# Bath Township Zoning

*Summit County, Ohio*

3864 West Bath Road - P.O. Box 1188 - Bath, Ohio - 44210-1188
Phone: 330.666.4007 - Fax: 330.666.0305
www.bathtownship.org

## Accessory Structure Application

| For office use only: | Permit No.: | ARC File No.: | BZA File No.: |
|---|---|---|---|

### Applicant Data

Name: 308 Cleveland Mass LLC Main Office

Company Name: Cleveland Mass LLC

Address: 308 N Cleveland Massillon Rd Akron OH 44333

Telephone No.: 330-958-0486 Email: steve.mastrantonio@gmail.com

### Property Data

Zoning District: (circle one) R-1 R-2 R-3 R-4 B-1 B-2 B-3 B-4 B-5

Corner Lot: ☑ Yes ☐ No Note: Corner lots are required to meet the front setback on both streets.

Site Address: 308 N Cleveland Massillon Rd Akron OH 44333 Parcel No.: 0406086

Owner(s): 308 CLEVE MASS LLC

Owner Address:

Telephone No.: 330-958-0486

### Site Data

Description of structure (e.g., barn): Roof-Top Solar on Main Office Building

Will this structure be used to house domestic animals? ☐ Yes ☑ No

Front Setback (ft.) _____ Side Setback (ft.) _____ & _____ Rear Setback (ft.) _____

Height of accessory structure (ft.) 0.33 Mean height of principal building (ft.) _____

Total area of existing accessory structures (sq. ft.) 3551 Setback from house (ft.) _____

Total area of proposed accessory structure (sq. ft.) 1151.2

### Required Site Plan Data and Architectural/Construction Drawings

The following items must be submitted with the application in order to be reviewed. The application will be reviewed and the applicant will be contacted when the plans are approved. The Ohio Revised Code sets forth a maximum of thirty (30) days for review of all applications. No applications will be reviewed at the time of submittal. ***Incomplete applications will delay the review process.*** Site inspections will be conducted at the discretion of the Zoning Inspector.

1. One (1) copy of the site plan. The site plan must show the following:
   - ❑ A North arrow and scale
   - ❑ Existing structures and dimensions
   - ❑ Driveway and road access locations (existing and/or proposed)
   - ❑ Proposed structure(s) and dimensions
   - ❑ All setbacks and lot dimensions
   - ❑ Roads and easements (include details)
   - ❑ Indicate the location of lakes, ponds, wetlands, ravines, or other unusual topography
   - ❑ Riparian setback(s) must be clearly indicated on all lots containing applicable watercourses
   - ❑ Slopes greater than 18% require a two (2) foot contour interval overlay with the contours extending at least 100 feet beyond the lot lines to check compliance with Section 802.
2. One (1) copy of the building/construction plans showing major details including height data.
3. Septic system and well location, if applicable then provide copies of sewage disposal system plan and approval from the Summit County Health Department (330-923-4891) or Permit to Connect Sanitary Sewer from the Summit County Department of Environmental Services (330-926-2400).
4. Digital copy of all required documents (i.e. .pdf file).

## Applicant Certification

By initialing, the applicant has read, understands, and agrees to the following:

DH 1. Right Of Revocation - It is understood and agreed by this applicant that any error, misstatement, misrepresentation of material fact, with or without intent, such as might and/or would case a refusal of this application, or any material alteration in the accompanying plans made subsequent to the issuance of a Zoning Certificate without approval of the Zoning Inspector or Zoning Board of Appeals, shall constitute sufficient grounds for the revocation of such certificate.

DH 2. The applicant agrees to allow the Zoning Inspector access to the property for on-site inspection(s).

DH 3. The applicant agrees to abide by the Ohio Revised Code Sections §5589.08, §5589.10, and §5589.22 in that no dirt or mud is permitted on the road right-of-way during construction and that any repair costs for damage to the roadway or parts thereof will be paid by the applicant.

DH 4. There may be deed restrictions on the property that differ from the Bath Township Zoning Regulations. Please check your deed to make sure that any proposed project meets any restrictions that may be in effect.

DH 5. The zoning certificate shall become void at the expiration of one (1) year after date of issuance, unless the structure or alteration thereof is started, or within two (2) years after the date of issuance, unless the structure or alteration is completed.

Applicant Signature: Dave Hunter Date: 5-28-2025

## Fee (make check payable to *Bath Township Trustees*)

Residential: $50.00
Commercial: $100.00

## For Office Use Only

Zoning Certificate File No.: ZP - - ❑ Approved ❑ Denied*

Zoning Inspector Signature: _____ Date: _____

# BATH TOWNSHIP ZONING

*Summit County, Ohio*

3864 West Bath Road - P.O. Box 1188 - Bath, Ohio - 44210-1188
Phone: 330.666.4007 - Fax: 330.666.0305
www.bathtownship.org

## CONDITIONAL USE APPLICATION

| For office use only: | ARC File No.: | BZA File No.: 25-13 |
|---|---|---|
| Associated permits: | | |

### Applicant Data

Name: 308 Cleveland Mass LLC Main Office

Company Name: Cleveland Mass LLC

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### Property Data

Zoning District: (circle one) R-1 R-2 R-3 R-4 B-1 B-2 B-3 B-4 B-5

Corner Lot: ☐ Yes ☑ No Note: Corner lots are required to meet the front setback on both streets.

Property Address: 308 N Cleveland Massillon Rd Akron OH 44333 – C-2 Parcel No.: 0406086

Allotment Name: _____ Lot No.: _____

Owner(s): 308 CLEVE MASS LLC

Owner Address: _____

Telephone No.: 330-958-0486

### Conditional Use(s) Requested

Below list the specific section of the Zoning Resolution referencing the conditional use being sought as well as a description of each use. The Zoning Resolution is available online at www.bathtownship.org through the zoning link.

1. Section: Table 701 Description: Roof Mount Solar Panels in B1-5 Zoning District - Conditional Use

~~Yards Permitted - Rear~~

2. Section: 701-D17 Description: Roof-Mounted Solar Panels on the front side of a roof facing a Street must be flush mounted.

Roof-Mounted Solar Panels not facing a street can be flush mounted or angled but not to exceed 36" in height from roof surface from roof plane to the highest point of the panel.

### Contiguous Property Owners

The Township will notify all property owners within a 300' buffer of the parcel in question.

## Required Materials:

1. Six (6) copies of site plan and plans along with a digital copy (ex: .pdf) of site plan and plans (11 x 17 preferred). The site plan must show the following:
   - ❑ A North arrow and scale
   - ❑ Existing structures and dimensions
   - ❑ Driveway and road access locations (existing and/or proposed)
   - ❑ Proposed structure(s) and dimensions
   - ❑ All setbacks
   - ❑ Roads
   - ❑ Lot dimensions
   - ❑ Easements and details
   - ❑ Septic system and well location (if applicable)
   - ❑ Indicate the location of lakes, ponds, wetlands, ravines, or other unusual topography
   - ❑ Riparian Corridor(s) must be clearly indicated on all lots containing applicable watercourses

   All slopes greater than 18% must be indicated on a two (2) foot contour interval map with the contours extending at least 100 feet beyond the lot lines.

2. If applicable, six (6) copies of the building/construction plans along with a digital copy (ex: .pdf) showing major details including height data must be submitted with the application (11 x 17 preferred).

3. A statement supported by substantiating evidence regarding the requirements enumerated in Article 3, Section 309:

   (1) The use is a conditional use, permitted with approval by the BZA, in the district where the subject lot is located;
   (2) The use is in accordance with the objectives of the Bath Township Comprehensive Plan and zoning resolution; and
   (3) The conditional use will not substantially and/or permanently injure the appropriate use of neighboring properties and will serve the public convenience and welfare.
   (4) The BZA shall also consider the following as applicable to the subject application:
   (A) The comparative size, floor area and mass of the proposed structure(s) in relationship to adjacent structures and buildings in the surrounding properties and neighborhood;
   (B) The frequency and duration of various indoor and outdoor activities and special events and the impact of these activities on the surrounding area;
   (C) The number of transit movements generated by the proposed use and relationship to the amount of traffic on abutting streets and on minor streets in the surrounding neighborhood;
   (D) The capacity of adjacent streets to handle increased traffic in terms of traffic volume;
   (E) The added noise level created by activities associated with the proposed use and the impact of the ambient noise level of the surrounding area and neighborhood;
   (F) The requirements for public services where the demands of the proposed use are in excess of the individual demand of adjacent land uses in terms of police and fire protection, and the presence of any potential fire or other hazards created by the proposed use;
   (G) The general appearance of the neighborhood will not be adversely affected by the location of the proposed use on the parcel;
   (H) The impact of night lighting in terms of intensity and duration and frequency of use as it impacts adjacent properties and in terms of presence in the neighborhood;
   (I) The impact of the landscaping of the proposed use in terms of maintained landscaped areas versus areas to remain in a natural state, and the openness of landscape versus the use of buffers and screens;
   (J) The impact of a significant amount of hard-surfaced areas for building, sidewalks, drives, parking areas and service areas in terms of noise transfer, water runoff and heat generation;
   (K) The potential for the proposed use to remain in existence for a reasonable period of time and not become vacant or unused. Consideration should also be given to unusual single purpose structures or components of a more temporary nature; and
   (L) Any other physical or operational feature or characteristic that may affect the public health, safety and welfare.

4. Applicant shall state a reasonable time to complete development plans or proposed structure.

5. The recommendations of the Appearance Review Commission if applicable.

6. Digital copy of all required documents (i.e. email .pdf file).

## Applicant Certification

Applicant Signature: Dave Hunter Date: 5-28-2025

Fee – due at time of application (make check payable to *Bath Township Trustees*)

- for residential applications – two hundred and fifty dollars ($250.00)
- for commercial/business applications – three hundred and fifty dollars ($350.00)

For Office Use Only

Appearance Review Commission File No.: ARC - -

Board of Zoning Appeals File No.: BZA - -

Hearing Date: _____ Public Notice Date: _____

Published In: _____ Abutting Property Owners Notification Date: _____

☐ Approved ☐ Approved with Conditions ☐ Denied

Comments: _____

_____

Zoning Inspector Signature: _____ Date: _____

# NEW PV SYSTEM: 23.400 kWp (DC): 17.300 kWp (AC)
# 308 CLEVELAND MASS LLC MAIN OFFICE

## 308 N CLEVELAND MASSILLON RD, AKRON, OH 44333

STATE OF OHIO
ALI HAJIHASHEMI
E-87619
REGISTERED
PROFESSIONAL ENGINEER

## PROJECT INFORMATION

APPLICABLE CODES & STANDARDS:
BUILDING & FIRE: OBC 2024
ELECTRICAL: NEC 2023
AHJ: Bath Twp & Summit County

LOT INFORMATION:
PARCEL ID: 0406086

SYSTEM DETAILS:
SOLAR MODULE: SILFAB SIL-520 QM
QTY: 45
POWER OPTIMIZER: SOLAREDGE P1101
QTY: 23
INVERTER: SOLAREDGE SE17.3KUS
QTY: 1

PURCHASE AGREEMENT
SYSTEM CUSTOMIZATIONS:

CHANGE ORDER:
CHANGE ORDER: NO
DATE:

RACKING & ATTACHMENT INFORMATION:
MOUNTING TYPE: ROOF MOUNT
ROOF TYPE: PITCHED ROOF
MOUNTING SURFACE: ASPHALT SHINGLE
SUBSTRUCTURE: TRUSS AND PLYWOOD
ROOF RACKING: IRONRIDGE XR10
ROOF ATTACHMENT:
IRONRIDGE HALO ULTRAGRIP

SITE SAFETY NOTES:

ADDITIONAL NOTES:

INSPECTION NOTES:
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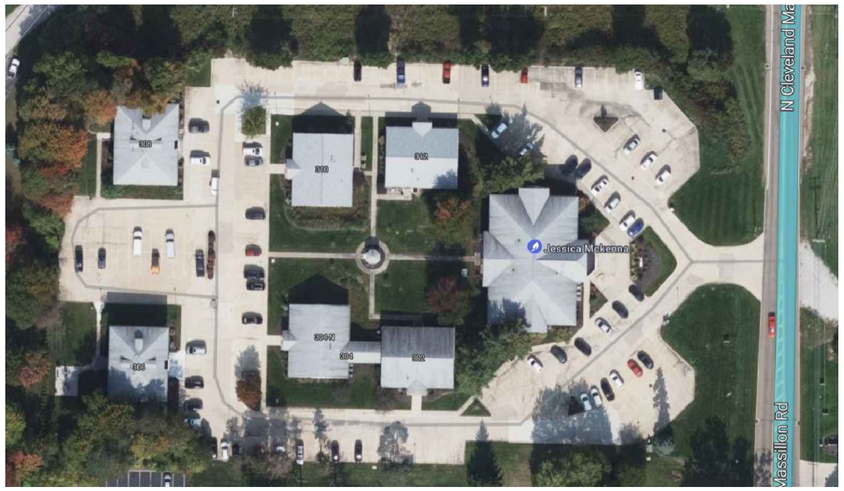
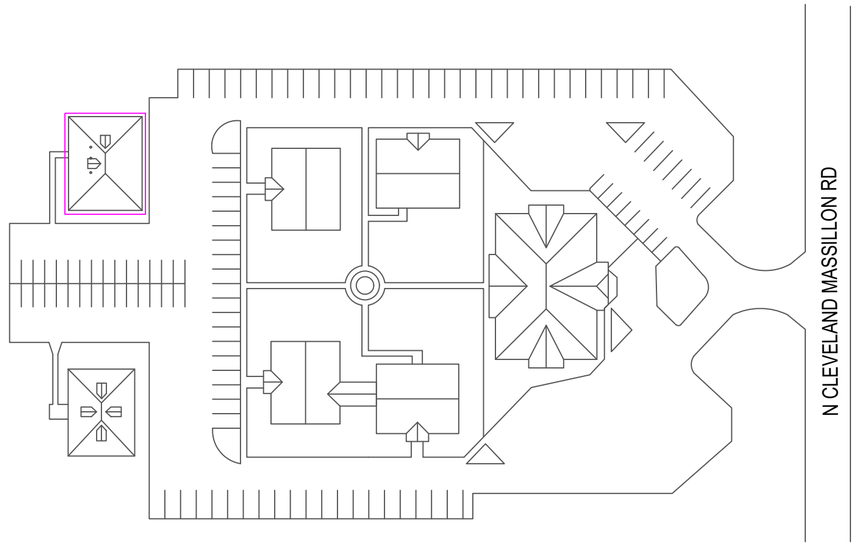
TECH REQUIRED: ----
CONTACT NO: ----

UTILITY INFORMATION:
UTILITY COMPANY: ----




01 SATELLITE VIEW
NOT TO SCALE




02 PLAT VIEW
NOT TO SCALE

**PROJECT NOTES:**

1. THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE, ALL MANUFACTURERS LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
2. THE UTILITY INTERCONNECTION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION.
3. ALL PV SYSTEM COMPONENTS; MODULES AND UTILITY-INTERACTIVE INVERTERS ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4 & NEC 690.60: 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.
4. MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
5. 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.
6. PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.
7. A LADDER WILL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
8. THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE.
9. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26.
10. RACKING, MID CLIPS, END CLIPS, AND MODULES 2703 LISTED.
11. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
12. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.
13. RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL.
14. ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.
15. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVISES TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
17. AS IN CONVENTIONAL PV SYSTEMS, UNGROUNDED 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.
18. PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.
19. METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURE CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).
20. 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
21. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119]
22. THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250. AND AHJ.
23. AT MULTIPLE INVERTERS OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12 (B)(2)(3).
24. FEEDER TAP INTERCONECTION (LOAD SIDE) ACCORDING TO NEC 705.12 (B)(2)(1)
25. SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12 (A) WITH SERVICE. ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42
26. BACKFEEDING BREAKER FOR UTILITY-INTERACTIVE INVERTER OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12 (B)(5)].
27. 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).
28. DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.
29. RAPID SHUTDOWN OF ENERGIZED CONDUCTORS INSIDE THE ARRAY BOUNDARY SHALL BE LISTED OR FIELD LABELED AS A RAPID SHUTDOWN PV ARRAY. SUCH A PV ARRAY SHALL BE INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS INCLUDED WITH THE RAPID SHUTDOWN PV ARRAY LISTING OR FIELD LABELING.
RAPID SHUTDOWN OF ENERGIZED CONDUCTORS BEYOND 1 FT OF PV ARRAY OR 3 FT INSIDE A BUILDING WITHIN 10 SECONDS. CONTROLLED CONDUCTORS ≤30V AND ≤240VA [NEC 690.12(B)(1)]. LOCATION OF LABEL ACCORDING TO AHJ.
30. ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9, AND NEC 240.
31. 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.
32. ALL CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
33. EXPOSED UNGROUNDED PV SOURCE AND OUTPUT CIRCUITS SHALL USE WIRE LISTED AND IDENTIFIED AS PHOTOVOLTAIC (PV) WIRE [690.35 (D)]. PV MODULES WIRE LEADS SHALL BE LISTED FOR USE WITH UNGROUNDED SYSTEMS, ACCORDING TO NEC 690.35 (D)(3).
34. MODULE WIRING SHALL BE LOCATED AND SECURED UNDER THE ARRAY.
35. RACKING, MID CLIPS, END CLIPS, AND MODULES 2703 LISTED
36. 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 GREY

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

SHEET LIST TABLE

| SHEET NUMBER | SHEET TITLE |
|---|---|
| PV-0 | COVER PAGE |
| PV-1 | SITE PLAN |
| PV-2 | PV & ELECTRICAL LAYOUT |
| PV-4 | RACKING LAYOUT |
| PV-6 | THREE LINE DIAGRAM |
| PV-7 | ELECTRICAL CALCULATIONS |
| PV-8 | PV LABELS |
| PV-9 | BILL OF MATERIALS |
| PV-10 | DATASHEETS |
| PV-11 | DATASHEETS (2) |
| PV-12 | DATASHEETS (3) |
| PV-13 | DATASHEETS (4) |
| PV-14 | DATASHEETS (5) |

PAGE NUMBER: PV-0
PAGE TITLE:
COVER PAGE

DESIGNER: M.W

PROJECT MANAGER:
DAVE HUNTER
PHONE:
216.214.1686
EMAIL:
dave.hunter@yellowlite.com

DATE: 5.2.2025

PROJECT NUMBER

2739

PROJECT NAME

308 CLEVELAND MASS LLC MAIN OFFICE

PROJECT DETAILS

CONTACT PERSON:
STEVE MASTRANTONIO
ADDRESS:
308 N CLEVELAND MASSILLON RD,
AKRON, OH 44333
PHONE:
330.958.0486
EMAIL:
steve.mastrantonio@gmail.com

SYSTEM DETAILS

SYSTEM TYPE:
GRID-TIED
MOUNTING METHOD:
ROOF MOUNT
SYSTEM DC SIZE:
45 x 520W = 23.40KW
SYSTEM AC SIZE:
17.30KW
PV MODULE:
SILFAB SIL-520 QM
QTY: 45
INVERTER:
SOLAREDGE SE17.3KUS
QTY: 1

INSTALLER DETAILS

YELLOWLITE
1925 ST. CLAIR AVE NE,
CLEVELAND, OHIO 44114
(216) 333-1364
WWW.YELLOWLITE.COM

YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

## LEGEND

82.6"

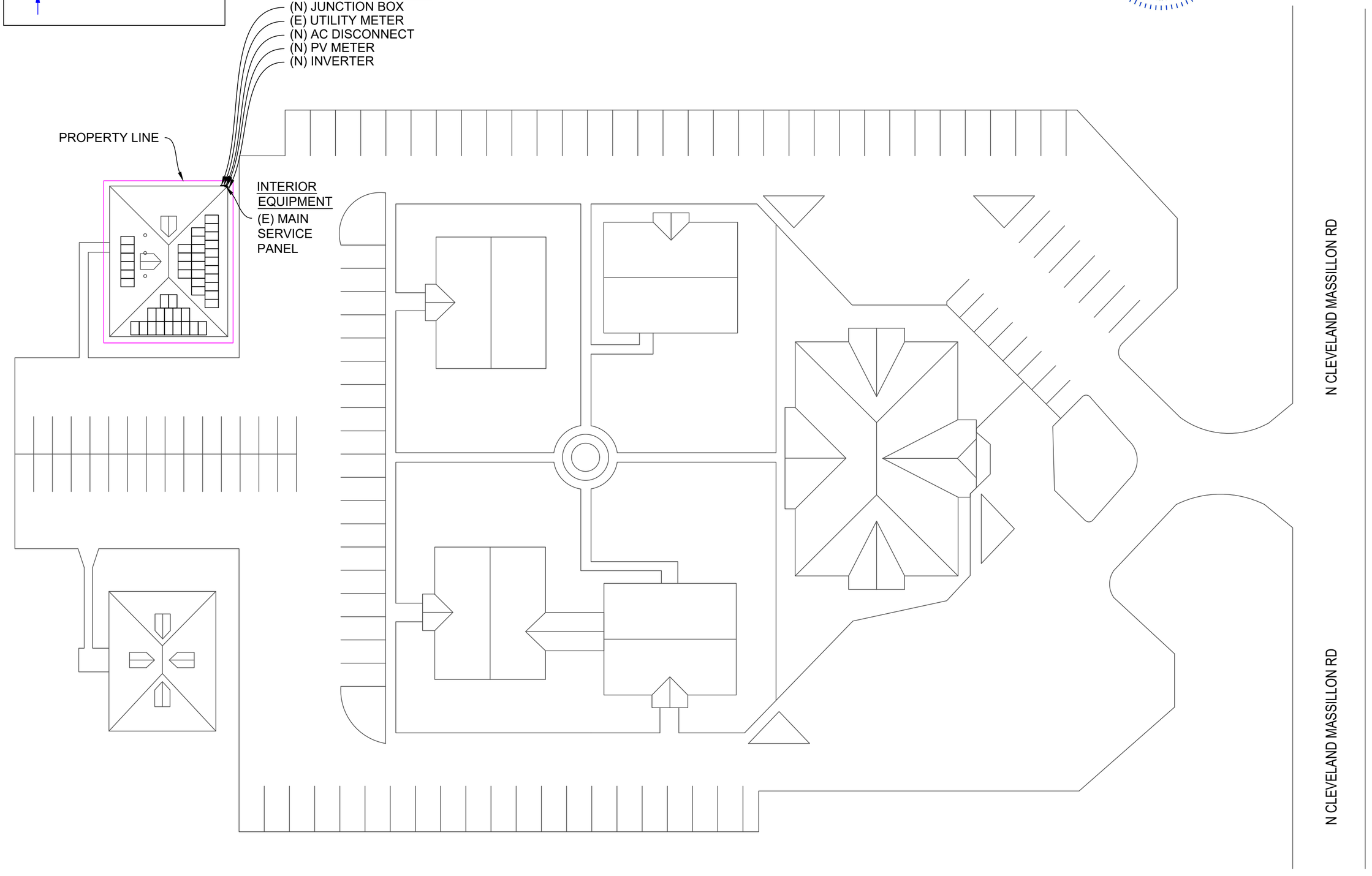
44.6"

PV MODULE:
SILFAB SIL-520 QM
520 WATTS

EXTERIOR EQUIPMENT
(N) JUNCTION BOX
(E) UTILITY METER
(N) AC DISCONNECT
(N) PV METER
(N) INVERTER

PROPERTY LINE

INTERIOR EQUIPMENT
(E) MAIN SERVICE PANEL




01 SITE PLAN
1/32" = 1' 0 0'-0" 0'-0"

N
W E
S

STATE OF OHIO
ALI HAJIHASHEMI
E-87619
REGISTERED
PROFESSIONAL ENGINEER

PAGE NUMBER: PV-1
PAGE TITLE:
SITE PLAN

DESIGNER: M.W

PROJECT MANAGER:
DAVE HUNTER
PHONE:
216.214.1686
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YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

## LEGEND

INVERTER COUNT
STRING COUNT

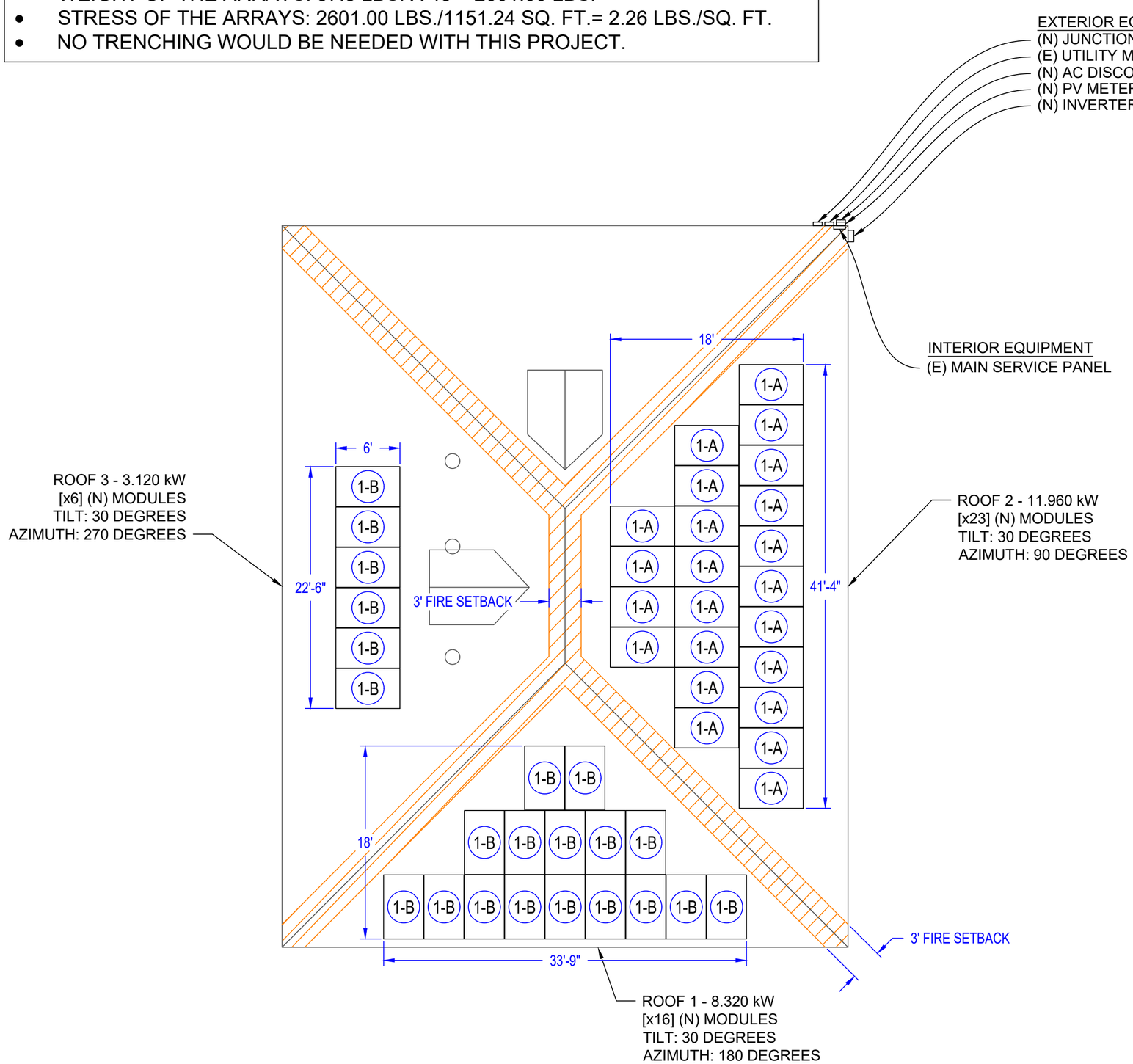
#-# STRING LABEL:

82.6" × 44.6" PV MODULE:
SILFAB SIL-520 QM
520 WATTS

## SYSTEM DETAILS:

- RESIDENTIAL 23.40KW GRID TIED (PHOTOVOLTAIC) SYSTEM.
- THIS SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH ALL CURRENT
- AND APPLICABLE NEC 2023 AND OBC 2024 CODES.
- HEIGHT OF THE ARRAY: 3-4IN. ABOVE THE ROOF, PARALLEL TO THE ROOF.
- WEIGHT OF THE ARRAY: LESS THAN 4LBS./SQ. FT.
- AREA OF THE ARRAYS: 6.88FT. X 3.72FT. X 45 = 1151.24 SQ. FT.
- WEIGHT OF THE ARRAYS: 57.8 LBS. X 45 = 2601.00 LBS.
- STRESS OF THE ARRAYS: 2601.00 LBS./1151.24 SQ. FT.= 2.26 LBS./SQ. FT.
- NO TRENCHING WOULD BE NEEDED WITH THIS PROJECT.

TOTAL ROOF AREA: 3551 SQ. FT.
TOTAL ROOF AREA OCCUPIED BY SOLAR: 1151.2 SQ. FT.
TOTAL ROOF OCCUPANCY PERCENTAGE: 32.4%




01 PV & ELECTRICAL LAYOUT
1/8" = 1'

N W E S

PAGE NUMBER: PV–2
PAGE TITLE:
PV & ELECTRICAL LAYOUT

DESIGNER: M.W


PROJECT MANAGER:
DAVE HUNTER
PHONE:
216.214.1686
EMAIL:
dave.hunter@yellowlite.com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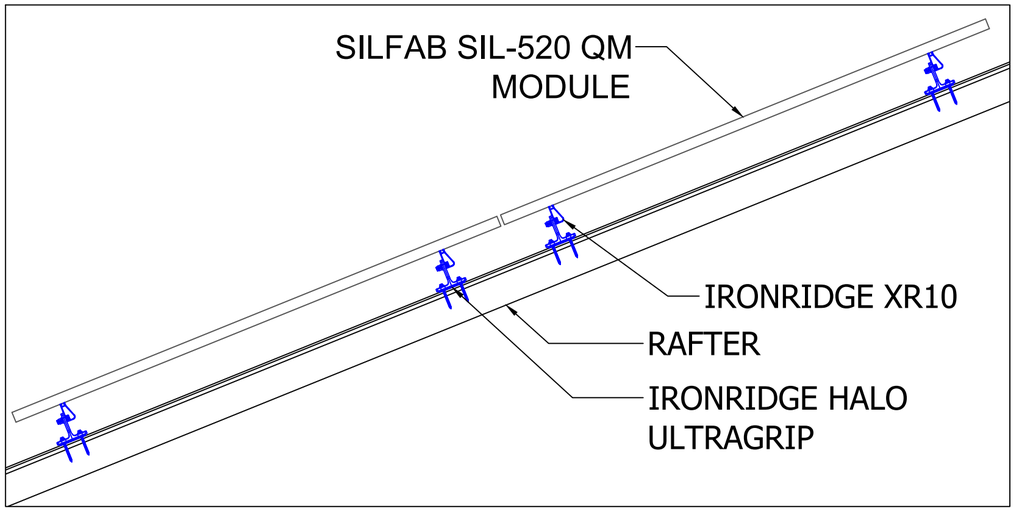
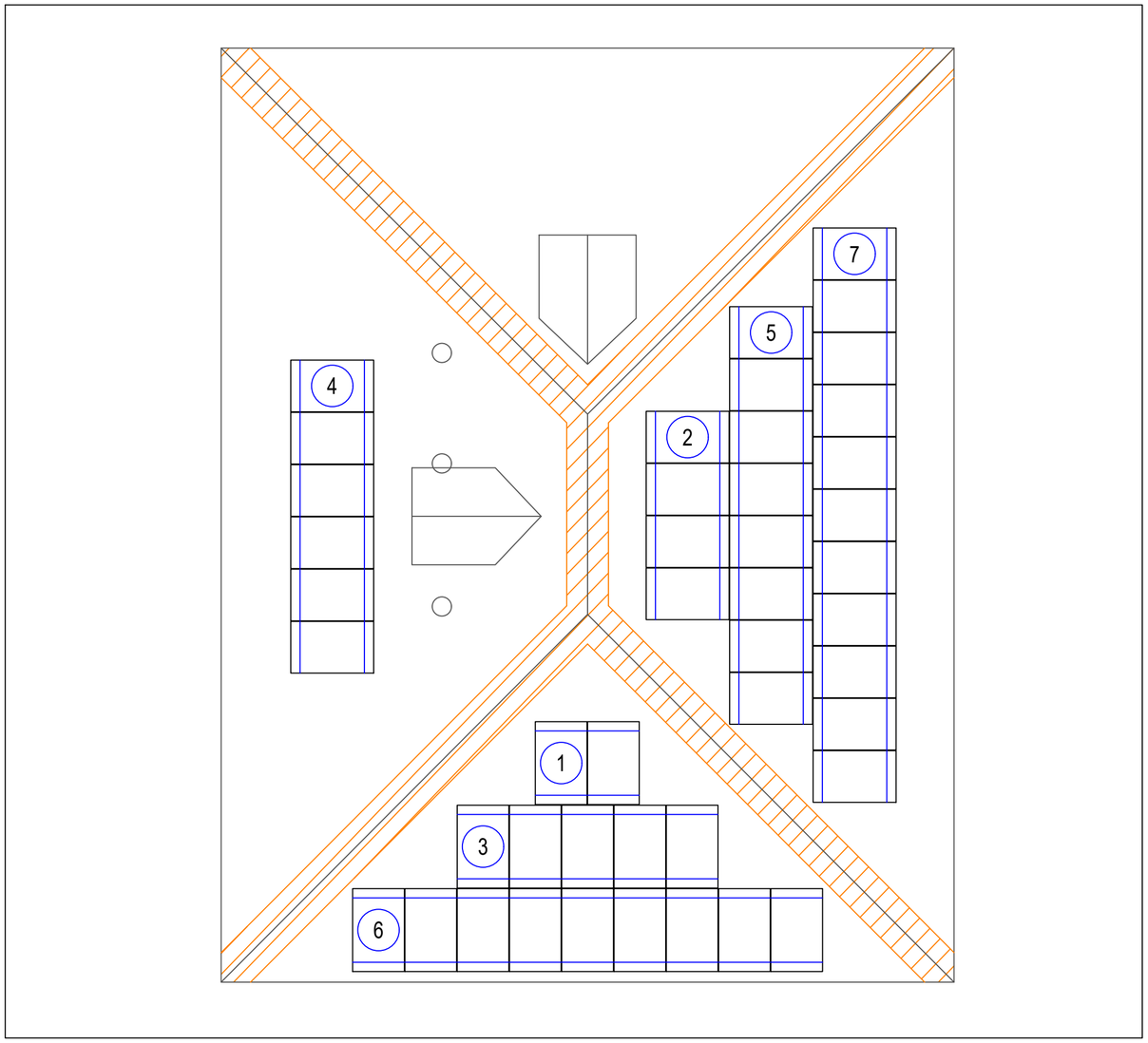
PAPER SIZE: 17" x 22" (ANSI C)

| | |
|---|---|
| 1 | REQ. RAIL = 7' 8" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 28' [2 x 168"]<br>ATTACHMENTS = 5<br>RAILS = 2 X 14' XR100<br>RAILS SPLICE = 0<br>CLAMPS = 2 |
| 2 | REQ. RAIL = 15' 2" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 56' [4 X 168"]<br>ATTACHMENTS = 9<br>RAILS = 4 X 14' XR100<br>RAILS SPLICE = 2<br>CLAMPS = 6 |
| 3 | REQ. RAIL = 18' 11" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 56' [4 x 168"]<br>ATTACHMENTS = 11<br>RAILS = 4 X 14' XR100<br>RAILS SPLICE = 2<br>CLAMPS = 8 |
| 4 | REQ. RAIL = 22' 8" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 56' [4 X 168"]<br>ATTACHMENTS = 13<br>RAILS = 4 X 14' XR100<br>RAILS SPLICE = 2<br>CLAMPS = 10 |
| 5 | REQ. RAIL = 30' 2" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 84' [6 x 168"]<br>ATTACHMENTS = 17<br>RAILS = 4 X 14' XR100<br>RAILS SPLICE = 4<br>CLAMPS = 14 |
| 6 | REQ. RAIL = 33' 10" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 84' [6 x 168"]<br>ATTACHMENTS = 19<br>RAILS = 4 X 14' XR100<br>RAILS SPLICE = 4<br>CLAMPS = 16 |
| 7 | REQ. RAIL = 41' 4" (SINGLE RAIL SEGMENT)<br>TOTAL ROW SEGMENT = 84' [6 x 168"]<br>ATTACHMENTS = 23<br>RAILS = 6 X 14' XR100<br>RAILS SPLICE = 4<br>CLAMPS = 20 |




01 RACKING DETAILS

NOT TO SCALE



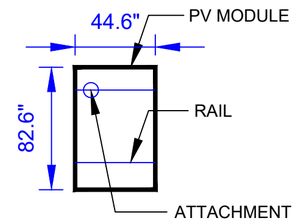

02 RACKING LAYOUT

1/8" = 1'

0 0'-0" 0'-0"

N W E S

## LEGEND




STATE OF OHIO
ALI HAJIHASHEMI
E-87619
REGISTERED
PROFESSIONAL ENGINEER

PAGE NUMBER: PV-4

PAGE TITLE:
RACKING LAYOUT

DESIGNER: M.W

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DATE: 5.2.2025

PROJECT NUMBER

2739

PROJECT NAME

308 CLEVELAND MASS LLC MAIN OFFICE

PROJECT DETAILS

CONTACT PERSON:
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AKRON, OH 44333
PHONE:
330.958.0486
EMAIL:
steve.mastrantonio@gmail.com

## SYSTEM DETAILS

SYSTEM TYPE:
GRID-TIED
MOUNTING METHOD:
ROOF MOUNT
SYSTEM DC SIZE:
45 x 520W = 23.40KW
SYSTEM AC SIZE:
17.30KW
PV MODULE:
SILFAB SIL-520 QM
QTY: 45
INVERTER:
SOLAREDGE SE17.3KUS
QTY: 1

## INSTALLER DETAILS

YELLOWLITE
1925 ST. CLAIR AVE NE,
CLEVELAND, OHIO 44114
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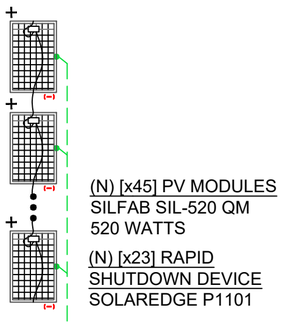
YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

# LEGEND



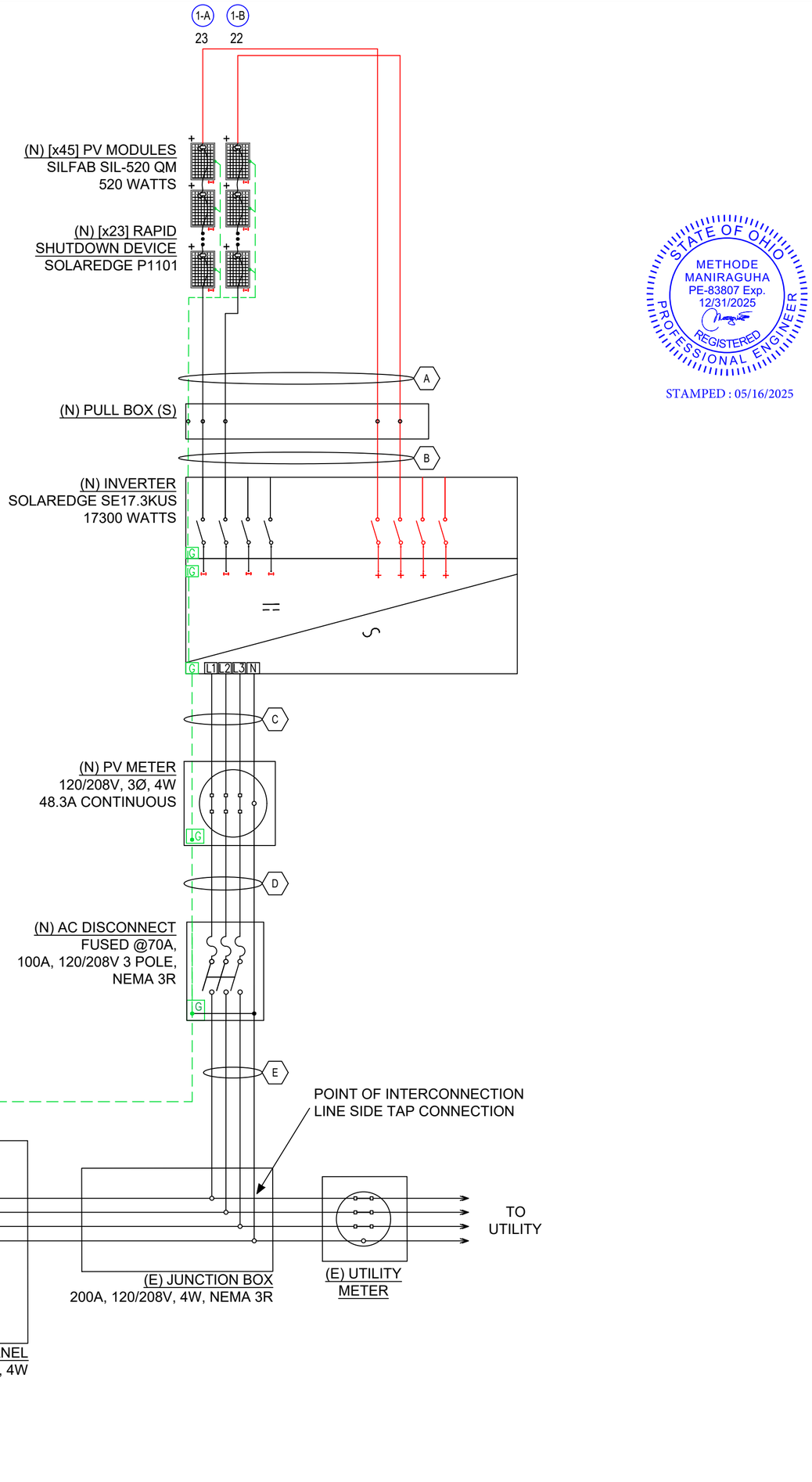
(N) [x45] PV MODULES
SILFAB SIL-520 QM
520 WATTS

(N) [x23] RAPID
SHUTDOWN DEVICE
SOLAREDGE P1101

POINT OF
INTERCONNECTION
LINE SIDE TAP

INVERTER COUNT
STRING COUNT

#-# STRING LABEL:




01 THREE LINE DIAGRAM

NOT TO SCALE

STATE OF OHIO
METHODE MANIRAGUHA
PE-83807 Exp. 12/31/2025
REGISTERED PROFESSIONAL ENGINEER

STAMPED : 05/16/2025

PAGE NUMBER: PV–6

PAGE TITLE:
THREE LINE DIAGRAM

DESIGNER: M.W

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DATE: 5.2.2025

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| ID | TYPICAL | FROM | TO | CONDUCTOR | | | | CONDUIT | | | CURRENT CARRYING CONDUCTORS IN CONDUIT | CONDUIT FILL PERCENTAGE (%) | CONDUIT FILL FACTOR | OCPD (A) | EGC | | | ASHRAE 2% HIGH TEMP. (°C) | TEMP. CORR. FACTOR | CONT. CURRENT (A) | MAX CONT. CURRENT x 1.25 (A) | BASE AMPACITY (A) | DERATED AMPACITY (A) | TERMINAL TEMP. RATING (°C) | AMP. @ TERMINAL (A) | NOMINAL VOLTAGE (V) | TYPE OF VOLTAGE | CONDUCTOR LENGTH (FT) | VOLTAGE DROP (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | QTY OF PARALLEL SETS | SIZE | TYPE | MATERIAL | QTY OF PARALLEL CONDUITS | SIZE | TYPE | | | | | SIZE | TYPE | MATERIAL | | | | | | | | | | | | |
| A | 4 | STRING (S) | PULL BOX | 1 | 10 AWG | PV WIRE (600V) | COPPER | N/A | FREE AIR | N/A | N/A | N/A | 1.0 | N/A | 6 AWG | BARE | COPPER | 30.7 | 0.96 | 18.0 | 22.5 | 55 | 52.8 | 60 | 40 | 208 | AC (3Ø) | 50 | 1.11 |
| B | 1 | PULL BOX | INVERTER | 1 | 10 AWG | THWN-2 | COPPER | 1 | 1" | PVC | 4 | 18.13 | 0.8 | N/A | 6 AWG | THWN-2 | COPPER | 30.7 | 0.96 | 18.0 | 22.5 | 40 | 30.7 | 60 | 30 | 208 | AC (3Ø) | 50 | 0.90 |
| C | 1 | INVERTER | PV METER | 1 | 4 AWG | THWN-2 | COPPER | 1 | 1.25" | PVC | 3+N | 30.05 | 1.0 | 70 | 6 AWG | THWN-2 | COPPER | 30.7 | 0.96 | 48.3 | 60.4 | 95 | 91.2 | 60 | 70 | 208 | AC (3Ø) | 10 | 0.12 |
| D | 1 | PV METER | AC DISCONNECT | 1 | 4 AWG | THWN-2 | COPPER | 1 | 1.25" | PVC | 3+N | 30.05 | 1.0 | 70 | 6 AWG | THWN-2 | COPPER | 30.7 | 0.96 | 48.3 | 60.4 | 95 | 91.2 | 60 | 70 | 208 | AC (3Ø) | 10 | 0.12 |
| E | 1 | AC DISCONNECT | MAIN SERVICE PANEL (POI) | 1 | 4 AWG | THWN-2 | COPPER | 1 | 1.25" | PVC | 3+N | 26.66 | 1.0 | N/A | N/A | N/A | N/A | 30.7 | 0.96 | 48.3 | 60.4 | 95 | 91.2 | 60 | 70 | 208 | AC (3Ø) | 10 | 0.12 |

| SYSTEM SUMMARY | | |
|---|---|---|
| INVERTER | SOLAREDGE SE17.3KUS | |
| INVERTER STRINGING | 1-A | 1-B |
| OPTIMIZERS MAX OUTPUT CURRENT (A) | 18 | 18 |
| MODULES IN SERIES | 23 | 22 |
| NOMINAL STRING VOLTAGE (V) | 600 | 600 |
| STRING ARRAY STC POWER (W) | 11960 | 11440 |
| INVERTER STC POWER (W) | 23400 | |
| INVERTER AC POWER (W) | 17300 | |
| DC/AC RATIO | 1.35 | |
| INVERTER AC CURRENT (A) | 48.25 | |

| MODULES | | | | | | | |
|---|---|---|---|---|---|---|---|
| REF. | QTY. | MAKE AND MODEL | PMAX | ISC | IMP | VOC | VMP | TEMP. COEFF. OF VOC |
| PM1-45 | 45 | SILFAB SIL-520 QM | 520W | 13.65A | 12.85A | 37.68V | 47.52V | -0.090V/°C (-0.24%/°C) |

| INVERTERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| REF. | QTY. | MAKE AND MODEL | AC VOLTAGE | RATED POWER | MAX OUTPUT CURRENT | MAX INPUT CURRENT | MAX INPUT VOLTAGE | MAX EFFICIENCY |
| INV 1-1 | 1 | SOLAREDGE SE17.3KUS | 208V | 17300W | 48.25A | 48.25A | 600V | 97.5% |

01 ELECTRICAL CALCULATIONS

NOT TO SCALE

STATE OF OHIO
METHODE MANIRAGUHA
PE-83807 Exp. 12/31/2025
REGISTERED
PROFESSIONAL ENGINEER

STAMPED : 05/16/2025

PAGE NUMBER: PV–7

PAGE TITLE:
ELECTRICAL CALCULATIONS

DESIGNER: M.W

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DATE: 5.2.2025

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QTY: 1

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YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

**WARNING**

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

AT COMBINER BOX, CIRCUITS / CONDUIT COMBINER BOX / ENCLOSURES / EMT ENCLOSURES / DC DISCONNECT / BREAKER / RECOMBINER BOX / MAIN SERVICE DISCONNECT / BREAKER PANEL / PULL BOXES / AC DISCONNECT / BREAKER / POINTS OF CONNECTION
NEC 705.20(7) AND NEC 690.13(B)

**WARNING**

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

AT COMBINER BOX, CIRCUITS / CONDUIT COMBINER BOX / ENCLOSURES / EMT ENCLOSURES / MAIN SERVICE DISCONNECT / BREAKER PANEL / PULL BOXES
NEC 110.27(C) & OSHA 1910.145(F)(7)

**WARNING**

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

AT DC DISCONNECT / BREAKER / RECOMBINER BOX
NEC 705.20(7) AND NEC 690.13(B)

**PHOTOVOLTAIC AC DISCONNECT**

AT AC DISCONNECT / BREAKER / POINTS OF CONNECTION
NEC 690.13(B)

STATE OF OHIO
METHODE MANIRAGUHA
PE-83807 Exp. 12/31/2025
REGISTERED
PROFESSIONAL ENGINEER

STAMPED : 05/16/2025

**PHOTOVOLTAIC SYSTEM AC DISCONNECT**

MAXIMUM AC OPERATING CURRENT: 48.25 AMPS
NOMINAL OPERATING AC VOLTAGE: 208 VOLTS

AT POINT OF INTERCONNECTION / INVERTER / AC DISCONNECT / BREAKER / POINTS OF CONNECTION
NEC 690.54

**SOLAR PV DC CIRCUIT**

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.
NEC 690.31(D)(2)
WHITE ON RED BACKGROUND;
REFLECTIVE [IFC 605.11.1.1]

**MAIN PHOTOVOLTAIC SYSTEM DISCONNECT**

AT MAIN SERVICE DISCONNECT/ UTILITY METER
NEC 690.13(B)

**WARNING DUAL POWER SOURCE**
**SECOND SOURCE IS PHOTOVOLTAIC SYSTEM**

AT PRODUCTION METER / BREAKER PANEL / PULL BOXES
NEC 705.30(C) & NEC 690.59

**PHOTOVOLTAIC DC DISCONNECT**

AT DC DISCONNECT / BREAKER / RECOMBINER BOX
NEC 690.13(B)

**MAXIMUM DC VOLTAGE 600 VOLTS OF PV SYSTEM**

AT POINT OF INTERCONNECTION / INVERTER / AC DISCONNECT / BREAKER / POINTS OF CONNECTION
NEC 690.54

**PHOTOVOLTAIC POWER SOURCE**

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.
NEC 690.31(D)(2)
WHITE ON RED BACKGROUND;
REFLECTIVE [IFC 605.11.1.1]

**WARNING**

THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT

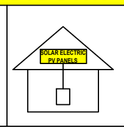
AT INVERTER
NEC 690.31(E)

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

AT SYSTEM'S RAPID SHUTDOWN
[NEC 690.12(D)(2)].

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

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




AT SYSTEM'S RAPID SHUTDOWN
[NEC 690.12(D)].

01 PV LABELS
NOT TO SCALE

PAGE NUMBER: PV-8
PAGE TITLE:
PV LABELS

DESIGNER: M.W

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DATE: 5.2.2025

PROJECT NUMBER

2739

PROJECT NAME

308 CLEVELAND MASS LLC MAIN OFFICE

PROJECT DETAILS

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EMAIL:
steve.mastrantonio@gmail.com

SYSTEM DETAILS

SYSTEM TYPE:
GRID-TIED
MOUNTING METHOD:
ROOF MOUNT
SYSTEM DC SIZE:
45 x 520W = 23.40KW
SYSTEM AC SIZE:
17.30KW
PV MODULE:
SILFAB SIL-520 QM
QTY: 45
INVERTER:
SOLAREDGE SE17.3KUS
QTY: 1

INSTALLER DETAILS

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YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

# SILFAB COMMERCIAL NTC

SIL-520 QM

SILFAB SOLAR®

## NEXT-GENERATION N-TYPE CELL TECHNOLOGY

**Manufactured exclusively in the USA.**

- Increased Performance in High Temperatures
- Enhanced Durability
- Lower Temperature Coefficient
- Reduced Degradation Rate
- 25-Year Product Warranty/ 30-Year Performance Warranty

SILFABSOLAR.COM

| ELECTRICAL SPECIFICATIONS | | 520 | |
|---|---|---|---|
| Test Conditions | | STC | NOTC |
| Module Power (Pmax) | Wp | 520 | 384 |
| Maximum power voltage (Vpmax) | V | 40.48 | 37.24 |
| Maximum power current (Ipmax) | A | 12.85 | 10.31 |
| Open circuit voltage (Voc) | V | 47.52 | 43.71 |
| Short circuit current (Isc) | A | 13.65 | 10.96 |
| Module efficiency | % | 21.9% | |
| Maximum system voltage (VDC) | V | 1500 | |
| Series fuse rating | A | 25 | |
| Power Tolerance | Wp | 0 to +10 | |

Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.

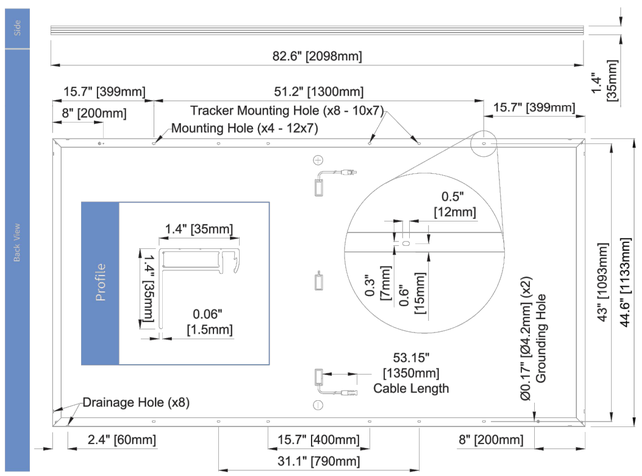
| MECHANICAL PROPERTIES / COMPONENTS | METRIC | IMPERIAL |
|---|---|---|
| Module weight | 26.2kg ± 0.2kg | 57.8lbs ± 0.4lbs |
| Dimensions (H x L x D) | 2098 mm x 1133 mm x 35 mm | 82.6 in x 44.6 in x 1.37 in |
| Maximum surface load (wind/snow)* | 2400 Pa rear load / 5400 Pa front load | 50.1 lb/ft² rear load / 112.8 lb/ft² front load |
| Hail impact resistance | ø 25 mm at 83 km/h | ø 1 in at 51.6 mph |
| Cells | 132 Half cells - N-Type Silicon solar cell 182 mm x 91 mm | 132 Half cells - N-Type Silicon solar cell 3.58 x 7.16 in |
| Glass | 3.2 mm high transmittance, tempered, DSM antireflective coating | 0.126 in high transmittance, tempered, DSM antireflective coating |
| Cables and connectors (refer to installation manual) | 1350 mm, ø 5.7 mm, EVO2 from Staubli | 53.15 in, ø 0.22 in (12AWG), EVO2 from Staubli |
| Backsheet | High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV white backsheet | |
| Frame | Anodized Aluminum (Silver) | |
| Junction Box | UL 3730 Certified, IEC 62790 Certified, IP68 rated, three diodes | |

| TEMPERATURE RATINGS | |
|---|---|
| Temperature Coefficient Isc | +0.04 %/°C |
| Temperature Coefficient Voc | -0.24 %/°C |
| Temperature Coefficient Pmax | -0.29 %/°C |
| NOCT (± 2°C) | 45 °C |
| Operating temperature | -40/+85 °C |

| WARRANTIES | |
|---|---|
| Module product workmanship warranty | 25 years** |
| Linear power performance guarantee | 30 years |
| | ≥ 98% end 1st yr<br>≥ 94.7% end 12th yr<br>≥ 90.8% end 25th yr<br>≥ 89.3% end 30th yr |

| CERTIFICATIONS | | SHIPPING SPECS | |
|---|---|---|---|
| Product | UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IEC 61730, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listing, UL Fire Rating: Type 1 | Modules Per Pallet: | 29 or 29 (California) |
| | | Pallets Per Truck | 24 or 23 (California) |
| Factory | ISO9001:2015 | Modules Per Truck | 696 or 667 (California) |

* ⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.
** 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com
PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads





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PAGE NUMBER: PV–10

PAGE TITLE:
DATASHEETS

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WWW.YELLOWLITE.COM

PAPER SIZE: 17" x 22" (ANSI C)

# Power Optimizer

## For North America

P1101


POWER OPTIMIZER

## PV power optimization at the module level

### The most cost-effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- High efficiency with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% less cables, fuses, and combiner boxes; over 2x longer string lengths possible
- Fast installation with a single bolt
- Advanced maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)

solaredge.com

solaredge

# Power Optimizer

## For North America

P1101

| Power Optimizer Model (Typical Module Compatibility) | | P1101 (for up to 2 x high power or bi-facial modules) | Units |
|---|---|---|---|
| **INPUT** | | | |
| Rated Input DC Power(1) | | 1100 | W |
| Connection Method | | Single input for series connected modules | |
| Absolute Maximum Input Voltage (Voc at lowest temperature) | | 125 | Vdc |
| MPPT Operating Range | | 12.5 – 105 | Vdc |
| Maximum Short Circuit Current (Isc) | | 14.1 | Adc |
| Maximum Short Circuit Current per Input (Isc) | | - | Adc |
| Maximum Efficiency | | 99.5 | % |
| Weighted Efficiency | | 98.6 | % |
| Overvoltage Category | | II | |
| **OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)** | | | |
| Maximum Output Current | | 18 | Adc |
| Maximum Output Voltage | | 80 | Vdc |
| **OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)** | | | |
| Safety Output Voltage per Power Optimizer | | 1 ± 0.1 | Vdc |
| **STANDARD COMPLIANCE** | | | |
| Photovoltaic Rapid Shutdown System | | Compliant with NEC 2014, 2017, 2020 | |
| EMC | | FCC Part 15 Class A, IEC61000-6-2, IEC61000-6-3 | |
| Safety | | IEC62109-1 (class II safety), UL1741, UL3741, CSA C22.2#107.1 | |
| Material | | UL94 V-0, UV resistant | |
| RoHS | | Yes | |
| **INSTALLATION SPECIFICATIONS** | | | |
| Compatible SolarEdge Inverters | | All commercial three phase inverters | |
| Maximum Allowed System Voltage | | 1000 | Vdc |
| Dimensions (W x L x H) | | 129 x 162 x 59 / 5.1 x 6.4 x 2.32 | mm / in |
| Weight | | 1064 / 2.34 | gr / lb |
| Input Connector | | MC4(2) | |
| Input Wire Length Options | 1 | 1.6 / 5.2 | m / ft |
| | 2 | | |
| | 3 | | |
| Output Wire Type / Connector | | Double insulated; MC4 | |
| Output Wire Length | | 2.4 / 7.8 | m / ft |
| Operating Temperature Range(3) | | -40 to +85 / -40 to +185 | °C / °F |
| Protection Rating | | IP68 / NEMA6P | |
| Relative Humidity | | 0 – 100 | % |

(1) Rated power of the module at STC will not exceed the Power Optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed.
(2) For other connector types please refer to the Power Optimizer Input Connector Compatibility Technical Note.
(3) For ambient temperatures above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers De-Rating Application Note for more details.

| PV System Design Using a SolarEdge Inverter(4)(5) | | 208V Grid SE10K | 208V Grid SE17.3K* | 277/480V Grid SE30K | 277/480V Grid SE40K* | |
|---|---|---|---|---|---|---|
| Compatible Power Optimizers | | P1101 | | | | |
| Minimum String Length | Power Optimizers | 8 | 10 | 14 | 14 | |
| | PV Modules | 15 | 19 | 27 | 27 | |
| Maximum String Length | Power Optimizers | 30 | 30 | 30 | 30 | |
| | PV Modules | 60 | 60 | 60 | 60 | |
| Maximum Continuous Power per String | | 7200 | 8820 | 15300 | 15300 | W |
| Maximum Allowed Connected Power per String(6) | | 1 string – 8400 | 1 string – 10020 | 1 string – 17550 | 2 strings or less – 17550 | W |
| | | 2 strings or more – 9800 | 2 strings or more – 12020 | 2 strings or more – 20300 | 3 strings or more – 20300 | |
| Parallel Strings of Different Lengths or Orientations | | Yes | | | | |
| Maximum Difference in Number of Power Optimizers Allowed Between the Shortest and Longest String Connected to the Same Inverter Unit | | 5 Power Optimizers | | | | |

* The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter.
(4) For each string, a Power Optimizer may be connected to a single PV module if 1) each Power Optimizer is connected to a single PV module or 2) it is the only Power Optimizer connected to a single PV module in the string.
(5) Design with three phase 208V inverters is limited. Use the SolarEdge Designer for verification.
(6) To connect more STC power per string, design your project using SolarEdge Designer.



RoHS

Intertek

PAGE NUMBER:PV–11
PAGE TITLE:
DATASHEETS (2)

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DATE: 5.2.2025

PROJECT NUMBER

2739

PROJECT NAME

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steve.mastrantonio@gmail.com

SYSTEM DETAILS

SYSTEM TYPE:
GRID-TIED
MOUNTING METHOD:
ROOF MOUNT
SYSTEM DC SIZE:
45 x 520W = 23.40KW
SYSTEM AC SIZE:
17.30KW
PV MODULE:
SILFAB SIL-520 QM
QTY: 45
INVERTER:
SOLAREDGE SE17.3KUS
QTY: 1

INSTALLER DETAILS

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YellowLite
Harvesting Clean Energy

PAPER SIZE: 17" x 22" (ANSI C)

# Three Phase Inverters for the 120/208V Grid

## For North America

SE10KUS / SE17.3KUS

INVERTERS


## The best choice for SolarEdge enabled systems

- Specifically designed to work with power optimizers
- Quick and easy inverter commissioning directly from a smartphone using SolarEdge SetApp
- Fixed voltage inverter for superior efficiency and longer strings
- Built-in type 2 DC and AC Surge Protection, to better withstand lightning events
- Small, lightest in its class, and easy to install outdoors or indoors on provided bracket
- Integrated arc fault protection and rapid shutdown for NEC 2014 – 2023, per article 690.11 and 690.12
- Built-in module-level monitoring with Ethernet, wireless or cellular communication for full system visibility
- Integrated Safety Switch
- UL 1741 SA and SB certified, for CPUC Rule 21 grid compliance

solaredge.com

solaredge

# Three Phase Inverters for the 120/208V Grid(1)

## For North America

SE10KUS / SE17.3KUS

| Model Number | SE10KUS | SE17.3KUS | |
|---|---|---|---|
| Applicable to inverters with part number | SEXXK-USX2IXXXX | | |
| **OUTPUT** | | | |
| Rated AC Power Output | 10000 | 17300 | W |
| Maximum Apparent AC Output Power | 10000 | 17300 | VA |
| AC Output Line Connections | 3W + PE, 4W + PE | | |
| AC Output Voltage Minimum-Nominal-Maximum(2) (L-N) | 105 – 120 – 132.5 | | Vac |
| AC Output Voltage Minimum-Nominal-Maximum(2) (L-L) | 183 – 208 – 229 | | Vac |
| AC Frequency Minimum-Nominal-Maximum(2) | 59.3 – 60 – 60.5 | | Hz |
| Continuous Output Current (per Phase) | 27.8 | 48.25 | Aac |
| GFDI Threshold | 1 | | A |
| Utility Monitoring, Islanding Protection, Country Configurable Set Points | Yes | | |
| THD | ≤ 3 | | % |
| Power Factor Range | +/- 0.85 to 1 | | |
| **INPUT** | | | |
| Maximum DC Power (Module STC) | 17500 | 30275 | W |
| Transformer-less, Ungrounded | Yes | | |
| Maximum Input Voltage DC+ to DC- | 600 | | Vdc |
| Operating Voltage Range | 370 – 600 | | Vdc |
| Maximum Input Current | 27.8 | 48.25 | Adc |
| Maximum Input Short Circuit Current | 55 | | Adc |
| Reverse-Polarity Protection | Yes | | |
| Ground-Fault Isolation Detection | 167kΩ Sensitivity(3) | | |
| CEC Weighted Efficiency | 97 | 97.5 | % |
| Night-time Power Consumption | < 4 | | W |
| **ADDITIONAL FEATURES** | | | |
| Supported Communication Interfaces | 2 x RS485, Ethernet, Cellular (optional) | | |
| Inverter Commissioning | With the SetApp mobile application using built-in Wi-Fi access point for local connection | | |
| Rapid Shutdown | NEC 2014 – 2023, built-in | | |
| RS485 Surge Protection Plug-in | Supplied with the inverter, built-in | | |
| AC, DC Surge Protection | Type II, field replaceable, built-in | | |
| DC Fuses (Single Pole) | 25A, built-in | | |
| Smart Energy Management | Export Limitation | | |
| **DC SAFETY SWITCH** | | | |
| DC Disconnect | Integrated | | |
| **STANDARD COMPLIANCE** | | | |
| Safety | UL 1741, UL 1741 SA, UL 1741 SB, UL 1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07 | | |
| Grid Connection Standards | IEEE 1547-2018, Rule 21, Rule 14 (HI) | | |
| Emissions | FCC Part 15 Class A | | |
| **INSTALLATION SPECIFICATIONS** | | | |
| AC Output Conduit size /AWG range | ¾" or 1" / 6 - 10 AWG | | |
| DC Input Conduit size / AWG range | ¾" or 1" / 6 - 12 AWG | | |
| Number of DC inputs pairs | 4 | | |
| Dimensions with Safety Switch (H x W x D) | 31.8 x 12.5 x 11.8 / 808 x 317 x 300 | | in / mm |
| Weight with Safety Switch | 78.2 / 35.5 | | lb / kg |
| Cooling | Fans (user replaceable) | | |
| Noise | < 62 | | dBA |
| Operating Temperature Range | -40 to +140 / -40 to +60(4) | | °F / °C |
| Protection Rating | NEMA 3R | | |
| Mounting | Bracket provided | | |

(1) For 277/480V inverters refer to the Three Phase Inverters for the 277/480V Grid for North America datasheet.
(2) For other regional settings please contact SolarEdge support.
(3) Where permitted by local regulations.
(4) For power derating information refer to the Temperature Derating technical note for North America.



CE

PAGE NUMBER:PV–12
PAGE TITLE:
DATASHEETS (3)

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DATE: 5.2.2025

PROJECT NUMBER

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SYSTEM DETAILS

SYSTEM TYPE:
GRID-TIED
MOUNTING METHOD:
ROOF MOUNT
SYSTEM DC SIZE:
45 x 520W = 23.40KW
SYSTEM AC SIZE:
17.30KW
PV MODULE:
SILFAB SIL-520 QM
QTY: 45
INVERTER:
SOLAREDGE SE17.3KUS
QTY: 1

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PAPER SIZE: 17" x 22" (ANSI C)

Tech Brief

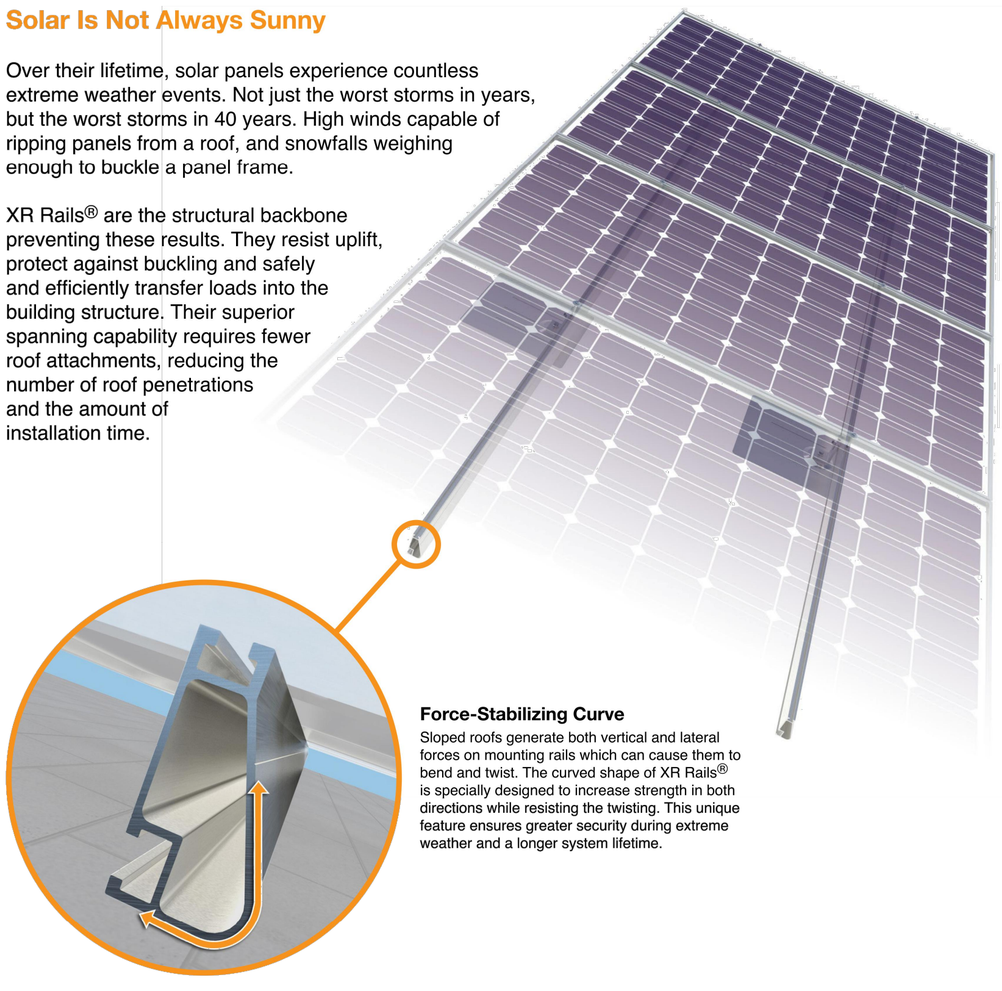
IRONRIDGE

# XR Rail® Family

## Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



### Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

### Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

### Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

Tech Brief

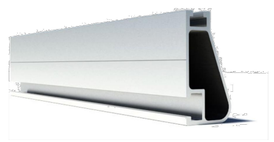
## XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.

**XR10**

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

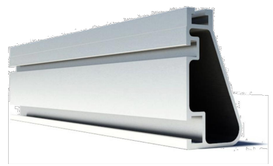
- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available



**XR100**

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



**XR1000**

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

## Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

| Load | | Rail Span | | | | | |
|---|---|---|---|---|---|---|---|
| Snow (PSF) | Wind (MPH) | 4' | 5' 4" | 6' | 8' | 10' | 12' |
| None | 90 | XR10 | | XR100 | | XR1000 | |
| | 120 | | | | | | |
| | 140 | | | | | | |
| | 160 | | | | | | |
| 20 | 90 | | | | | | |
| | 120 | | | | | | |
| | 140 | | | | | | |
| | 160 | | | | | | |
| 30 | 90 | | | | | | |
| | 160 | | | | | | |
| 40 | 90 | | | | | | |
| | 160 | | | | | | |
| 80 | 160 | | | | | | |
| 120 | 160 | | | | | | |

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.



PAGE NUMBER: PV-13
PAGE TITLE:
DATASHEETS (4)

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45 x 520W = 23.40KW
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INVERTER:
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PAPER SIZE: 17" x 22" (ANSI C)

Tech Brief

IRONRIDGE

QuickMount® HUG

## The Respect Your Roof Deserves

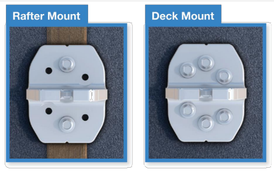
When integrating with a home, solar attachments must be dependable for the lifetime of the rooftop. Due to recent innovations, many asphalt shingles have bonded courses. A mount that protects without the need to pry shingles can really speed things up.

Halo UltraGrip®(HUG®) is here to respect the roof. Its Halo is a cast-aluminum barrier that encases the UltraGrip, our industrial-grade, foam-and-mastic seal. This allows HUG to accelerate the installation process and provide the utmost in waterproofing protection. Give your roof a HUG.®

**Multi-Tiered Waterproofing**
HUG® utilizes a multi-tiered stack of components to provide revolutionary waterproofing protection. The Halo cast-aluminum, raised-perimeter foundation surrounds the UltraGrip base—a foam-backed mastic seal combination that prevents water intrusion by adhering and sealing with the shingle surface.

Halo UltraGrip™ is part of the QuickMount® product line.

**UltraGrip® Seal Technology**
HUG UltraGrip utilizes a state-of-the-art seal design that uses a unique, foam-and-mastic combination. The foam-backed adhesive provides an entirely new flashing system that conforms and adheres to every nook and cranny of composition shingles, filling gaps and shingle step-downs (up to 1/8" in height).




**Rafter & Deck Mounting Options**
Mount HUG® to the roof rafters, the roof deck, or both with our custom-engineered RD (rafter-or-deck) Structural Screw. The RD Structural Screw anchors HUG to the roof with an EPDM sealing washer, completing the stack of waterproofing barriers. See backside for more installation information.

**Triple Rated & Certified to Respect the Roof™**
UL 2703, 441 (27)
TAS 100(A)-95

Tech Brief

## Adaptive, Rafter-Friendly Installation

**Hit the rafter? Good to go!**
When you find a rafter, you can move on. Only 2 RD Structural Screws are needed.

**Miss the rafter? Try it again.**
Place another screw to the left or right. If rafter is found, install 3rd and final screw.

**Still no luck? Install the rest.**
If more than 3 screws miss the rafter, secure six screws to deck mount it.

## Trusted Strength & Less Hassle

**25-Year Warranty**
Product guaranteed free of impairing defects.

Structural capacities of HUG® were reviewed in many load directions, with racking rail running cross-slope or up-slope in relation to roof pitch.

For further details, see the HUG certification letters for attaching to rafters and decking.

IronRidge designed the HUG, in combination with the RD Structural Screw to streamline installs, which means the following:

- No prying shingles
- No roof nail interference
- No pilot holes necessary
- No sealant (in most cases)
- No butyl shims needed

### Attachment Loading

The rafter-mounted HUG has been tested and rated to support 1004 (lbs) of uplift and 368 (lbs) of lateral load.

### Structural Design

Parts are designed and certified for compliance with the International Building Code & ASCE/SEI-7.

### Water Seal Ratings

HUG passed both the UL 441 Section 27 “Rain Test” and TAS 100(A)-95 “Wind Driven Rain Test” by Intertek.

### UL 2703 System

Systems conform to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.



PAGE NUMBER:PV–14
PAGE TITLE:
DATASHEETS (5)

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