



HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Sandra I. Heiler
Chairman

Date: October 15, 2020

MEMORANDUM

TO: Mitra Pedoeem
Department of Permitting Services

FROM: Dan Bruechert
Historic Preservation Section
Maryland-National Capital Park & Planning Commission

SUBJECT: Historic Area Work Permit # 927084 - Solar Panels

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **approved** at the October 14, 2020 HPC meeting.

The HPC staff has reviewed and stamped the attached construction drawings.

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Lois Wessel
Address: 7005 Westmoreland Ave., Takoma Park

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Dan Bruechert at 301.563.3400 or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.



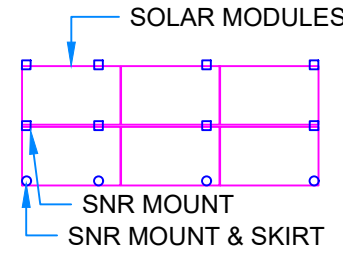
SCOPE OF WORK

- SYSTEM SIZE: 6600W DC, 4800W AC
- MODULES: (20) LG ELECTRONICS: LG330N1C-A5
- INVERTERS: (20) ENPHASE ENERGY: IQ7-60-2-US
- RACKING: SNAPRACK RLU; RL UNIVERSAL, SPEEDTRACK, SEE DETAIL SNR-DC-00436

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH 2018 IRC/IBC/IEBC, MUNICIPAL CODE, AND ALL MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS.
- PHOTOVOLTAIC SYSTEM WILL COMPLY WITH NEC 2017.
- ELECTRICAL SYSTEM GROUNDING WILL COMPLY WITH NEC 2017.
- PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35.
- MODULES CONFORM TO AND ARE LISTED UNDER UL 1703.
- INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741.
- RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.
- SNAPRACK RACKING SYSTEMS, IN COMBINATION WITH TYPE I, OR TYPE II MODULES, ARE CLASS A FIRE RATED.
- RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1).
- CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G).
- ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT.
- 10.45 AMPS MODULE SHORT CIRCUIT CURRENT.
- 16.32 AMPS DERATED SHORT CIRCUIT CURRENT [690.8 (a) & 690.8 (b)].
- THE INSTALLATIONS AND ASSEMBLY OF THE ROOF TOP AND OR GROUND MOUNTED SOLAR PANELS SHALL BE IN COMPLIANCE WITH IRC 2018 SECTIONS R-324, R-907 AND NEC 2017 OR AS ENGINEERED PER IRC 2018 SECTION R-301.1.3. BUILDING INSPECTOR SHALL VERIFY INSTALLATIONS OF BOTH PANELS AND ELECTRICAL CONNECTIONS PER FULL COMPLIANCE WITH THE ABOVE CITED CODE SECTIONS AND IRC 2015 SECTION R-102.7.1.


LEGEND AND ABBREVIATIONS



SERVICE ENTRANCE	MAIN PANEL	SUB-PANEL	PV LOAD CENTER	SUNRUN METER	DEDICATED PV METER	INVERTER(S)	AC DISCONNECT(S)	DC DISCONNECT(S)	IQ COMBINER BOX	INTERIOR EQUIPMENT SHOWN AS DASHED
SOLAR MODULES	CHIMNEY	ATTIC VENT	FLUSH ATTIC VENT	PVC PIPE VENT	METAL PIPE VENT	T-VENT	SATELLITE DISH	FIRE SETBACKS	HARDSCAPE	— PL — PROPERTY LINE

SCALE: NTS

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PV-2.0	SITE PLAN
PV-3.0	LAYOUT
PV-3.1	MOUNTING DETAIL
PV-4.0	ELECTRICAL
PV-5.0	SIGNAGE



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Jason Brown
3486735A926F42
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STRUCTURAL ONLY

VICINITY MAP



APPROVED

Montgomery County
Historic Preservation Commission

Sandra L. Heiler

REVIEWED
By Dan.Bruechert at 4:04 pm, Oct 15, 2020

- A AMPERE
- AC ALTERNATING CURRENT
- AFCI ARC FAULT CIRCUIT INTERRUPTER
- AZIM AZIMUTH
- COMP COMPOSITION
- DC DIRECT CURRENT
- (E) EXISTING
- ESS ENERGY STORAGE SYSTEM
- EXT EXTERIOR
- INT INTERIOR
- LBW LOAD BEARING WALL
- MAG MAGNETIC
- MSP MAIN SERVICE PANEL
- (N) NEW
- NTS NOT TO SCALE
- OC ON CENTER
- PRE-FAB PRE-FABRICATED
- PSF POUNDS PER SQUARE FOOT
- PV PHOTOVOLTAIC
- TL TRANSFORMERLESS
- TYP TYPICAL
- V VOLTS
- W WATTS

REV	NAME	DATE	COMMENTS



MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090
PHONE 443-457-5012
FAX 0

CUSTOMER RESIDENCE:
LOIS WESSEL
7005 WESTMORELAND AVE,
TAKOMA PARK, MD, 20912

TEL. (301) 213-6733
APN #: 13-01061594

PROJECT NUMBER:
251R-005WESS

DESIGNER: (415) 580-6920 ex3
JAKE TAYLOR

SHEET
COVER SHEET

REV: A 7/29/2020

PAGE PV-1.0₀

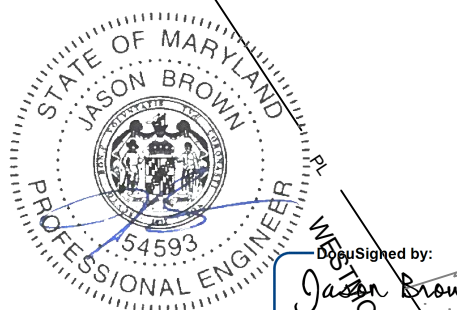
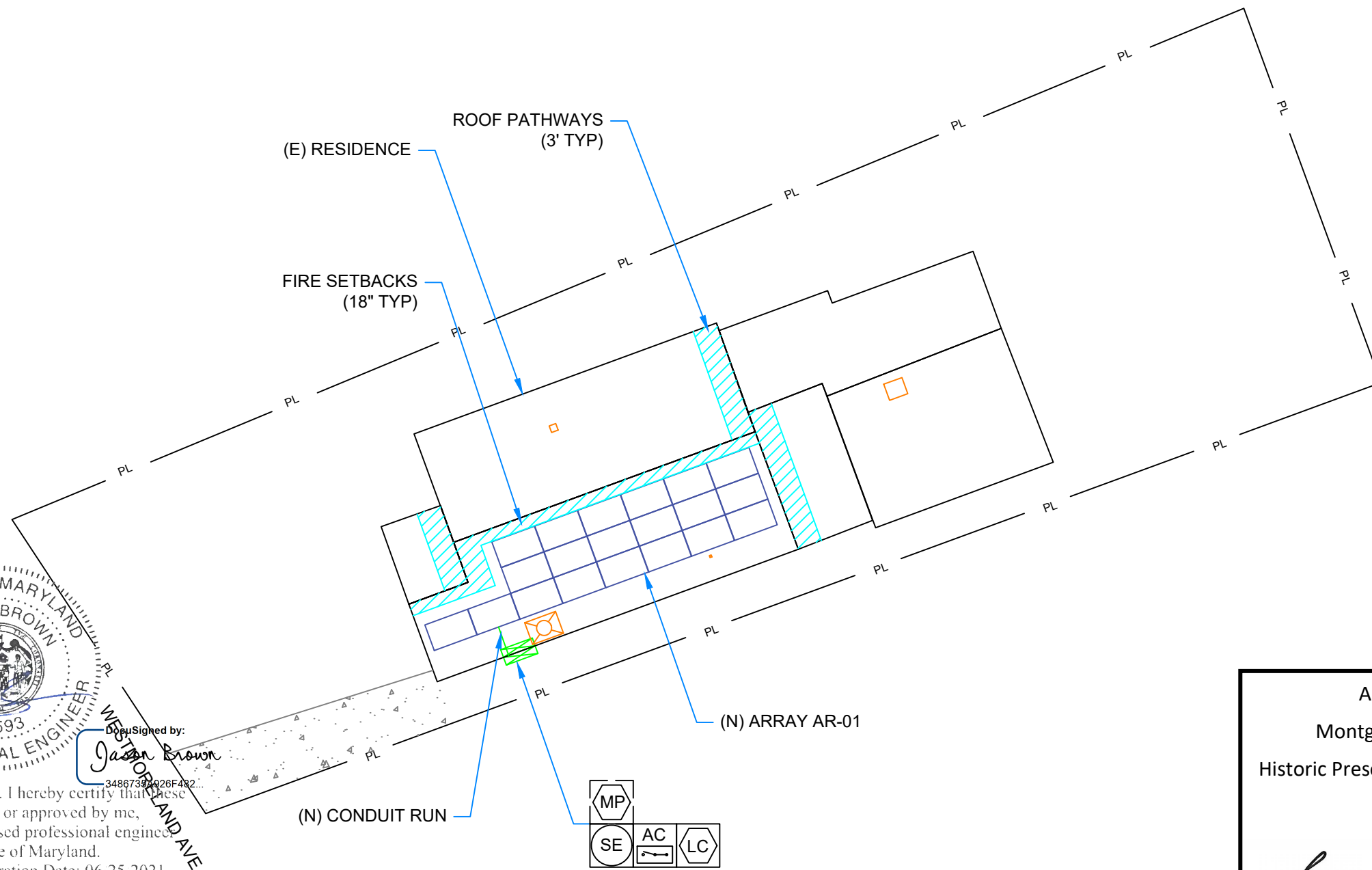
SITE PLAN - SCALE = 1/16" = 1'-0"



	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	25°	160°	171°	368.8

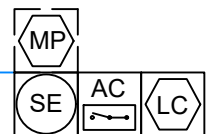
ARRAY DETAILS:

- TOTAL ROOF SURFACE AREA: 2207 SQFT.
- TOTAL PV ARRAY AREA: 368.8 SQ FT.
- PERCENTAGE PV COVERAGE:
(TOTAL PV ARRAY AREA/TOTAL ROOF SURFACE AREA) * 100 = 16.7%



Designed by:
Jason Brown

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License No. 54593, Expiration Date: 06/25/2021



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Montgomery County
Historic Preservation Commission
Sandra L. Heiler

REVIEWED
By Dan.Bruechert at 4:04 pm, Oct 15, 2020

SUNRUN

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090
PHONE 443-457-5012
FAX 0

CUSTOMER RESIDENCE:
LOIS WESSEL
7005 WESTMORELAND AVE,
TAKOMA PARK, MD, 20912

TEL: (301) 213-6733
APN #: 13-01061594

PROJECT NUMBER:
251R-005WESS

DESIGNER: (415) 580-6920 ex3
JAKE TAYLOR

SHEET
SITE PLAN

REV: A 7/29/2020

PAGE
PV-2.0₁

NOTE: MICRO-INVERTERS INSTALLED UNDER EACH MODULE

ROOF INFO			FRAMING INFO			ATTACHMENT INFORMATION					
Name	Type	Height	Type	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration
AR-01	COMP SHINGLE - RLU	1-Story	2X6 RAFTERS	12' - 8"	24"	RL UNIVERSAL, SPEEDTRACK, SEE DETAIL SNR-DC-00436	6' - 0"	1' - 5"	4' - 0"	1' - 0"	STAGGERED

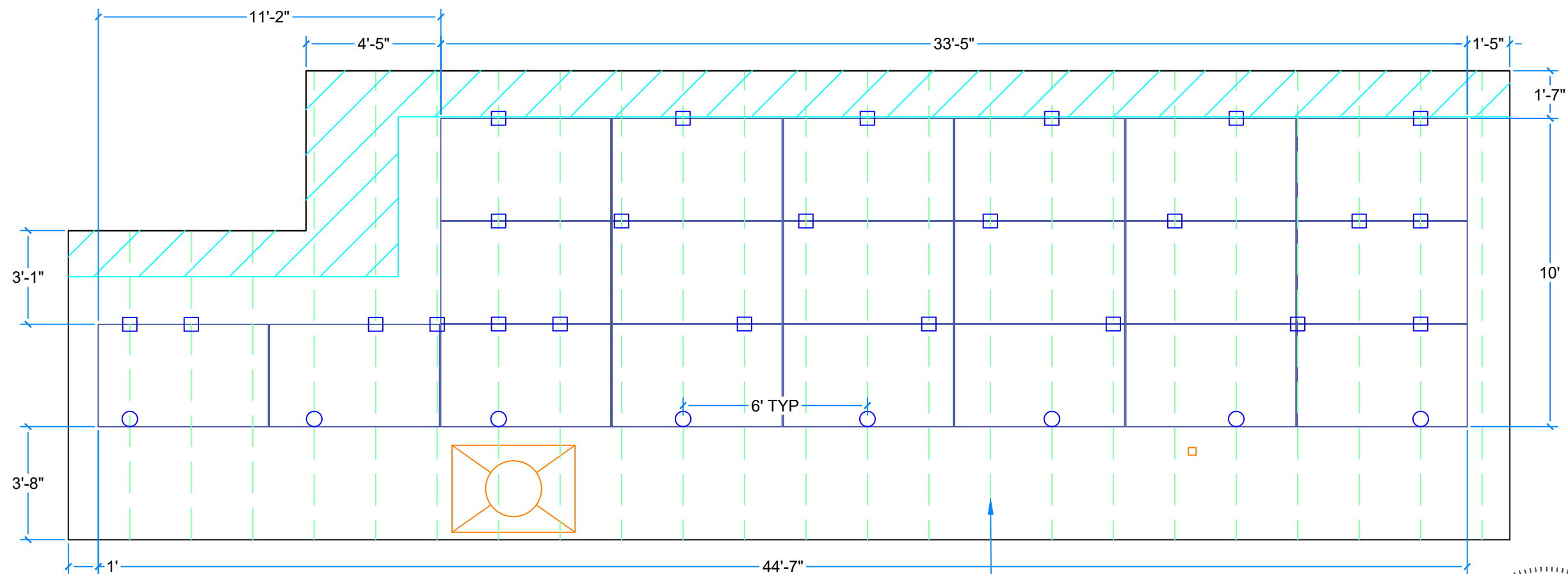
DESIGN CRITERIA

MAX DISTRIBUTED LOAD: 3 PSF
SNOW LOAD: 30 PSF
WIND SPEED: 111 MPH 3-SEC GUST.
S.S. LAG SCREWS: 5/16": 2.5" MIN EMBEDMENT

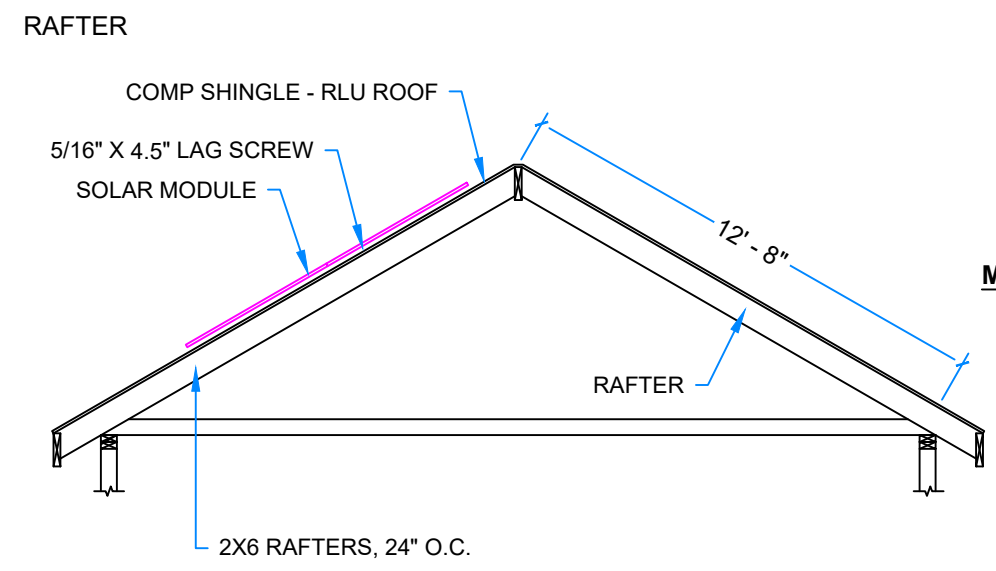
STRUCTURAL NOTES:

- INSTALLERS TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY E.O.R. OF ANY DISCREPANCIES BEFORE PROCEEDING.
- IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12" BOUNDARY REGION OF ANY ROOF PLANE EDGES (EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG REDUCED WITHIN THE 12" BOUNDARY REGION ONLY AS FOLLOWS:
 - ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY 50%
 - ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

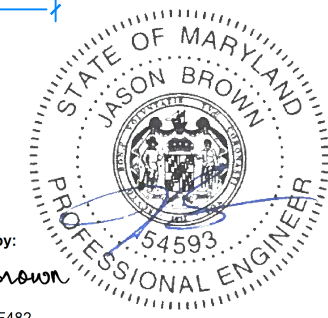
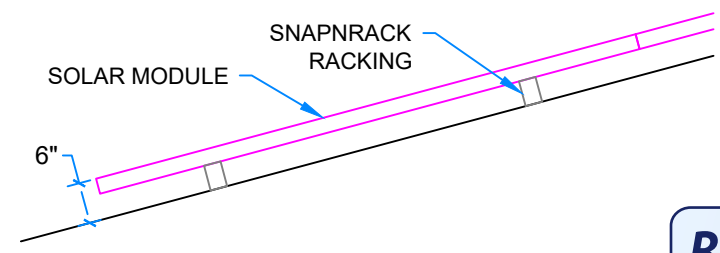
D1 - AR-01 - SCALE: 1/4" = 1'-0"
PITCH: 25°
AZIM: 160°



ROOF FRAMING DETAIL - SCALE: NTS



MODULE ELEVATION DETAIL - SCALE: NTS



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Jason Brown
 3486735A926F482...
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 Montgomery County
 Historic Preservation Commission

Sandra Heiler

REVIEWED
 By Dan.Bruechert at 4:04 pm, Oct 15, 2020

SUNRUN

MHIC #132591

812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090
 PHONE 443-457-5012
 FAX 0

CUSTOMER RESIDENCE:
 LOIS WESSEL
 7005 WESTMORELAND AVE,
 TAKOMA PARK, MD, 20912

TEL: (301) 213-6733
 APN #: 13-01061594

PROJECT NUMBER:
 251R-005WESS

DESIGNER: (415) 580-6920 ex3
 JAKE TAYLOR

SHEET
LAYOUT

REV: A 7/29/2020

PAGE
 PV-3.0₂

**SNAPRACK RL UNIVERSAL SPEEDTRACK COMPOSITION
ROOF MOUNTING**

EMBED Ø 5/16" LAG SCREW 2-1/2" INTO THE ROOF
STRUCTURAL MEMBER / RAFTER
FOR TORQUE SPECIFICATIONS SEE INSTALLATION MANUAL

REVISION:			
1	11/11/2019	NEW DETAIL	BDP

Ø 5/16" S.S. LAG SCREW

WASHER

FOAM GASKET

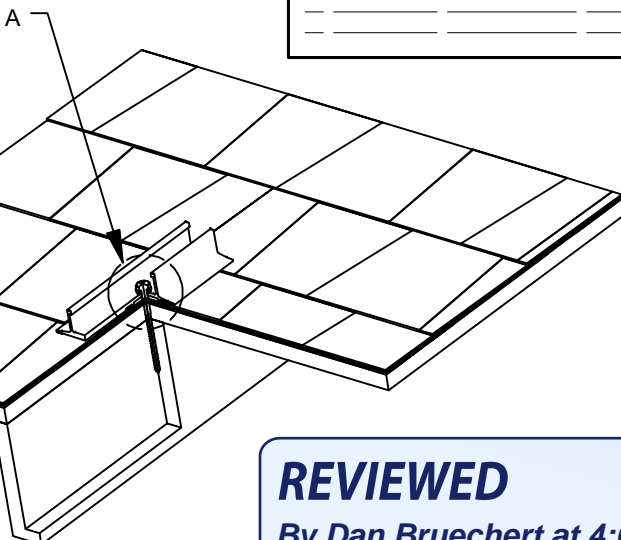
SPEEDTRACK

ROOFING MATERIAL

ROOF SHEATHING

RAFTER

DETAIL A



**COMPLETED INSTALLATION
SECTION VIEW**

SPEEDTRACK
SHOULD BE INSTALLED
PARALLEL TO RAFTER

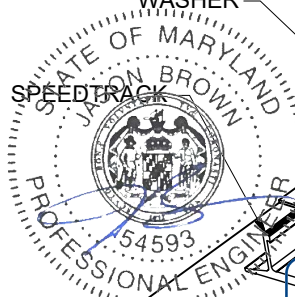
ROOFING MATERIAL

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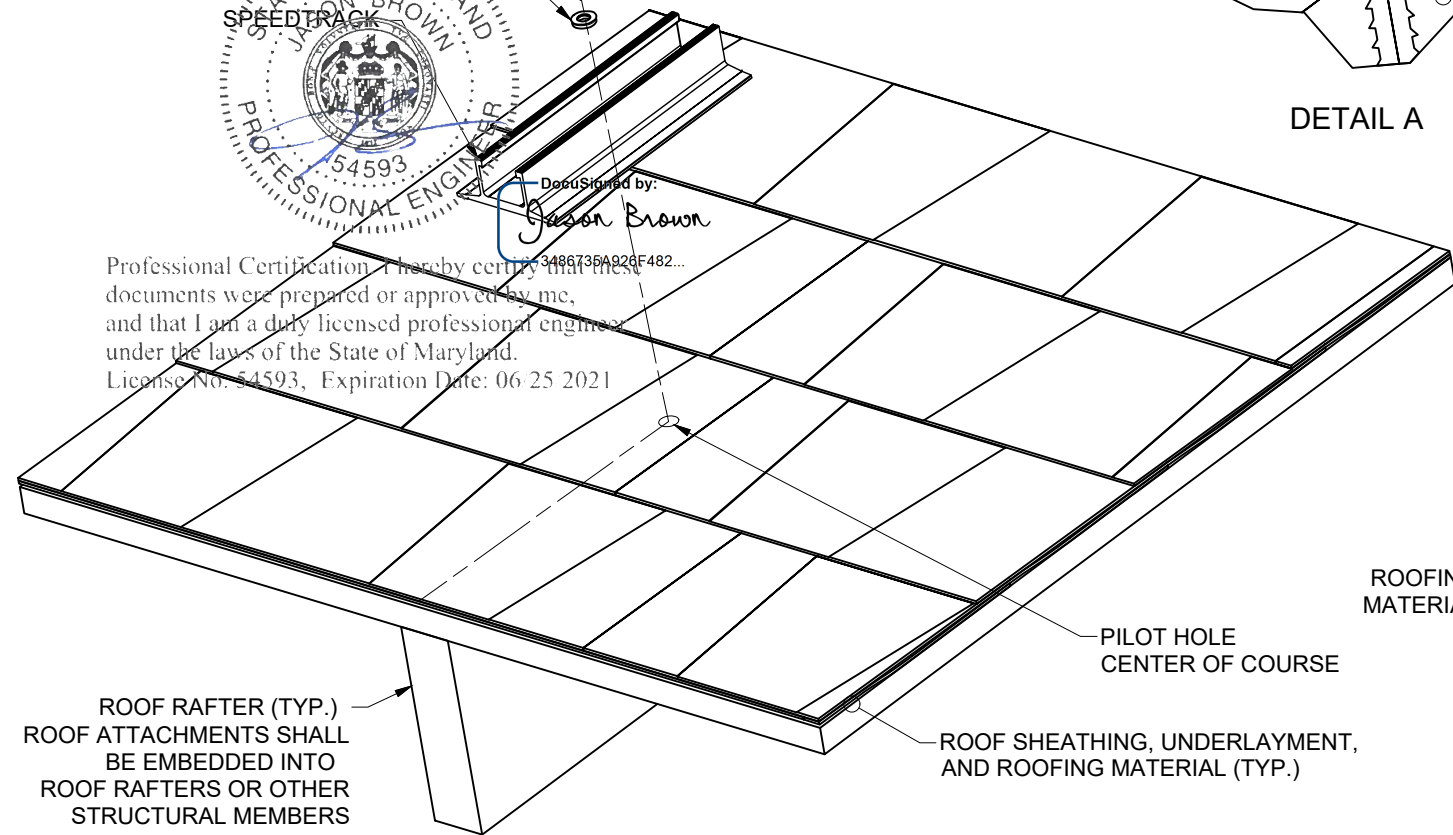
Ø 5/16" S.S. LAG SCREW
2-1/2" MINIMUM EMBEDMENT

WASHER



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Jason Brown

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ROOF RAFTER (TYP.)
ROOF ATTACHMENTS SHALL
BE EMBEDDED INTO
ROOF RAFTERS OR OTHER
STRUCTURAL MEMBERS

ROOF SHEATHING, UNDERLAYMENT,
AND ROOFING MATERIAL (TYP.)

PILOT HOLE
CENTER OF COURSE

ROOFING
MATERIAL

SPEEDTRACK

ROOF DECKING

2-1/2" MIN. EMBEDMENT
INTO RAFTER OR
STRUCTURAL MEMBER

COMPLETED INSTALLATION

SUNRUN

MHIC #132591

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FAX 0

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LOIS WESSEL
7005 WESTMORELAND AVE,
TAKOMA PARK, MD, 20912

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APN #: 13-01061594

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251R-005WESS

DESIGNER: (415) 580-6920 ex3
JAKE TAYLOR

SHEET
MOUNTING DETAIL

REV: A 7/29/2020

PAGE PV-3.13



Sunrun South LLC
595 MARKET STREET, 29TH FLOOR SAN FRANCISCO, CA 94105 USA
PHONE (415) 580-6900 FAX (415) 580-6902
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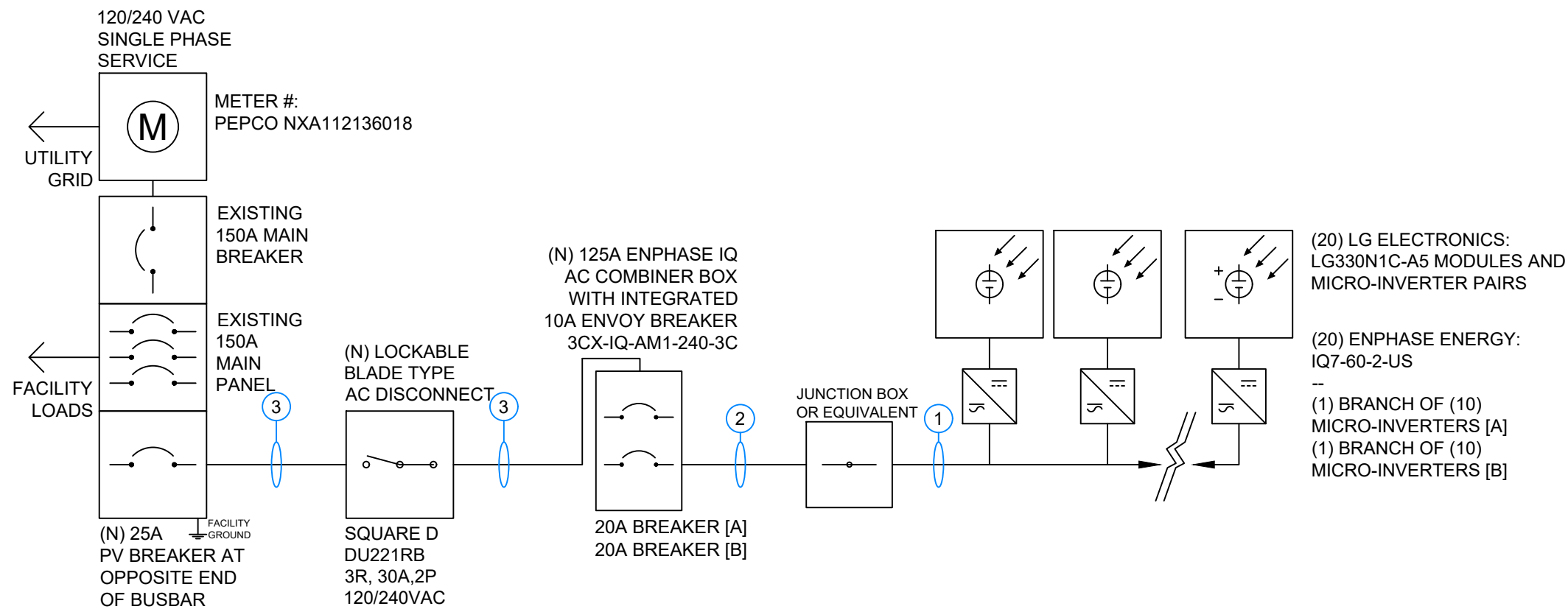
DESIGNER: B.PETERSON
DRAFTER: B.PETERSON
APPROVED BY: W.ARBUCKLE

SCALE: NTS
DATE: 11/11/2019

PART NUMBER:
SNR-DC-00436

DESCRIPTION:
RL UNIVERSAL, ATTACHMENT DETAIL, MOUNT
SPEEDTRACK ON COMP

REV: 1



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Historic Preservation Commission

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CONDUIT SCHEDULE				
#	CONDUIT	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(2) 12 AWG PER ENPHASE Q CABLE BRANCH	NONE	(1) 10 AWG BARE COPPER
2	3/4" EMT OR EQUIV.	(4) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2
3	3/4" EMT OR EQUIV.	(2) 10 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2

MODULE CHARACTERISTICS

LG ELECTRONICS: LG330N1C-A5: 330 W

OPEN CIRCUIT VOLTAGE: 40.9 V

MAX POWER VOLTAGE: 33.7 V

SHORT CIRCUIT CURRENT: 10.45 A

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PHONE 443-457-5012
FAX 0

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7005 WESTMORELAND AVE,
TAKOMA PARK, MD, 20912

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DESIGNER: (415) 580-6920 ex3
JAKE TAYLOR

SHEET
ELECTRICAL

REV: A 7/29/2020

PAGE PV-4.04

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

LABEL LOCATION:
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).
PER CODE(S): NEC 2020: 690.13(B), NEC 2017: 690.13(B), NEC 2014: 690.17(E), NEC 2011: 690.17(4)

WARNING
PHOTOVOLTAIC SYSTEM COMBINER PANEL
DO NOT ADD LOADS

LABEL LOCATION:
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).
PER CODE(S): CEC 2019: 705.12(B)(2)(3)(c), NEC 2017: 705.12(B)(2)(3)(c), NEC 2014: 705.12(D)(2)(3)(c), NEC 2011: 705.12(D)(4)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
UTILITY SERVICE ENTRANCE/METER, INVERTER/DC DISCONNECT IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS REQUIRED BY LOCAL AHJ.
PER CODE(S): CEC 2019: 690.56(C)(3), NEC 2017: 690.56(C)(3), NEC 2014: 690.12, NEC 690.56, IFC 2012: 605.11.1, IFC 2018: 1204.5.3, CFC 2019: 1204.5.3

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 2020: 705.12(B)(3)(2), CEC 2019: 705.12(B)(2)(3)(b), NEC 2017: 705.12(B)(2)(3)(b), CEC 2019: 705.12(B)(3), NEC 2017: 705.12(B)(3), NEC 2014: 705.12(B)(3), NEC 2011: 705.12(D)(7)

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT: 20.00 AMPS
NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.
PER CODE(S): CEC 2019: 690.54, NEC 2017: 690.54, NEC 2014: 690.54, NEC 2011: 690.54

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4"
3"
SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY.
SOLAR ELECTRIC PV PANELS

LABEL LOCATION:
ON OR NO MORE THAN 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.
PER CODE(S): CEC 2019: 690.56(C)(1)(a), NEC 2017: 690.56(C)(1)(a)

- NOTES AND SPECIFICATIONS:
- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2017 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
 - SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
 - LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
 - LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
 - SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
 - DO NOT COVER EXISTING MANUFACTURER LABELS.

CAUTION:
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS AS SHOWN

SERVICE ENTRANCE
SOLAR PANELS AND MICROINVERTERS ON ROOF
MAIN PANEL AND PV BREAKER DISCONNECT (INT)
AC DISCONNECT
PV LOAD CENTER

7005 WESTMORELAND AVE, TAKOMA PARK, MD, 20912

SUNRUN

MHIC #132591
812 OREGON AVE, STE J, LINTHICUM HEIGHTS, MD 21090
PHONE 443-457-5012
FAX 0

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SHEET **SIGNAGE**

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