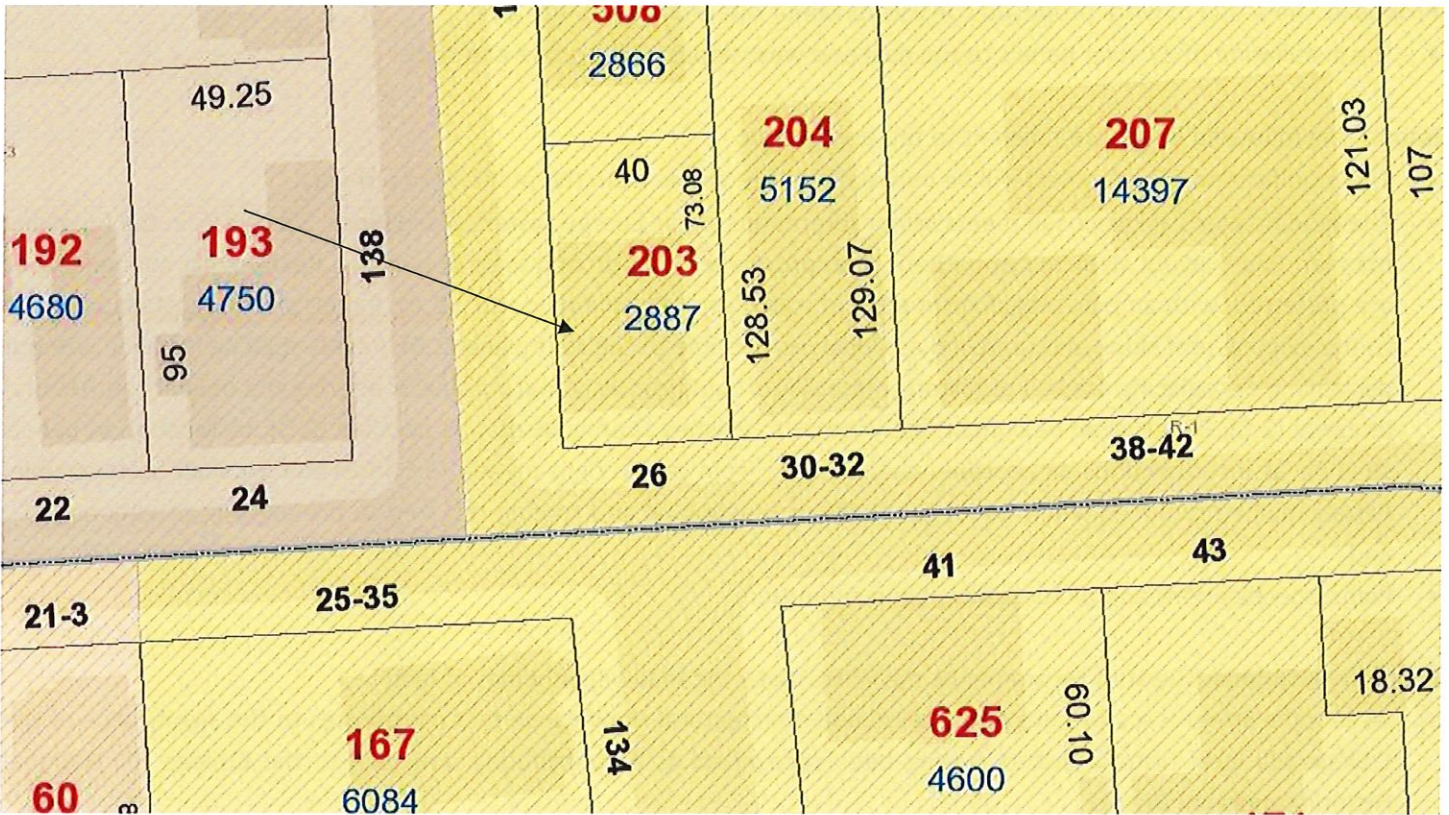
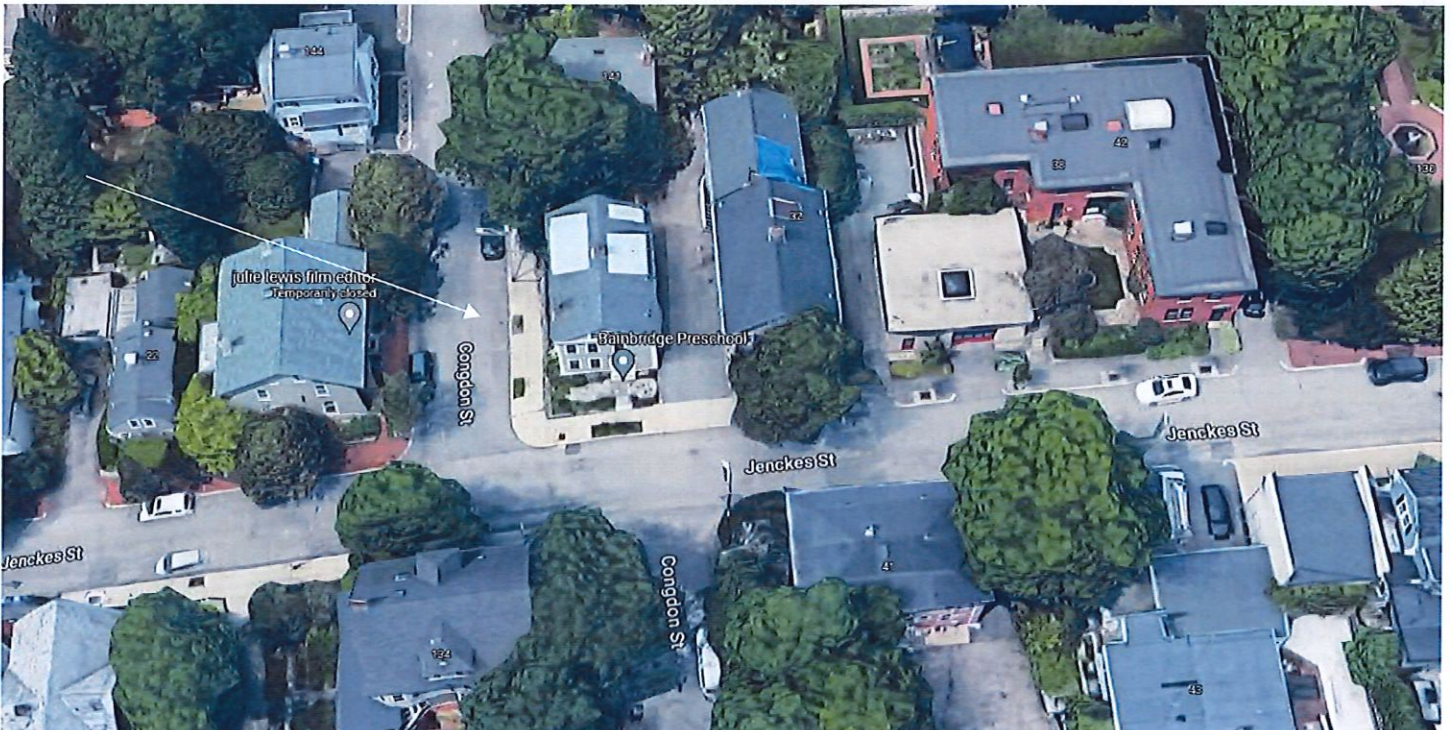


4. CASE 22. 061, 26 JENCKES STREET, Walter Updike House, pre1854 (COLLEGE HILL)  
Greek Revival; 2-1/2 stories; end gable; clapboard; 3-bay cottage with entrance on west side.  
CONTRIBUTING



Arrow indicates 26 Jenckes Street.



Arrow indicates project location, looking north.

**Applicant/Contractor:** Roof Top Power, 275 W Natick Rd, Ste 800, Warwick, RI 02886

**Owner:** Eamon Brown, 26 Jenckes Street, Providence, RI 02906

**Proposal:** The scope of work proposed consists of Minor Alterations and includes:

- the installation of 27 solar panels to the east and west slopes of the gable-end roof.

**Issues:** The following issues are relevant to this application:

- The modifications as proposed will be minimally-to-not visible from the public rights-of-way;
- The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, in the following manner: Panel layout shall be sympathetic or appropriate to design and scale of building. Rectangular configurations are preferred, with ample setback from edge of roof, dormers, chimneys, etc. (2.A); Panels shall be installed parallel to the existing roof slope and matched as closely as possible to the roof plane (2.B); Panels shall be installed without destroying or replacing original or historic materials or significantly compromising or altering the building's structural integrity (2.C); Panels shall be compatible in color to existing roofing insofar as possible (2.D); Installation of panels shall be as inconspicuous as possible when viewed from public right-of-way (2.E); Installation shall be reversible. Panels shall be removed when no longer viable or functioning and roofing restored to pre-existing conditions (2.F); and,
- Plans, specifications and pictures have been submitted.

**Recommendations:** The staff recommends the PHDC make the following findings of fact:

- a) 26 Jenckes Street is a structure of historical and architectural significance that contributes to the significance of the College Hill local historic district having been recognized as a contributing structure to the College Hill National Historic Landmark District;
- b) The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, and the application is considered complete; and,
- c) The work as proposed is in accord with PHDC Standards 8 & 9 as follows: 8) the work will be done so that it does not destroy the historic character of the property or the district as they will be minimally-to-not visible from the public rights-of-way; and, 9) Whenever possible... alterations to structures shall be done in such a manner that if removed in the future, the essential form and integrity of the structure and the site will be unimpaired.

**Staff recommends a motion be made stating that: The application is considered complete. 26 Jenckes Street is a structure of historical and architectural significance that contributes to the significance of the College Hill local historic district having been recognized as a contributing structure to the College Hill National Historic Landmark District. The Commission grants Final Approval of the proposal as submitted as the proposed alteration is appropriate having determined that the proposed alteration does not destroy the historic character of the property or the district and are historically and architecturally compatible with the property and district as the proposed alteration meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, is reversible and will not have an adverse effect on the property or district as they will be minimally-to-not visible from the public rights-of-way (Standards 8 & 9), and the recommendations in the staff report, with staff to review any additional required details.**



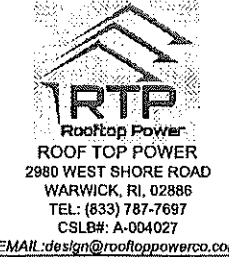




# PHOTOVOLTAIC ROOF MOUNT SYSTEM

27 MODULES-ROOF MOUNTED - 10.80 kWDC, 7.83 kWAC

26 JENCKES ST, PROVIDENCE, RI 02906 USA



### SYSTEM SUMMARY:

- (N) 27 - REC SOLAR REC400AA PURE BLACK (400W) MODULES
- (N) 27 - ENPHASE ENERGY IQ7PLUS-72-2-US MICRO-INVERTERS
- (N) JUNCTION BOX
- (E) 200A MAIN SERVICE PANEL WITH (E) 200A MAIN BREAKER
- (N) 60A FUSED AC DISCONNECT
- (N) REGGROWTH METER
- (N) ENPHASE IQ COMBINER BOX 3

### DESIGN CRITERIA:

ROOF TYPE: - ASPHALT SHINGLE  
 NUMBER OF LAYERS: - 01  
 ROOF FRAME: - 2"X8" RAFTERS @ 28" O.C.  
 2"X6" RAFTERS @ 16" O.C.  
 STORY: - TWO STORY  
 SNOW LOAD : - 30 PSF  
 WIND SPEED :- 133 MPH  
 WIND EXPOSURE:- B  
 EXPOSURE CATEGORY:- II  
 COORDINATE: 41.832857, -71.407379

### GOVERNING CODES:

2017 NATIONAL ELECTRICAL CODE (NEC)  
 Rhode Island One and Two Family Dwelling Code, SBC-2-2021 (RISBC-2)  
 2015 INTERNATIONAL MECHANICAL CODE (IMC)  
 2015 INTERNATIONAL PLUMBING CODE (IPC)

### SHEET INDEX

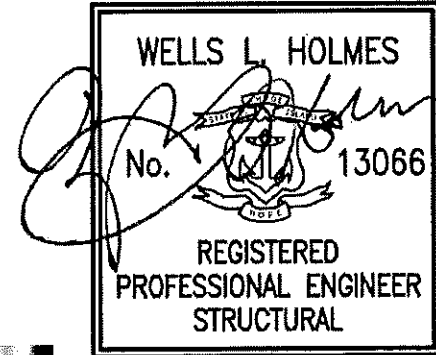
PV-0	COVER SHEET
PV-1	SITE PLAN WITH ROOF PLAN
PV-2	ROOF PLAN WITH MODULES
PV-3	ATTACHMENT DETAILS
PV-4	BRANCH LAYOUT
PV-5	ELECTRICAL LINE DIAGRAM
PV-6	ELECTRICAL CALCULATION
PV-7	WARNING LABELS
PV-8	ADDITIONAL NOTES
PV-9+	EQUIPMENT SPEC SHEETS



651 W. GALENA PARK BLVD. STE. 101 DRAPER, UTAH 84020 PHONE (801) 990-1775 WWW.VECTOREE.COM

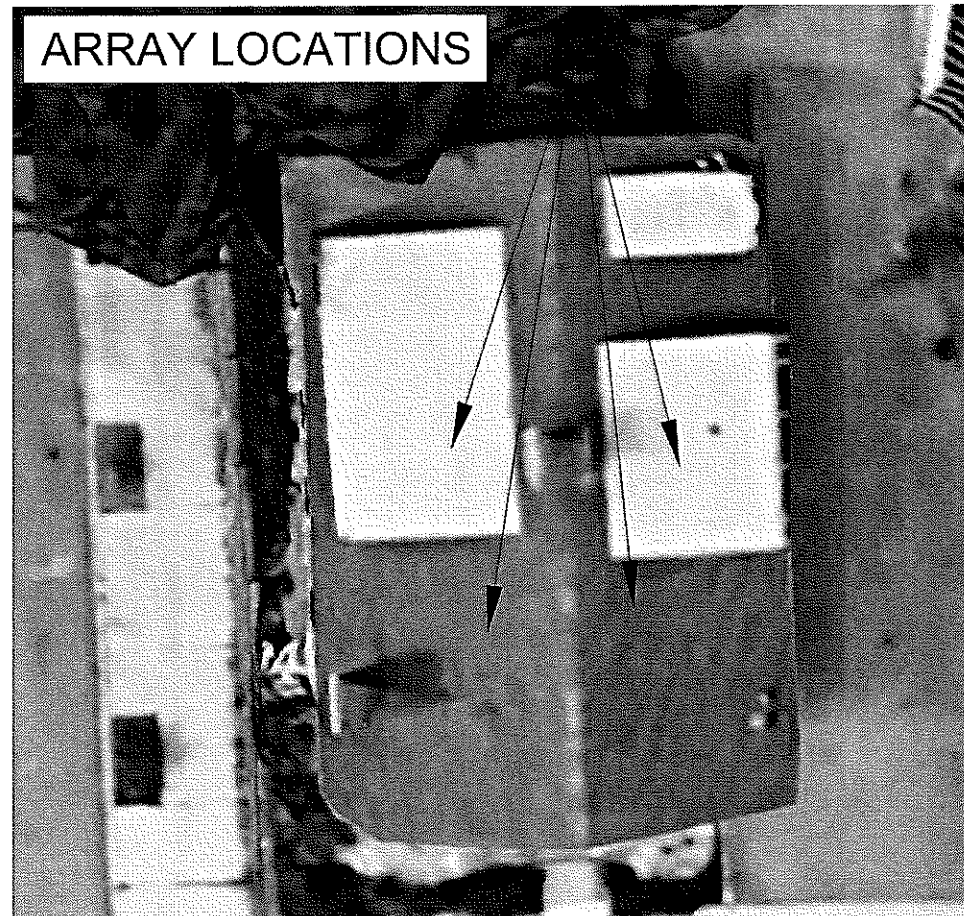
Firm License Number: PE.00LLC86-COA  
 VSE Project Number: U3227-0861-221

Vector Structural Engineering has reviewed the existing structure with loading from the solar array and screw connections to the existing framing. The design of the racking system, racking connections, and all other structural is by others. Mechanical, architectural, and all other nonstructural aspects of the design are by others. Electrical is by others, unless stamped by Dean Levorsen.

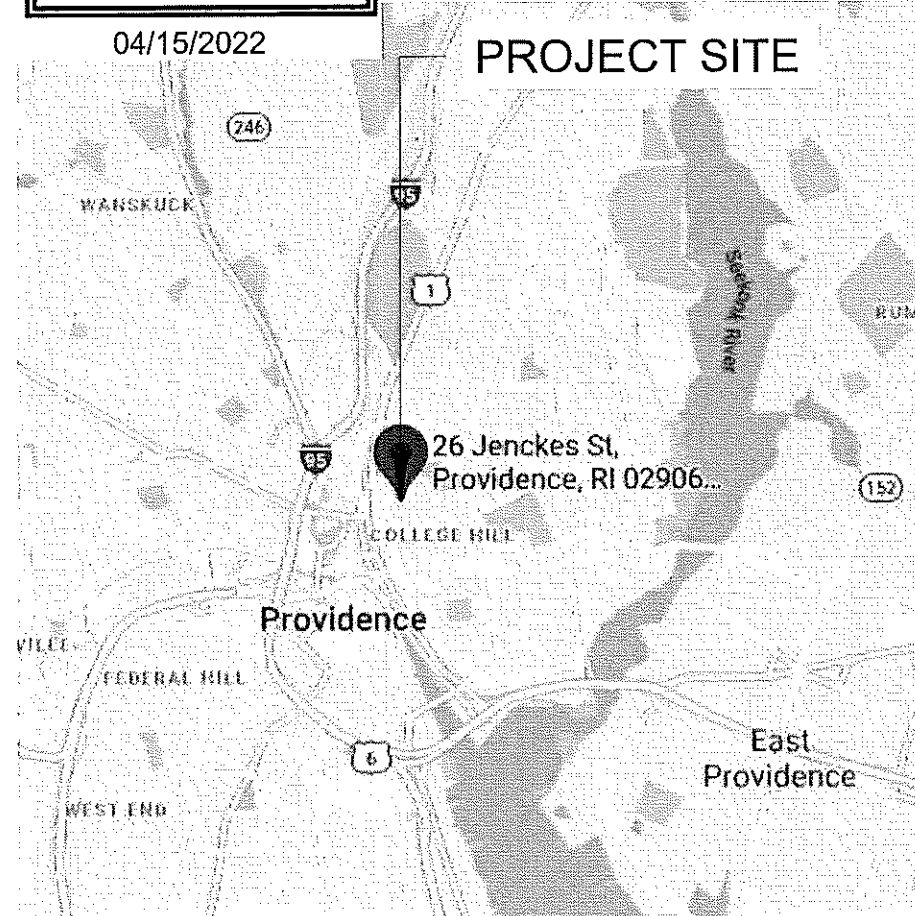


### CONSTRUCTION NOTE:

A LADDER SHALL BE IN PLACE FOR INSPECTION THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY GRID INTERACTIVE SYSTEM  
 A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 690-47 AND 250-50 THROUGH 60 250-166 SHALL BE PROVIDED PER NEC, GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, OR IS ONLY METALLIC WATER PIPING, A SUPPLEMENTAL GROUNDING ELECTRODE WILL BE USED AT THE INVERTER LOCATION CONSISTING OF A UL LISTED 8 FT GROUND ROD WITH ACORN CLAMP. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO GREATER THAN #8 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE OR A COMPLETE GROUND.  
 EACH MODULE WILL BE GROUNDED USING THE SUPPLIED GROUNDING POINTS IDENTIFIED BY THE MANUFACTURER. EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENT, AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED, REGARDLESS OF VOLTAGE.  
 PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED ALL SIGNAGE WILL BE INSTALLED AS REQUIRED BY AND 2017 NEC. HEIGHT OF INTEGRATED AC/DC DISCONNECT SHALL NOT EXCEED 6' 7" THE GROUNDING ELECTRODE CONDUCTOR SHALL BE PROTECTED FROM PHYSICAL DAMAGE BETWEEN THE GROUNDING ELECTRODE AND THE PANEL (OR INVERTER) IF SMALLER THAN #6 AWG COPPER WIRE. THE GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AT BUSBARS WITHIN LISTED EQUIPMENT.  
 ALL EXTERIOR CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES.  
 THE PV CONNECTION IN THE PANEL BOARD SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION.  
 SITE CONDITIONS SHALL PREVAIL IF NO SCALE IS GIVEN. DRAWINGS ARE NOT NECESSARILY TO SCALE. ALL DIMENSIONS SHALL BE VERIFIED BY SUBCONTRACTOR UPON COMMENCEMENT OF CONSTRUCTION.



1 | AERIAL PHOTO  
 PV-0 | SCALE: NTS



2 | VICINITY MAP  
 PV-0 | SCALE: NTS



41.832857, -71.407379

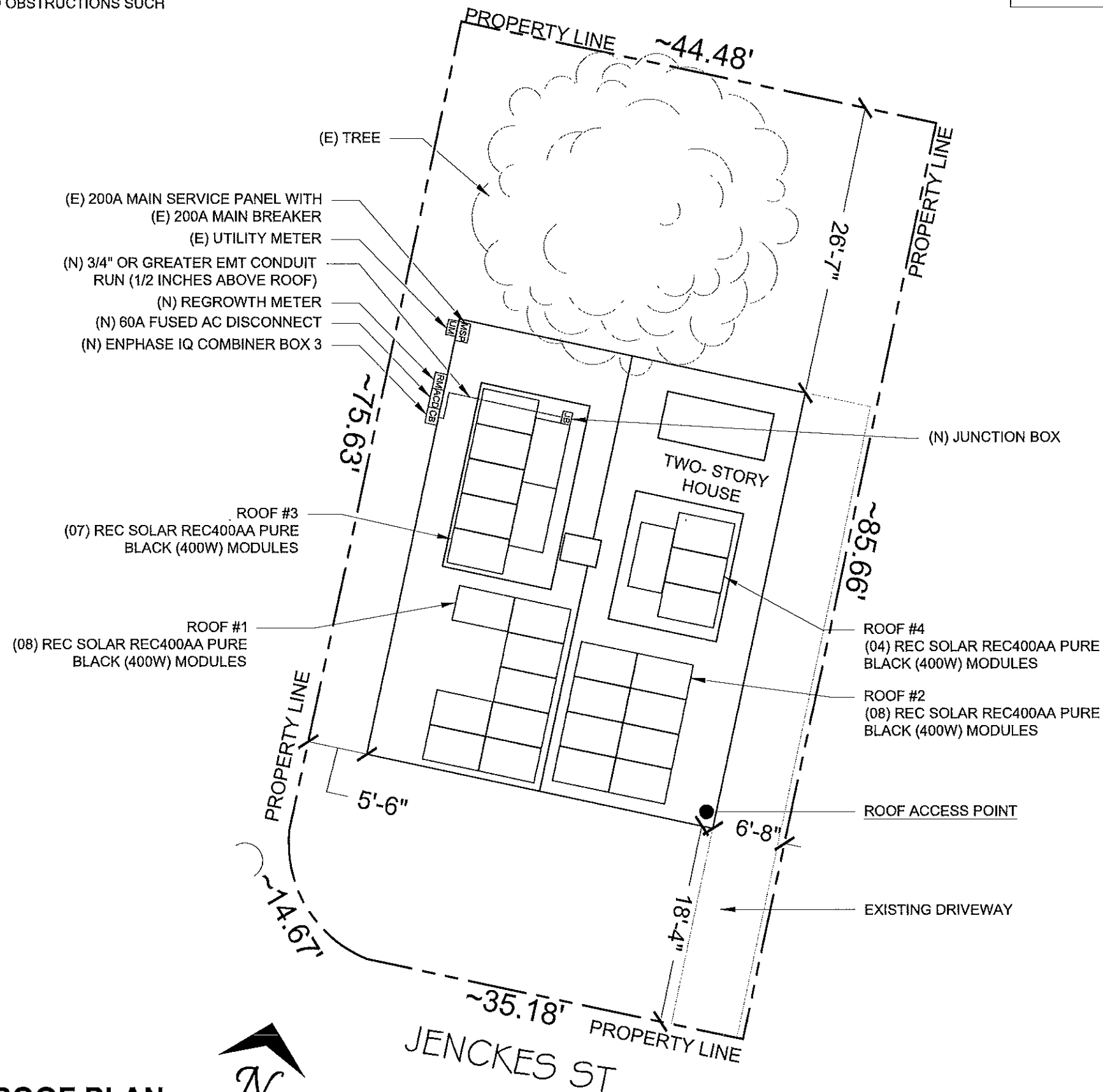
VERSION		
DESCRIPTION	DATE	REV
INITIAL RELEASE	09/17/2021	UR

PROJECT NAME  
**EAMON BROWN**  
**26 JENCKES ST,**  
**PROVIDENCE, RI 02906 USA**  
**APN# PROV0M:9L:203**  
**UTILITY: NATIONAL GRID**  
**AHJ: CITY OF PROVIDENCE**

SHEET NAME
<b>COVER SHEET</b>
SHEET SIZE
<b>ANSI B</b>
<b>11" X 17"</b>
SHEET NUMBER
<b>PV-0</b>

● **ROOF ACCESS POINT** SHALL 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.

**NOTE:**  
 A. ALL ELECTRICAL EQUIPMENT, INVERTERS, DISCONNECTS, MAIN SERVICE PANELS, ETC. SHALL NOT BE INSTALLED WITHIN 3' OF THE GAS METERS' SUPPLY OR DEMAND PIPING.



VERSION		
DESCRIPTION	DATE	REV
INITIAL RELEASE	08/17/2021	UR

PROJECT NAME

EAMON BROWN  
 26 JENCKES ST,  
 PROVIDENCE, RI 02906 USA  
 APN# PROV:9L:203  
 UTILITY: NATIONAL GRID  
 AHJ: CITY OF PROVIDENCE

SHEET NAME  
 SITE PLAN WITH  
 ROOF PLAN

SHEET SIZE  
 ANSI B  
 11" X 17"

SHEET NUMBER  
 PV-1

**1 SITE PLAN WITH ROOF PLAN**

SCALE: 3/32" = 1'-0" 41.832857, -71.407379



**MODULE TYPE, DIMENSIONS & WEIGHT**

NUMBER OF MODULES = 27 MODULES  
 MODULE TYPE = REC SOLAR REC400AA PURE BLACK (400W) MODULES  
 MODULE WEIGHT = 45 LBS / 20.5 KG.  
 MODULE DIMENSIONS = 71.7" X 40" = 19.92 SF  
 UNIT WEIGHT OF ARRAY = 2.26 PSF

ROOF #1 & #2  
 DISTRIBUTED DEAD LOAD = 2.61 PSF  
 AVERAGE ROOF POINT DEAD LOAD = 26.02 LBS  
 TOTAL SYSTEM WEIGHT: 805.78 LBS

ROOF #3 & #4  
 DISTRIBUTED DEAD LOAD = 2.60 PSF  
 AVERAGE ROOF POINT DEAD LOAD = 16.72 LBS  
 TOTAL SYSTEM WEIGHT: 548.00 LBS  
 "AVERAGE ROOF HEIGHT" (GROUND TO EAVE) = ~25 FT.

(N) REGROWTH METER  
 (N) 60A FUSED AC DISCONNECT  
 (N) ENPHASE IQ COMBINER BOX 3

ROOF #3  
 (07) REC SOLAR REC400AA PURE BLACK (400W) MODULES  
 ROOF #3  
 TILT - 8°  
 AZIMUTH - 267°

(N) (74) UNIRAC FLASHKIT PRO ATTACHMENTS SPACED AT 56" & 32" O.C.  
 (N) UNIRAC SM LIGHT RAIL  
 (E) ASPHALT SHINGLE ROOF (TYP.)  
 (E) 2"X6" RAFTERS @ 16" O.C.

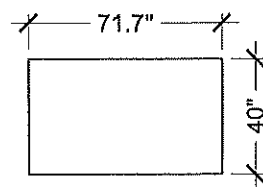
(E) 2"X8" RAFTERS @ 28" O.C.

ROOF #1  
 TILT - 35°  
 AZIMUTH - 267°

ROOF #1  
 (08) REC SOLAR REC400AA PURE BLACK (400W) MODULES

(E) CHIMNEY (TYP.)

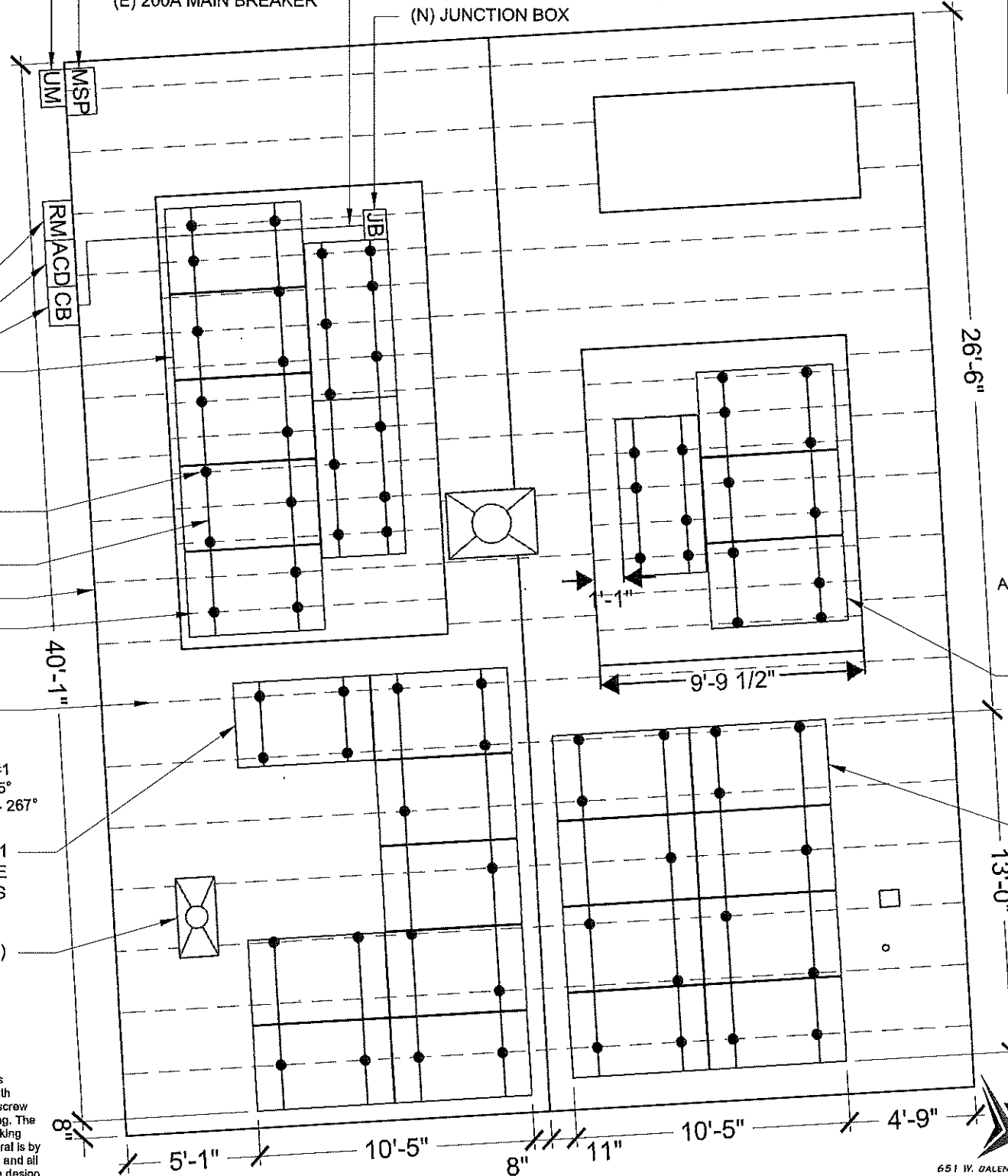
PHOTOVOLTAIC MODULES  
 REC SOLAR REC400AA PURE BLACK (400W)



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REAR YARD

(E) UTILITY METER  
 (E) 200A MAIN SERVICE PANEL WITH (E) 200A MAIN BREAKER  
 (N) 3/4" OR GREATER EMT CONDUIT RUN (1/2 INCHES ABOVE ROOF)  
 (N) JUNCTION BOX



FRONT YARD  
 JENCKES ST

41.832857, -71.407379

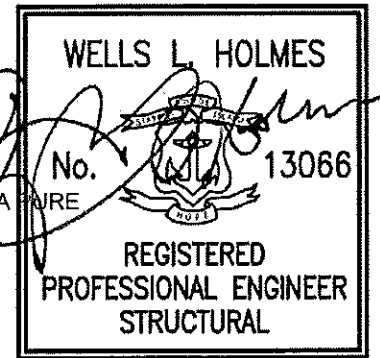
BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
RAIL	15	UNIRAC SM LIGHT RAIL 168" DARK (315168D)
SPLICE	04	BND SPLICE BAR PRO SERIES DRK
MID CLAMP	36	UNIVERSAL AF SERIES MID CLAMPS DRK (302045D)
END CLAMP	36	PRO SERIES END CLAMPS (302035M)
FLASHING	74	UNIRAC FLASHKIT PRO ,DRK 10PK
GROUNDING LUG	09	ILSCO LAY IN LUG (GBL4DBT)

ROOF DESCRIPTION				
ROOF TYPE		ASPHALT SHINGLE ROOF		
ROOF	ROOF TILT	AZIMUTH	RAFTERS SIZE	RAFTERS SPACING
#1	35°	267°	2"x8"	28" O.C.
#2	35°	87°	2"x8"	28" O.C.
#3	8°	267°	2"X6"	16" O.C.
#4	8°	87°	2"X6"	16" O.C.

ARRAY AREA & ROOF AREA CALC'S				
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	08	159.33	477.70	33.35
#2	08	159.33	535.89	29.73
#3	07	139.42	174.52	79.89
#4	04	79.67	121.00	65.84



VERSION		
DESCRIPTION	DATE	REV
INITIAL RELEASE	06/17/2021	UR



ROOF #4  
 TILT - 8°  
 AZIMUTH - 87°

ROOF #4  
 (04) REC SOLAR REC400AA PURE BLACK (400W) MODULES

ROOF #2  
 (08) REC SOLAR REC400AA PURE BLACK (400W) MODULES

ROOF #2  
 TILT - 35°  
 AZIMUTH - 87°

Firm License Number: PE.00LLC86-COA  
 VSE Project Number: U3227-0861-221

LEGEND	
UM	- UTILITY METER
MSP	- MAIN SERVICE PANEL
ACD	- AC DISCONNECT
CB	- COMBINER BOX 3
RM	- REGROWTH METER
CHIMNEY	- CHIMNEY
VENT, ATTIC FAN (ROOF OBSTRUCTION)	- VENT, ATTIC FAN (ROOF OBSTRUCTION)
ROOF ATTACHMENT	- ROOF ATTACHMENT
RAFTERS	- RAFTERS
CONDUIT	- CONDUIT

NOTE: ACTUAL ROOF CONDITIONS AND RAFTERS (OR SEAM) LOCATIONS MAY VARY. INSTALL PER MANUFACTURER(S) INSTALLATION GUIDELINES AND ENGINEERED SPANS FOR ATTACHMENTS

PLUMBING VENTS, SKYLIGHTS AND MECHANICAL VENTS SHALL NOT BE COVERED, MOVED, RE-ROUTED OR RE-LOCATED.

PROJECT NAME

EAMON BROWN  
 26 JENCKES ST,  
 PROVIDENCE, RI 02906 USA  
 APN# PROV0M:9L:203  
 UTILITY: NATIONAL GRID  
 AHJ: CITY OF PROVIDENCE

SHEET NAME  
 ROOF PLAN WITH MODULES

SHEET SIZE  
 ANSI B  
 11" X 17"

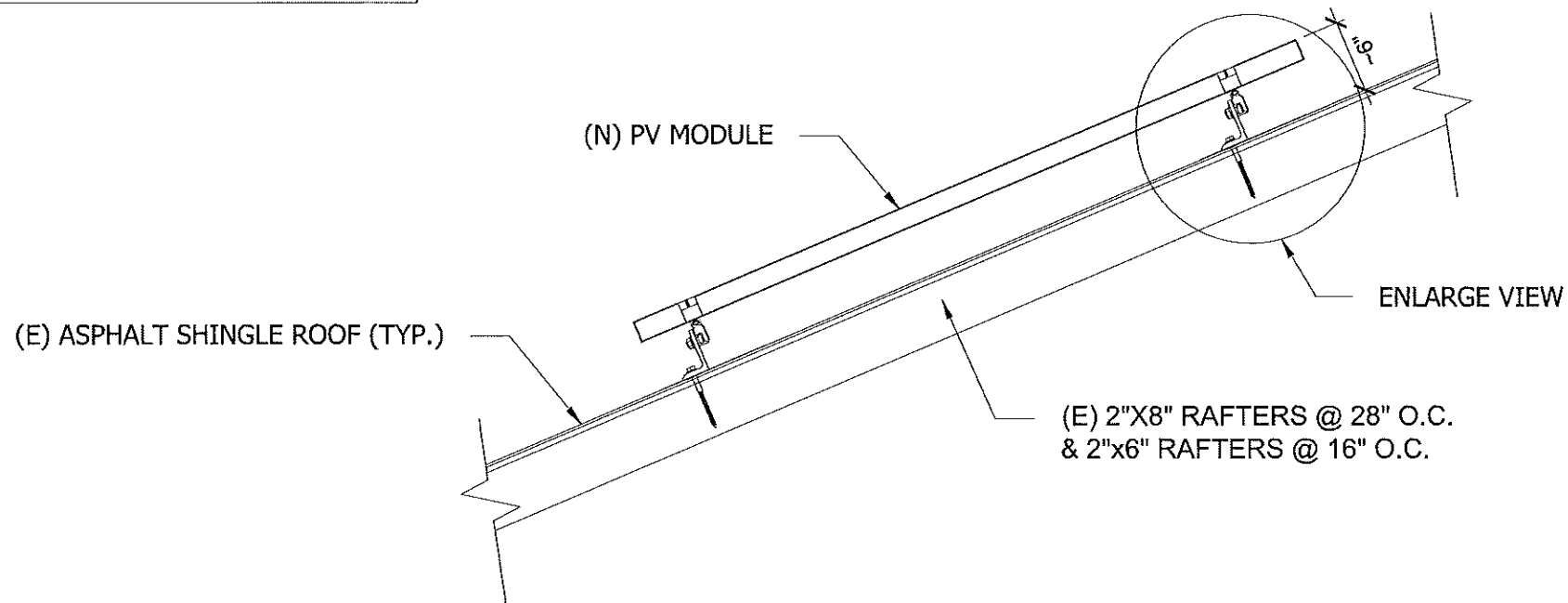
SHEET NUMBER  
 PV-2

**1** ROOF PLAN WITH MODULES  
 SCALE: 3/16" = 1'-0"

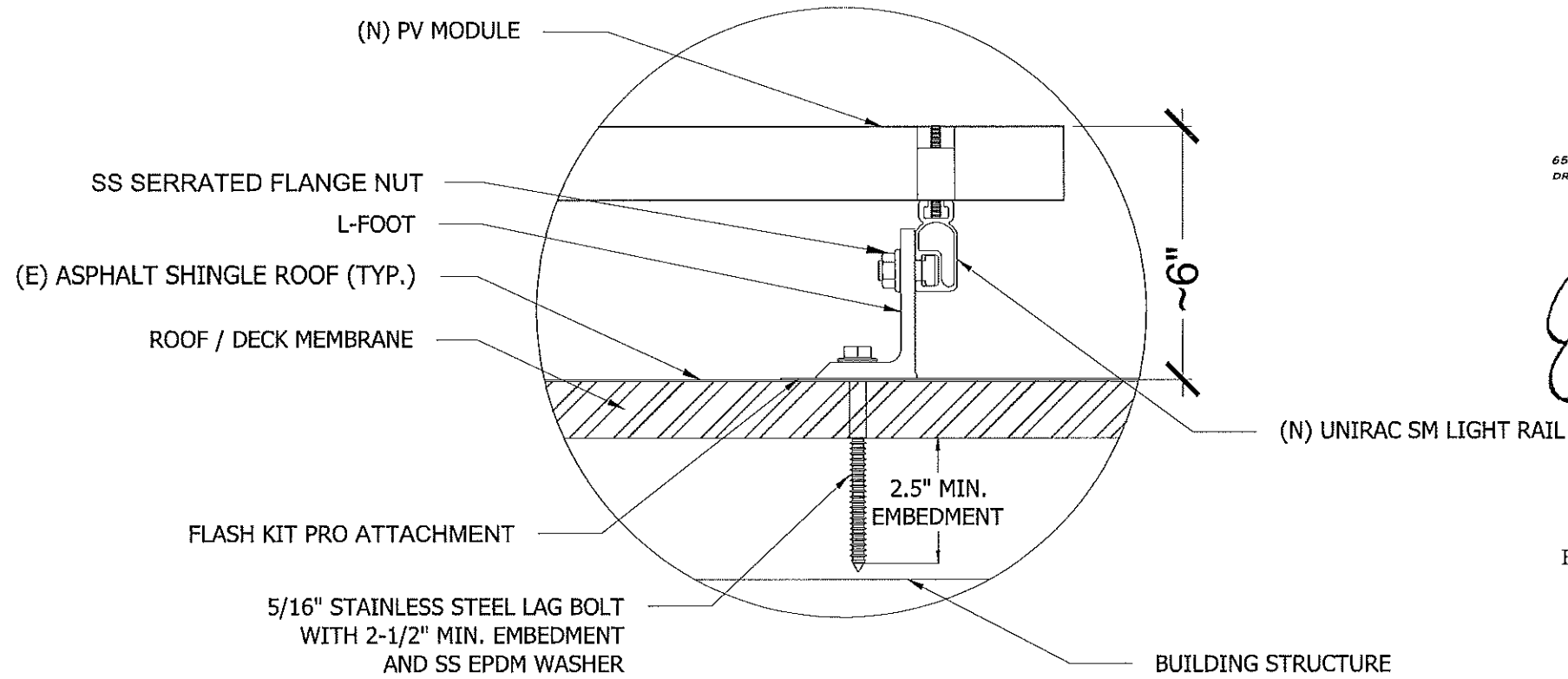




**NOTE: ACTUAL ROOF CONDITIONS AND RAFTERS (OR SEAM) LOCATIONS MAY VARY. INSTALL PER MANUFACTURER(S) INSTALLATION GUIDELINES AND ENGINEERED SPANS FOR ATTACHMENTS**



**1 ATTACHMENT DETAIL**  
SCALE: NTS



**2 ATTACHMENT DETAIL (ENLARGED VIEW)**  
SCALE: NTS

**VECTOR ENGINEERS**  
651 W. GALENA PARK BLVD. STE. 101 DRAPER, UTAH 84020 PHONE (801) 990-1775 WWW.VECTORSE.COM

**WELLS L. HOLMES**  
No. 13066  
REGISTERED PROFESSIONAL ENGINEER STRUCTURAL

04/15/2022  
Firm License Number: PE.00LLC86-COA  
VSE Project Number: U3227-0861-221

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**RTTP**  
Rooftop Power  
ROOF TOP POWER  
2980 WEST SHORE ROAD  
WARWICK, RI, 02886  
TEL: (833) 787-7697  
CSLB#: A-004027  
EMAIL: design@rooftoppowerco.com

VERSION		
DESCRIPTION	DATE	REV
INITIAL RELEASE	06/17/2021	UR

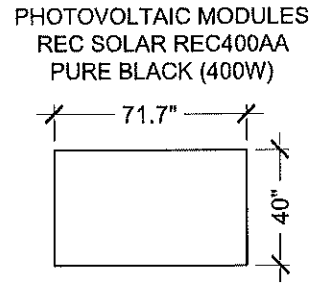
PROJECT NAME  
**EAMON BROWN**  
26 JENCKES ST,  
PROVIDENCE, RI 02906 USA  
APN# PROV:M:9L:203  
UTILITY: NATIONAL GRID  
AHJ: CITY OF PROVIDENCE

SHEET NAME  
**ATTACHMENT DETAILS**

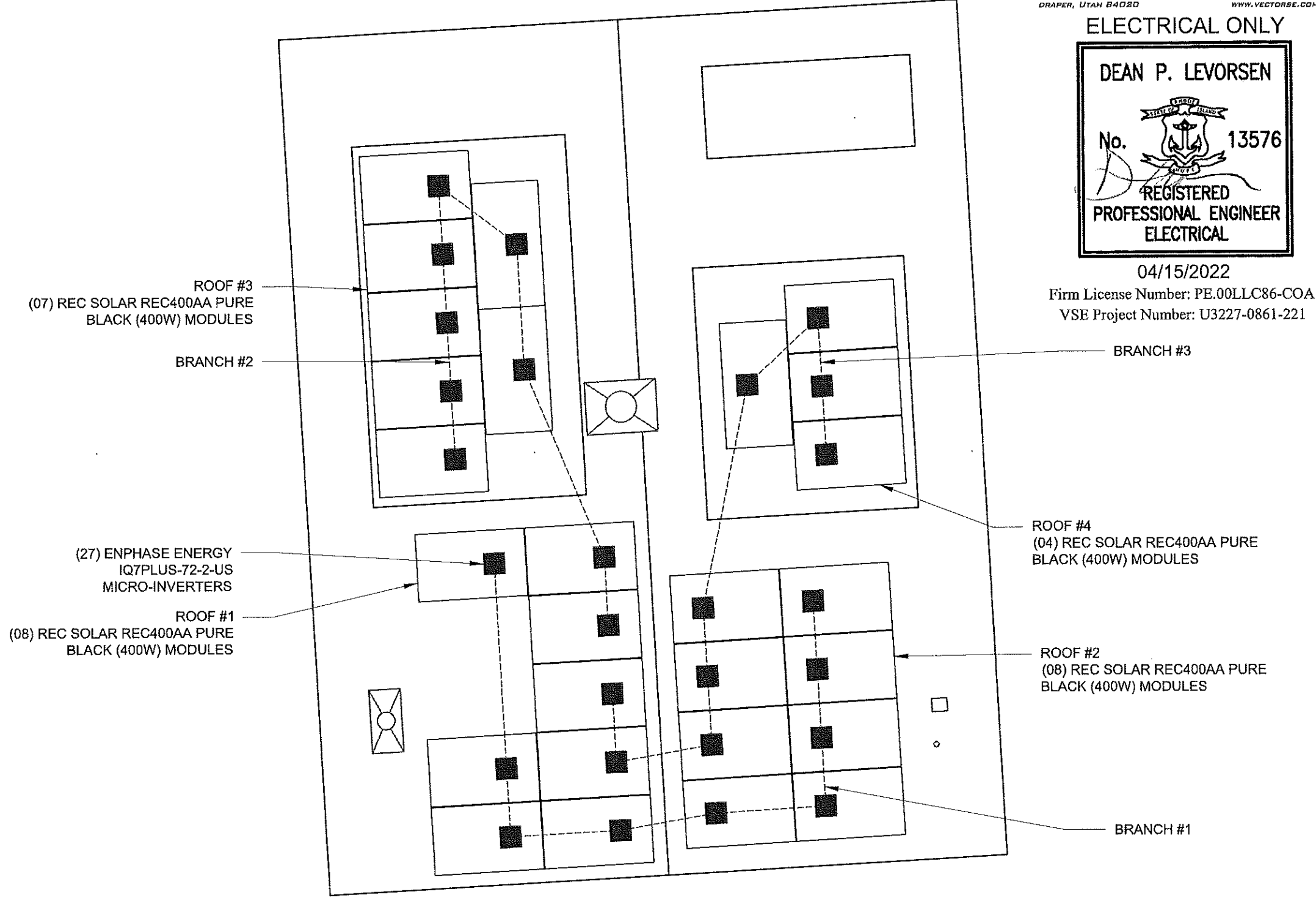
SHEET SIZE  
**ANSI B  
11" X 17"**

SHEET NUMBER  
**PV-3**

(27) REC SOLAR REC400AA PURE BLACK (400W) MODULES  
 (27) ENPHASE ENERGY IQ7PLUS-72-2-US MICRO-INVERTERS  
 (03) BRANCHES OF 09 MODULES CONNECTED IN PARALLEL PER BRANCH



REAR YARD




FRONT YARD  
 JENCKES ST

**VECTOR ENGINEERS**  
 651 W. GALENA PARK BLVD. STE. 101 DRAPER, UTAH 84020  
 PHONE (801) 990-1775 WWW.VECTORSE.COM

**ELECTRICAL ONLY**

**DEAN P. LEVORSEN**

No.  13576

**REGISTERED PROFESSIONAL ENGINEER ELECTRICAL**

04/15/2022  
 Firm License Number: PE.00LLC86-COA  
 VSE Project Number: U3227-0861-221

**TRTP**  
 Rooftop Power  
 ROOF TOP POWER  
 2880 WEST SHORE ROAD  
 WARWICK, RI, 02886  
 TEL: (833) 787-7697  
 CSLB#: A-004027  
 EMAIL: design@rooftoppowerco.com

VERSION		
DESCRIPTION	DATE	REV
INITIAL RELEASE	06/17/2021	UR

PROJECT NAME

**EAMON BROWN**  
 26 JENCKES ST,  
 PROVIDENCE, RI 02906 USA  
 APN# PROV:9L:203  
 UTILITY: NATIONAL GRID  
 AHJ: CITY OF PROVIDENCE

SHEET NAME  
**BRANCH LAYOUT**

SHEET SIZE  
**ANSI B  
 11" X 17"**

SHEET NUMBER  
**PV-4**

**1** BRANCH LAYOUT  
 SCALE: 3/16" = 1'-0"

