



Design Review Board Meeting
Tuesday, May 28, 2024 - 5:30 PM
AGENDA

1. Call to Order
2. Roll Call
3. Public Comment
4. Action on Minutes
 - a. May 14, 2024
5. TABLED; Application # 3-19-1 Certificate of Appropriateness 670 W. Coshocton; Sign Tabled April 23, 2024
 - a. Application - updated materials
6. TABLED; Application # 4-18-1 Certificate of Appropriateness 412 Buena Vista Drive ; Solar Panels Tabled May 14, 2024
 - a. Application
7. Other Business
8. Adjourn



Design Review Board
Tuesday, May 14, 2024 - 5:00 PM
MINUTES

1. Call to Order

Board Chair Heather Green called the Design Review Board to order for May 14, 2024 at 5:55 pm

2. Roll Call

Present - Board Chair Heather Green, Candice Evans, Andrew Hale, Franz Stein, Craig Bohning

Absent - None

Staff present - Sean Staneart - City Manager, Teresa Monroe - Clerk of Council, Terry Wymer - Zoning Inspector

Public present - Logan Miller, Steve Moore, Mike Dwyer

3. Public Comments on Items Not on the Agenda

No comments

4. Action on Minutes

a. April 23, 2024

ACTION: Craig Bohning moved to approve as written; Candice Evans seconded and the vote was as follows:

AYES: Craig Bohning, Heather Green, Candice Evans, Andrew Hale, Franz Stein

NOES: None

ABSTAIN: None

Passed 5 - 0

5. TABLED Application # 3-19-2 Certificate of Appropriateness 670 W. Coshocton; Sign Permit
Nothing new turned in; remains tabled.

6. Application # 4-18-1 Certificate of Appropriateness 412 Buena Vista Drive ; Solar Panels

a. Application

Andrew Hale asked for an update on the Design Review Board's recommendation to Council for a moratorium on solar panels. Sean Staneart said that there are provisions at the state level that prohibit banning solar panels. Council did amended Chapter 1187 moving approval of solar panels from a minor environmental change to a major environmental change, which means these applications now come to the Design Review Board for better oversight.

Mr. Hale said the issue with this application is that this solar system has already been installed, it is already on the roof. Mr. Staneart said that if the board does not approve it as they have built it, they would then be required to remove it and comply with what is

approved. Otherwise, they would have a violation, fines and have to go to Mayor's Court because they proceeded without a COA application. Mr. Staneart said the board should proceed as if the system has not been installed and give guidelines on what they would like to see.

Logan Miller, a representative for the applicant was present and said he could speak generally on the project because their sales are exclusive with one manufacturer, but this specific project was not one of his sales therefore he is not a lead on it. An overhead view of the site plan and system diagrams were provided with the application. Board Chair Heather Green said that at this point she does not think they can fully review what they are seeing and would recommend tabling this application. She informed Mr. Miller that they need to be able to see what this will look like because this is a body that reviews for design. The board requested that the applicant return with visuals from all sides, elevations and sight line views.

ACTION: Heather Green moved to table application #4-18-1, with the stipulations that they need to see elevations and sight line views; Andrew Hale seconded and the vote was as follows:
AYES: Heather Green, Franz Stein, Craig Bohning, Candice Evans, Andrew Hale
NOES: None
ABSTAIN: None

Passed 5 - 0

7. Application 4-11-2 Certificate of Appropriateness 921 W. Coshocton Street; Sign Permit (ACE Hardware)

a. Application

Sean Staneart reviewed the application and sign dimensions and stated that they are in compliance. Steve Moore with Moore Signs and ACE Hardware owner Mike Dwyer were present for the application. Mr. Moore reviewed the sign specifications and design presented in the packet. The Board was in favor of the sign as presented, there was discussion on exterior lighting for the sign and conditional approval of lighting with this COA application.

Conditions for approval:

1. Sign to be up lit from the canopy
2. Light to "wash" the sign, not spotlight, and not to extend past the tower roof line
3. Dimmable light
4. 5,000 Kelvin
4. Fixture minimum of two, maximum of three, to be concealed

Public Comments:

1. Jesse Coppel

- Referenced the zoning code requiring a minimum letter depth of one inch. It was noted that this sign is two inches.

ACTION: Andrew Hale moved to approve with the conditions as listed; Heather Green seconded and the vote was as follows:
AYES: Andrew Hale, Craig Bohning, Heather Green, Candice Evans, Franz Stein
NOES: None
ABSTAIN: None

Passed 5 - 0

8. Other Business

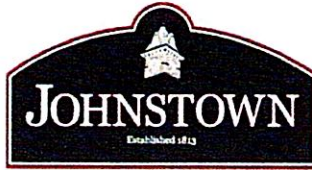
1. Franz Stein asked if staff could get some direction on a provision for measuring luminosity. Mr. Staneart said he could check with MKSK for some guidance.
2. Andrew Hale asked if staff could begin to instruct applicants to provide elevations and sight lines.
3. Board inquiry on NAPA's progress with removing the paint from building bricks. Mr. Staneart said there has been a trial with a type of paint remover which did not go well, they are going to try another type and if not successful, then begin to sandblast.

9. Adjourn

ACTION: Heather Green moved to adjourn; Andrew Hale seconded and all were in favor.
AYES: Heather Green, Candice Evans, Franz Stein, Andrew Hale, Craig Bohning
NOES: None
ABSTAIN: None

Passed 5 - 0

The meeting adjourned at 6:57 pm



CERTIFICATE OF APPROPRIATENESS: CHAPTER #1187

Application Number: 3-19-1 Date: 3/19/24

FEES:

Base Fee: \$ 300

Total Fee Amount: \$ _____ Paid: Check # _____ Cash: \$ _____

(PLEASE PRINT)

1. Applicant: Terry Henson Phone: (614) 554-9328
2. Property Address: 670 West Coshocton Street City: Johnstown State: OH Zip: 43031
3. Applicant's E-mail: tsampson@camelcityposters.com
4. Business Owner's Name: Terry Henson Phone: (614) 554-9328
5. Contractor's Name: Irvin Phone: (614) 264-1936
6. Principal Business Activity: Warehouse, and Retail
7. Existing Use of Property: Warehouse, and Retail
8. Square Footage of Proposed Building or Business: 8048 sq. ft.
9. Zoning District: GCC-2 Number of Off-Street Parking Spaces: _____
10. Estimated Cost of Improvements: \$25,000

IN ADDITION, THE FOLLOWING ITEMS MUST ACCOMPANY THIS APPLICATION:

- (Conditional) Eight full sets (11x17) of to scale plans and dimensioned drawings showing the property, with all elevations and the location of existing and proposed buildings and alterations are required. Attach any requested, supplemental or necessary documentation. **(Required only if asked for by the Zoning Inspector.)**

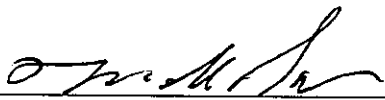
List of Materials that will be used on the project:

- | | |
|-------------|------------|
| 1. concrete | 2. Brick |
| 3. Aluminum | 4. Acrylic |
| 5. _____ | 6. _____ |
| 7. acrylic | 8. _____ |

List of Contiguous Neighbors and Addresses:

- | | | | |
|---------------------------|---------------------------|-------|----------|
| 1. Wendys properties | 708 West Coshocton Street | | |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 2. Coughlin properties | Coshocton Street | | |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 3. Paul K Hill | | | |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 4. Cherry Hill Properties | 708 Johnstown-Utica Road | | |
| Neighbor's Name | Neighbor's Address | State | Zip Code |

The undersigned is applying for a Certificate of Appropriateness Permit for the following use: said permit is to be issued based on the information contained within this application. The applicant hereby certifies that all information and attachments to this application are true & correct and agrees to follow all applicable laws.

Applicant's Signature: x  Date: 3 / 19 / 2024

OFFICE USE ONLY:

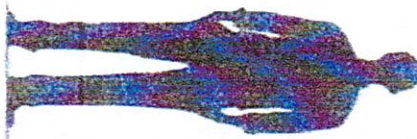
Date Received in Office: 3 / 19 / 24 By: T. Wymer

Date of Planning and Zoning Commission Meeting: 3 / 26 / 24

Date Permit Approved or Denied by Planning Commission: / /

Conditions Necessary for Approval: _____

City Manager Signature: x _____



18"

36"

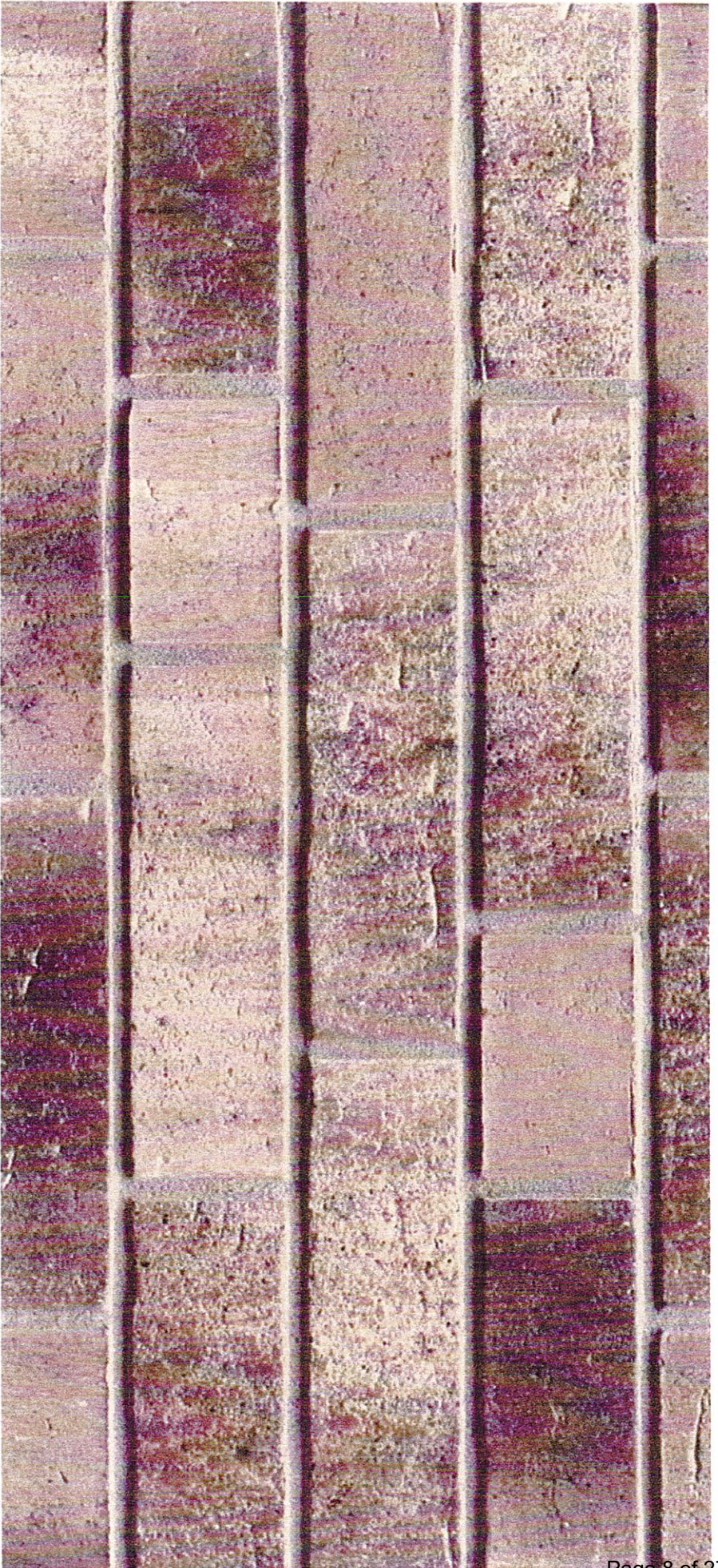
6'

8.0'

670 West Coshocton Ave.			
Tee's Flooring		Amish Merchantile	
Prism Trading Co.		Flying Iron Axe Throwing	
Strokes Virtual Sports		Prodigy Commercial Construction	

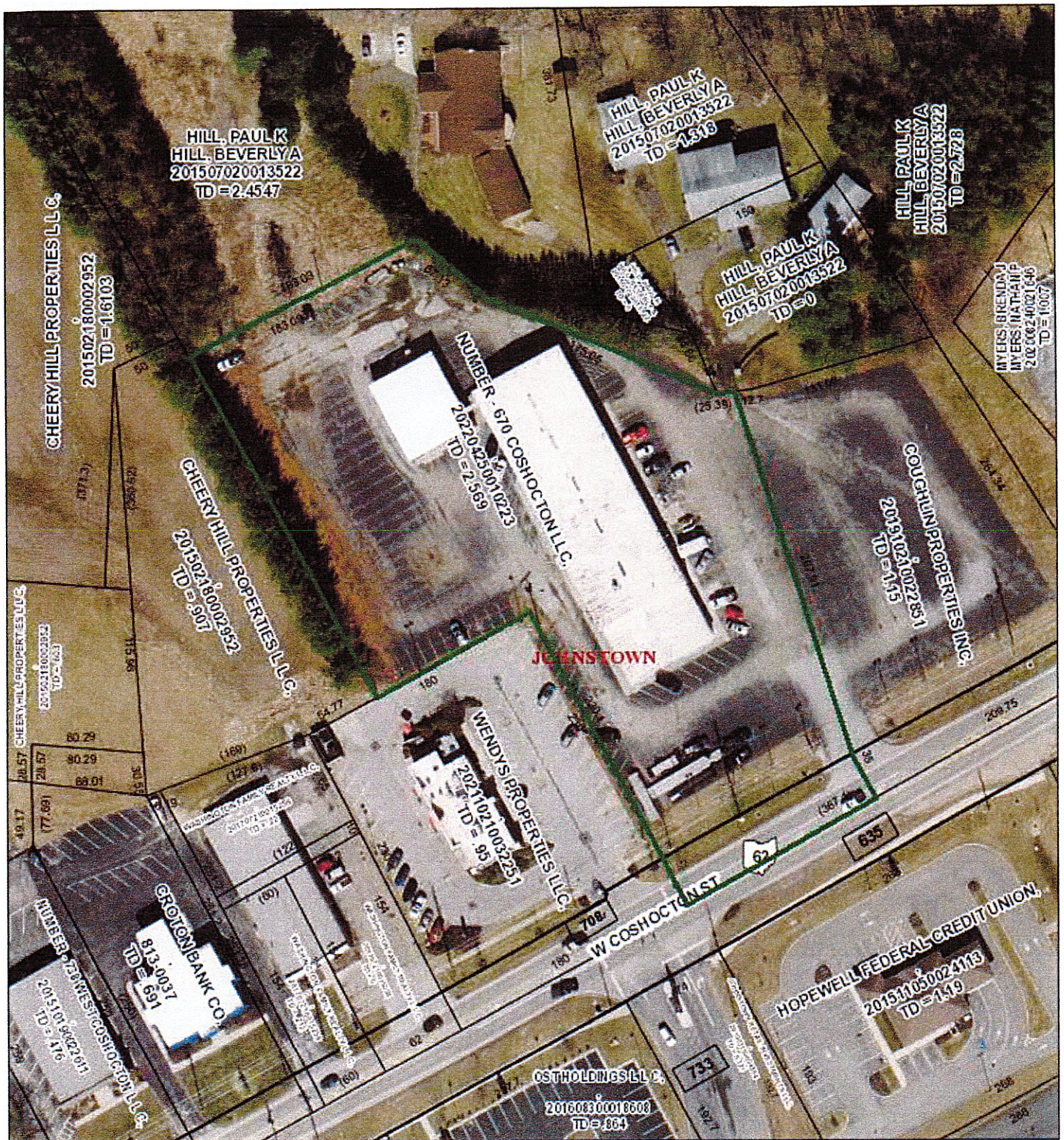
DOUBLE-FACE ALUMINUM EXTRUSION CABINET LED INTERNALLY ILLUMINATED
PAINTED RED WITH SEMI-GLOSS FINISH
FLAT LEXAN FACE WITH RED VINYL APPLIED FIRST SURFACE
DISCONNECT SWITCH
Test font: Berlin Sans FB Demi
BRICK BASE BY OTHERS

1-1/2" DEEP HYDRO VAC FOUNDATION
30" x 5.0" DEEP HYDRO VAC FOUNDATION

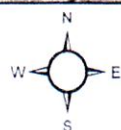


773 Rustic Gray Waterstruck Thin Brick



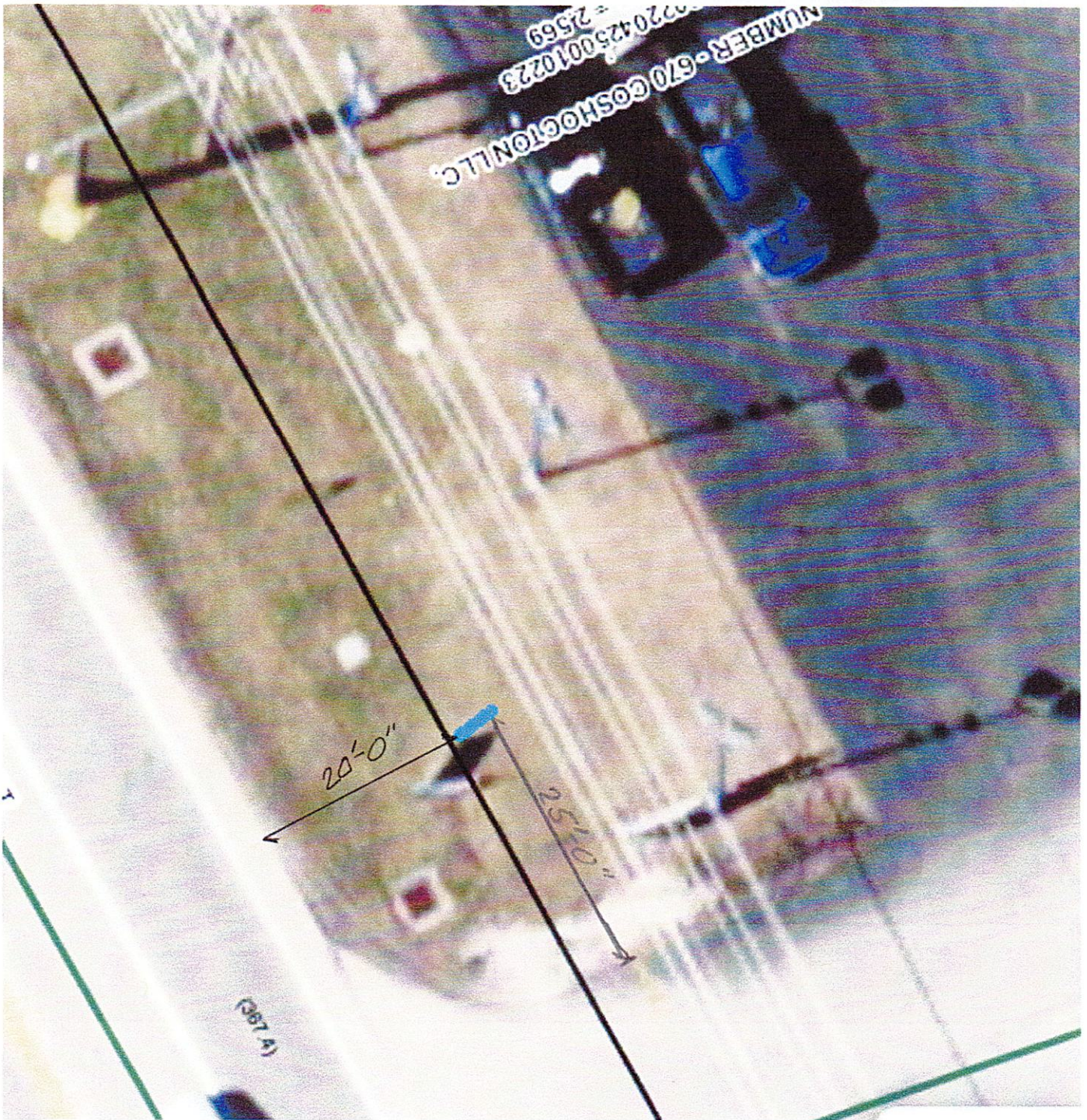


April 26, 2024



0 100 Feet
0.02 Miles

LICKING COUNTY TAX MAP





CERTIFICATE OF APPROPRIATENESS: CHAPTER #1187

Application Number: 4-18-1 Date: 4/18/2024

FEEES:

Base Fee: \$ 300

Total Fee Amount: \$ 300 Paid: Check # 3614 Cash: \$

JOHNSTOWN, OHIO
APR 22 2024
PAID

(PLEASE PRINT)

1. Applicant: May Jarzyna Phone: (866) 763 - 0075
2. Property Address: 412 Buena Vista Dr, City: Johnstown State: OH Zip: 43031
3. Applicant's E-mail: Installations@esolar.us
4. Business Owner's Name: Eddie Alarcon Phone: (330) 204 - 6454
5. Contractor's Name: EnSMARRT Phone: (866) 763 - 0075
6. Principal Business Activity: _____
7. Existing Use of Property: Residential
8. Square Footage of Proposed Building or Business: _____ sq. ft.
9. Zoning District: _____ Number of Off-Street Parking Spaces: _____
10. Estimated Cost of Improvements: \$ 21,771.00

IN ADDITION, THE FOLLOWING ITEMS MUST ACCOMPANY THIS APPLICATION:

- *(Conditional)* Eight full sets (11x17) of to scale plans and dimensioned drawings showing the property, with all elevations and the location of existing and proposed buildings and alterations are required. Attach any requested, supplemental or necessary documentation. **(Required only if asked for by the Zoning Inspector.)**

List of Materials that will be used on the project:

- | | |
|----------------------|----------------------------|
| 1. Solar Panels | 2. Aluminum railing system |
| 3. Electrical wires | 4. PVC Conduit |
| 5. Electrical panels | 6. _____ |
| 7. _____ | 8. _____ |

List of Contiguous Neighbors and Addresses:

- | | | | |
|-----------------|--------------------|-------|----------|
| 1. _____ | _____ | _____ | _____ |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 2. _____ | _____ | _____ | _____ |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 3. _____ | _____ | _____ | _____ |
| Neighbor's Name | Neighbor's Address | State | Zip Code |
| 4. _____ | _____ | _____ | _____ |
| Neighbor's Name | Neighbor's Address | State | Zip Code |

The undersigned is applying for a Certificate of Appropriateness Permit for the following use: said permit is to be issued based on the information contained within this application. The applicant hereby certifies that all information and attachments to this application are true & correct and agrees to follow all applicable laws.

Applicant's Signature: x May Jarzyna Date: 4 / 18 / 2024

OFFICE USE ONLY:

Date Received in Office: 4 / 18 / 24 By: Jalubook

Date of Planning and Zoning Commission Meeting: 5 / 14 / 2024

Date Permit Approved or Denied by Planning Commission: ____ / ____ / ____

Conditions Necessary for Approval: _____

City Manager Signature: x _____

PHOTOVOLTAIC ROOF MOUNT SYSTEM

18 MODULES - SYSTEM SIZE STC (7.380 kW DC / 6.912 kW AC)
412 BUENA VISTA DRIVE, JOHNSTOWN, OH 43031, USA (40.1548280, -82.6974990)

SYSTEM SUMMARY STC (7.380 kW DC / 6.912 kW AC)

- STC DC: (18) 410W = 7.380 kW
STC AC: (18) 384W = 6.912 kW
- (18) SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V] MODULES
 - (18) (SPWR-A5) TYPE H (ENPHASE IQ7HS) (240V) MICROINVERTERS
 - 2x BRANCHES OF 9 CONNECTED IN PARALLEL

GOVERNING CODES

- 2017 OHIO FIRE CODE
- 2024 OHIO STATE BUILDING CODE
- 2019 RESIDENTIAL CODE OF OHIO
- 2023 NFPA 70 - NATIONAL ELECTRICAL CODE

GENERAL NOTES

- ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS IN COMPLIANCE WITH UL REQUIREMENTS TO ACCOMMODATE CONDUCTORS SHOWN.
- THIS SYSTEM WILL NOT BE INTERCONNECTED UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND UTILITY IS OBTAINED.
- ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT INCLUDING THOSE THAT ARE EXPOSED TO OUTSIDE ENVIRONMENT SHALL BE WEATHERPROOF AND SHALL BE LISTED BY 'UL' FOR THE TYPE OF APPLICATION AND 'UL' LABEL SHALL APPEAR ON ALL ELECTRICAL EQUIPMENT.
- WIRING METHOD SHALL BE EMT ABOVE GROUND MOUNTED IN CONCEALED SPACES (UNLESS APPROVED OTHERWISE) AND SCHEDULE-40 PVC FOR BELOW GROUND INSTALLATIONS UNLESS NOTED OTHERWISE.
- AN OSHA APPROVED LADDER PROVIDING ACCESS TO ALL PORTIONS OF THE ARRAY SHALL BE SECURED IN PRIOR TO REQUESTING INSPECTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE CONDUCTOR IF NECESSARY.

LEGEND

- NEW PV MODULE

FIRE SETBACK

OPTIMIZER

MICRO-INVERTER

ROOF ATTACHMENT

ROOF ACCESS POINT
- JBA

CBA

DA

PVS6
- AC JUNCTION BOX (NEW)

AC COMBINER PANEL (NEW)

AC DISCONNECT UNFUSED (NEW)

MONITORING DEVICE (NEW)
- MSP

UM
- MAIN SERVICE PANEL (EXISTING, 225A)

UTILITY METER (EXISTING)
- DIMENSIONS

PROPERTY LINE

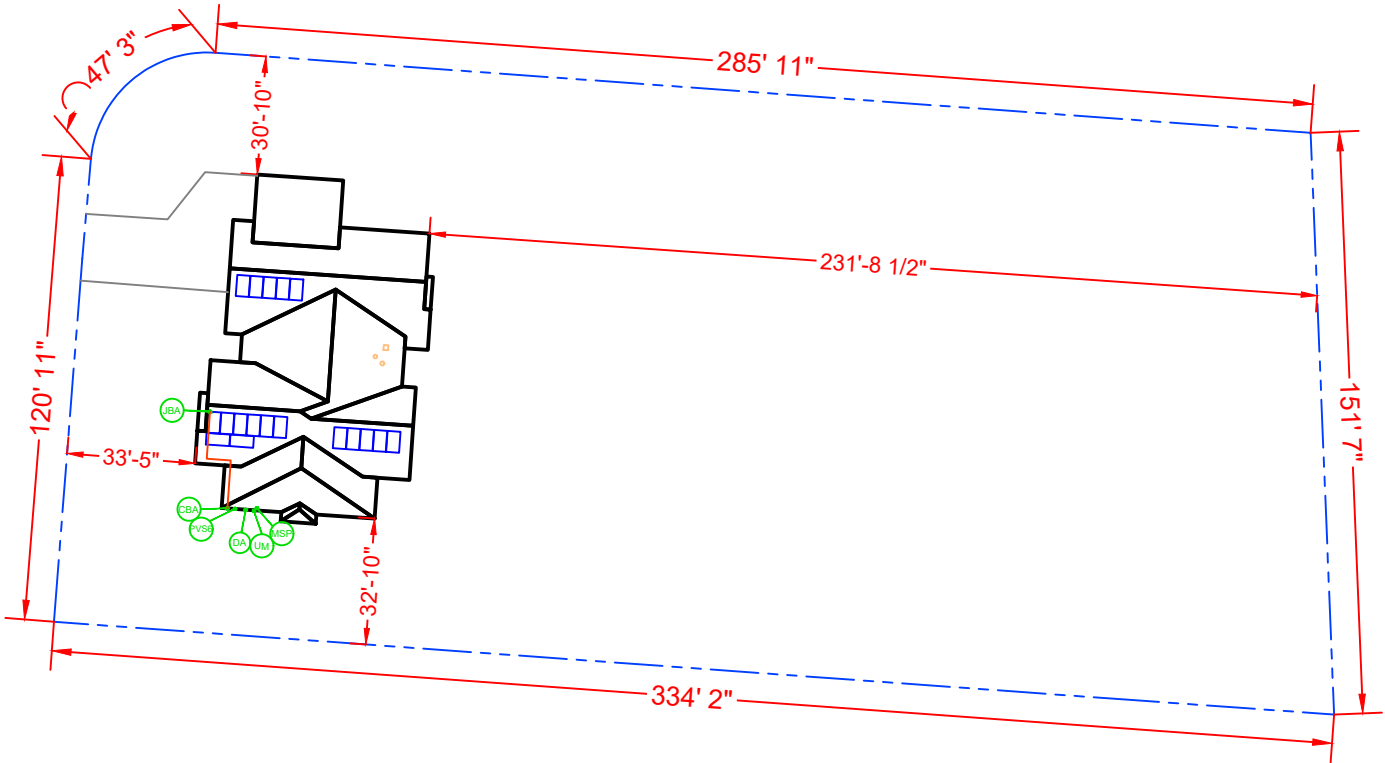
CONDUIT

DRIVEWAY

OBSTRUCTION

BUENA VISTA DRIVE

SITE PLAN
SCALE: 1/50"=1'-0"



WIRE RUN THROUGH ATTIC

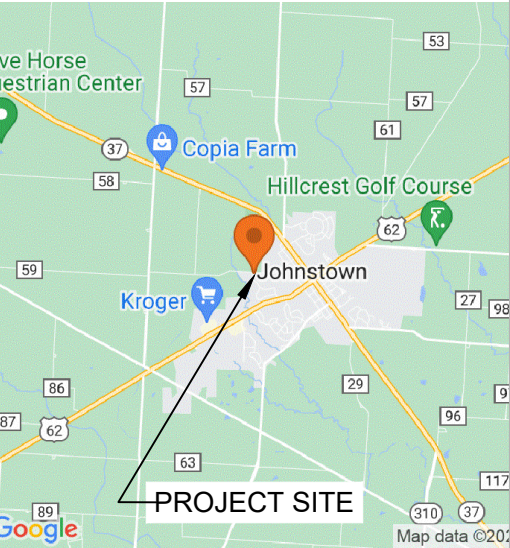
SHEET INDEX

PV-1	COVER PAGE
PV-2	ROOF PLAN WITH MODULES
PV-3	ATTACHMENT DETAIL
PV-4	SINGLE LINE DIAGRAM
PV-4.1	THREE LINE DIAGRAM
PV-5	WIRING CALCULATION
PV-6	PLACARDS
PV-7+	EQUIPMENT SPECIFICATION

AHJ: JOHNSTOWN VILLAGE
UTILITY: OHIO POWER CO (AEP OHIO)



HOUSE PHOTO
SCALE: NTS



VICINITY MAP
SCALE: NTS



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654, USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

HOMEOWNER INFO

KELLE NYE
412 BUENA VISTA DRIVE,
JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

COVER PAGE

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-1

WIRE RUN THROUGH ATTIC

- (18x) SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V] (73.7" x 40.6", 48.1 LB)
- (18x) (SPWR-A5) TYPE H (ENPHASE IQ7HS) (240V) MICROINVERTERS (2.38LB)

- ATTACHMENT COUNT: 31
- MOUNTING SYSTEM WEIGHT / MODULE: 1.5 LB
- MOUNTING SYSTEM WEIGHT: (31) 1.5 LB = 46.5 LB

- ATTACHMENT COUNT: 11
- MOUNTING SYSTEM WEIGHT / MODULE: 1.5 LB
- MOUNTING SYSTEM WEIGHT: (5) 1.5 LB = 7.5 LB

- PANEL AREA: (18) 73.7" x 40.6" = 374 SF
- PANEL WEIGHT: (18) 48.1 = 865 LB
- TOTAL SYSTEM WEIGHT: 865 + 19.5 + 7.5 + 43 = 935 LB
- WEIGHT PER CONNECTION: 935 LB / 42 = 22.26 LB
- DISTRIBUTED LOAD: 935 LB / 374 SF = 2.50 PSF
- ROOF AREA COVERAGE: 374 SF / 4468 SF = 8.4%

ROOF PLANE	ROOF PITCH	ROOF AZIMUTH	ROOF MATERIAL	TRUSS SIZE	TRUSS SPACING	ATTACHMENT SPACING	MODULES (PITCH)
#1	27°	184°	ASPHALT SHINGLE	2" x 4"	24" O.C.	48" O.C.	13 (27°)
#2	27°	184°	ASPHALT SHINGLE	2" x 4"	24" O.C.	48" O.C.	5 (27°)

- SHALL NOT BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES OR SIGNS.

- EXPOSURE CATEGORY = B
- WIND SPEED = 107 MPH
- SNOW LOAD = 20 PSF

Legend for the solar panel layout diagram:

- NEW PV MODULE
- FIRE SETBACK
- OPTIMIZER
- MICRO-INVERTER
- ROOF ATTACHMENT
- ROOF ACCESS POINT
- DIMENSIONS
- CONDUIT
- TRUSS
- RAIL
- OBSTRUCTION
- GATE

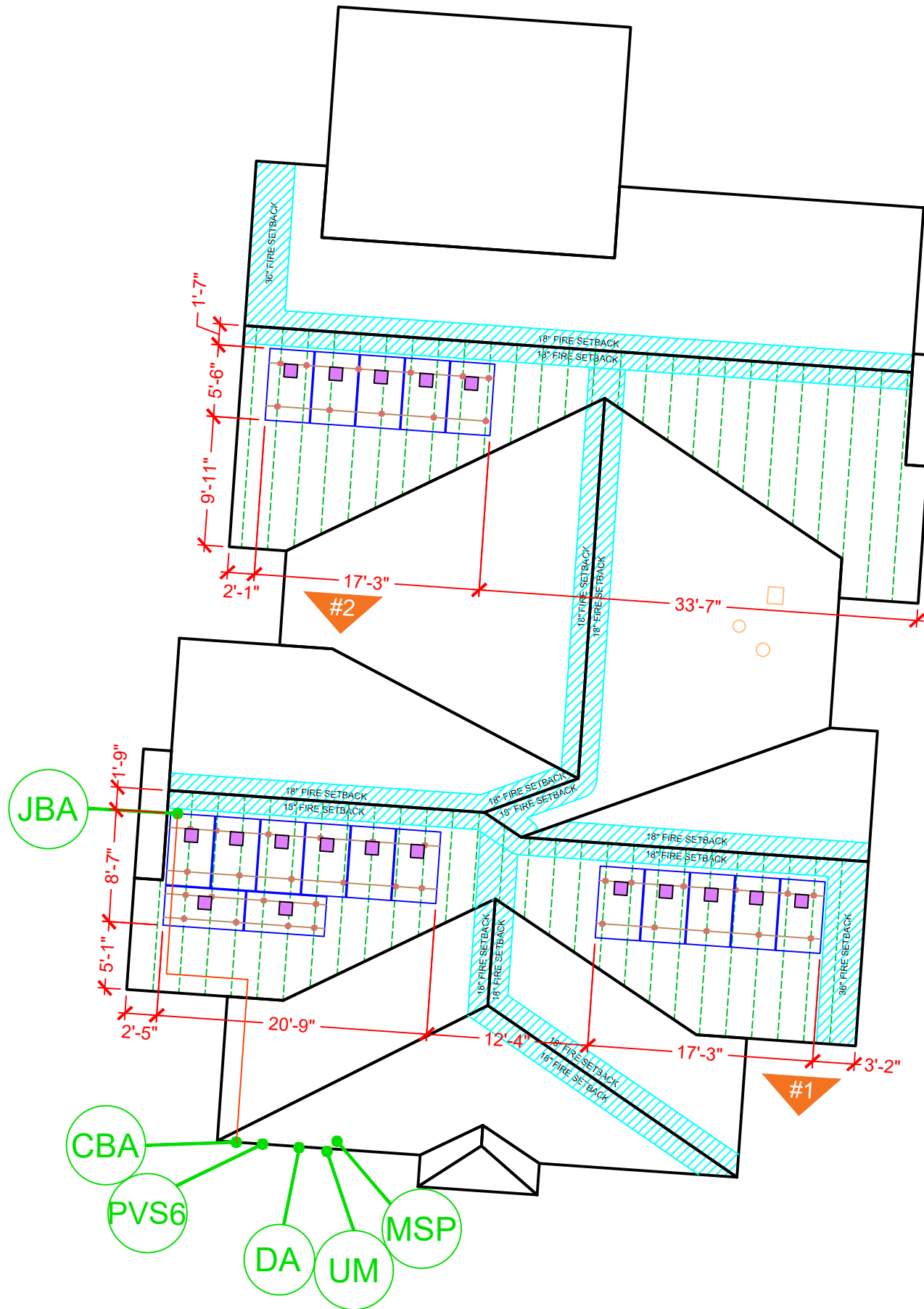
- JBA** AC JUNCTION BOX (NEW)
- CBA** AC COMBINER PANEL (NEW)
- DA** AC DISCONNECT UNFUSED (NEW)
- PVS6** MONITORING DEVICE (NEW)

MSP MAIN SERVICE PANEL
(EXISTING, 225A)

UM UTILITY METER
(EXISTING)

SCALE: 3/32" = 1'-0"

BUENA VISTA DRIVE
FRONT OF HOUSE



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

DESCRIPTION	DATE	REV

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JOHNSTOWN, OH 43031, USA

APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

ROOF PLAN WITH MODULES

SHEET SIZE
ANSI B
11" X 17"

PV-2





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ADDRESS: 5555 COUNTY ROAD 203 SUITE
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REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

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JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

ELEVATION
WITH MODULES

SHEET SIZE

ANSI B
11" X 17"

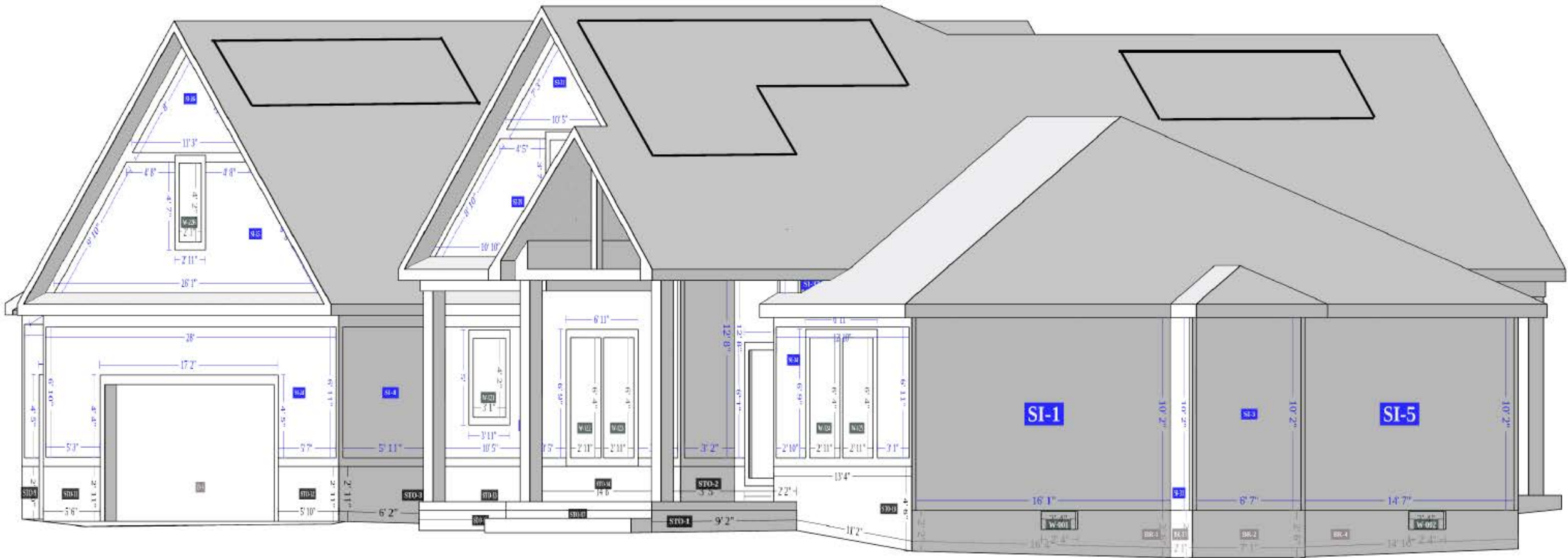
SHEET NUMBER

PV-2.1

ARRAY 1

ARRAY 2

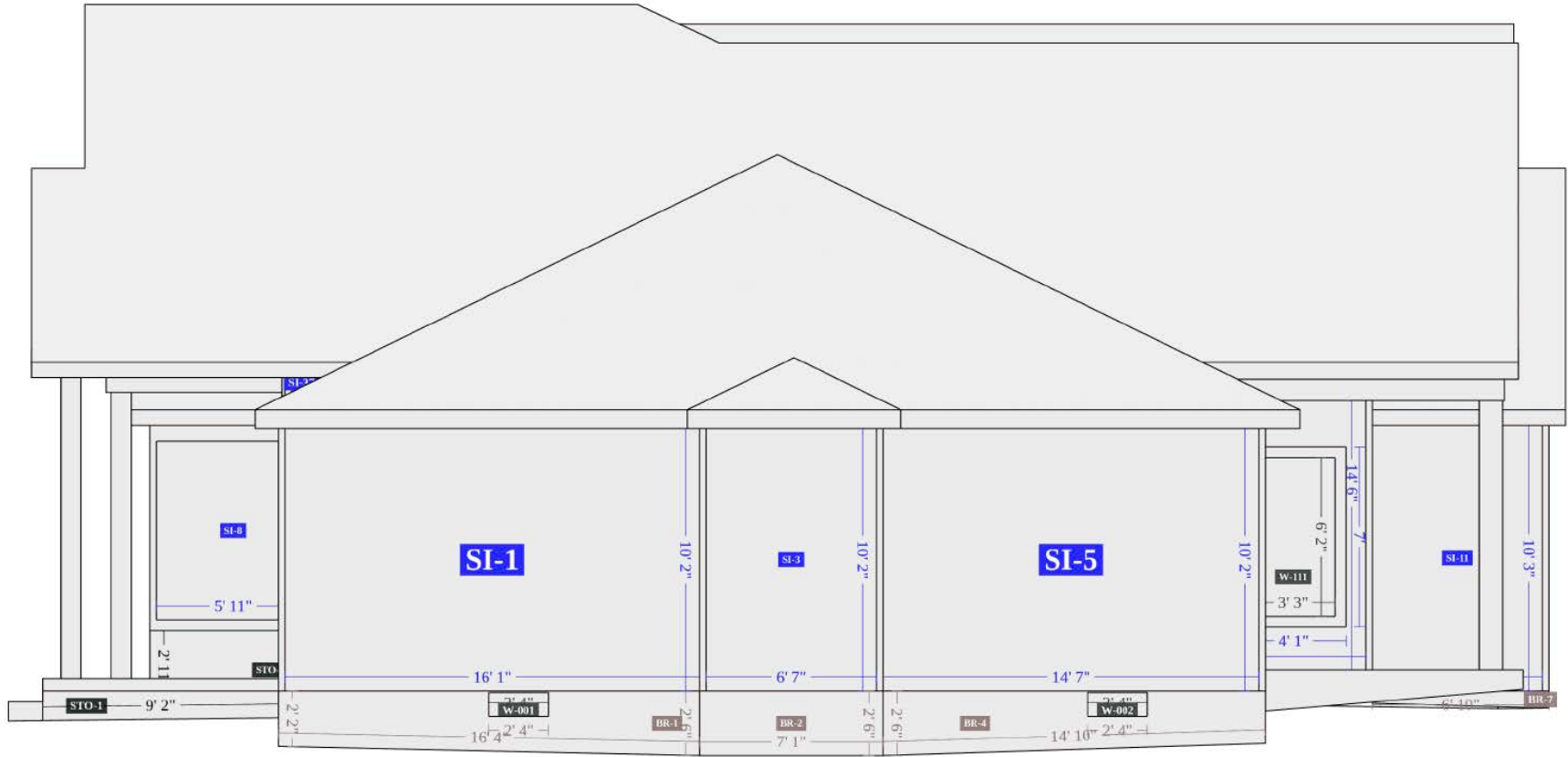
ARRAY 3



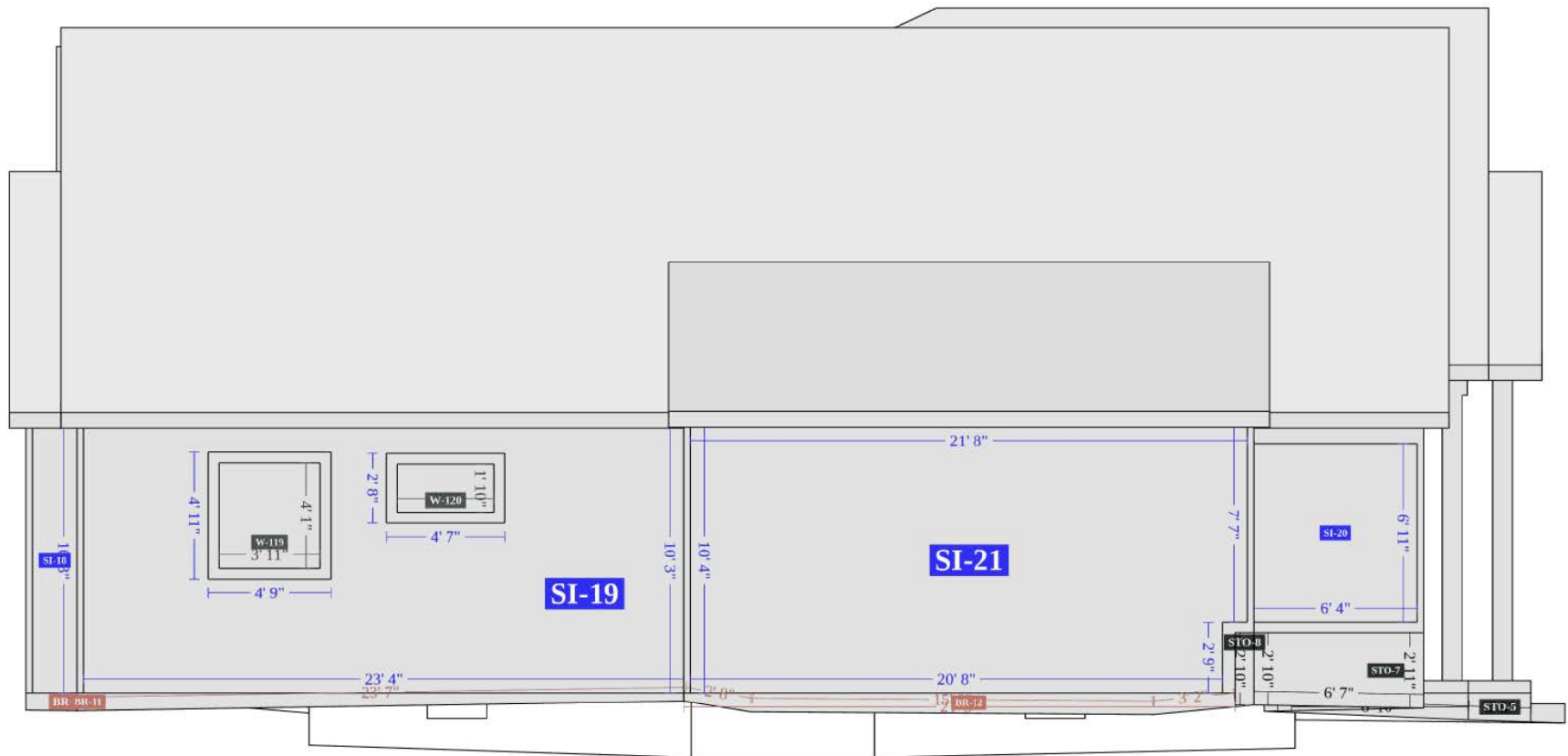
ELEVATION WITH MODULES

SCALE: 3/32" = 1'-0"

SIDE ELEVATION 1



SIDE ELEVATION 2



SIDE ELEVATIONS

SCALE: 3/32" = 1'-0"



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
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REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

HOMEOWNER INFO

KELLE NYE
412 BUENA VISTA DRIVE,
JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

SIDE
ELEVATIONS

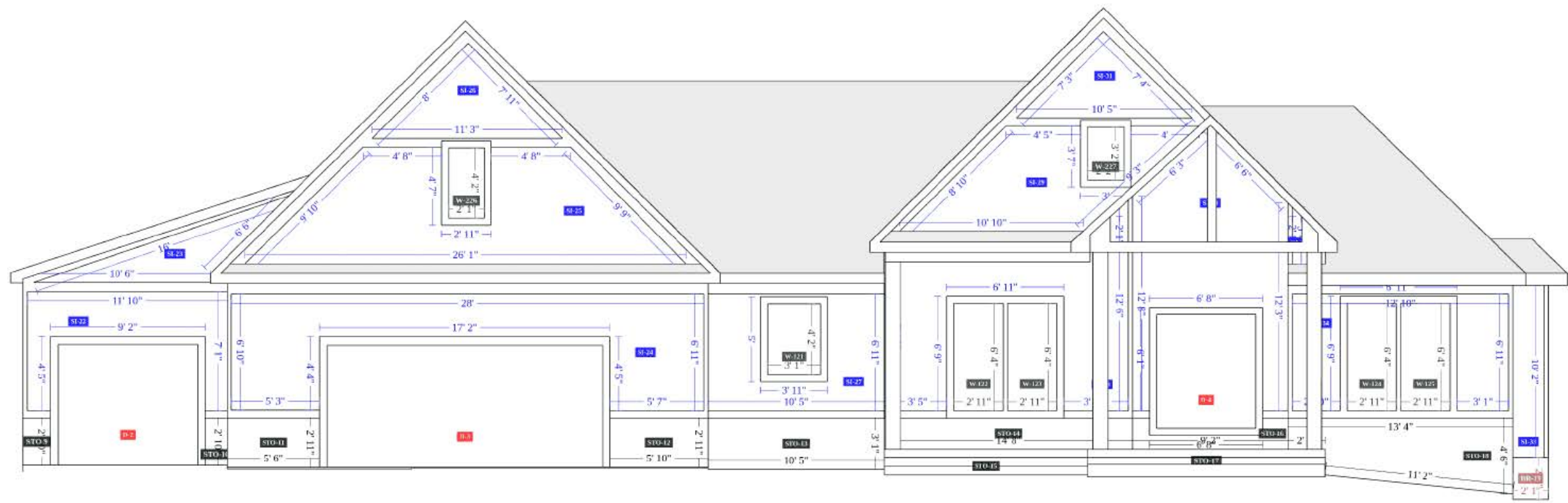
SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-2.2

FRONT ELEVATION



BACK ELEVATION



FRONT AND BACK ELEVATIONS

SCALE: 3/32" = 1'-0"



CONTRACTOR: ENSMARRT
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REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

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412 BUENA VISTA DRIVE,
JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

FRONT AND
BACK
ELEVATIONS

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-2.3



ELEVATION PHOTOS
SCALE: 3/32" = 1'-0"



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

REVISIONS		
DESCRIPTION	DATE	REV

SIGNATURE & SEAL

HOMEOWNER INFO

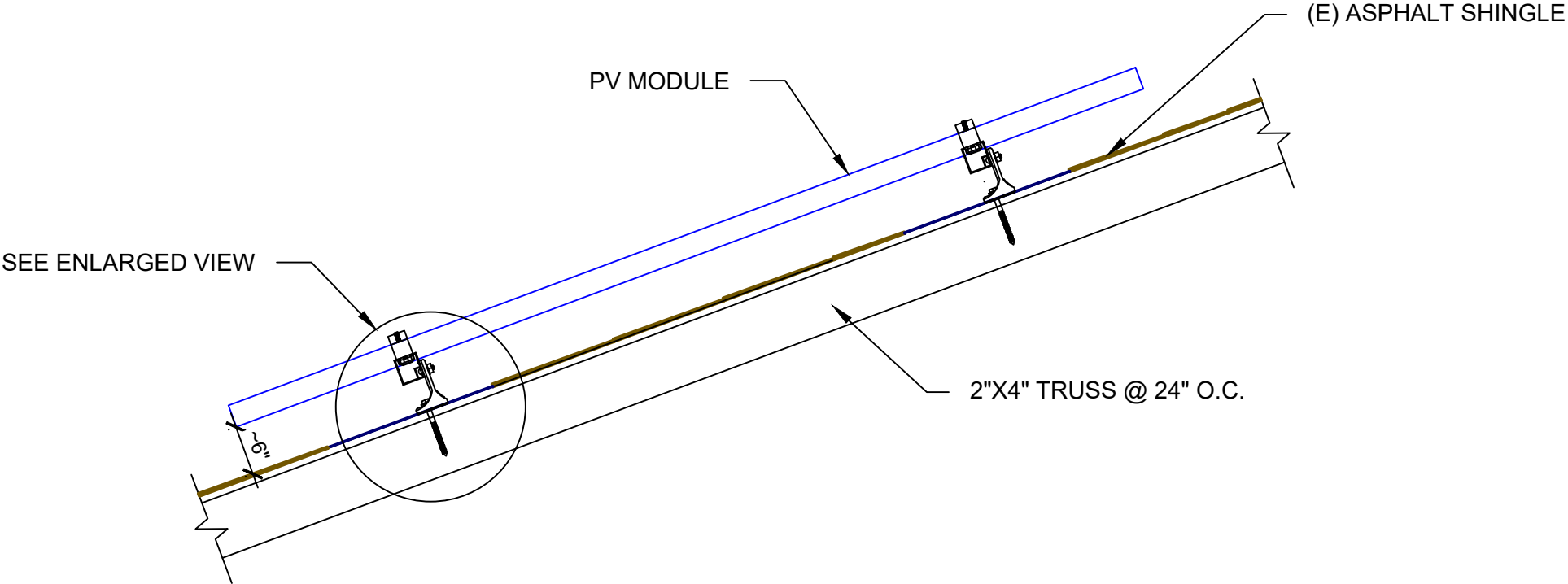
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APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME
ELEVATION
PHOTOS

SHEET SIZE
ANSI B
11" X 17"

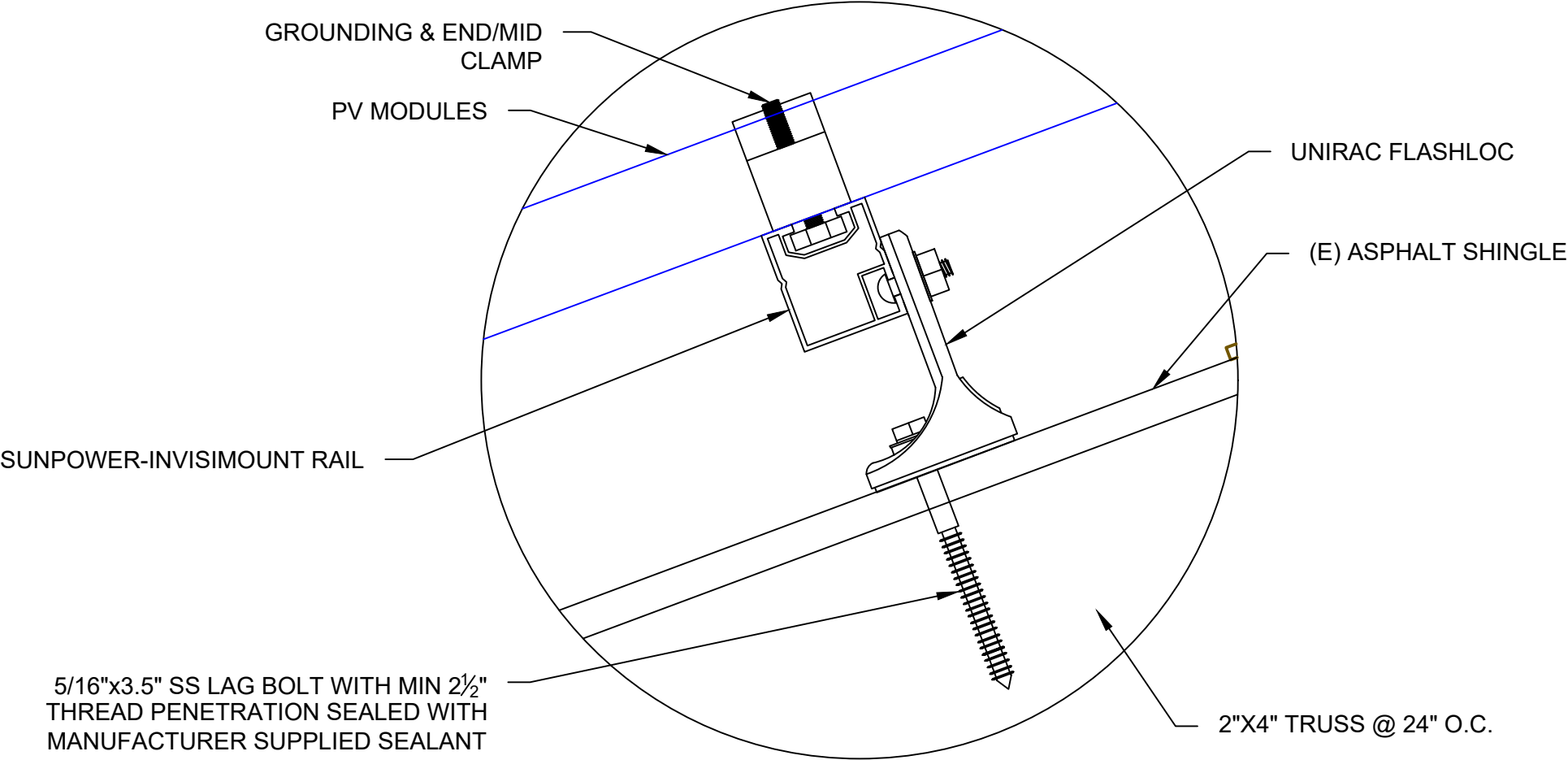
SHEET NUMBER
PV-2.4

REFER TO ROOF DESCRIPTION TABLE IN PV-2
FOR MOUNTING PLANE DETAILS



ATTACHMENT DETAIL

SCALE: NTS



ATTACHMENT DETAIL (ENLARGED SECTION VIEW)



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

REVISIONS		
DESCRIPTION	DATE	REV

SIGNATURE & SEAL

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JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME
ATTACHMENT
DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3

SYSTEM SUMMARY STC (7.380 kW DC / 6.912 kW AC)

- STC DC: (18) 410W = 7.380 kW
STC AC: (18) 384W = 6.912 kW
- (18) SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V] MODULES
 - (18) (SPWR-A5) TYPE H (ENPHASE IQ7HS) (240V) MICROINVERTERS
 - 2x BRANCHES OF 9 CONNECTED IN PARALLEL

INTERCONNECTION 120% RULE
(MAIN PANEL)

UTILITY FEED + TOTAL BACKFEED
200A + 40A = 240A

LESS OR EQUAL TO
BUS RATING x 120%
225A x 120% = 270A

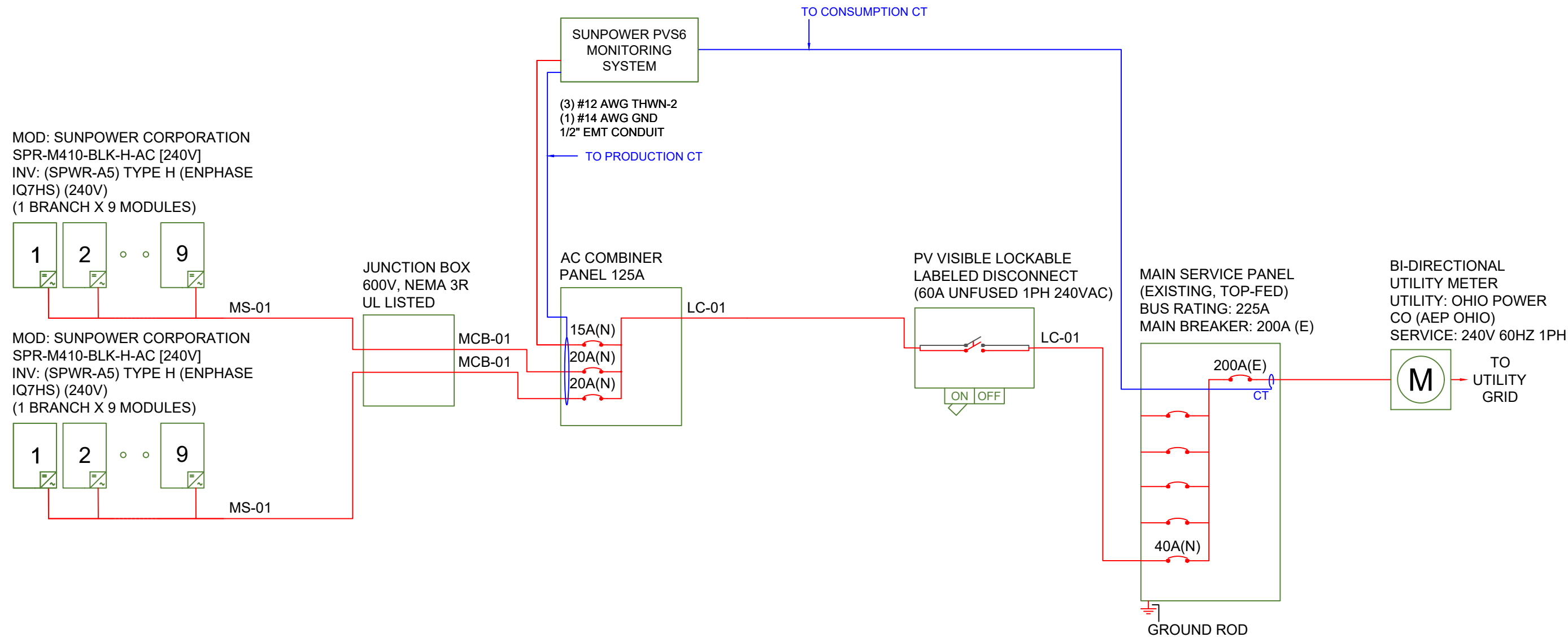
CALCULATION ENSURES BUS IS
SAFE REGARDLESS OF LOADS

EXTREME CASE MODULE OUTPUT
(SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V])

CALCULATION UNNECESSARY

INTERNAL MODULE INVERTER
COMPATIBILITY GUARANTEED BY
MANUFACTURER

WIRE RUN THROUGH ATTIC



ELECTRICAL NOTES

- ALL GROUNDING TO COMPLY WITH NEC 690.47.
- ROOFTOP CONDUIT SHALL BE LOCATED MIN. 7/8" ABOVE ROOF SURFACE.
- ALL TERMINALS SHALL BE MIN. 75°C RATED.

ELECTRICAL SINGLE LINE DIAGRAM

SCALE: NTS

AC wire details							
Wire	Min Ampacity	Live	Neutral	Ground	Min EMT	Min PVC	Min RMC
MS-01	18.00A	(2) 10 AWG PV	-	06 AWG BARE (NOT IN CONDUIT)	-	-	-
MCB-01	18.00A	(2) 10 AWG THWN-2	-	10 AWG THWN-2	1/2 in	1/2 in	1/2 in
LC-01	36.00A	(2) 08 AWG THWN-2	08 AWG THWN-2	10 AWG THWN-2	3/4 in	3/4 in	3/4 in



CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203 SUITE
C1 MILLERSBURG, OHIO 44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

HOMEOWNER INFO

KELLE NYE

412 BUENA VISTA DRIVE,
JOHNSTOWN, OH 43031, USA

APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

SINGLE LINE
DIAGRAM

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-4

SYSTEM SUMMARY STC (7.380 kW DC / 6.912 kW AC)

- STC DC: (18) 410W = 7.380 kW
STC AC: (18) 384W = 6.912 kW
- (18) SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V] MODULES
 - (18) (SPWR-A5) TYPE H (ENPHASE IQ7HS) (240V) MICROINVERTERS
 - 2x BRANCHES OF 9 CONNECTED IN PARALLEL

INTERCONNECTION 120% RULE
(MAIN PANEL)

UTILITY FEED + TOTAL BACKFEED
200A + 40A = 240A

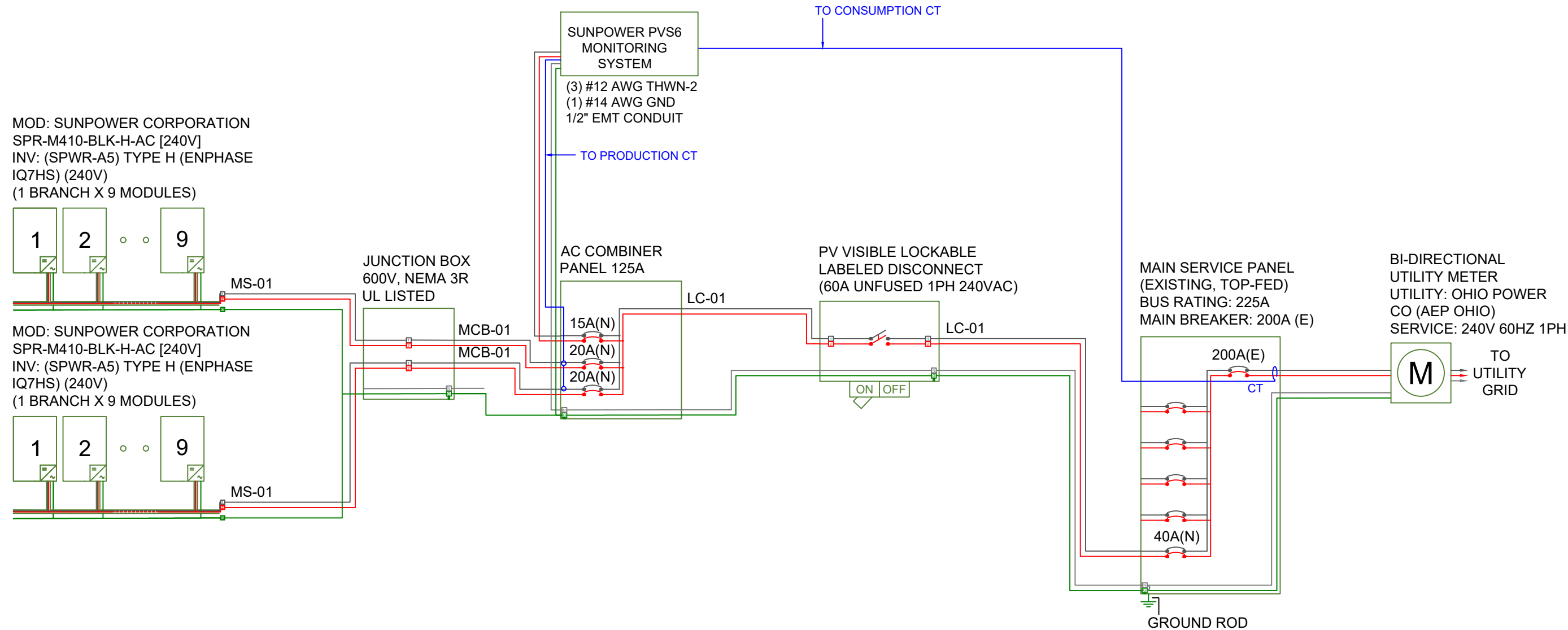
LESS OR EQUAL TO
BUS RATING x 120%
225A x 120% = 270A

CALCULATION ENSURES BUS IS
SAFE REGARDLESS OF LOADS

EXTREME CASE MODULE OUTPUT
(SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V])

CALCULATION UNNECESSARY
INTERNAL MODULE INVERTER
COMPATIBILITY GUARANTEED BY
MANUFACTURER

WIRE RUN THROUGH ATTIC



ELECTRICAL NOTES

- ALL GROUNDING TO COMPLY WITH NEC 690.47.
- ROOFTOP CONDUIT SHALL BE LOCATED MIN. 7/8" ABOVE ROOF SURFACE.
- ALL TERMINALS SHALL BE MIN. 75°C RATED.

ELECTRICAL THREE LINE DIAGRAM
SCALE: NTS

AC wire details							
Wire	Min Ampacity	Live	Neutral	Ground	Min EMT	Min PVC	Min RMC
MS-01	18.00A	(2) 10 AWG PV	-	06 AWG BARE (NOT IN CONDUIT)	-	-	-
MCB-01	18.00A	(2) 10 AWG THWN-2	-	10 AWG THWN-2	1/2 in	1/2 in	1/2 in
LC-01	36.00A	(2) 08 AWG THWN-2	08 AWG THWN-2	10 AWG THWN-2	3/4 in	3/4 in	3/4 in



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APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

THREE LINE
DIAGRAM

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-4.1

SYSTEM SUMMARY STC (7.380 kW DC / 6.912 kW AC)

- STC DC: (18) 410W = 7.380 kW
STC AC: (18) 384W = 6.912 kW
- (18) SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V] MODULES
 - (18) (SPWR-A5) TYPE H (ENPHASE IQ7HS) (240V) MICROINVERTERS
 - 2x BRANCHES OF 9 CONNECTED IN PARALLEL



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EMAIL: kelle@kellenye.com

SHEET NAME

WIRING
CALCULATIONS

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-5

AC wire details																	
WireID	#Modules	Nominal Voltage	Backfeed *1.25 /cond. set	Min OCPD	Total Power	Conductor sets	ccConductors /conduit	Expected max temp	Adjusted ampacity (ampacity x temp derate x conduit fill derate)	Conductor & neutral size	EGC size (Cu)	Conductor metal	Max length	V drop	Min EMT size	Min PVC size	Min RMC size
MS-01	9	240 V	18.00 A	20 A	3.5 kW	1	2	32	35 x 0.94 x 1.00 = 32.90 A	10 AWG PV	06 AWG BARE (NOT IN CONDUIT)	Cu	50 ft	0.62 %	-	-	-
MCB-01	9	240 V	18.00 A	20 A	3.5 kW	1	2	32	35 x 0.94 x 1.00 = 32.90 A	10 AWG THWN-2	10 AWG THWN-2	Cu	50 ft	0.62 %	1/2 in	1/2 in	1/2 in
LC-01	18	240 V	36.00 A	40 A	6.9 kW	1	2	32	50 x 0.94 x 1.00 = 47.00 A	08 AWG THWN-2	10 AWG THWN-2	Cu	10 ft	0.16 %	3/4 in	3/4 in	3/4 in

INTERCONNECTION 120% RULE
(MAIN PANEL)

UTILITY FEED + TOTAL BACKFEED
200A + 40A = 240A

LESS OR EQUAL TO
BUS RATING x 120%
225A x 120% = 270A

CALCULATION ENSURES BUS IS
SAFE REGARDLESS OF LOADS

EXTREME CASE MODULE OUTPUT
(SUNPOWER CORPORATION SPR-M410-BLK-H-AC [240V])

CALCULATION UNNECESSARY

INTERNAL MODULE INVERTER
COMPATIBILITY GUARANTEED BY
MANUFACTURER

ELECTRICAL NOTES

- ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600V AND 90°C WET ENVIRONMENT.
- WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
- WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
- MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C.VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
- PV EQUIPMENT SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NEC 690.
- EXACT LOCATION OF AUXILIARY GROUNDING TO BE DETERMINED AT TIME OF INSTALL.
- EXISTING WIRES MUST BE REPLACED IF SMALLER THAN LISTED MINIMUM SIZES PER NEC 310.15(B)(16).

WIRING CALCULATIONS
SCALE: NTS

!

WARNING

ELECTRICAL SHOCK HAZARD

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

LABEL LOCATION:
INVERTER(S), AC/DC DISCONNECT(S),
AC COMBINER PANEL (IF APPLICABLE).
PER CODE(S): NEC 2023: 690.13(B),
705.20(7), 706.15(C)

!

WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID
AND PV SOLAR ELECTRIC
SYSTEM

LABEL LOCATION:
UTILITY SERVICE METER AND MAIN
SERVICE PANEL.
PER CODE(S): NEC 2023: 705.30(C)

!

WARNING

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL LOCATION:
ADJACENT TO PV BREAKER AND ESS
OCPD (IF APPLICABLE).
PER CODE(S): NEC 2023: 705.12(B)(2)

!

WARNING

THIS EQUIPMENT FED BY
MULTIPLE SOURCES. TOTAL
RATING OF ALL OVERCURRENT
DEVICES EXCLUDING MAIN
SUPPLY OVERCURRENT DEVICE
SHALL NOT EXCEED AMPACITY OF
BUSBAR

LABEL LOCATION:
PV LOAD CENTER (IF APPLICABLE) AND
ANY PANEL THAT UTILIZES "THE SUM
OF BREAKERS RULE".
PER CODE(S): NEC 2023: 705.12 (B)(3)

PV SYSTEM DISCONNECT

MAXIMUM AC OPERATING CURRENT: 28.80 AMPS

NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF
INTERCONNECTION.
PER CODE(S): NEC 2023: 690.54

RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM

LABEL LOCATION:
INSTALLED WITHIN 3' OF RAPID SHUT DOWN
SWITCH PER CODE(S): NEC 2023: 690.12(D)(2), IFC
2018: 1204.5.3

SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN
SWITCH TO THE "OFF"
POSITION TO SHUTDOWN
CONDUCTORS OUTSIDE
THE ARRAY.
CONDUCTORS WITHIN
ARRAY REMAIN
ENERGIZED IN SUNLIGHT.

LABEL LOCATION: INTERCONNECTION POINT (MSP OR AC
DISCONNECT IF LINE SIDE TAP)
CODE REF: NEC 2023 - 690.12, NEC 2023 - 690.56(C)

CAUTION:

POWER TO THIS SERVICE IS ALSO SUPPLIED
FROM THE FOLLOWING SOURCES WITH
DISCONNECTS AS SHOWN

LABEL LOCATION: MSP
CODE REF: NEC 2023 - 705.10

NOTES AND SPECIFICATIONS

- 1) SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF NEC 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
- 2) SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
- 3) LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
- 4) LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- 5) SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4 - 2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
- 6) DO NOT COVER EXISTING MANUFACTURER LABELS.



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SHEET NAME

PLACARDS

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-6



Part of the SunPower Equinox® Solar System

- Seamless aesthetics
- Compatible with mySunPower monitoring



Factory-integrated Microinverter

- Highest-power integrated AC module in solar
- Engineered and calibrated by SunPower for SunPower AC modules



425-410 W Residential Black AC Module

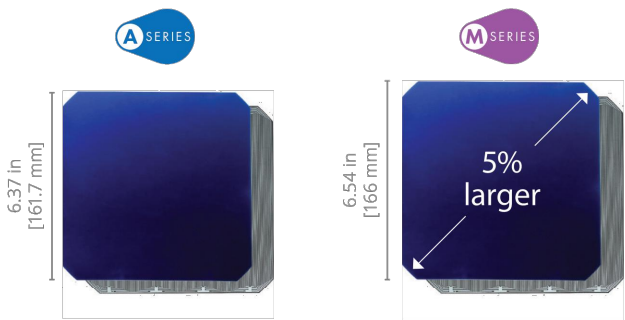
SunPower® Maxeon® Technology

Built specifically for use with the SunPower Equinox® system, the only fully integrated solution designed, engineered, and warranted by one company.



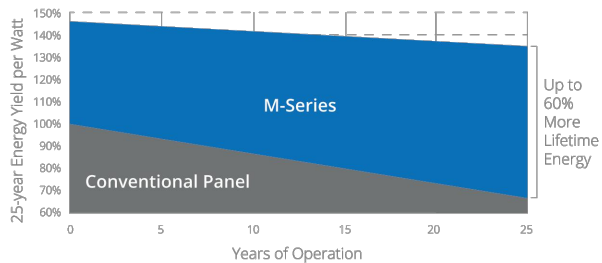
Highest Power Density Available

The patented, solid-copper foundation Maxeon Gen 6 cell is over 5% larger than prior generations, delivering the highest-efficiency all-black AC solar module available.¹



Highest Lifetime Energy and Savings

Designed to deliver 60% more energy over 25 years in real-world conditions like partial shade and high temperatures.²



Best Reliability, Best Warranty

With more than 42.6 million and 15 GW of modules deployed around the world, SunPower technology is proven to last. That's why we stand behind our module and microinverter with the industry's best 25-year Combined Power and Product Warranty, including the highest Power Warranty in solar.

SUNPOWER®

M425-BLK | M415-BLK | M410-BLK SunPower Residential Black AC Module

AC Electrical Data		
Inverter Model: Type H (Enphase IQ7HS)	@240 VAC	@208 VAC
Max. Continuous Output Power (VA)	384	369
Nom. (L-L) Voltage/Range ³ (V)	240 / 211–264	208 / 183–229
Max. Continuous Output Current (A)	1.60	1.77
Max. Units per 20 A (L-L) Branch Circuit ⁴	10	9
CEC Weighted Efficiency	97.0%	96.5%
Nom. Frequency	60 Hz	60 Hz
Extended Frequency Range	47–68 Hz	47–68 Hz
AC Short Circuit Fault Current Over 3 Cycles	4.82 A	4.82 A
Overvoltage Class AC Port	III	III
AC Port Backfeed Current	18 mA	18 mA
Power Factor Setting	1.0	1.0
Power Factor (adjustable)	0.85 (inductive) / 0.85 (capacitive)	0.85 (inductive) / 0.85 (capacitive)

DC Power Data			
	SPR-M425-BLK-H-AC	SPR-M415-BLK-H-AC	SPR-M410-BLK-H-AC
Nom. Power ⁶ (P _{nom}) W	425	415	410
Power Tolerance	+5/-0%	+5/-0%	+5/-0%
Module Efficiency	22.0%	21.5%	21.2%
Temp. Coef. (Power)	-0.29% / °C	-0.29% / °C	-0.29% / °C
Shade Tolerance	Integrated module-level max. power point tracking		

Tested Operating Conditions	
Operating Temp.	-40° F to +185° F (-40° C to +85° C)
Max. Ambient Temp.	122° F (50° C)
Max. Test Load ⁸	Wind: 125 psf, 6000 Pa, 611 kg/m ² back Snow: 187 psf, 9000 Pa, 917 kg/m ² front
Max. Design Load	Wind: 75 psf, 3600 Pa, 367 kg/m ² back Snow: 125 psf, 5400 Pa, 550 kg/m ² front
Impact Resistance	1 inch (25 mm) diameter hail at 52 mph (23 m/s)

Mechanical Data	
Solar Cells	66 Maxeon Gen 6
Front Glass	High-transmission tempered glass with anti-reflective coating
Environmental Rating	Outdoor rated
Frame	Class 1 black anodized (highest AAMA rating)
Weight	48 lbs (21.8 kg)
Recommended Max. Module Spacing	1.3 in. (33 mm)

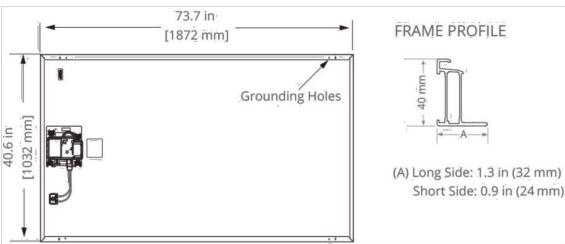
- Based on datasheet review of websites of top 20 manufacturers per IHS, as of July 2021.
- Maxeon 435 W, 22.5% efficient, compared to a Conventional Panel on same-sized arrays (300 W, 19% efficient, approx. 1.6 m²), 7.9% more energy per watt (based on PVsyst pan files for avg. US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application."PVSC 2018).
- Based on search of datasheet values from websites of top 10 manufacturers per IHS, as of June 2021.
- Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.
- Factory set to IEEE 1547a-2014 default settings, CA Rule 21 default settings profile set during commissioning.
- Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). All DC voltage is fully contained within the module.
- UL Listed as PVSE and conforms with NEC 2014 and NEC 2017 690.12; and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors; when installed according to manufacturer's instructions.
- Please read the safety and installation instructions for more information regarding load ratings and mounting configurations.

See www.sunpower.com/company for more reference information.
For more details, see extended datasheet: www.sunpower.com/solar-resources.
Specifications included in this datasheet are subject to change without notice.

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Warranties, Certifications, and Compliance	
Warranties	• 25-year limited power warranty • 25-year limited product warranty
Certifications and Compliance	• UL 1741 / IEEE-1547 • UL 1741 AC Module • UL 61730 (Type 2 fire rated) • UL 62109-1 / IEC 62109-2 • FCC Part 15 Class B • ICES-0003 Class B • CAN/CSA-C22.2 NO. 107.1-01 • CA Rule 21 (UL 1741 SA) ⁵ (includes Volt/Var and Reactive Power Priority) • UL Listed PV Rapid Shutdown Equipment ⁷ Enables installation in accordance with: • NEC 690.6 (AC module) • NEC 690.12 Rapid Shutdown (inside and outside the array) • NEC 690.15 AC Connectors, 690.33(A)-(E)(1) When used with AC module Q Cables and accessories (UL 6703 and UL 2238) ⁷ • Rated for load break disconnect
PID Test	1000 V: IEC 62804

Packaging Configuration	
Modules per pallet	25
Packaging box dimensions	75.4 × 42.2 × 48.0 in. (1915 × 1072 × 1220 mm)
Pallet gross weight	1300 lb (590 kg)
Pallets per container	32
Net weight per container	18,880 kg



Please read the safety and installation instructions for details.



544400 RevA
January 2022



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SHEET NAME

**EQUIPMENT
SPECIFICATION**

SHEET SIZE

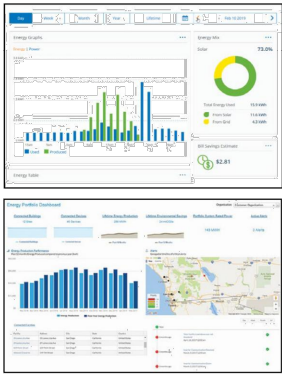
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11" X 17"**

SHEET NUMBER

PV-7



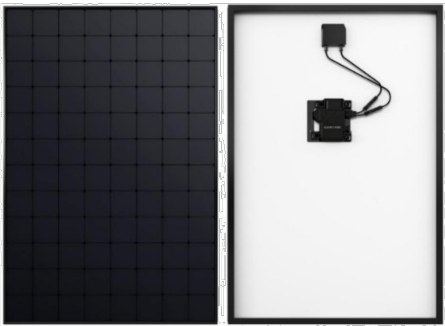
SunPower Monitoring Websites



PVS6



SUNP
SunPower AC Modules



Multiple communication options include Ethernet, Wi-Fi, and cellular.

Site Requirements	
Number of SunPower AC modules supported per PVS6	85
Internet access	High-speed Internet access via accessible router or switch
Power	100–240 VAC (L–N), 50 or 60 Hz 208 VAC (L–L in 3-phase), 60 Hz

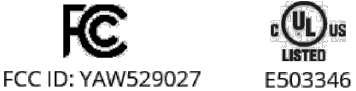
Mechanical	
Weight	5.5 lbs (2.5 kg)
Dimensions	11.8 × 8.0 × 4.2 in. (30.5 × 20.5 × 10.8 cm)
Enclosure rating	UL50E Type 3R

Web and Mobile Device Support	
Customer site	monitor.us.sunpower.com
Partner site	pvsmt.us.sunpower.com
Browsers	Firefox, Safari, and Chrome
Mobile devices	iPhone®, iPad®, and Android™
Customer app	- Create account online at: monitor.us.sunpower.com. - On a mobile device, download the SunPower Monitoring app from Apple App Store™ or Google Play™ store. - Sign in using account email and password.

Operating Conditions	
Temperature	–22°F to +140°F (–30°C to +60°C)
Humidity (maximum)	95%, non-condensing

Communication	
RS-485	Inverters and meters
Integrated Metering	- One channel of revenue-grade production metering - Two channels of consumption metering
Ethernet	1 LAN (or optional WAN) port
PLC	PLC for SunPower AC modules
Wi-Fi	802.11b/g/n 2.4 GHz and 5 GHz
Cellular	LTE Cat-M1/3G UMTS
ZigBee	IEEE 802.15.4 MAC, 2.4GHz ISM band
Data Storage	60 days
Upgrades	Automatic firmware upgrades

Warranty and Certifications	
Warranty	10-year Limited Warranty
Certifications	UL, cUL, CE, UL 61010-1 and -2, FCC Part 15 (Class B)



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SHEET NAME
EQUIPMENT
SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8



SunPower® InvisiMount™ | Residential Mounting System

Simple and Fast Installation

- Integrated module-to-rail grounding
- Pre-assembled mid and end clamps
- Levitating mid clamp for easy placement
- Mid clamp width facilitates even module spacing
- Simple, pre-drilled rail splice
- UL 2703 Listed integrated grounding

Flexible Design

- Addresses nearly all sloped residential roofs
- Design in landscape and portrait
- Rails enable easy obstacle management

Customer-Preferred Aesthetics

- #1 module and #1 mounting aesthetics
- Best-in-class system aesthetics
- Premium, low-profile design
- Black anodized components
- Hidden mid clamps and end clamps hardware, and capped, flush rails

Part of Superior System

- Built for use with SunPower DC and AC modules
- Best-in-class system reliability and aesthetics
- Combine with SunPower modules and monitoring app



Elegant Simplicity

SunPower® InvisiMount™ is a SunPower-designed rail-based mounting system. The InvisiMount system addresses residential sloped roofs and combines faster installation time, design flexibility, and superior aesthetics. The InvisiMount product was specifically envisioned and engineered to pair with SunPower modules. The resulting system-level approach will amplify the aesthetic and installation benefits for both homeowners and installers.

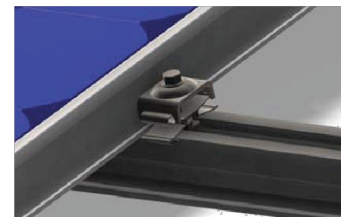
sunpower.com



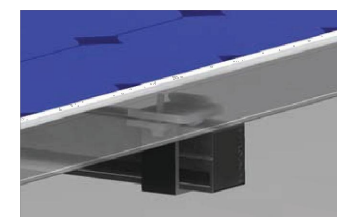
SunPower® InvisiMount™ | Residential Mounting System

InvisiMount Component Images

Module* / Mid Clamp and Rail



Module* / End Clamp and Rail



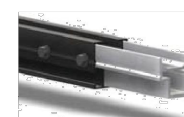
Mid Clamp



End Clamp



Rail & Rail Splice



Ground Lug Assembly



End Cap



InvisiMount Component Details

Component	Material	Weight
Mid Clamp	Black oxide stainless steel AISI 304	63 g (2.2 oz)
End Clamp	Black anodized aluminum alloy 6063-T6	110 g (3.88 oz)
Rail	Black anodized aluminum alloy 6005-T6	830 g/m (9 oz/ft)
Rail Splice	Aluminum alloy 6005-T5	830 g/m (9 oz/ft)
Ground Lug Assembly	304 stainless (A2-70 bolt; tin-plated copper lug)	106.5 g/m (3.75 oz)
End Cap	Black acetal (POM) copolymer	10.4 g (0.37 oz)

Roof Attachment Hardware Supported by InvisiMount System Design Tool

Application	• Composition Shingle Rafter Attachment • Composition Shingle Roof Decking Attachment • Curved and Flat Tile Roof Attachment • Universal Interface for Other Roof Attachments
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InvisiMount Operating Conditions

Temperature	-40° C to 90° C (-40° F to 194° F)
Max. Load	2400 Pa uplift 5400 Pa downforce

InvisiMount Warranties And Certifications

Warranties	25-year product warranty 5-year finish warranty
Certifications	UL 2703 Listed Class A fire rating when distance between roof surface and bottom of SunPower module frame is ≤ 3.5"

Roof Attachment Hardware Warranties

Refer to roof attachment hardware manufacturer's documentation

*Module frame that is compatible with the InvisiMount system required for hardware interoperability.

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CONTRACTOR: ENSMARRT
ADDRESS: 5555 COUNTY ROAD 203
SUITE C1 MILLERSBURG, OHIO
44654,USA
PHONE: 8667630075
EMAIL: savings@ensmarrt.com
LICENSE #: 26969
ELECTRICAL LICENSE #: 26969

REVISIONS

DESCRIPTION	DATE	REV

SIGNATURE & SEAL

HOMEOWNER INFO

KELLE NYE
412 BUENA VISTA DRIVE,
JOHNSTOWN, OH 43031, USA
APN: 5317347200039 PHONE: +14406668489
EMAIL: kelle@kellenye.com

SHEET NAME

EQUIPMENT
SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-9

FLASH LOC

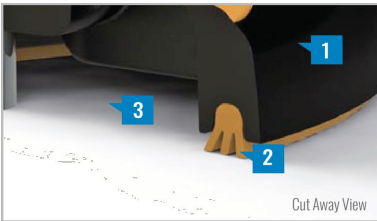


FLASHLOC is the ultimate attachment for composition shingle and rolled comp roofs. The all-in-one mount installs fast — no kneeling on hot roofs to install flashing, no prying or cutting shingles, no pulling nails. Simply drive the lag bolt and inject sealant into the base. **FLASHLOC**'s patented TRIPLE SEAL technology preserves the roof and protects the penetration with a permanent pressure seal. Kitted with lag bolts, sealant, and hardware for maximum convenience. Don't just divert water, **LOC it out!**



PROTECT THE ROOF

Install a high-strength waterproof attachment without lifting, prying or damaging shingles.



LOC OUT WATER

With an outer shield **1** contour-conforming gasket **2** and pressurized sealant chamber **3** the Triple-Loc Seal delivers a 100% waterproof connection.



HIGH-SPEED INSTALL

Simply drive lag bolt and inject sealant into the port **4** to create a permanent pressure seal.

FLASH LOC

INSTALLATION GUIDE



PRE-INSTALL

Snap chalk lines for attachment rows. On shingle roofs, snap lines 1-3/4" below upslope edge of shingle course. Locate rafters and mark attachment locations.

At each location, drill a 7/32" pilot hole. Clean roof surface of dirt, debris, snow, and ice, then fill pilot hole with sealant.

NOTE: Space mounts per racking system install specifications. When down pressure is ≥ 34 psf, span may not exceed 2 ft.



STEP 1: SECURE

Place **FLASHLOC** over pilot hole with lag on down-slope side. Align indicator marks on sides of mount with chalk line. Pass included lag bolt and sealing washer through **FLASHLOC** into pilot hole. Drive lag bolt until mount is held firmly in place.

NOTE: The EPDM in the sealing washer will expand beyond the edge of the metal washer when proper torque is applied.



STEP 2: SEAL

Insert tip of UNIRAC provided sealant into port. Inject until sealant exits both vents.

Continue array installation, attaching rails to mounts with provided T-bolts.

NOTE: When **FLASHLOC** is installed over gap between shingle or tabs or vertical joints, fill gap/joint with sealant between mount and upslope edge of shingle course.

Use only provided sealant.



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ADDRESS: 5555 COUNTY ROAD 203
SUITE C1 MILLERSBURG, OHIO
44654,USA
PHONE: 8667630075
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11" X 17"

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PV-10

FASTER INSTALLATION. 25-YEAR WARRANTY.

FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR CALL (505) 248-2702

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