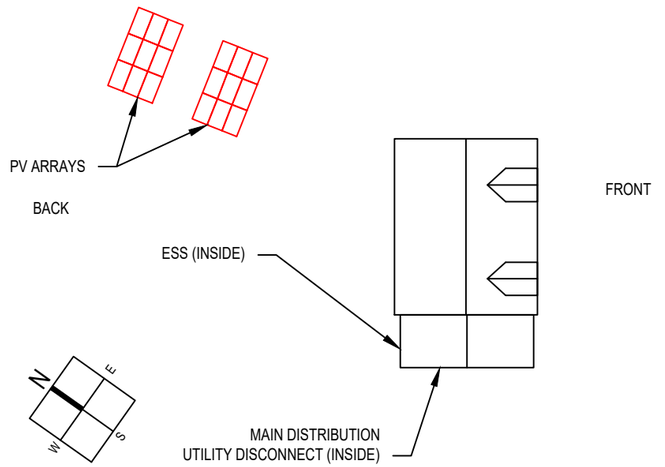
DIRECT CURRENT
PHOTOVOLTAIC POWER SOURCE
MAXIMUM VOLTAGE 385.4 VDC
MAX CIRCUIT CURRENT 14.13 AMPS

LABEL 12
AT EACH DC DISCONNECTING MEANS (3" X 4").
[NEC 690.53].

AC DISCONNECT
PHOTOVOLTAIC SYSTEM
POWER SOURCE
RATED AC OUTPUT CURRENT 66.7 AMPS
NOMINAL OPERATING AC VOLTAGE 240 VOLTS

LABEL 11
AT POINT OF INTERCONNECTION, MARKED AT DISCONNECTING MEANS (4" X 2").
[NEC 690.54]

!CAUTION!
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM GROUND MOUNTED SOLAR ARRAYS WITH SAFETY DISCONNECTS AS SHOWN:



CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757
LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

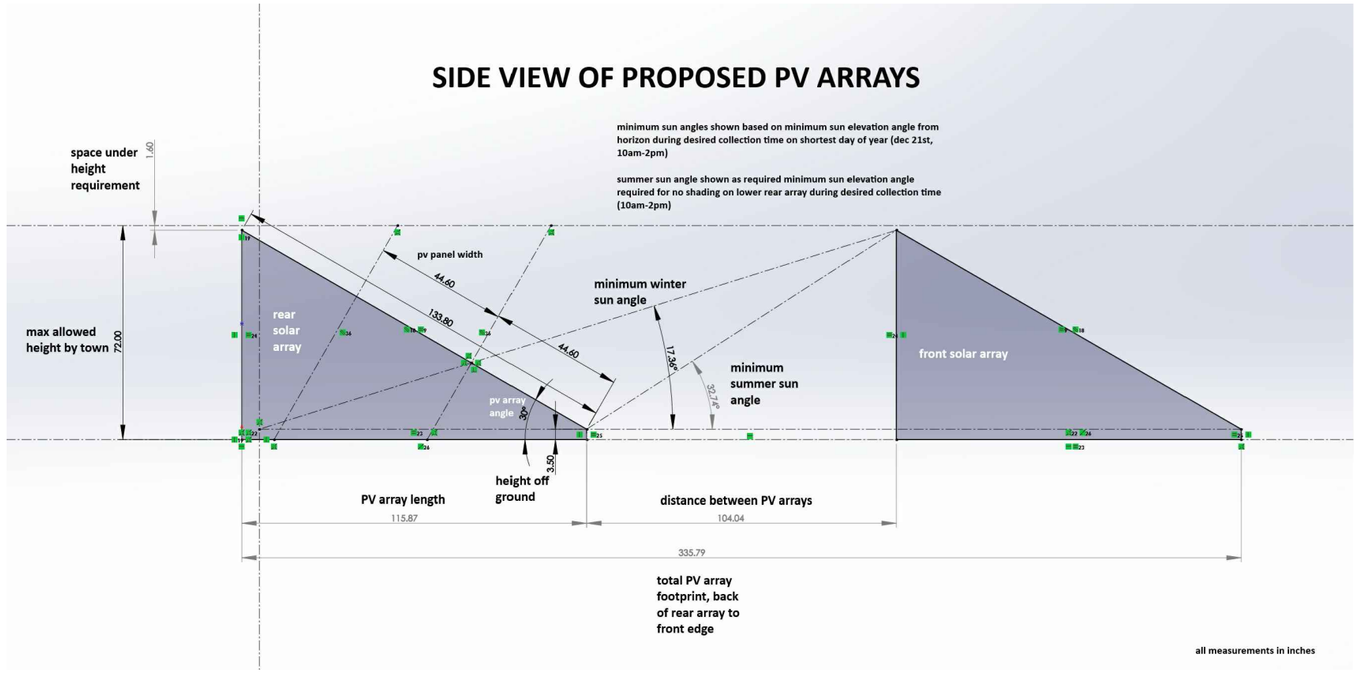
PAPER SIZE: 11" x 17" (ANSI B)

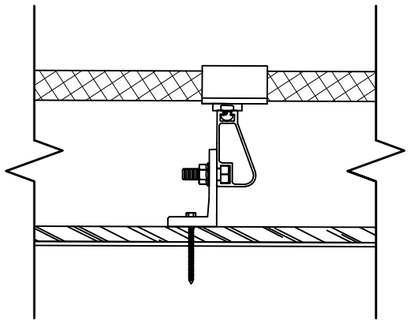
PLACARDS

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

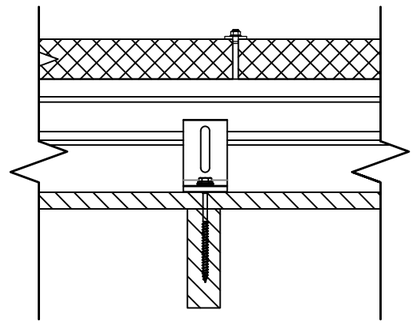
E-603.00





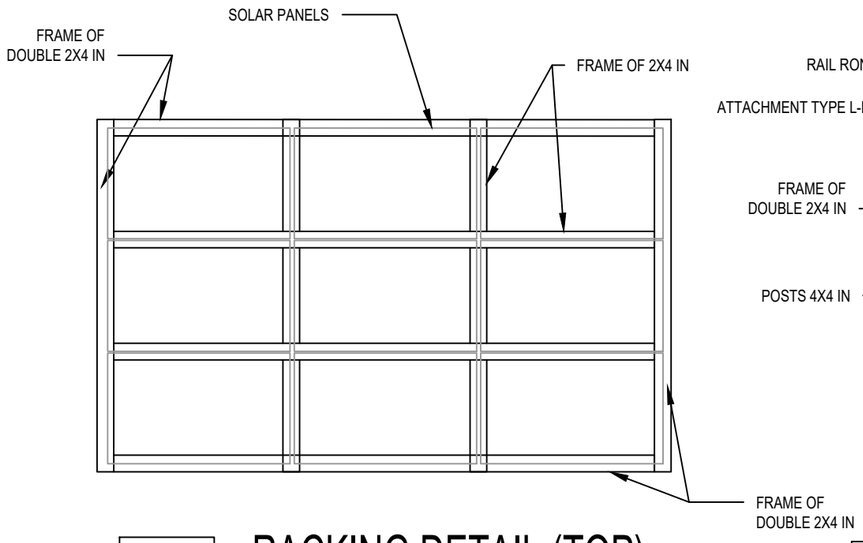
D3 DETAIL (TRANSVERSE)

NOT TO SCALE



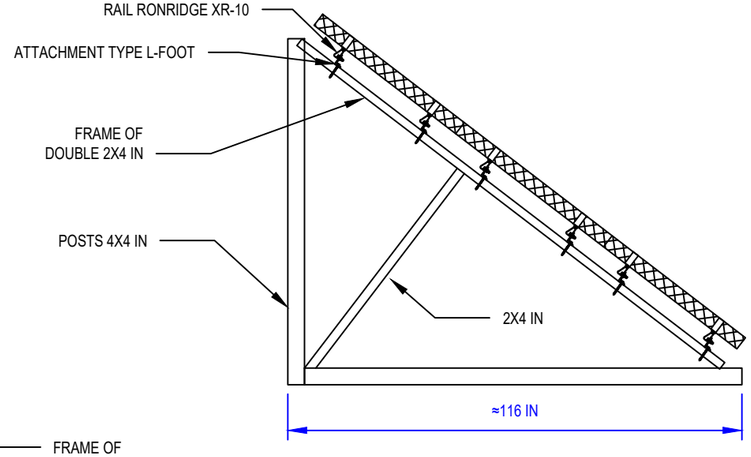
D4 DETAIL (LONGITUDINAL)

NOT TO SCALE



D1 RACKING DETAIL (TOP)

NOT TO SCALE



D2 RACKING DETAIL (TRANSVERSE)

NOT TO SCALE

SHEET KEYNOTES

1. MODULE MANUFACTURER: PHILADELPHIA SOLAR
2. MODULE MODEL: PS-MNB108(HCBF)-430W
3. MODULE LENGTH: 67.8"
4. MODULE WIDTH: 44.6"
5. MODULE WEIGHT: 48.5 LBS.
6. SEE SHEET A-103 FOR DIMENSION(S)
7. MIN. SETBACK REQUIREMENT: 10 FT.
8. TOTAL AREA: 377.99 SQ. FT.
9. RACKING MANUFACTURER (OR EQUIV.):GROUND MOUNT
10. RACKING MODEL (OR EQUIVALENT): CUSTOM GROUND MOUNT SYSTEM
11. WIND EXPOSURE: B
12. WIND SPEED: 120 MPH
13. ARRAY TILT: 30 DEGREES

CONTRACTOR

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LIC. NO.:
HIC. NO.:
ELE. NO.:

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MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

ASSEMBLY DETAILS

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

S-501.00

(SHEET 9)

Philadelphia Solar's Mono-Crys-talline N-type modules with power up to **440Wp** are produced using the state-of-the-art (automated) robotic production lines. These modules are suitable to be used for most electrical power applications and have excellent durability to prevailing weather conditions

CERTIFICATIONS

UL 61215 / UL 61730
IEC 61215 / IEC 61730
CSA C22.2#61730:2019
HALT TEST Highly Accelerated Life And Extended Reliability Test
IEC 61853 PAN File
IEC TS 62804 PID Resistance
IEC 60068 Dust and Sand Resistance
IEC 62716 Ammonia Resistance
IEC 61701 Salt Mist Resistance
Bankability Report
EN ISO 9001: 2015 Quality Management System
EN ISO 14001: 2015 Environmental Management System
EN ISO 45001: 2018 Occupational health and safety management systems

APPLICATIONS

On-Grid Commercial/ Industrial Roof-Tops
Off-Grid Systems (Including Lighting Systems)
Solar Power Plants

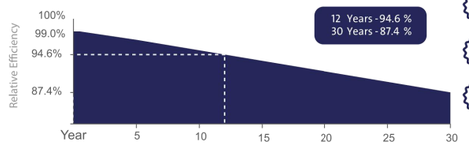
FEATURES

EUPD RESEARCH TOP BRAND PV MODULES 2024

Made In Jordan

- Power output increases by 5-25% from the backside resulting in significantly reduced LCOE and (IRR).
- Withstand High Mechincal load : Front (5400 Pascal) Back (5400 Pascal)
- Exceptional Anti-PID performance through the use of optimized mass-production processes and strict materials control.
- Improved light trapping and current collection technology enhance module power output and reliability.
- Less partial shading current mismatch loss so more power output.
- Better temperature coefficients come from half-cell design.

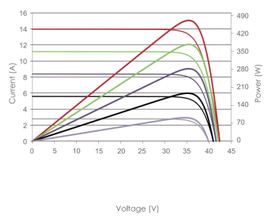
LINEAR PERFORMANCE WARRANTY



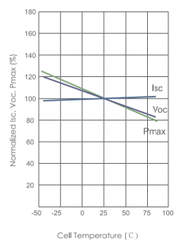
- **12** Year Product Warranty
- **30** Year Linear Power Warranty
- Only **-0.4%** Annual Degradation

Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (430W)



Temperature Dependence of Isc,Voc,Pmax



QP-04-CAD/Rev.3

ELECTRICAL CHARACTERISTICS

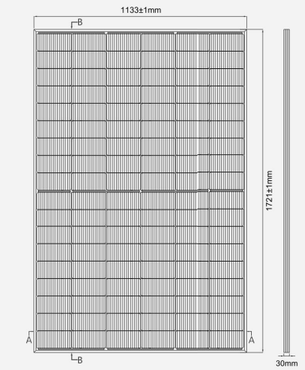
POWER AT STC	425 W	430 W	435 W	440 W
Short Circuit Current - Isc (A)	14.05	14.13	14.22	14.30
Maximum Power Current - Impp (A)	13.23	13.28	13.32	13.36
Open Circuit Voltage - Voc (V)	38.29	38.42	38.50	38.63
Maximum Power Voltage - Vmpp (V)	32.23	32.49	32.76	32.98
Module Efficiency - η' (%)	21.80%	22.05%	22.31%	22.57%
Bifaciality Ratio (%)	80% ± 5			
Power tolerance (%)	0~+3%			

Values at Standard Test Conditions STC (Air Mass AM 1.5 , Irradiance 1000 W/m² , Cell Temperature 25° C).

MATERIAL CHARACTERISTICS

Characteristics	Value
Cells per Module	108 (54x 2)
Cell Type	N Type Mono-Crystalline
Front Surface	3.2mm Tempered AR Coated Glass
Back Cover	Transparent Backsheet
Frame	Anodized Aluminum (Black/Silver)
Junction Box	IP 68 With original MC4
Cable Length	1200mm Cable length could be customized
Fire Classification	Type 1

MODULE DRAWINGS



THERMAL CHARACTERISTICS

Characteristics	Value
Open Voltage Temperature Coefficient VOC (%/C°)	-0.25
Short Circuit Current Temperature Coefficient ISC (%/C°)	+0.046
Power Temperature Coefficient PMP (%/C°)	-0.30
NOCT (°C)	45±2

OPERATING CONDITIONS

Maximum Sytem Voltage - Vmax (V)	1500
Maximum Series Fuse (A)	30
Operating Temperature Range (°C)	IEC: -40 to +85 UL: -40 to +90

PHYSICAL CHARACTERISTICS

Characteristics	Value
Module Dimensions (mm)	1721 x 1133 x 30
Module Weight (kg)	20.5±1Kg

Packaging	Value
Modules per Pallet	37
40 Feet High-Cube Container	962 Modules

Mechanical Load**	Value
Max Static load (Front)	5400 Pa
Max Static load (Back)	5400 Pa
Dynamic load	1000 Pa

- Tolerance of power Current and Voltage (ISC,VOC)±3 %
- Datasheet is subjected to change without prior notice, always obtain the most recent version of the datasheet.
- ** Caution: For professional use only, the installation and handling of PV modules and cleaning modules require professional skills and should only be performed by qualified professionals, please read the Installation and Operation Manual before using the modules, also Cleaning Guidelines

Updated 1 Oct 2024

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757
LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

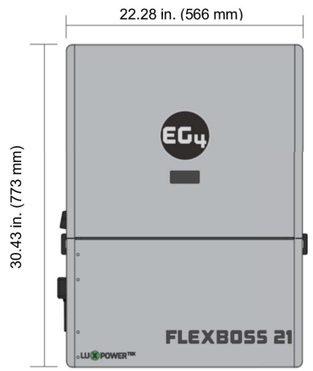
PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

R-001.00
(SHEET 10)



EG4® FLEXBOSS21 HYBRID INVERTER

The EG4 FlexBOSS21 is a versatile 48V split-phase, hybrid inverter/charger that offers the same dependable power as the 18kPV with enhanced flexibility. Powerful enough to start a 5-ton AC unit, the FlexBOSS21 supports up to 21kW of PV input. Capable of paralleling up to 16 units together, the FlexBOSS21 has an impressive total output of 256kW. Able to provide 16kW of continuous output power with PV & battery, and up to 12kW continuous output by using battery alone. Three individual MPPTs give users optimal control over their solar needs, while the updated EG4 monitoring software allows for convenient total remote management, complete with mobile notifications and remote setting. Seamless interaction with the EG4 GridBOSS gives users control over the entire Energy Storage System (ESS).

HIGH FREQUENCY SPLIT-PHASE DESIGN

*10-YEAR WARRANTY

REMOTE ADJUSTMENT VIA EG4 SOFTWARE

ALL-IN-ONE HYBRID INVERTER

Capable of running entirely off grid, using grid electricity, and selling power back to the grid.

UP TO 600VDC INPUT

The extra high voltage enables lower cable sizing for the 3 MPPTs and a maximum recommended PV input of 24kW, eliminating the need for a combiner box.

PLUG-IN WI-FI DEVICE

Enables wireless connection between our monitoring platform and the FlexBOSS21 through the EG4® app or EG4 Monitor system for remote system management.

CLOSED-LOOP COMMUNICATIONS

Able to communicate with EG4 48V batteries and other battery brands. A battery firmware update is required for closed-loop communications with LifePower4 batteries.

RAPID SHUTDOWN

The FlexBOSS21 is CSA C22.2#330:2017 and NEC 690.12 ready with its built-in RSD capabilities.

VERSION 1.1.5 | INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE.
MODEL#: IV-16000-HYB-AW-FX-**XX** (**XX** is a number between 00-99)

**For information regarding warranty registration on EG4® Electronics products, please navigate to https://eg4electronics.com/warranty/ and select the corresponding product to begin the registration process.*

EG4 ELECTRONICS

TECHNICAL SPECIFICATIONS

AC INPUT DATA				
NOMINAL AC VOLTAGE				120/240VAC; 120/208VAC (L1/L2/N required)
FREQUENCY				60 Hz (Default) | 50 Hz
MAX. AC CURRENT				50A @ 240V | 57.7A @ 208V
MAX. AC INPUT POWER				12kW
MAX. AC BYPASS				90A
AC GRID OUTPUT DATA				
MAX. OUTPUT CURRENT				66.7A
OUTPUT VOLTAGE				120/240VAC; 120/208VAC (L1/L2/N required)
OPERATING VOLTAGE RANGE				180 – 270VAC
NOMINAL POWER OUTPUT				w/ PV: 16000W @240V | 13800W @208V w/ out PV: 12000W @240V | 12000W @208V
OUTPUT FREQUENCY				60 Hz (Default) | 50 Hz
POWER FACTOR				.99 @ Full Load
REACTIVE POWER ADJUST RANGE				(-0.8) – (+0.8) Leading Adjustable
THD @FULL LOAD				<5%
TRANSFER TIME				20ms (Default), 10ms (Configurable) | Parallel – 20ms
BACKUP/UPS AC OUTPUT DATA				
RATED OUTPUT CURRENT (240 | 208VAC)				50A | 57.7A
NOMINAL OUTPUT VOLTAGE				120/240 | 120/208 VAC
RATED OUTPUT POWER				12kW @ 240VAC | 12kW @ 208VAC
PEAK POWER	24kW (.5 sec)	18kW (1 sec)	15kW (6 min)	13.2kW (12 min)
OPERATING FREQUENCY				60 Hz (Default) | 50 Hz
THDV (TOTAL HARMONIC DISTORTION VOLTAGE)				<5%
TRANSFER TIME				20ms (Default), 10ms (Configurable), 20ms (Parallel)
PV INPUT DATA				
NUMBER OF MPPTS				3
INPUTS PER MPPT				2 (MPPT 1) | 2 (MPPT 2) | 1 (MPPT 3)
MAX. USABLE INPUT CURRENT				26A (MPPT 1) | 26A (MPPT 2) | 15A (MPPT 3)
MAX. SHORT CIRCUIT INPUT CURRENT				31A (MPPT 1) | 31A (MPPT 2) | 19A (MPPT 3)
DC INPUT VOLTAGE RANGE				100 – 600VDC
UNIT START-UP VOLTAGE				100VDC
MPPT OPERATING VOLTAGE RANGE				120 – 440VDC
NOMINAL MPPT VOLTAGE				360VDC
MAX. UTILIZED SOLAR POWER				21kW
MAX. RECOMMENDED SOLAR INPUT				25kW
EFFICIENCY				
CEC				96.9%
MAX. EFFICIENCY (PV TO GRID)				97%
MAX. EFFICIENCY (BATTERY TO GRID)				94%
MAX. EFFICIENCY (PV TO BATTERY)				94.5%
IDLE CONSUMPTION				<65W

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757
LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

R-002.00
(SHEET 11)

EG4 ELECTRONICS

BATTERY DATA	
COMPATIBLE BATTERY TYPES	Lead-acid/ Lithium
MAX. CHARGE/DISCHARGE POWER	12000W
NOMINAL VOLTAGE	48VDC
VOLTAGE RANGE	40 – 60 VDC
RECOMMENDED BATTERY CAPACITY PER INVERTER	>300Ah
GENERAL DATA	
MAX. UNITS IN PARALLEL	16
PRODUCT DIMENSIONS (H×W×D)	30.43 × 22.28 × 11.22 in. (750 × 520 × 285 mm)
UNIT WEIGHT	88 lbs. (52 kg)
DESIGN TOPOLOGY	High Frequency – Transformerless
RELATIVE HUMIDITY	0 – 100%
OPERATING ALTITUDE	<6561 ft (<2000 m)
OPERATING AMBIENT TEMPERATURE RANGE	-13° – 140°F (-25° – 60°C)
STORAGE AMBIENT TEMPERATURE RANGE	-13° – 140°F (-25° – 60°C)
NOISE EMISSION (TYPICAL)	<50dB @ 3 ft
COMMUNICATION INTERFACE	RS485/Wi-Fi/CAN
STANDARD WARRANTY	10-year standard warranty*
OUTDOOR RATING	NEMA 4X
SAFETY FEATURES	Integrated DC disconnect, Reverse polarity protection, Output over-voltage protection varistor, Output over current protection, Ground fault monitoring, Grid monitoring, Pole sensitive leakage current monitoring unit, AFCI, RSD
STANDARDS AND CERTIFICATIONS	
UL1741, SA, SB, PCS CRD	
California Rule 21 Phase I, II, III	
Arc-Fault Circuit Interrupter (AFCI) NEC 2020:690.11/UL1699B	
Ground Fault Monitoring (GFDI) NEC 2020:690.41(B)	
CSA 22.2.107.1:2016 Ed. 4	
CSA 22.2.330:2017 Ed. 1	
IEEE 1547.1:2020; IEEE 1547:2018	
Hawaii Rule 14H [HECO SRD IEEE 1547.1-2020 Ed. 2]	
Rapid Shutdown (RSD) NEC 2020:690.12	
FCC Part 15, Class B (PENDING)	

For information regarding warranty registration on EG4® Electronics products, please navigate to https://eg4electronics.com/warranty/ and select the corresponding product to begin the registration process.

CONTRACTOR

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LIC. NO.:
HIC. NO.:
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APN: 33-0-155

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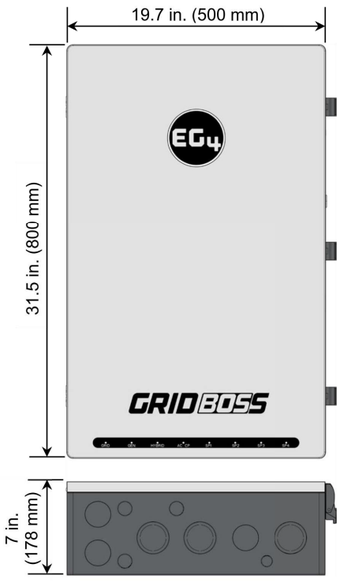
RESOURCE DOCUMENT

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

R-003.00
(SHEET 12)



EG4® GRID BOSS

MICRO-GRID INTERCONNECTION DEVICE (MID)

The EG4 GridBOSS Micro-Grid Interconnection Device (MID) simplifies Energy Storage Systems (ESS) by consolidating multiple components into a single, innovative unit. It replaces traditional elements such as the point of common connection, back-fed breakers, feeder taps, tap breakers, supply-side taps, transfer switches, and dedicated combiner panels for grid-in, grid-out, and generator input. As a versatile solution, the GridBOSS serves as the service entrance equipment* when paired with the utility meter, providing a single point of connection for utilities, hybrid inverters, generators, smart loads, and AC-coupled inverters.

200A SERVICE ENTRANCE*

4 CONFIGURABLE SMART PORTS

INTEGRATED GENERATOR SUPPORT

CENTRALIZED ESS CONTROL

Provides a single point of connection for utility, hybrid inverters, generators, smart loads, and AC-coupled inverters.

REDUCED ESS COMPLEXITY

Replaces up to 10 components with one unit, including point of common connection, back-fed breakers, feeder taps, feeder tap breakers, supply side taps & breakers, transfer switches, and dedicated combiner panels for grid-in, load/EPS, and generator input.

SERVICE ENTRANCE RATED

200 Amp service entrance with a 22 kAIC main breaker, acts as service entrance equipment in conjunction with a utility meter and a 200A Eaton braker (CSR25K).

REMOTE MONITORING

Enable remote monitoring, configuration, and firmware updates through the EG4 mobile app or online monitoring system.

SMART PORTS

Includes load shedding, which disconnects loads during low battery voltage and reconnects on high voltage. Power shedding connects loads when at full SOC and PV flow and disconnects on low SOC or PV loss.

*When used with an Eaton 200A main breaker (model CSR25k)

VERSION 1.1.2 | INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE.
MODEL #: MI-200-2P-HYB-AW-01

EG4 ELECTRONICS

TECHNICAL SPECIFICATIONS

GRID	
NOMINAL AC VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
SERVICE ENTRANCE RATED	22kAIC with 200A Eaton breaker (model: (CSR2200N) CSR25K)
GENERATOR	
NOMINAL VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	125A
NON-BACKUP	
NOMINAL VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
BACKUP	
NOMINAL VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
HYBRID	
NUMBER OF PORTS	3
NOMINAL VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT PER PORT	70A*
SUPPORTED INVERTERS	EG4® 12kPV, 18kPV, & FlexBOSS21**
SMART PORTS	
NUMBER OF PORTS	4
NOMINAL VOLTAGE	120/240VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT PER PORT	1: 125A | 2: 80A | 3: 60A | 4: 60A
GENERAL DATA	
COMMUNICATION INTERFACE	RS485/Wi-Fi/CAN
IDLE CONSUMPTION	~55W
TRANSFER TIME	~25 ms
INTERNAL BUS RATING	350A
INTERNAL FUSE RATING	315A
OPERATING ALTITUDE	<6561 ft (<2000 m)
RELATIVE HUMIDITY	0 – 100%
OUTDOOR RATING	NEMA 3R
OPERATING AMBIENT TEMPERATURE RANGE	-40°F – 140°F (-40°C – 60°C)
PRODUCT DIMENSIONS (H×W×D)	31.5×19.7×7 in (800×500×178 mm)
UNIT WEIGHT	55 lbs. (25 kg)
STANDARD WARRANTY	10-year standard warranty***

*Install a properly sized breaker based on the connected inverter: 50A - 12kPV; 70A - 18kPV; 90A - FlexBOSS21.

**Third party inverters are not supported and cannot be connected to the hybrid ports.

***For information regarding warranty registration on EG4® Electronics products, please navigate to https://eg4electronics.com/warranty/ and select the corresponding product to begin the registration process.

CONTRACTOR

SAJIDSOLAR

PHONE:
ADDRESS: 2 NAPLES ST
MILFORD, MA 01757

LIC. NO.:
HIC. NO.:
ELE. NO.:

NEW PV SYSTEM: 7.740 kWp

SAJID RESIDENCE

2 NAPLES ST
MILFORD, MA 01757
APN: 33-0-155

ENGINEERS STAMP

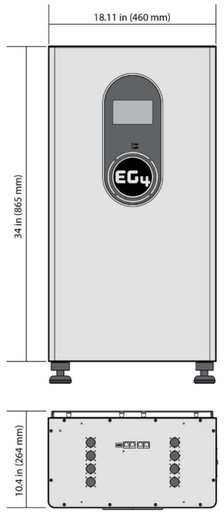
PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT

DATE: 02.27.2025
DESIGN BY: B.A.
CHECKED BY: V.G.

REVISIONS

R-004.00
(SHEET 13)



EG4® WALLMOUNT INDOOR 280Ah LITHIUM BATTERY

The WallMount Indoor 280Ah batteries are ideal for low-voltage residential indoor energy storage applications. The batteries use lithium iron phosphate cells with the highest safety performance and an intelligent Battery Management System (BMS) that can monitor and record the voltage of each cell along with the current, voltage, and temperature of the module in real-time. The BMS also contains a passive balance function and an advanced battery control method, both of which improve the performance of the battery pack.

BUILT-IN 200A BMS	INTEGRATED 600A BUSBARS	82.6MWh LIFETIME PRODUCTION*	*10 YEAR WARRANTY >8000 CYCLES @ 80% DOD

ON-BOARD LCD TOUCH SCREEN
Easy to see BMS monitoring, and selectable closed-loop communications with EG4, Schneider, Sol-Ark, Victron, Growatt, Megarevo, Luxpower, and Deye inverters.

DUAL ON-BOARD FIRE ARRESTORS
Offer fail-safe protection against thermal runaway.

INTEGRATED SELF-HEATING FEATURE
Internal heating keeps cells operating during cold temperatures.

INTEGRATED BUSBARS
The battery design comes manufactured with 600A internal busbars with multiple terminals (4 positive & 4 negative) eliminating the need for external busbars when paralleling batteries and/or multiple inverters.

INNOVATIVE EMERGENCY STOP FUNCTION
The optional ESS disconnect can shut down all batteries and inverters (if equipped with rapid shut down capability) with the press of a button.

THE PERFECT PARTNER TO EG4 INVERTERS
The optional conduit box mates up directly to the connection ports of EG4 inverters allowing a sleek and efficient installation. For other inverters or stand-alone battery installation, the conduit box plugs should be installed.

VERSION 1.1.4 | INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE.
MODEL #: WM-48|280-LL-00 / WM-48-280-1-IN-LL-00

*For information regarding warranty registration on EG4® Electronics products, please navigate to https://eg4electronics.com/warranty/ and select the corresponding product to begin the registration process.

EG4 ELECTRONICS

TECHNICAL SPECIFICATIONS

MODULE OPERATING PARAMETERS			
PARAMETER	BMS		RECOMMENDED SETTING
TOTAL ENERGY CAPACITY	14.3kWh @25C, 100% SOC		-
VOLTAGE	51.2V		-
CAPACITY	280Ah		-
CHARGING VOLTAGE (BULK/ABSORB)	56.0V (+/-0.8V)		56.2V (+/-0.2V)
FLOAT	-		54V (+/-0.2V)
SOC CUTOFF	-		20%*
CHARGING CURRENT	200A (Max. continuous)		60A – 160A
DISCHARGING CURRENT	200A (Max. continuous)		160A
DISCHARGE RATE	10.24kW (Max. continuous)		-
BMS PARAMETERS			
CHARGE	SPEC	DELAY	RECOVERY
CELL VOLTAGE PROTECTION	3.8V	1 sec	3.45V
MODULE VOLTAGE PROTECTION	60.0V	1 sec	55.2V
OVER CHARGING CURRENT 1	>205A	10 sec	-
OVER CHARGING CURRENT 2	>225A	3 sec	-
TEMPERATURE PROTECTION	<23°F or >158°F <-5°C or >70°C	1 sec	>32°F or <140°F >0°C or <60°C
DISCHARGE	SPEC	DELAY	RECOVERY
CELL VOLTAGE PROTECTION	2.3V	1 sec	3.1V
MODULE VOLTAGE PROTECTION	44.8V	1 sec	48V
OVER-CHARGING CURRENT 1	>205A	10 sec	60 sec
OVER-CHARGING CURRENT 2	>300A	3 sec	60 sec
SHORT CIRCUIT	>600A	<0.1 mS	-
TEMPERATURE PROTECTION	<-4°F or >167°F <-20°C or >75°C	1 sec	>14°F or <149°F >-10°C or <65°C
PCB TEMP PROTECTION	>230°F (>110°C)	1 sec	@ <176°F (<80°C)

GENERAL SPECIFICATIONS			
PARAMETER	SPEC		CONDITION
CELL BALANCE	120mA	Passive Balance	Cell Voltage Difference >40mV
TEMPERATURE ACCURACY	3%	Cycle Measurement	Measuring Range -40°F to ≈212°F (-40°C to ≈100°C)
VOLTAGE ACCURACY	0.5%	Cycle Measurement	For Cells & Module
CURRENT ACCURACY	3%	Cycle Measurement	Measuring Range -200A - 200A
SOC	5%	-	Integral Calculation
POWER CONSUMPTION	Sleep & Off Mode	<300uA	Storage/Transport/Standby
POWER CONSUMPTION	Operating Mode	<25mA	Charging/Discharging
COMMUNICATION PORTS	RS485/CAN		Can be customized

BATTERY HEATER SPECIFICATIONS		
PARAMETER	SPEC	CONDITION
VOLTAGE	56V	-
POWER CONSUMPTION	224W	-
INTERNAL BATTERY TEMPERATURE	≤32°F (0°C)/≥41°F (5°C)	Heat On/Heat Off

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