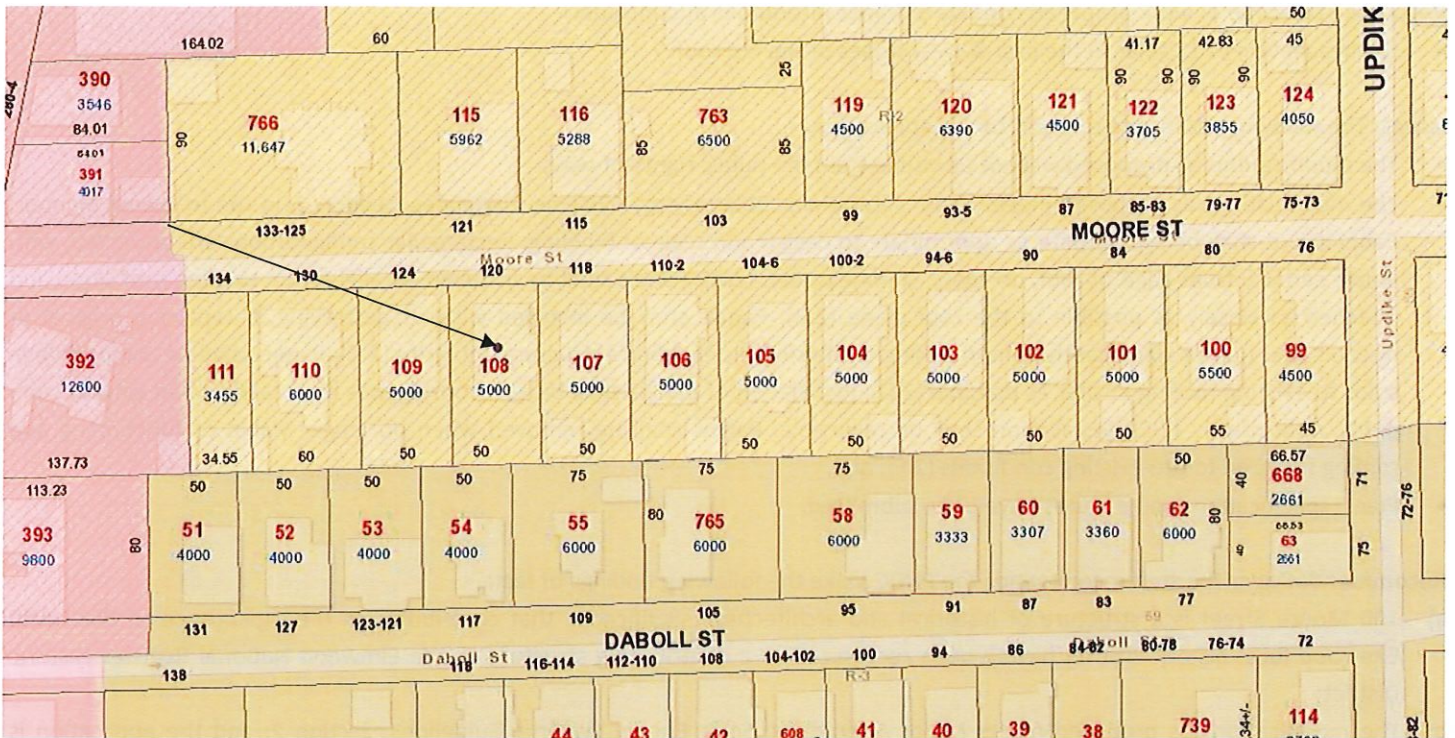
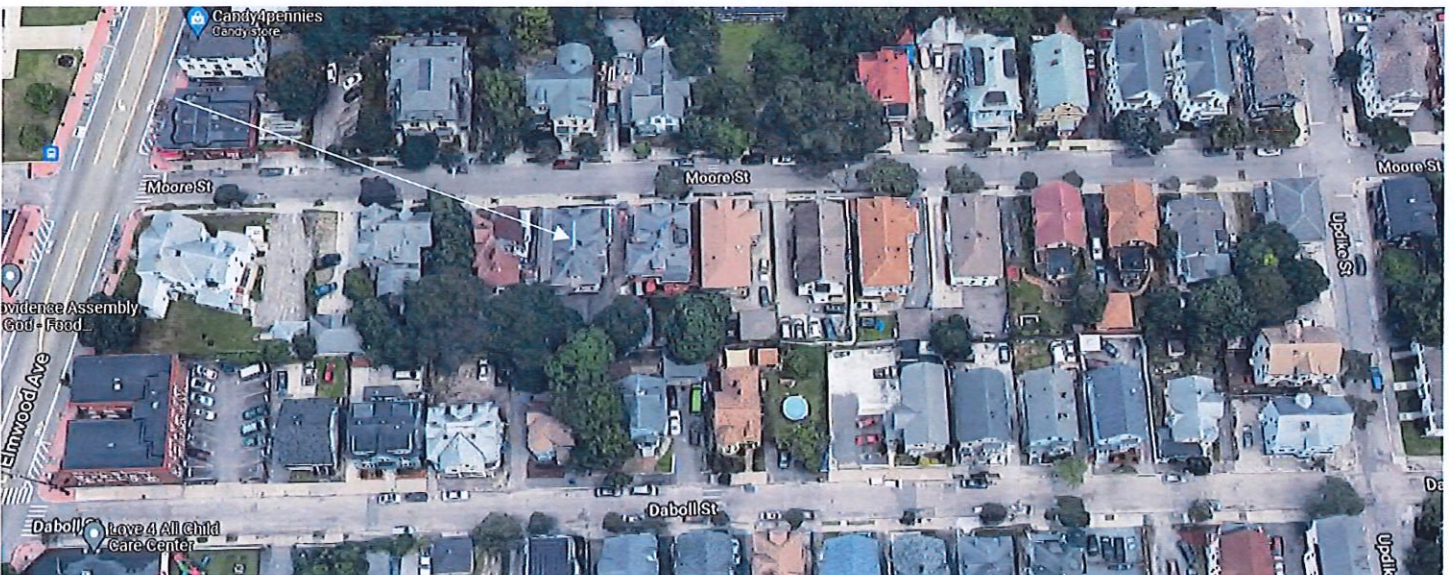


4. **CASE 22. 073, 120 MOORE STREET, John William Moore Two-family House, c1896 (NORTH ELMWOOD)**
2½ stories, clapboarded hip-roofed structure, virtually the reverse image of 118. Moore, one of the original occupants, was a roofer.
CONTRIBUTING



Arrow indicates 120 Moore Street.



Arrow indicates project location, looking north.

Applicant/Contractor: Bright Planet Solar, 103A Millbury Street, Auburn, MA 01501

Owner: Eduardo Tavaréz, 120 Moore Street, Providence, RI 02907

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

- the installation of 11 solar to the east & west slopes of the hip roof.

Issues: The following issues are relevant to this application:

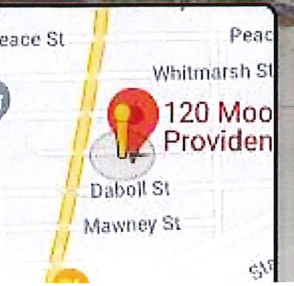
- The modifications as proposed will not be visible from the public rights-of-way;
- The modifications as proposed meets Minor Alterations: Solar Energy Systems Guidelines, Section 2, in the following manner: Panel layout shall be sympathetic or appropriate to design and scale of building. Rectangular 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) 120 Moore Street is a structure of historical and architectural significance that contributes to the significance of the North Elmwood local historic district having been recognized as a contributing structure to the Elmwood National Register Historic 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 are not on the primary elevation and 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. 120 Moore Street is a structure of historical and architectural significance that contributes to the significance of the North Elmwood local historic district having been recognized as a contributing structure to the Elmwood National Register Historic 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 are not on the primary elevation and 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.

124 Moore St
Providence, Rhode Island
Google
Street View - Jul 2019



Google

Moore St, looking south

115 Moore St
Providence, Rhode Island
Google
Street View - Jul 2019



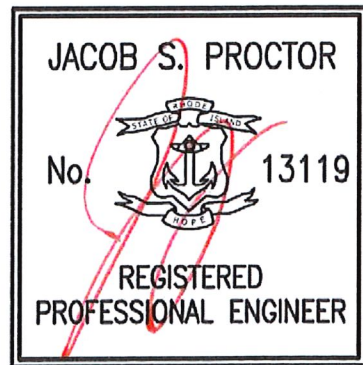
Moore St, looking north

AZIMUTH AND TILT ANGLE						
	ROOF					
	ROOF A:	ROOF B:	ROOF C:	ROOF D:	ROOF E:	ROOF F:
AZIMUTH	87°	178°	268°			
TILT ANGLE	12/12	12/12	12/12			
MODULE COUNT	9	3	7			
SOLAR ACCESS						
TSFR AVERAGE						
INVERTERS	SOLAR EDGE SE6000H - USRGM	1				
OPTIMIZER	SOLAR EDGE P401	19				
	MODULE #1:	COUNT:	MODULE #2:	COUNT:	TOTAL COUNT:	
	HANWHA Q-CELLS Q.PEAK DUO BLK ML-G10.a+ 400	19			19	

SHEET INDEX	
PV1	TITLE SHEET
PV2	ROOF/SITE PLAN
PV3	ELECTRICAL LINE DIAGRAM / DETAILS
PV3.1 (AS NEEDED)	ELECTRICAL LINE DIAGRAM / DETAILS
PV4	EQUIPMENT LABELS
PV4.1	PLACARD
PV5	ATTACHMENT PLAN
PV6	STRUCTURAL COMPONENTS
PV7	PROPERTY LINES
	STRUCTURAL ENGINEERING CALCS (IF REQ.)
	EQUIPMENT DATA SHEETS

APPLICABLE CODES
2017 NATIONAL ELECTRICAL CODE (NFPA 70)
2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AS AMENDED
2019 RHODE ISLAND STATE BUILDING CODE (SBC 2)
2015 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED

OCCUPANCY & CONSTRUCTION TYPE
OCCUPANCY - R3
CONSTRUCTION - 58



04/18/2022

Firm License Number: PE.00LLC86-COA

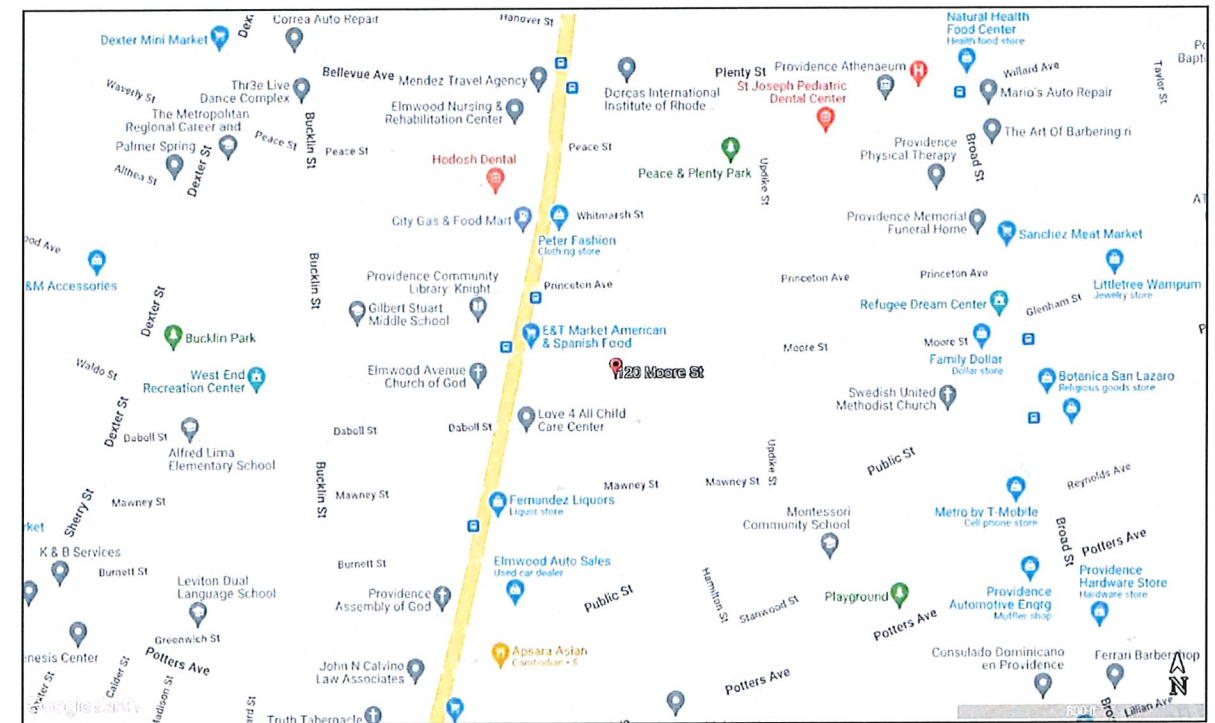
VSE Project Number: U1932.6237.221

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 NOTES

- A. A LADDER SHALL BE IN PLACE FOR ANY INSPECTIONS IN COMPLIANCE WITH OSHA REGULATIONS.
- B. PV MODULES ARE NON-COMBUSTIBLE IN NATURE.
- C. THIS SYSTEM IS A UTILITY INTERACTIVE (GRID CONNECTED) SYSTEM AND DOES NOT HAVE STORAGE BATTERIES (UNLESS SPECIFICALLY INDICATED ON SHEET PV3 & PV3.1).
- D. A GROUND ELECTRODE SYSTEM WILL BE PROVIDED IN ACCORDANCE WITH NEC 690.47 & 250.50 - 250.166. GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED WHEN BONDED 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 8FT GROUND ROD WITH ACORN CLAMP. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO GREATER THAN #6 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE FOR A COMPLETE GROUNDING SYSTEM.
- E. EACH MODULE WILL BE GROUNDED USING THE SUPPLIED CONNECTION POINTS IDENTIFIED IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- F. THE EXPOSED METALLIC TABS OF THE SOLAREGE OPTIMIZERS SHALL BE BONDED AND/OR GROUNDED PER NEC 690.43(A) AND THE MANUFACTURERS' INSTRUCTIONS.
- G. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER NEC 110.26.
- H. ALTERNATE POWER SOURCE PLACARD SHALL BE PLASTIC, ENGRAVED IN A CONTRASTING COLOR (WHITE). THIS PLAQUE WILL BE PERMANENTLY ATTACHED & UV RESISTANT.
- I. ALL PLAQUES AND SIGNS WILL BE INSTALLED AS REQUIRED BY 2017 NEC.
- J. A SMOKE DETECTOR, APPROVED AND LISTED BY THE STATE FIRE MARSHAL, SHALL BE INSTALLED IN EACH DWELLING WHEN A PERMIT FOR ALTERATIONS, REPAIRS OR ADDITIONS EXCEEDS \$1,000.00. A BATTERY POWERED SMOKE DETECTOR SATISFIES THE REQUIREMENTS FOR A SMOKE DETECTOR. APPROVED COMBINED SMOKE ALARMS AND CARBON DIOXIDE ALARMS SHALL BE ACCEPTABLE. A CARBON MONOXIDE DETECTOR SHALL BE INSTALLED IN THE SPECIFIC EXISTING DWELLING UNIT THAT HAVE ATTACHED GARAGES OR FUEL-BURNING APPLIANCES FOR WHICH A PERMIT IS ISSUED FOR ALTERATIONS, REPAIRS OR ADDITIONS EXCEEDING \$1,000.00. LISTED SINGLE- OR MULTI-STATION CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EVERY LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS. COMBINED SMOKE/CARBON MONOXIDE ALARMS MAY BE USED. THE ALARM SHALL RECEIVE ITS PRIMARY POWER FROM THE BUILDING WIRING EXCEPT IT IS PERMITTED TO BE SOLELY BATTERY OPERATED WHERE REPAIRS OR ALTERATIONS DO NOT RESULT IN THE REMOVAL OF WALL AND CEILING FINISHES OR THERE IS NO ACCESS BY MEANS OF AN ATTIC.
- K. 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 AS PER NEC 250-64B. THE GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AS BUSBARS WITHIN LISTED EQUIPMENT AS PER NEC 250.64C.
- L. ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE BUILDING CODE OF THE LOCAL JURISDICTION.
- M. PV SYSTEMS CONNECTION IN THE SWITCH GEAR (PANEL) SHALL BE POSITIONED AT THE OPPOSITE END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION AS PER NEC 705.12(B)(2)(3)(b).
- N. ALL EQUIPMENT SUPPLIED SHALL BE UL LISTED OR LISTED BY A LISTING AGENCY RECOGNIZED BY THE STATE IN WHICH THE SYSTEM IS CONSTRUCTED.
- O. AC DISCONNECTS SHALL BE IN COMPLIANCE WITH NEC 690.17.
- P. ALL DC CONDUCTORS SHALL BE 90° RATED THHW, THWN-2, USE-2 OR PV WIRE. ALL AC CONDUCTORS SHALL BE 75° RATED THWN WIRE.
- Q. THE UTILITY DISCONNECT HAS VISIBLE BLADES, IS LOCKABLE AND IS ACCESSIBLE TO THE UTILITY 24/7.
- R. ALL BREAKERS SHALL BE SUITABLE FOR BACKFEED. WHEN BACKFED BREAKER IS THE METHOD OF UTILITY INTERCONNECTION THE BREAKER SHALL NOT READ 'LINE AND LOAD'.
- S. COORDINATE ANY POWER OUTAGE WITH LOCAL UTILITY AND PROPERTY OWNER. NOTIFY UTILITY BEFORE ACTIVATION OF PV SYSTEM.
- T. CITY BUILDING INSPECTOR SHALL INSPECT ACCESSIBLE STRUCTURAL CONNECTIONS AND THE HOUSE CURRENT SIDE OF THE SYSTEM, ALL OTHER EQUIPMENT SHALL BE UL LISTED AND APPROVED.
- U. PHOTOVOLTAIC MODULES SHALL NOT BE INSTALLED OVER ANY ATTIC, PLUMBING OR MECHANICAL VENT. PLUMBING VENTS TO EXTEND A MIN OF 6" ABOVE ROOF OR MODULE. NO BLDG, PLBG OR MECH VENTS TO BE COVERED, OBSTRUCTED OR ROUTED AROUND MODULES.
- V. ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER THE OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT A STRONG POINT OF BUILDING CONSTRUCTION. FIELD VERIFY EXACT LOCATION.
- W. THE DISCHARGE OF POLLUTANTS TO ANY STORM DRAINAGE SYSTEM IS PROHIBITED. NO SOLID WASTE, PETROLEUM BYPRODUCTS, SOIL PARTICULATE, CONSTRUCTION WASTE MATERIAL OR WASTEWATER GENERATED ON CONSTRUCTION SITE OR BY CONSTRUCTION ACTIVITIES SHALL BE PLACED, CONVEYED OR DISCHARGED INTO THE STREET, GUTTER OR STORM DRAIN SYSTEM.
- X. ALL WIRING MUST BE PROPERLY SUPPORTED BY DEVICES OR MECHANICAL MEANS DESIGNED AND LISTED FOR SUCH USE AND WIRING MUST BE PERMANENTLY AND COMPLETELY HELD OFF OF THE ROOF SURFACE.
- Y. PAINT SURFACE MOUNTED CONDUIT TO MATCH EXISTING STRUCTURE.

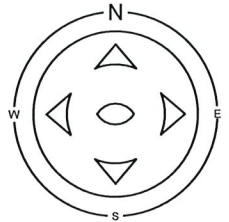
VICINITY MAP



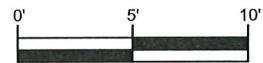
<p>BRIGHT PLANET SOLAR 103A MILLBURY ST, AUBURN MA 01501 888-997-4469</p>	SIGNATURE:	PROJECT #	BPS182102	REV	DATE	DESCRIPTION	<p>EDUARDO TAVAREZ 120 MOORE ST, PROVIDENCE, RI 02907</p> <p>PV1</p>	
		SYSTEM SIZE	7.6kW/DC 6KW/AC		---			
	CONTRACTOR LICENSE:	DATE:	DESIGNER:	REVIEWED BY:	---	---		
	C-10#1020761	4/15/2022 4:42:30 PM	D. COLON	ISAI RIVAS,	---	---		
	DATE: 4/15/2022 4:42:30 PM							

AZIMUTH AND TILT ANGLE						
	ROOF					
	ROOF A:	ROOF B:	ROOF C:	ROOF D:	ROOF E:	ROOF F:
AZIMUTH	87°	178°	268°			
TILT ANGLE	12/12	12/12	12/12			
MODULE COUNT	9	3	7			
SOLAR ACCESS						
TSFR AVERAGE						
INVERTERS	SOLAR EDGE SE6000H - USRGM	1				
OPTIMIZER	SOLAR EDGE P401	19				
	MODULE #1:	COUNT:	MODULE #2:	COUNT:	TOTAL COUNT:	
	HANWHAQ-CELLS Q.PEAK DUO BLK ML-G10.a+ 400	19			19	

SYMBOL LEGEND	
□	= MECHANICAL VENT
○	= FLUE / PLUMBING VENT



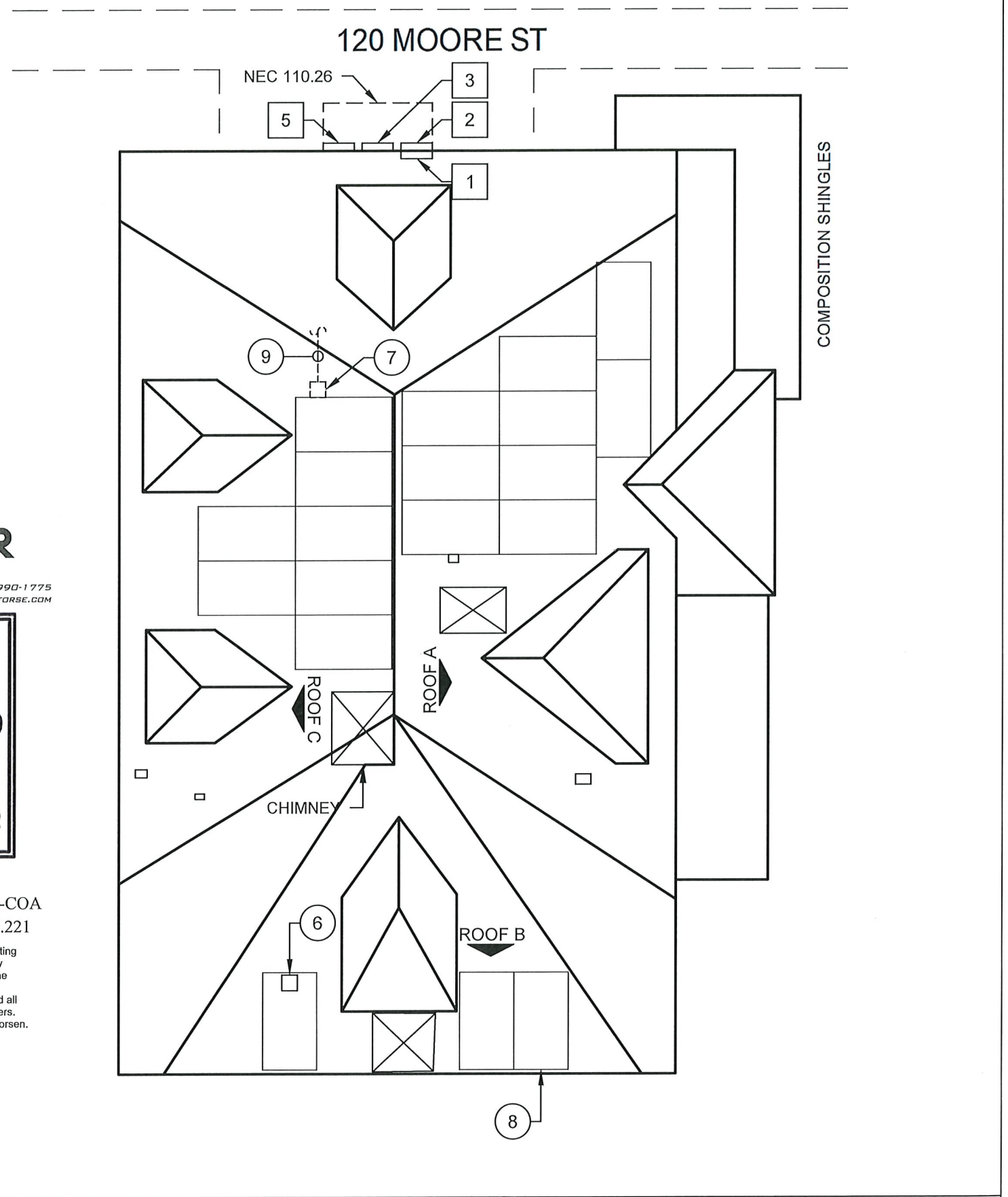
- 1 MAIN SERVICE PANEL
- 2 UTILITY METER
- 3 AC DISCONNECT
- 4 NOT USED
- 4.1 NOT USED
- 5 INVERTER & INTEGRATED DC DISCONNECT
- 5.1 NOT USED
- 6 OPTIMIZER (TYPICAL FOR EACH MODULE)
- 7 JUNCTION BOX ROOF SIZED DETERMINED IN FIELD
- 8 PV MODULES
- 9 CONDUIT RUN IS SURFACE MOUNTED (ACTUAL CONDUIT RUNS TO BE DETERMINED IN THE FIELD)
- 10 NOT USED



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

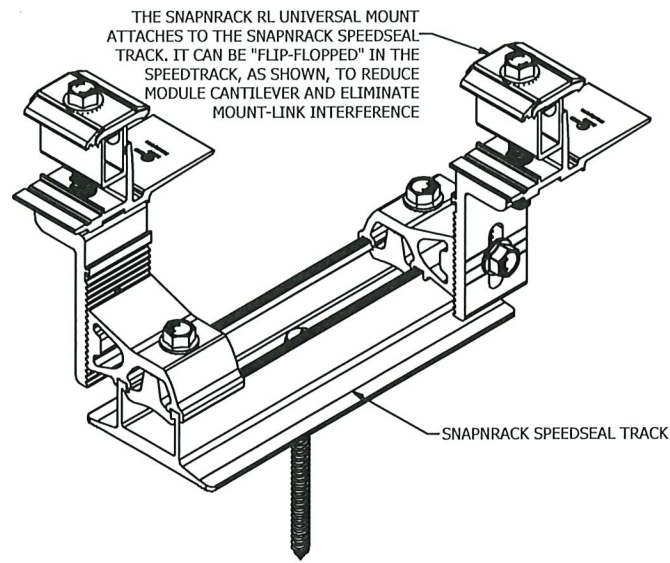
JACOB S. PROCTOR
 No. 13119
 REGISTERED PROFESSIONAL ENGINEER

04/18/2022
 Firm License Number: PE.00LLC86-COA
 VSE Project Number: U1932.6237.221
 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.

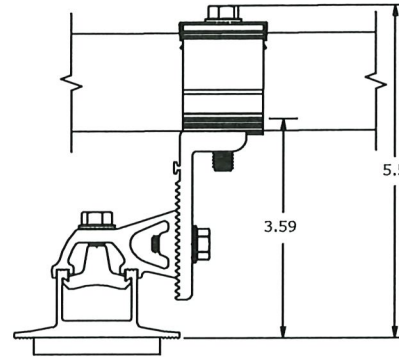
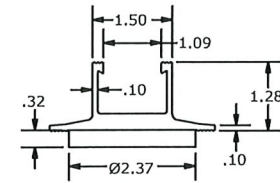
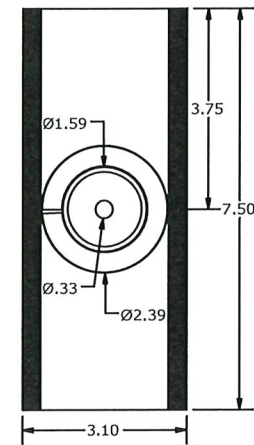


<p>BRIGHT PLANET SOLAR 103A MILLBURY ST, AUBURN MA 01501 888-997-4469</p>	SIGNATURE:	PROJECT #	BPS182102	REV	DATE	DESCRIPTION	EDUARDO TAVAREZ 120 MOORE ST, PROVIDENCE, RI 02907	ROOF/SITE PLAN
	CONTRACTOR LICENSE: C-10#1020761 DATE: 4/15/2022 4:42:31 PM	SYSTEM SIZE	7.6kW/DC 6kW/AC			---		
DESIGNER:	D. COLON	DATE:	4/15/2022 4:42:31 PM		---			
REVIEWED BY:	ISAI RIVAS,				---			

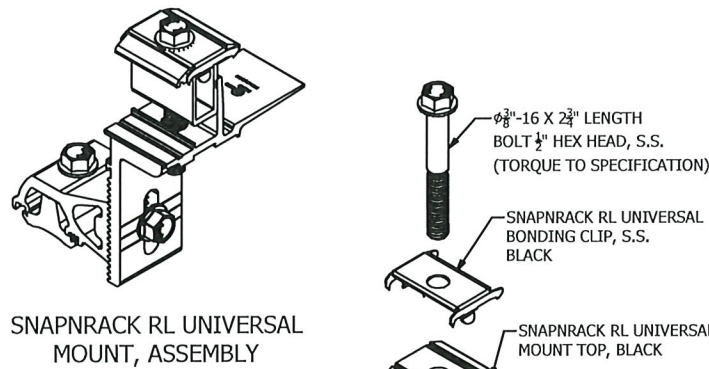
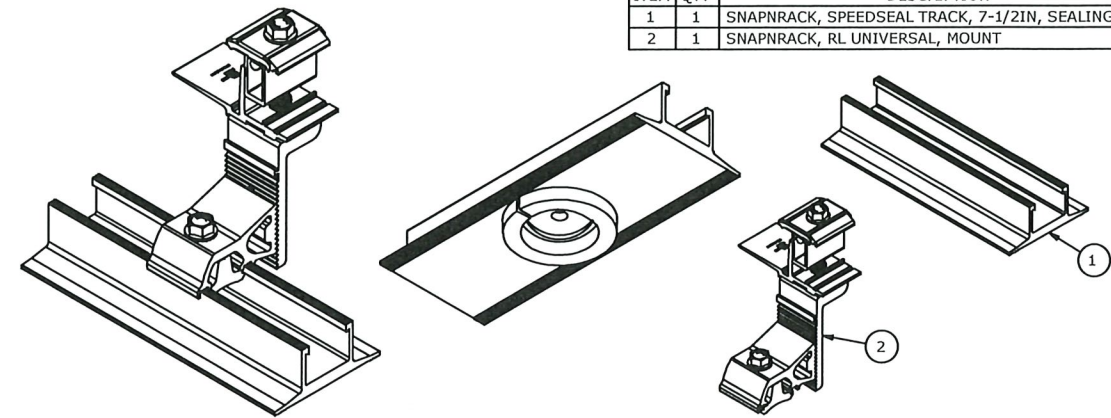
SNAPRACK RAILLESS ROOF MOUNT SYSTEM



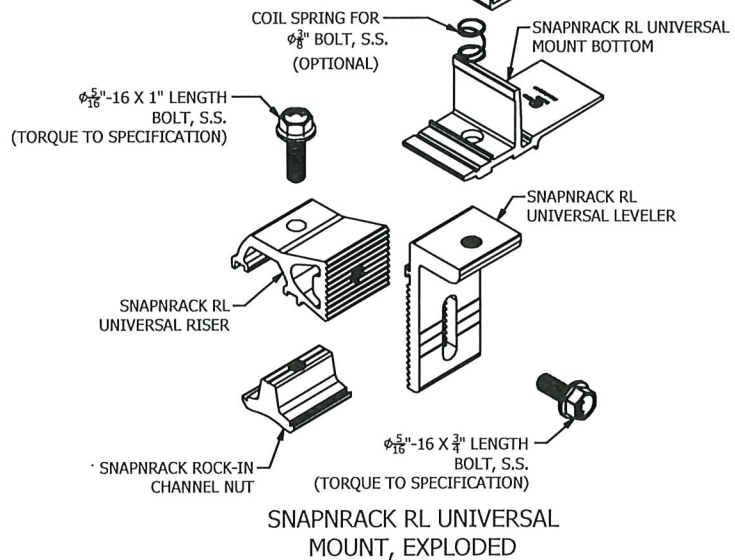
MOUNT "FLIP-FLOP" ABILITY



PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	SNAPRACK, SPEEDSEAL TRACK, 7-1/2IN, SEALING, MILL
2	1	SNAPRACK, RL UNIVERSAL, MOUNT



SNAPRACK RL UNIVERSAL MOUNT, ASSEMBLY

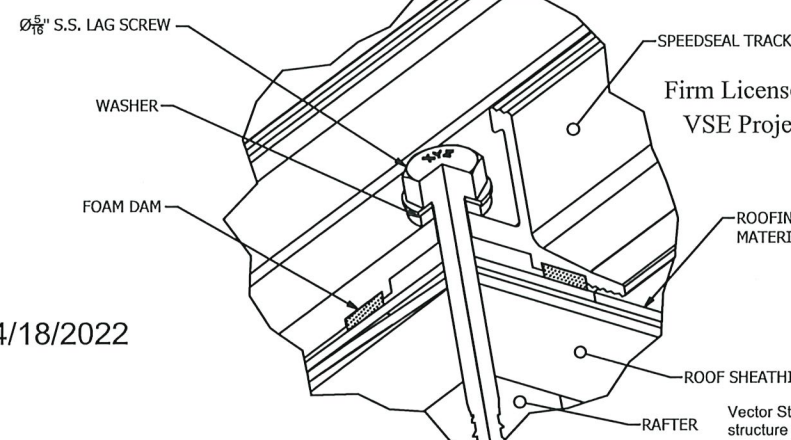


SNAPRACK RL UNIVERSAL MOUNT, EXPLODED

ALL DIMENSIONS IN INCHES



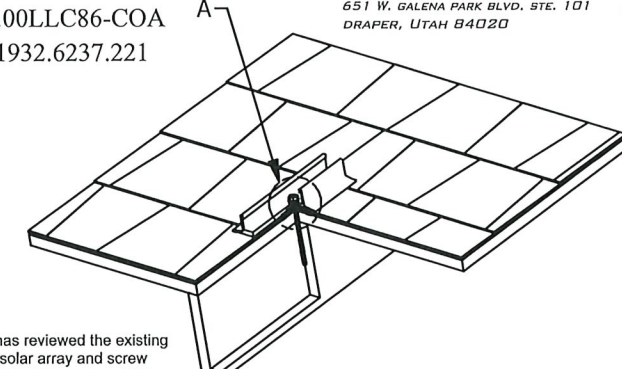
04/18/2022



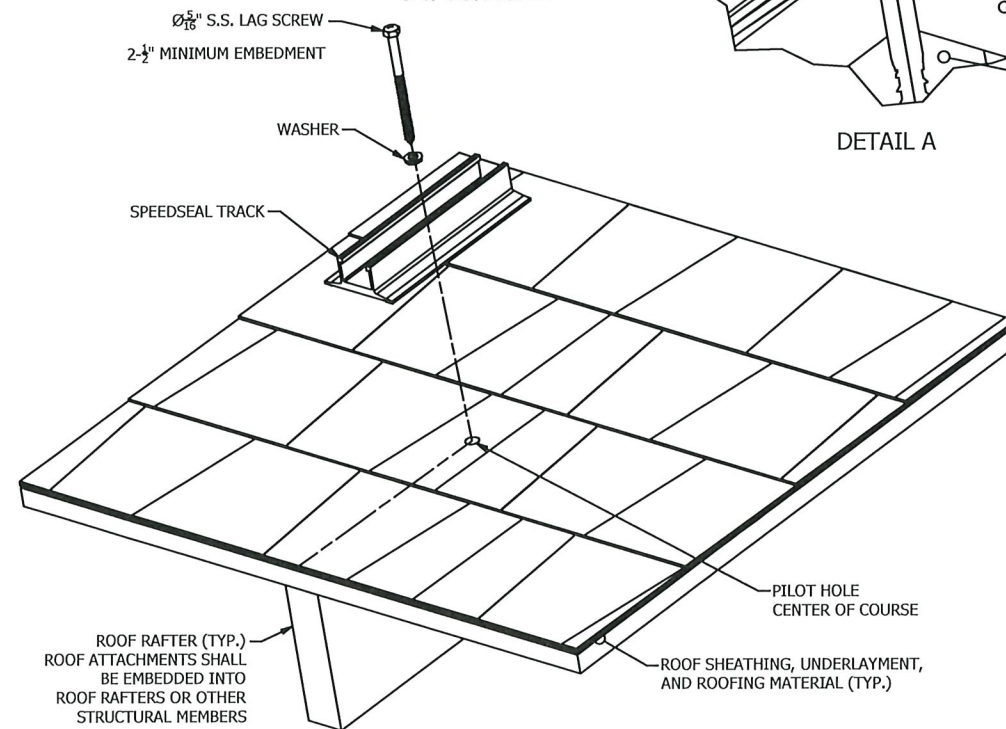
DETAIL A

Firm License Number: PE.00LLC86-COA
VSE Project Number: U1932.6237.221

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.

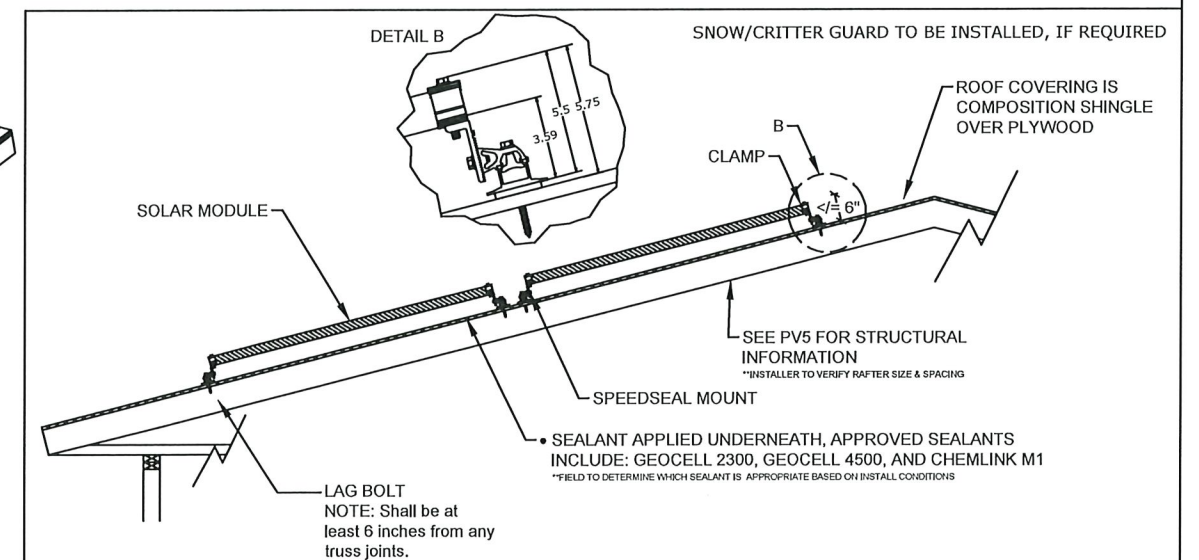


COMPLETED INSTALLATION SECTION VIEW



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

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



SOLAR MODULE

DETAIL B

SNOW/CRITTER GUARD TO BE INSTALLED, IF REQUIRED

ROOF COVERING IS COMPOSITION SHINGLE OVER PLYWOOD

CLAMP

SEE PV5 FOR STRUCTURAL INFORMATION
**INSTALLER TO VERIFY RAFTER SIZE & SPACING

SPEEDSEAL MOUNT

SEALANT APPLIED UNDERNEATH, APPROVED SEALANTS INCLUDE: GEOCELL 2300, GEOCELL 4500, AND CHEMLINK M1
**FIELD TO DETERMINE WHICH SEALANT IS APPROPRIATE BASED ON INSTALL CONDITIONS

LAG BOLT NOTE: Shall be at least 6 inches from any truss joints.

SIGNATURE:

PROJECT #	BPS182102		REV	DATE	DESCRIPTION
SYSTEM SIZE	7.6kW/DC	6kW/AC		---	
DATE:	4/15/2022 4:42:46 PM			---	
DESIGNER:	D. COLON			---	
REVIEWED BY:	ISAI RIVAS,			---	

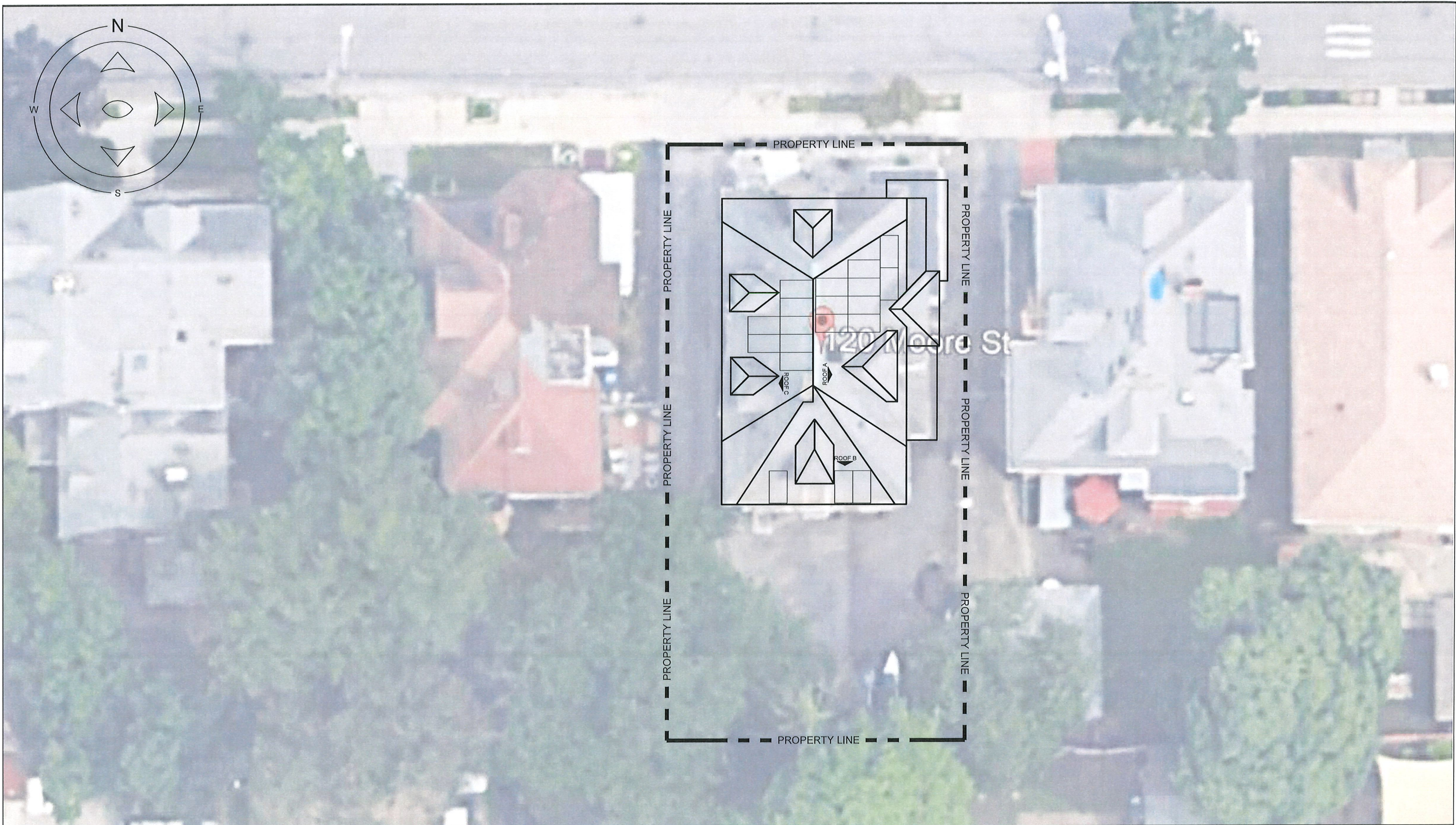
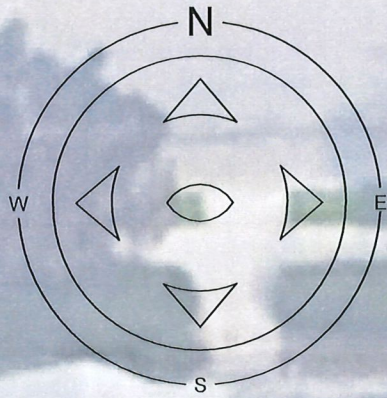
CONTRACTOR LICENSE: C-10#1020761
DATE: 4/15/2022 4:42:46 PM


EDUARDO TAVAREZ
120 MOORE ST,
PROVIDENCE, RI 02907

STRUCTURAL COMPONENTS

PV6





 BRIGHT PLANET SOLAR 103A MILLBURY ST, AUBURN MA 01501 888-997-4469	SIGNATURE:	PROJECT #	BPS182102		REV	DATE	DESCRIPTION	EDUARDO TAVAREZ 120 MOORE ST, PROVIDENCE, RI 02907	PROPERTY LINES	
	CONTRACTOR LICENSE: C-10#1020761 DATE: 4/15/2022 4:42:47 PM	SYSTEM SIZE	7.6kW/DC	6KW/AC		---				PV7
		DATE:	4/15/2022 4:42:47 PM			---				
		DESIGNER:	D. COLON			---				
		REVIEWED BY:	ISAI RIVAS,			---				