



CONTRACTOR INFORMATION:

BURKE ELECTRIC INC
3283 TRADE CENTER DR., RIVERSIDE CA 92507
951.787.9800
CSLB #1000555, C10

X.

SITE INFORMATION:

Garrett Brannon
22426 Laurel Place, Santa Clarita, CA 91390
AC SYSTEM SIZE: 3 kW AC
DC SYSTEM SIZE: 2.56 kW DC

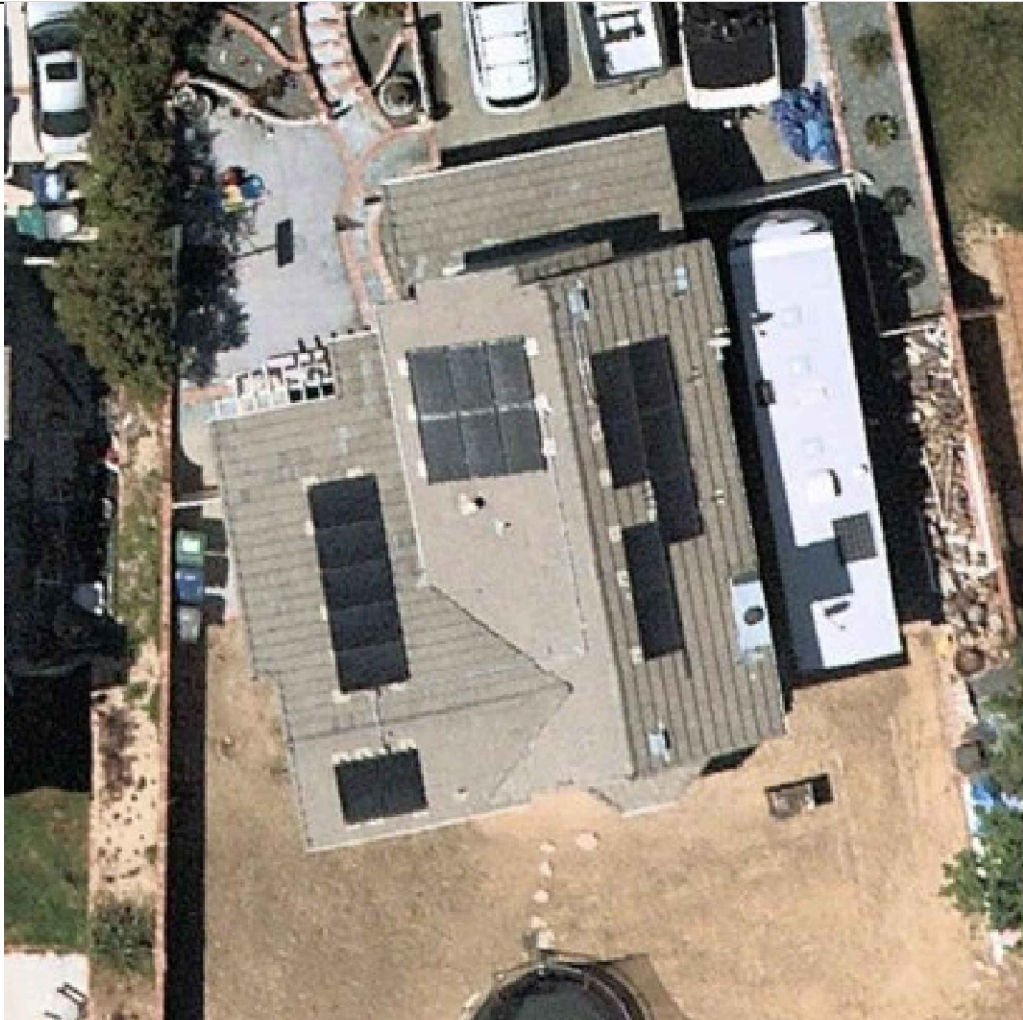
(8) CanadianSolar CS6K-320MS PV MODULES
(1) SolarEdge SE3000H-US (240V) INVERTER(S)

DATE: December 4, 2019

PAGE: PV01 SHEET NAME: COVER PAGE

DRAWN BY: SoloCAD

AERIAL VIEW:



STREET VIEW:



SHEET INDEX:

- PV01 COVER PAGE
- PV02 PROPERTY PLAN
- PV03 ROOF PLAN
- PV04 ROOF ATTACHMENTS + BOM
- PV05 MOUNTING DETAIL
- PV06 ELECTRICAL DIAGRAM
- PV07 LABELS
- PV08 PLACARD
- PV09 SITE PHOTOS

AS THE HOMEOWNER OF THE SUBJECT PROJECT, I CERTIFY THAT I AM REQUESTING TO INSTALL THE SOLAR PHOTOVOLTAIC SYSTEM SHOWN ON THESE PLANS.

HOME OWNER SIGNATURE

HOME OWNER NAME
PRINTED

GENERAL NOTES:

1. INSTALLATION OF SOLAR PHOTOVOLTAIC SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 690, AND ALL OTHER APPLICABLE NEC CODES WHERE NOTED OR EXISTING.
2. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL COMPLY WITH NEC ARTICLE 110.
3. ALL WIRES, INCLUDING THE GROUNDING ELECTRODE CONDUCTOR SHALL BE PROTECTED FROM PHYSICAL DAMAGE IN ACCORDANCE WITH NEC ARTICLE 250
4. THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE; THIS SYSTEM IS UTILITY INTERACTIVE PER UL 1741 AND DOES NOT INCLUDE STORAGE BATTERIES OR OTHER ALTERNATIVE STORAGE SOURCES.
5. ALL DC WIRES SHALL BE SIZED ACCORDING TO [NEC 690.8]
6. DC CONDUCTORS SHALL BE WITHIN PROTECTED RACEWAYS IN ACCORDANCE WITH [NEC 690.31]
7. ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL JURISDICTIONAL BUILDING CODE.
8. 2016 CALIFORNIA BUILDING CODE COMPLIANCE PER ADOPTION OF 2015 IBC, 2015 IRC, 2015 IFC, AND 2014 NEC

DESCRIPTION OF DESIGN:

INSTALLATION OF GRID -TIED, UTILITY INTERACTIVE PHOTOVOLTAIC SYSTEM

EQUIPMENT:

AC SYSTEM SIZE: 3 kW AC
DC SYSTEM SIZE: 2.56 kW DC
PV MODULES: (8) CanadianSolar CS6K-320MS
INVERTER(S): (1) SolarEdge SE3000H-US (240V)
RACKING: UNIRAC SM FLUSH MOUNT RAILING & ROOF ATTACHMENT SYSTEM - 48" O.C.

APPLICABLE GOVERNING CODES:

- 2016 CALIFORNIA ELECTRICAL CODE [CEC]
- 2016 CALIFORNIA BUILDING CODE [CBC]
- 2016 CALIFORNIA RESIDENTIAL CODE [CRC]
- 2016 CALIFORNIA FIRE CODE [CFC]

SITE SPECIFICATIONS:

OCCUPANCY: R-3
ZONING: RESIDENTIAL
EXPOSURE CATEGORY: B



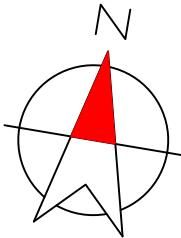
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









DATE: December 4, 2019

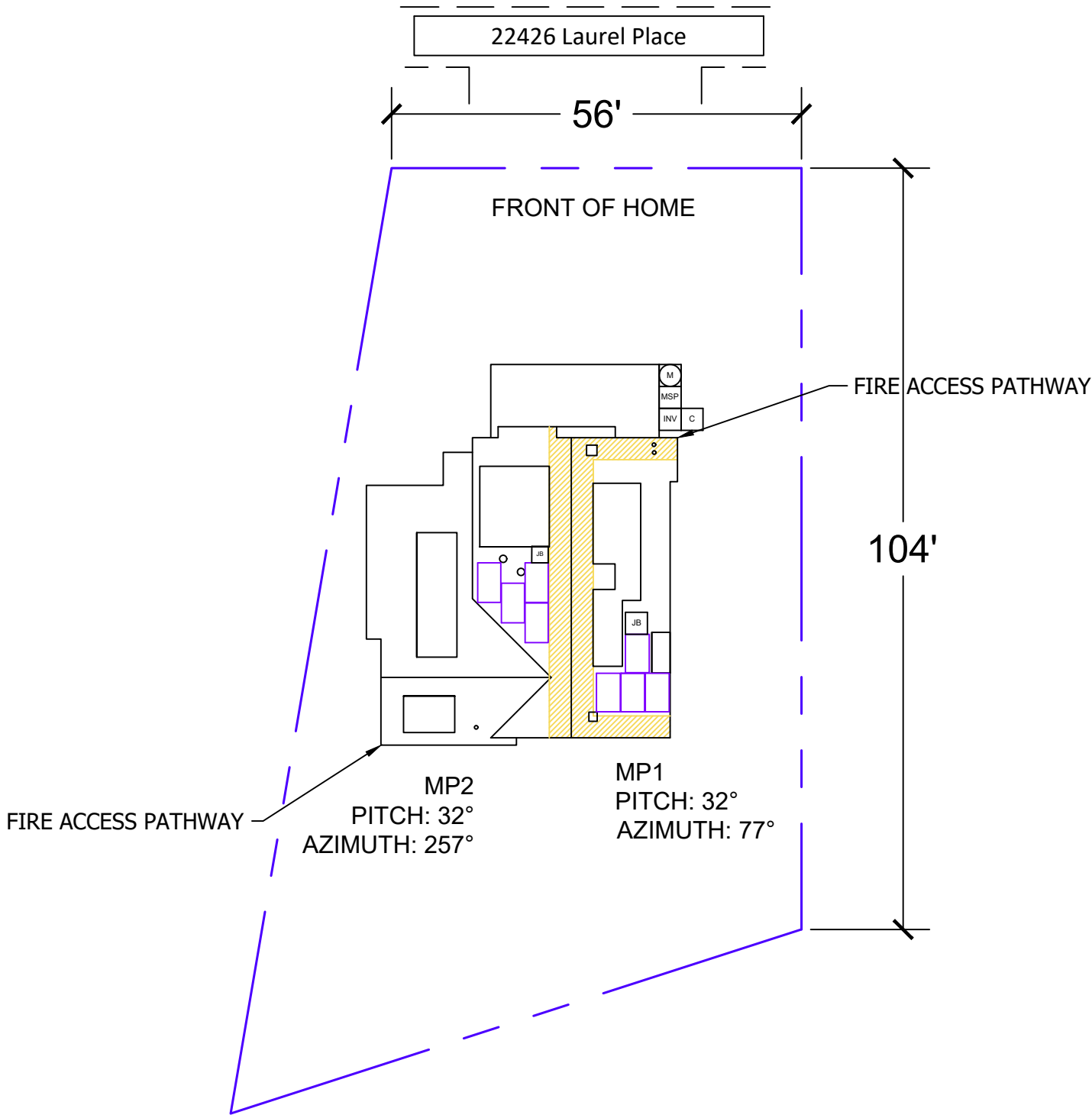
PAGE: _____ SHEET NAME:
PV02 PROPERTY PLAN

DRAWN BY: SoloCAD SCALE:
1" = 20.03'



EQUIPMENT LEGEND:

-  UTILITY METER
-  MAIN SERVICE PANEL
-  VISIBLE, LOCKABLE, LABELED
AC DISCONNECT
-  METER SOCKET
(FOR UTILITY PV METER)
-  INVERTER
-  COMBINER BOX
-  LOAD CENTER
-  FIRE ACCESS PATHWAY (3' TYP)
-  PROPERTY LINE
-  BATTERY(IES)



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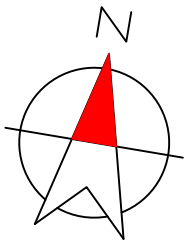
HOME OWNER SIGNATURE _____ HOME OWNER NAME PRINTED _____












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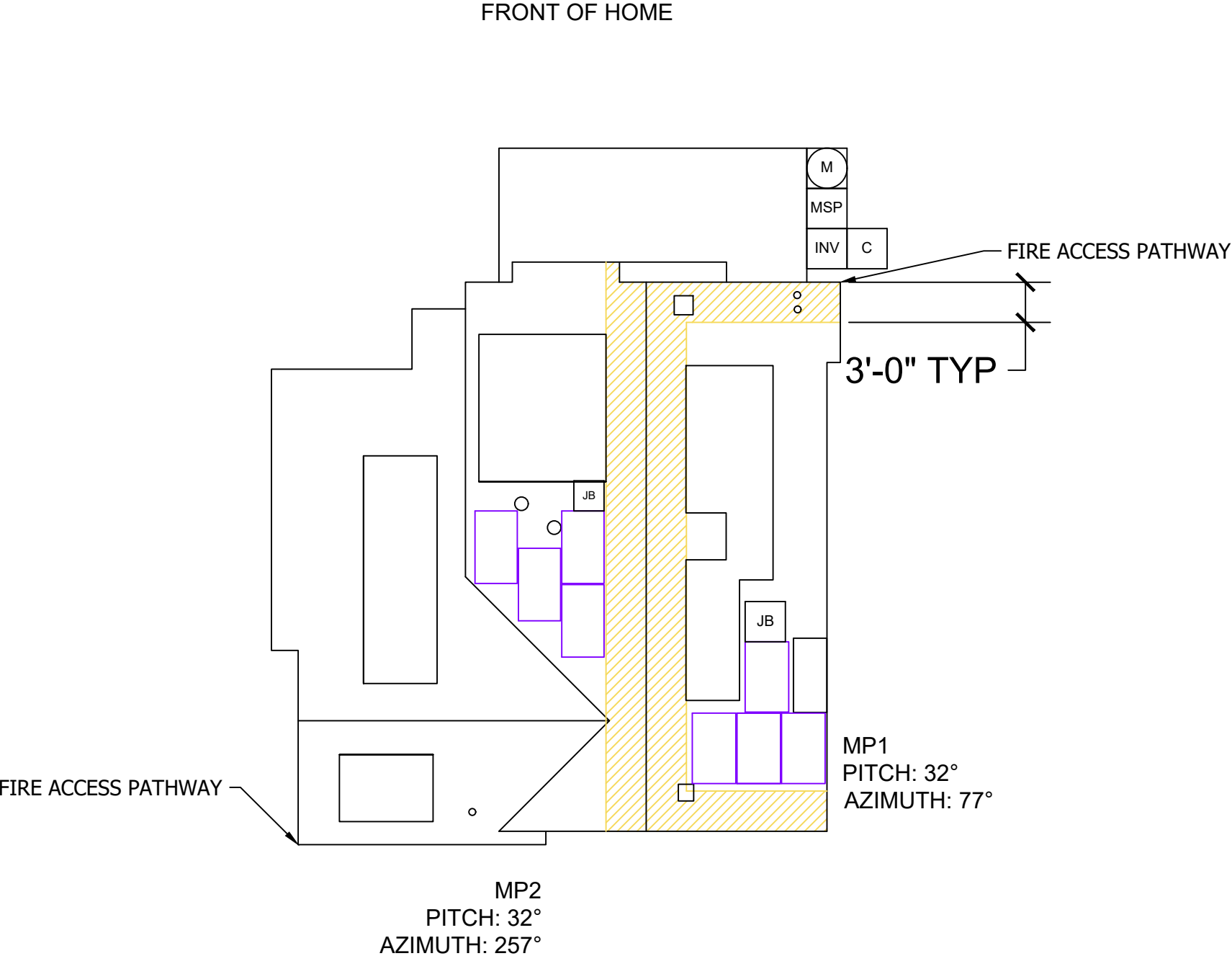
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(1) SolarEdge SE3000H-US (240V) INVERTER(S)

DATE: December 4, 2019
PAGE: PV03 SHEET NAME: ROOF PLAN
DRAWN BY: SoloCAD



EQUIPMENT LEGEND:

-  UTILITY METER
-  MAIN SERVICE PANEL
-  VISIBLE, LOCKABLE, LABELED AC DISCONNECT
-  METER SOCKET (FOR UTILITY PV METER)
-  INVERTER
-  COMBINER BOX
-  LOAD CENTER
-  FIRE ACCESS PATHWAY (3' TYP)
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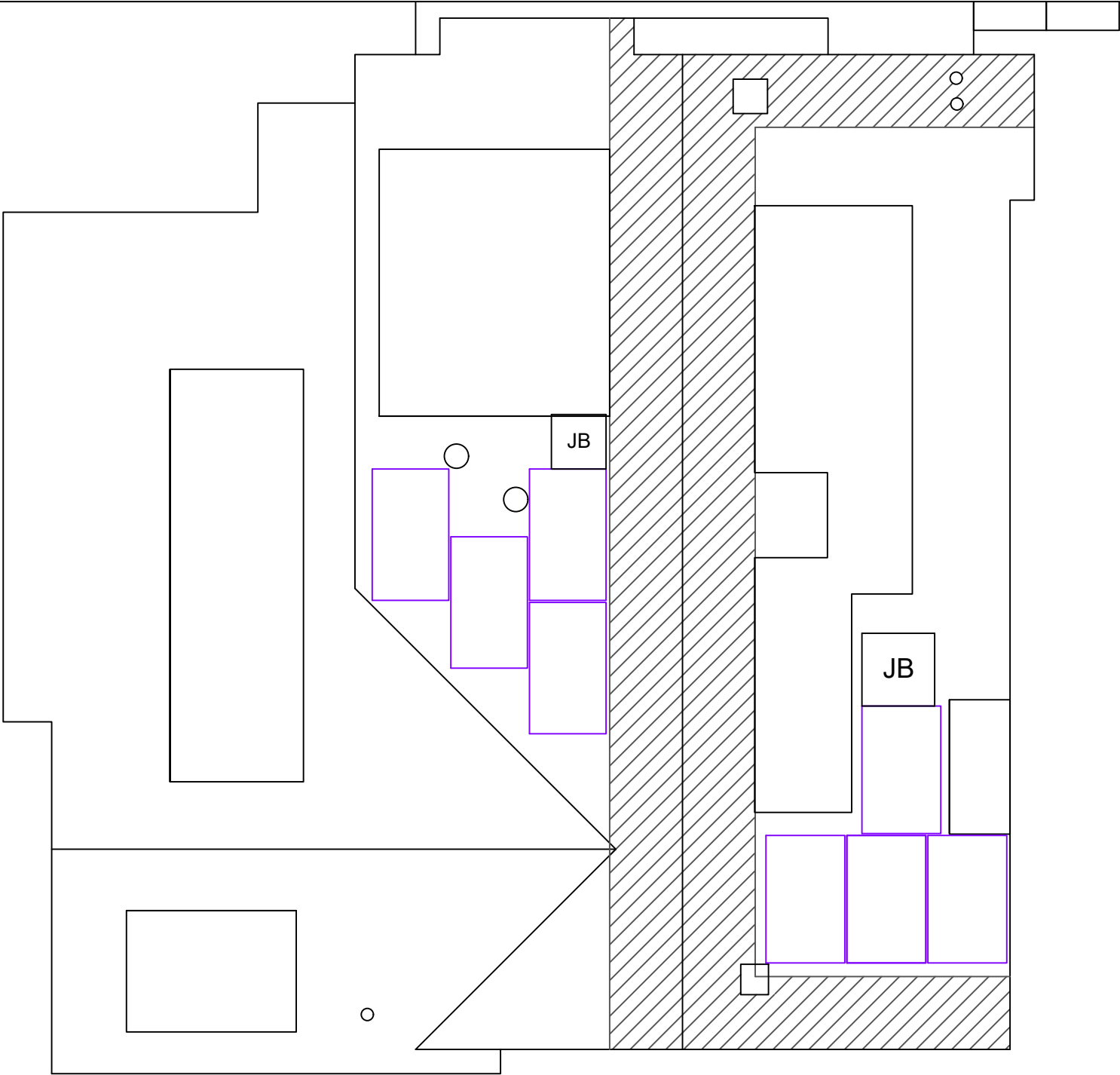
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DATE: December 4, 2019

PAGE: _____ SHEET NAME: _____
PV04 ROOF ATTACHMENTS + BOM

DRAWN BY: _____
SoloCAD



PHOTOVOLTAIC ARRAY STRUCTURAL CRITERIA:		MOUNTING EQUIPMENT QTY:		FRAMING INFO:	
ROOF ATTACHMENT COUNT:	32	ROOF ATTACHMENT COUNT:	(32)	RAFTER SIZE:	2x6
PV MODULE COUNT:	8	PV MODULE COUNT:	(8)	RAFTER SPACING:	24"
ARRAY AREA:	MODULE COUNT * 18.06ft ² = 144.48	MID CLAMP COUNT:	(2)	FRAMING TYPE:	Manufactured Truss
ROOF AREA:	1852 ft ²	END CLAMP QTY:	(28)		
PERCENT OF ROOF COVERED:	8%	SPLICE COUNT:	(0)		
ARRAY WEIGHT:	MODULE COUNT * 50lbs = 400	ATTACHMENT SPACING:	48		
DISTRIBUTED LOAD:	ARRAY LBS/ATTACHMENTS = 12.5				
POINT LOAD: (lbs/ft ²)	(ARRAY) WEIGHT/AREA = 2.77 lbs/ft ²				



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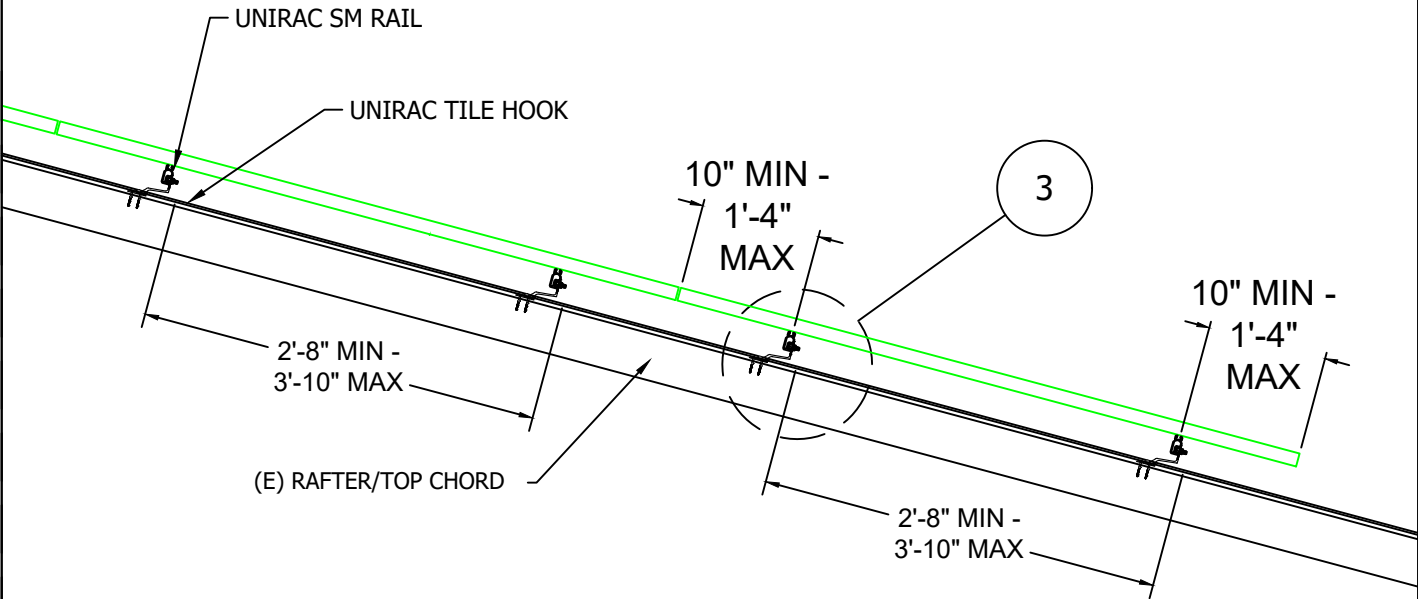
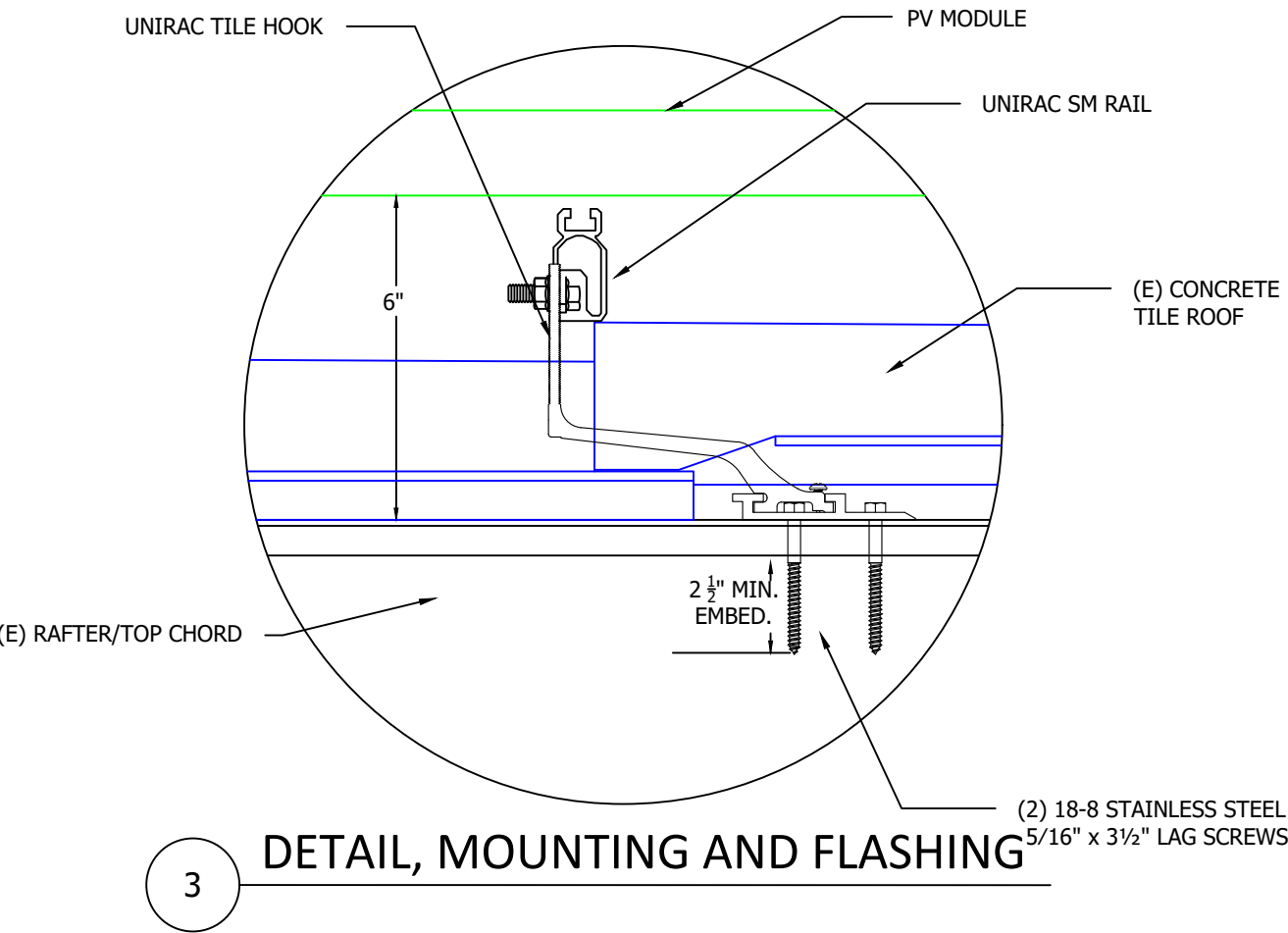
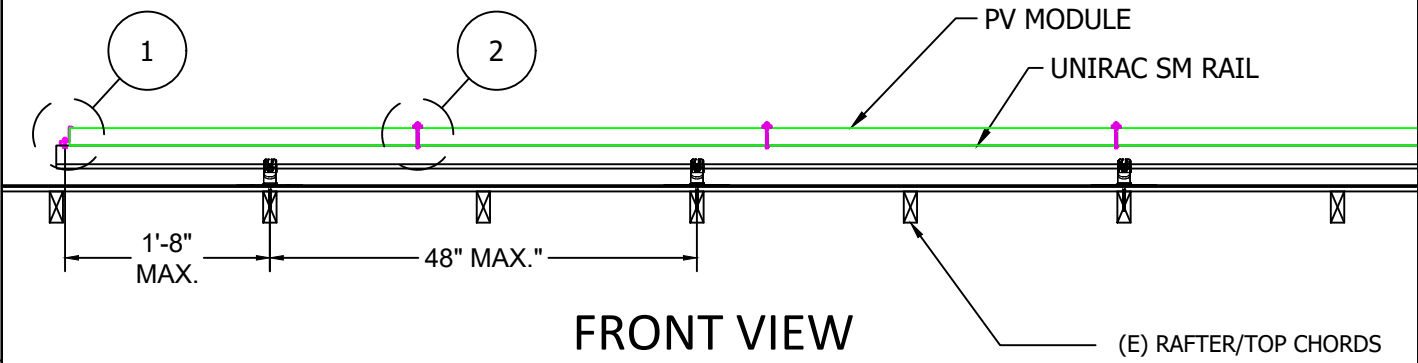
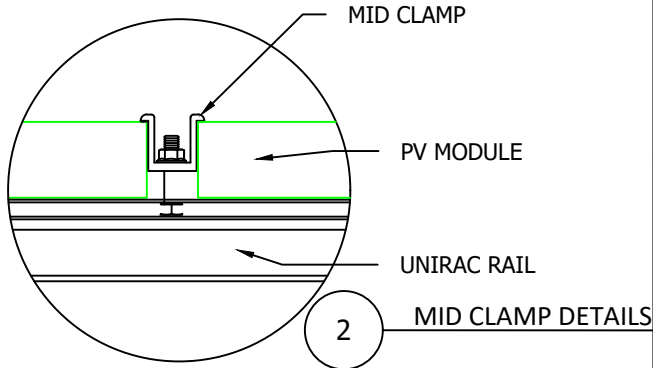
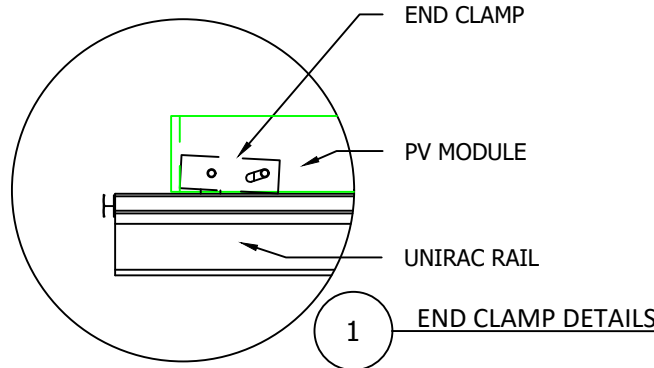
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PAGE: PV05 SHEET NAME: MOUNTING DETAIL

DRAWN BY: SoloCAD



PHOTOVOLTAIC ARRAY STRUCTURAL CRITERIA:		MOUNTING EQUIPMENT QTY:		FRAMING INFO:	
ROOF ATTACHMENT COUNT:	32	ROOF ATTACHMENT COUNT:	(32)	RAFTER SIZE:	2x6
PV MODULE COUNT:	8	PV MODULE COUNT:	(8)	RAFTER SPACING:	24"
ARRAY AREA:	MODULE COUNT * 18.06ft ² = 144.48	MID CLAMP COUNT:	(2)	FRAMING TYPE:	Manufactured Truss
ROOF AREA:	1852 ft ²	END CLAMP QTY:	(28)		
PERCENT OF ROOF COVERED:	8%	SPLICE COUNT:	(0)		
ARRAY WEIGHT:	MODULE COUNT * 50lbs = 400	ATTACHMENT SPACING:	48		
DISTRIBUTED LOAD:	ARRAY LBS/ATTACHMENTS = 12.5				
POINT LOAD: (lbs/ft ²)	(ARRAY) WEIGHT/AREA = 2.77 lbs/ft ²				



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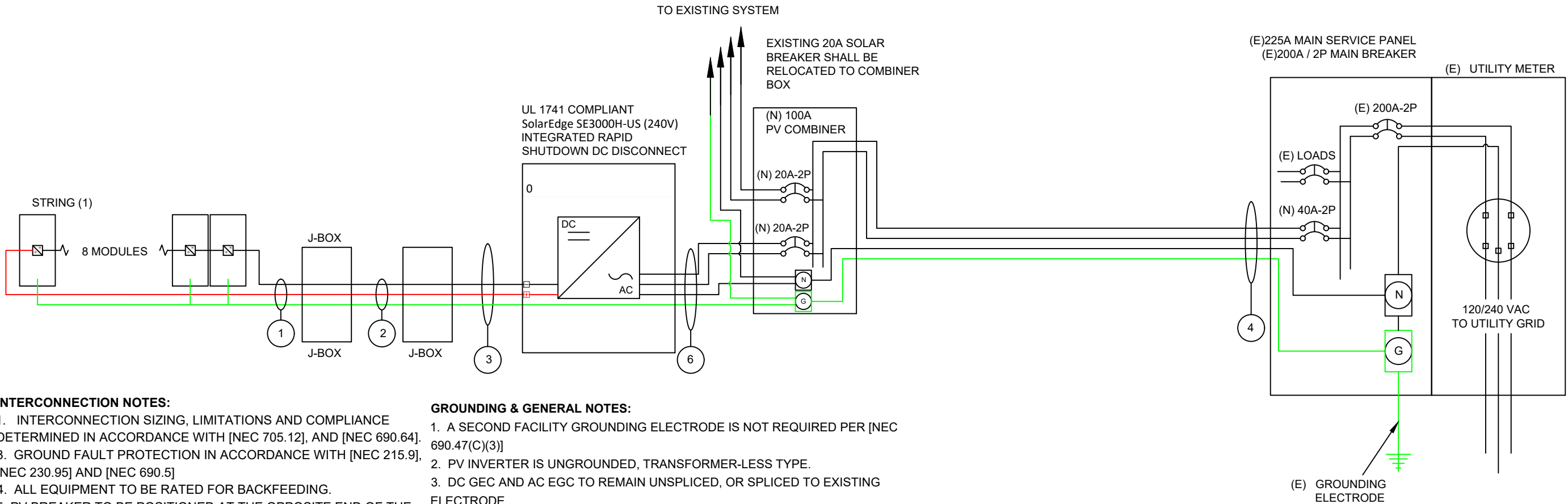
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PAGE: SHEET NAME:
PV06 ELECTRICAL DIAGRAM
DRAWN BY: SoloCAD

WIRE SCHEDULE

1	(2) PV-WIRE - 10 AWG, USE-2, COPPER (OR CODE APPROVED EQUIVALENT) (1) 6 AWG BARE, COPPER (GROUND)	2	(1) 10 AWG THWN-2, or THHN, or 10/2 NM-B COPPER - (POSITIVE) (1) 10 AWG THWN-2, or THHN, or 10/2 NM-B COPPER - (NEGATIVE) (1) 10 AWG THWN-2, or THHN, or 10/2 NM-B COPPER - (GROUND) (1) 3/4" LIQUID TIGHT CONDUIT or 3/4" EMT or FMC (OR CODE APPROVED EQUIVALENT)	3	(1) 10 AWG THHN/THWN-2, COPPER - (POSITIVE) (1) 10 AWG THHN/THWN-2 COPPER - (NEGATIVE) (1) 10 AWG THHN/THWN-2 (GROUND) CONDUIT: 3/4" EMT or 3/4" LIQUID TIGHT (OR CODE APPROVED EQUIVALENT)	4	(1) 10 AWG THWN-2 COPPER - (L1) (1) 10 AWG THWN-2 COPPER - (L2) (1) 10 AWG THWN-2 COPPER - (NEUTRAL) (1) 10 AWG THWN-2 COPPER - (GROUND) (1) CONDUIT: 3/4" EMT or 3/4" LIQUID TIGHT (OR CODE APPROVED EQUIVALENT)
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INTERCONNECTION NOTES:

- INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.64].
- GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95] AND [NEC 690.5]
- ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
- PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATIVE TO THE MAIN BREAKER.

DISCONNECT NOTES

- DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS)
- AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH

GROUNDING & GENERAL NOTES:

- A SECOND FACILITY GROUNDING ELECTRODE IS NOT REQUIRED PER [NEC 690.47(C)(3)]
- PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE.
- DC GEC AND AC EGC TO REMAIN UNSPLICED, OR SPLICED TO EXISTING ELECTRODE
- ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION.
- JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - JUNCTION BOXES DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE TYPE TRANSITIONS.
- AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT.

EQUIPMENT SCHEDULE:

TYPE:	QTY:	DESCRIPTION:	RATING:
MODULES:	(8)	CanadianSolar CS6K-320MS	320 W
INVERTERS:	(1)	SolarEdge SE3000H-US (240V)	3000 W
DC OPTIMIZERS:	(8)	SolarEdge P320	15 Adc



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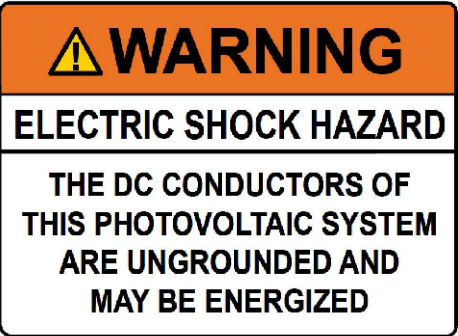
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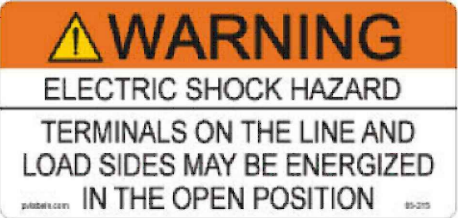
DATE: December 4, 2019

PAGE: PV07 SHEET NAME: LABELS

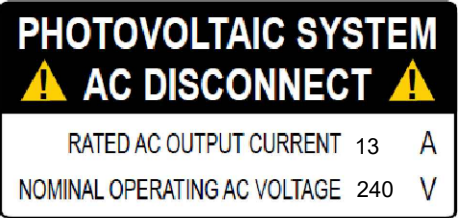
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LABEL 1
AT EACH JUNCTION BOX, COMBINER BOX, DISCONNECT, AND DEVICE WHERE ENERGIZED UNGROUNDED CONDUCTORS MAY BE EXPOSED DURING SERVICE. NEC. 690.35(F)



LABEL 2
FOR PV DISCONNECTING MEANS WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION. NEC 690.17(E), NEC 705.22



LABEL 3
AT POINT OF INTERCONNECTION, MARKED AT AC DISCONNECTING MEANS. NEC 690.54, NEC 690.13 (B)



LABEL 4
AT POINT OF INTERCONNECTION FOR EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTOR SUPPLIED FROM MULTIPLE SOURCES, EACH SERVICE EQUIPMENT AND ALL ELECTRIC POWER PRODUCTION SOURCE LOCATIONS. NEC 705.12(D)(3)

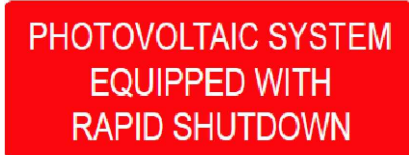
LABELING NOTES:

- LABELS CALLED OUT ACCORDING TO ALL COMMON CONFIGURATIONS. ELECTRICIAN TO DETERMINE EXACT REQUIREMENTS IN THE FIELD PER CURRENT NEC AND LOCAL CODES AND MAKE APPROPRIATE ADJUSTMENTS.
- LABELING REQUIREMENTS BASED ON THE 2014 NATIONAL ELECTRIC CODE, OSHA STANDARD 19010.145, ANSI Z535.
- MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED [NEC 110.21]
- LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8", WHITE ON RED BACKGROUND; REFLECTIVE, AND PERMANENTLY AFFIXED [IFC 605.11.1.1]

WARNING: PHOTOVOLTAIC POWER SOURCE



LABEL 5
AT DIRECT-CURRENT EXPOSED RACEWAYS, CABLE TRAYS, COVERS AND ENCLOSURES OF JUNCTION BOXES, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS. NEC 690.31(G)(3&4)



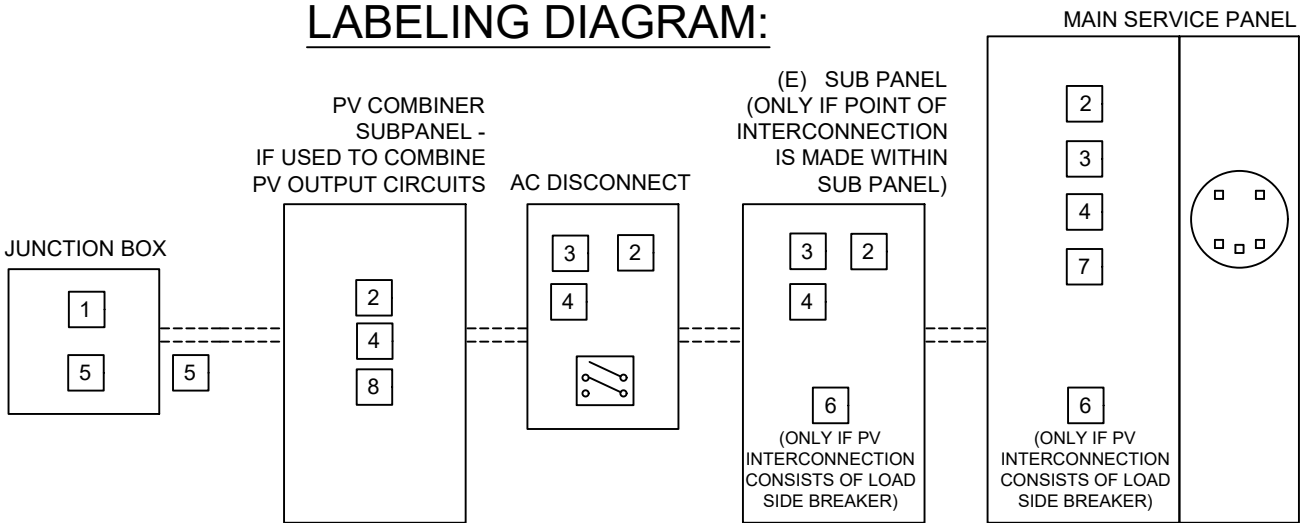
LABEL 6
PLACED ADJACENT TO THE BACK-FED BREAKER FROM THE INVERTER IF TIE IN CONSISTS OF LOAD SIDE CONNECTION TO BUSBAR. NEC 705.12(D)(2)(3)(B)



LABEL 7
SIGN LOCATED AT UTILITY SERVICE EQUIPMENT. NEC 690.56(C)

LABEL 8 (ONLY IF 3 OR MORE SUPPLY SOURCES TO A BUSBAR)
SIGN LOCATED AT LOAD CENTER IF CONTAINING 3 OR MORE POWER SOURCES. NEC 705.12(D)(2)(3)(C)

LABELING DIAGRAM:



** ELECTRICAL DIAGRAM SHOWN ABOVE IS FOR LABELING PURPOSES ONLY. NOT AN ACTUAL REPRESENTATION OF EQUIPMENT AND CONNECTIONS TO BE INSTALLED. LABEL LOCATIONS PRESENTED MAY VARY DEPENDING ON TYPE OF INTERCONNECTION METHOD AND LOCATION PRESENTED ELECTRICAL DIAGRAM PAGE. **



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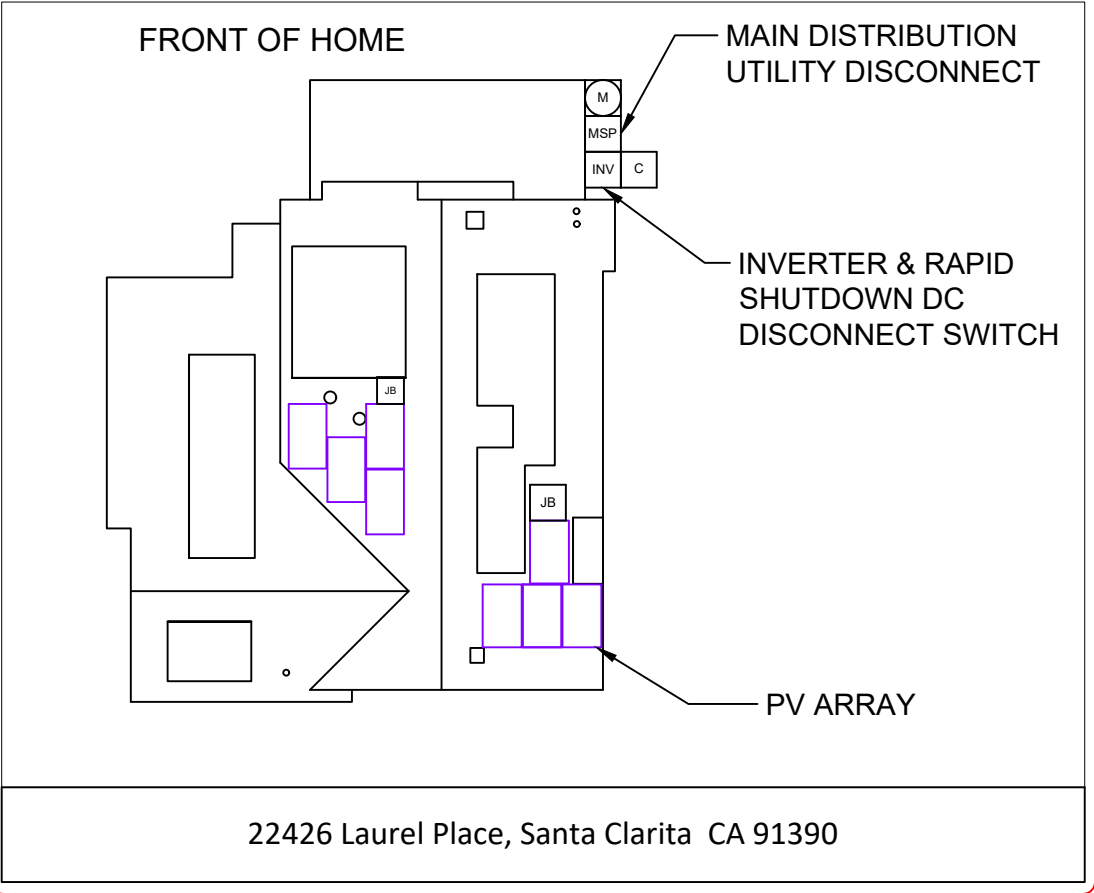
DATE: December 4, 2019

PAGE: PV08 SHEET NAME: PLACARD

DRAWN BY:
SoloCAD

CAUTION

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



DIRECTORY
PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM.

(ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS OUTLINED WITHIN:
NEC 690.56(B)&(C), [NEC 705.10])



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