



Town of Lancaster, Massachusetts
Office of Community Development and Planning

LANCASTER TOWN CLERK
ROD 2022 MAY 25 PM 2:33

**LANCASTER PLANNING BOARD
SPECIAL PERMIT APPLICATION**

NOTE: There are several sections to this application. Please read the entire application form before proceeding.

1. REQUIRED SUBMITTALS:

- a) An application fee of \$150.00 plus \$15.00 per unit must accompany the application (check payable to the *Town of Lancaster*)
- b) Advertising fee of \$50.00 (check payable to the *Town of Lancaster*)
- c) A list of parties in interest
- d) Revenue Certification Form
- e) Five copies of completed application with additional submittals, as required, to the Planning Board. One copy of completed application to the Town Clerk.

2. OWNER/PETITIONER: Henry Duplease

Address 275 Langen Road, Lancaster, MA 01523

Telephone 978-365-7689

E-mail hduplease@aol.com

3. AGENT FOR OWNER (if applicable): Edward Whitaker/ Second Generation Energy LLC

Address 85 S Bow St, Milford, MA 01757

Telephone 508-377-4037

E-mail operations@sgegrou.com

4. PREMISES FOR WHICH SPECIAL PERMIT IS SOUGHT:

Street 275 Langen Road, Lancaster, MA 01523

Between Main St Street and Old County Road Street

Worcester District Registry of Deeds Book _____ Page _____

Lancaster Assessor's Map _____ Parcel(s) _____

SITE PLAN CHECKLIST

A site plan must accompany each application, petition or appeal to the Board for projects involving new construction. This check list provides a summary of the site plan contents as specified in the Board's Rules and Regulations. The Rules and Regulations are available online at www.ci.lancaster.ma.us and at the Community Development and Planning Office.

IMPORTANT NOTE: By checking the "No" box on any of the items listed below, *the applicant is requesting that Board consider granting a waiver* of strict compliance with the Rules and Regulations. Please note that if this waiver requested is not granted, the hearing process may be continued until the Site Plan is completed.

Provided YES	Provided NO	Site Plan Requirement
✓		Minimum Drawing size of 8.5" x 11"
✓		Drawn to scale with scale noted
✓		Property lines and boundaries
✓		Name and address of record owner
✓		Names and locations of adjacent streets
✓		North arrow
✓		Zoning district and any zone lines in vicinity of project
✓		Existing and proposed buildings or additions including number of stories and height of all structures
✓		Paved areas, existing and proposed parking or loading spaces
✓		Existing utility lines including septic and underground structures
✓		Locations of structures on adjoining property
✓		Lot area and dimensions, including setbacks where new construction or additions are proposed

The Board may also require that additional drawings or drawing content be provided specific to the application. This may include items such as site topography or existing and proposed building elevations. The applicant should consider providing this type of information with the initial application if it will help the Board better understand the basis of the requested findings.

5. APPLICATION FOR ENTERPRISE ZONING DISTRICT: *(for other than Enterprise Zoning District, please proceed to Section 6)*

Each application in this category will require:

- a) Narrative of no fewer than 200 words describing the proposed use; and
- b) Six (6) copies of a site plan of the building's layout on the lot as well as the layout of the interior of the facility, relationship to abutting properties with a residential dwelling and setbacks to property lines. Additional required information follow the specific item listed below:

- _____ Living facility for seniors as authorized at Section 220-8.1 (C)
- _____ Boarding, training or veterinary care as authorized at Section 220-8.2 (D)
- _____ Facilities for active outdoor recreation utilizing motorized equipment as authorized at Section 220-8.3 (C)
- _____ Underground or overhead communications, gas, electrical, etc. as authorized at Section 220-8.4 (A)
- _____ Nonprofit community centers, places of public assembly, etc. containing more than 500 square feet for assembly or a use customarily conducted as a business as authorized at Section 220-8.4 (C)
- _____ Long-term care facility as authorized at Section 220-8.4 (D)
- _____ Other customary accessory uses within Public, Health, Educational and Institutional Uses as authorized at Section 220-8.4 (BB)
- _____ Heliports as authorized at Section 220-8.4 (CC), Section 220-8.5 (DD) and Section 220-8.6 (EE)
- _____ Retail stores; craft, consumer, professional or commercial establishments as authorized at Section 220-8.5 (A) *(specific to sub-district EZ-A and sq. ft. requirement)*
- _____ Shopping center as authorized at Section 220-8.5 (B)
- _____ Gasoline service stations, including minor repairs only as authorized at Section 220-8.5 (C)
- _____ Car washing establishments as authorized at Section 220-8.5 (E)
- _____ Dry-cleaning and laundry establishments as authorized at Section 220-8.5 (F)
- _____ Funeral parlor, undertaking establishments as authorized at Section 220-8.5 (G)
- _____ Hotels, motels, inns as authorized at Section 220-8.5 (H)
- _____ Restaurants with drive-on/drive-through facilities as authorized at Section 8.5 (I)
- _____ Medical Clinics as authorized at Section 8.5 (J)
- _____ Printing, publishing and assembly, finishing, or packaging or products as authorized at Section 220-8.6 (A)
- _____ Open storage facilities for lumber, stone, brick, gravel, cement or other bulk materials and contractor's yards as authorized at Section 220-8.6 (E)
- _____ Research and development, engineering, assembly and construction of models, prototypes, samples and experimental products in connection with research, engineering, or development activities as authorized at Section 220-8.6 (H)

- _____ One-family dwelling for personnel required for the safe operation or maintenance of a permitted use as authorized at Section 220-8.6 (AA)
- _____ Outdoor storage accessory to a principal use as authorized at Section 220-8.6 (BB)
- _____ Retails outlets for products of the principal industrial use (*two sets of criteria*) as authorized at Section 220-8.6 (CC)
- _____ Activities accessory to activities permitted in other districts as a matter of right, whether or not on the same parcel as the principal permitted use, which are necessary in connection with scientific research or scientific development or related production as authorized at Section 220-8.6 (DD)

6. APPLICATION FOR ALL OTHER ZONING DISTRICTS:

Each application in this category will require:

- a) Narrative of no fewer than 200 words describing the proposed facility and use; and
- b) Six (6) copies of a site plan of the facility's layout on the lot as well as the layout of the interior of the facility, relationship to abutting properties with a residential dwelling and setbacks to property lines. Those marked with an asterisk (*) require a plan other than a site plan as listed above. Additional required information follow the specific item listed below:

- _____ Health and Fitness Center as authorized at Section 220-8.3 (H)
- _____ Heliports as authorized at Section 220-8.4 (CC), Section 220-8.5 (DD) and Section 220-8.6 (EE)
- _____ Medical Clinic as authorized at Section 220-8.5 (J)
- _____ *Integrated Planning Overlay District as authorized at Section 220-8.7. Integrated Plan as specified in Section 220-8.7 (E) of the Lancaster Zoning Bylaw.
- _____ Setback for soccer field as authorized at Section 220-11 (D)
- _____ *Lot shape as authorized at Section 220-14. Show *gross lot area* and the *lot shape calculation*, including any areas being excluded from the calculation of *lot area*.
- _____ *Flexible Development as authorized at Section 220-15. Include calculations justifying the proposed number of lots in relation to land area as well as six (6) copies of a Definitive Plan as described in Section 301-8 of the Subdivision Regulations.
- _____ *Shared or extended driveway as authorized at Section 220-22 (G) and (H). Plan of the driveway, parking facilities, development being served, and lot boundaries for each serviced lot, and in the case of extended driveways, existing and

proposed centerline profile, at 1"= 40' horizontal and 1" = 4' vertical unless another scale is approved prior to submittal.

_____ *Building design as authorized at Section 220-35 (B) and (C). Reference design elements prompting exemption of this bylaw as well as plan showing layout and dimensions of the building and the lot.

_____ *Disturbance control departure as authorized at Section 220-36.1 (A). Vicinity plan at 1" = 100' or larger, indicating relationship of the disturbance source, zoning district boundaries, and use of adjacent and nearby premises.

_____ *Lighting as authorized at Section 220-36.2 (H). Alternative lighting proposal.

_____ *Water Resource District as authorized at Section 220-39. Include attachments as specified in Section 200-39 (F) (5) of the Lancaster Zoning Bylaw.

X _____ *Solar Energy System as authorized by Article XVII of the Lancaster Zoning Bylaw.

6. ADDITIONAL SUBMITTALS – See items marked with asterisk (*) above.

7. SIGNATURE OF OWNER/PETITIONER HENRY DUPLEASE
HENRY DUPLEASE (May 17, 2022 09:35 EDT)

Date May 17, 2022

8. SIGNATURE OF AGENT FOR OWNER (if applicable)

Edward Whitaker

Date 5/17/2022

9. RECEIVED BY THE LANCASTER TOWN CLERK:

Annie C. Martin

Date MAY 25, 2022

Important Contact Information

Office of Community Development and Planning
Zoning Enforcement Officer/Building Inspector
Fax

978-365-3326 Ex. 1311
978-365-3326 Ex. 1309
978-368-4009

CERTIFIED LIST OF PARTIES IN INTEREST

OWNERS NAME: Henry Duplease
ADDRESS OF PROPERTY: 275 Langen Road, Lancaster, MA 01523
MAP & PARCEL: _____

The following is a list of all parties of interest, as defined by Massachusetts General Laws, Chapter 40A, Section 11.

PARTIES IN INTEREST shall mean the Petitioner, abutters, owners of land directly opposite on any Public or Private Street or way and abutters to the abutters within 300' of the property line, even though said land is in another city and/or town, and the Planning Boards of Lancaster and contiguous towns.

	NAME	LEGAL MAILING ADDRESS (ZIP)
APPLICANT:	Henry Duplease	275 Langen Road, Lancaster, MA
OWNER:	Henry Duplease	275 Langen Road, Lancaster, MA
AGENT/ATTORNEY:		
	X LANCASTER PLANNING BOARD	
	HARVARD PLANNING BOARD	
	BOLTON PLANNING BOARD	
	CLINTON PLANNING BOARD	
	LEOMINSTER PLANNING BOARD	
	SHIRLEY PLANNING BOARD	
	LUNENBURG PLANNING BOARD	

REVENUE CERTIFICATION

Application/Petition/Appeal of:

- 1. Applicant: Henry Duplease
- 2. Owner: Henry Duplease
- 3. Property: Assessors Map _____ Parcel _____

Pursuant to G.L. c. 40D, Section 57, and the General By-Laws of the Town of Lancaster, the undersigned applicant hereby certifies as follows:

- 1) The following named persons, firms or corporations constitute the complete list of all parties having an ownership or proprietary interest in the property or use subject to the above-entitled application.
- 2) Each of the below listed parties have complied with the laws of the Commonwealth of Massachusetts and the Town of Lancaster in that they have not neglected or refused to pay any local taxes, fees, assessments, betterments or other municipal charges for not less than a twelve month period.

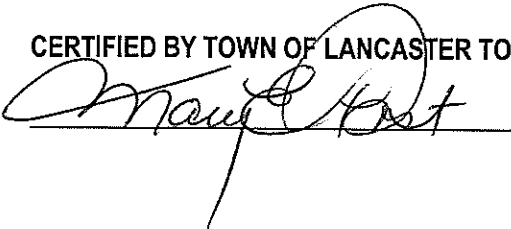
NAME OF INTERESTED PARTY	ADDRESS
OWNER: Henry Duplease	275 Langen Rd, Lancaster, MA
APPLICANT: Henry Duplease	275 Langen Rd, Lancaster, MA
OTHER:	

Signed under the pains and penalties of perjury,

HENRY DUPLEASE
HENRY DUPLEASE (May 17, 2022 09:35 EDT)
Signature of Applicant

Dated: May 17, 2022

CERTIFIED BY TOWN OF LANCASTER TOWN COLLECTOR



Dated: 5-23-22






Duplicate_Special Permit Application

Final Audit Report

2022-05-17

Created:	2022-05-17
By:	Second Generation Energy LLC (solardocuments@sgegroup.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAs0-7aRzwZL734zxwuq6dbVK7INfv5gL

"Duplicate_Special Permit Application" History

-  Document created by Second Generation Energy LLC (solardocuments@sgegroup.com)
2022-05-17 - 1:28:11 PM GMT- IP address: 98.118.42.53
-  Document emailed to HENRY DUPLEASE (hduplicate@aol.com) for signature
2022-05-17 - 1:29:01 PM GMT
-  Email viewed by HENRY DUPLEASE (hduplicate@aol.com)
2022-05-17 - 1:30:19 PM GMT- IP address: 146.75.253.252
-  Document e-signed by HENRY DUPLEASE (hduplicate@aol.com)
Signature Date: 2022-05-17 - 1:35:00 PM GMT - Time Source: server- IP address: 15.181.49.150
-  Agreement completed.
2022-05-17 - 1:35:00 PM GMT



85 S Bow St, Milford, MA 01757

May 17, 2022

Lancaster Town Hall
Planning Department
701 Main St, Suite 4
Lancaster, MA 01523

*RE: Special Permit Application- Proposed Ground-Mounted Photovoltaic System
275 Lange Road, Lancaster, MA 01523*

Dear Lancaster Planning Board:

Second Generation Energy LLC & Edward Whitaker submits the enclosed proposal and application on behalf of the property owner, Henry Duplease, at 275 Langen Road, Lancaster, MA 01523. The applicant proposes to develop a 13.44 Kw(DC) ground-mounted solar photovoltaic system and corresponding electrical equipment. Please find enclosed:

1. \$150.00 Application Fees
2. \$50.00 Advertising Fee
3. Parties of Interest List
4. Revenue Certification Form
5. Six (6) copies of the completed application
6. Six (6) copies of the Site Plan

A brief narrative of the proposed project is provided below.

Project:

The applicant proposes to construct a 13.44 Kw(DC) ground-mounted solar photovoltaic system array in the central region of the property at 275 Langen Road, Lancaster, MA. The array occupies 697.87 square feet and has at least 125' setback from all property lines. The PV system will consist of 28 Hanwha Q-Cell Q Pak Duo XL-G10.D 480W panels. The system is in the rear of the home and not visible from Langen Road. The work includes Ground Mount Racking (SunModo Ground Mount System), PV Module & Inverter Installation, PV Equipment grounding, PV Disconnects, PV Grounding Electrode & Bonding to GEC, PV Final commissioning, Signage placed in accordance with local building code. The PV system complies with the national electric code (NEC), MA Building Code, 9th Edition, MA Comprehensive Fire Safety Code and relevant codes specified by the Lancaster AHJ. The project is allowed by Section 220-76 Ground-Mounted Solar Photovoltaic Installations for Lancaster MA.

Please feel free to call me at 508-377-4037 or email me at operations@sgegroup.com with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to be "E. Whitaker", written over a circular scribble.

Edward Whitaker

Owner, Second Generation Energy LLC



Town of Lancaster

*695 Main Street, Suite 4
Lancaster, MA 01523
Telephone: 978-365-3326 ext. 1310
Fax: 978-368-4009*

*Department of
Conservation*

May 13, 2022

Henry Duplease
275 Langen Road
Lancaster, MA 01523

Mr. Duplease,

Upon review of your property at 275 Langen Road, Lancaster, MA, there are no recorded wetlands on your site and you will not require Conservation Commission approval to install ground mounted solar on your site.

Thank you,

Jasmin Farinacci,
Director of Community Development and Planning



Scott E. Wyssling, PE
Jon P. Ward, SE, PE
Gregory T. Elvestad, PE

76 North Meadowbrook Drive
Alpine, UT 84004
office (201) 874-3483
swyssling@wysslingconsulting.com

April 20, 2022

Current Insight
2852 W. Amini Way
South Jordan, UT 84095

Re: Engineering Services
Duplease Residence
275 Langen Road, Lancaster MA
13.440 kW System

To Whom It May Concern:

Pursuant to your request, we have reviewed the following information regarding ground mount solar panel installation at the above referenced location:

1. Structural drawings prepared by IronRidge identifying specific racking layout and components for the proposed ground mount system.
2. Design drawings of the proposed system including a site plan, and details for the solar panels. This information was prepared by Current Insight and will be utilized for approval and construction of the proposed system.

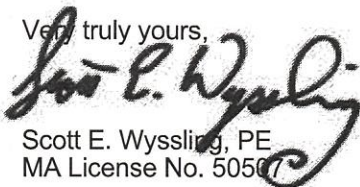
Based on our review of the Photovoltaic Array installed at 2 modules high and 14 modules wide. The PV array shall have a screw/auger spacing of 7'-0" max east/west and 7'-0" max north/south. Based on a wind speed of 122 mph, Exposure C and a ground snow load of 50 PSF, it was determined that the minimum required depth of the auger/screw shall be 96" inches below grade. The augur/screw shall be tested in the field after installation to provide minimum 2,000 lbs pull out and this information shall be provided to this office.

Based on the above evaluation, it is the opinion of this office that with appropriate construction the footing and post assembly will adequately support the proposed solar array. This evaluation is in conformance with the 2019 California Building Code, current industry and standards, and based on information supplied to us at the time of this report.

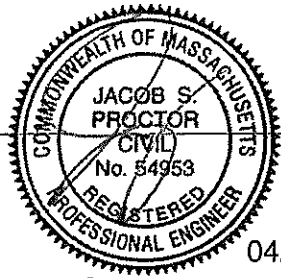
This certification is specific to the footing design for the solar system and does not include the racking system. Racking system and components designed and specified by the manufacturer (IronRidge).

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Very truly yours,


Scott E. Wyssling, PE
MA License No. 50507





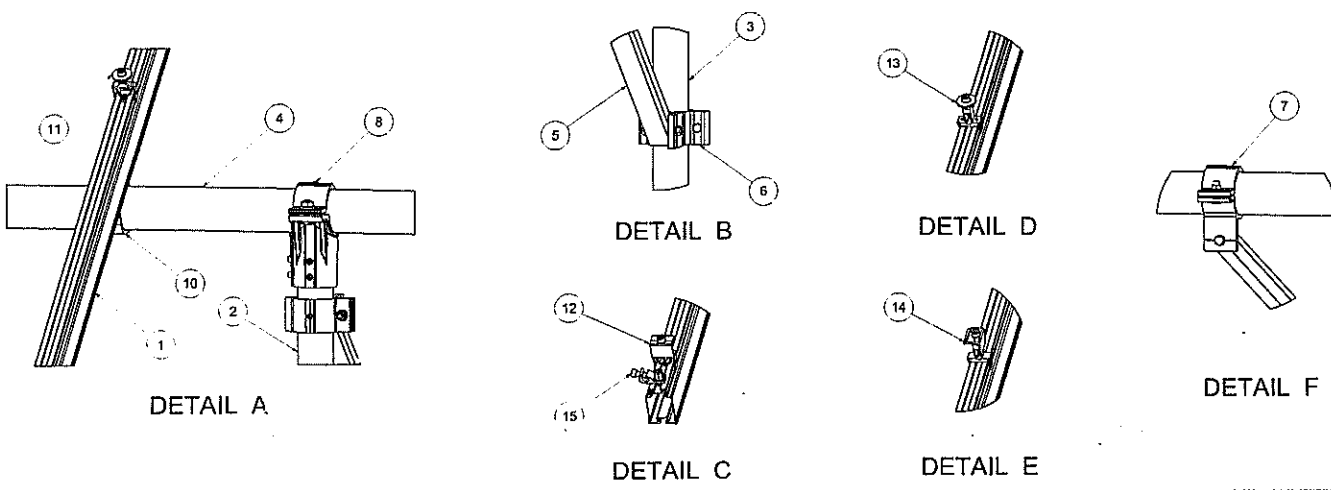
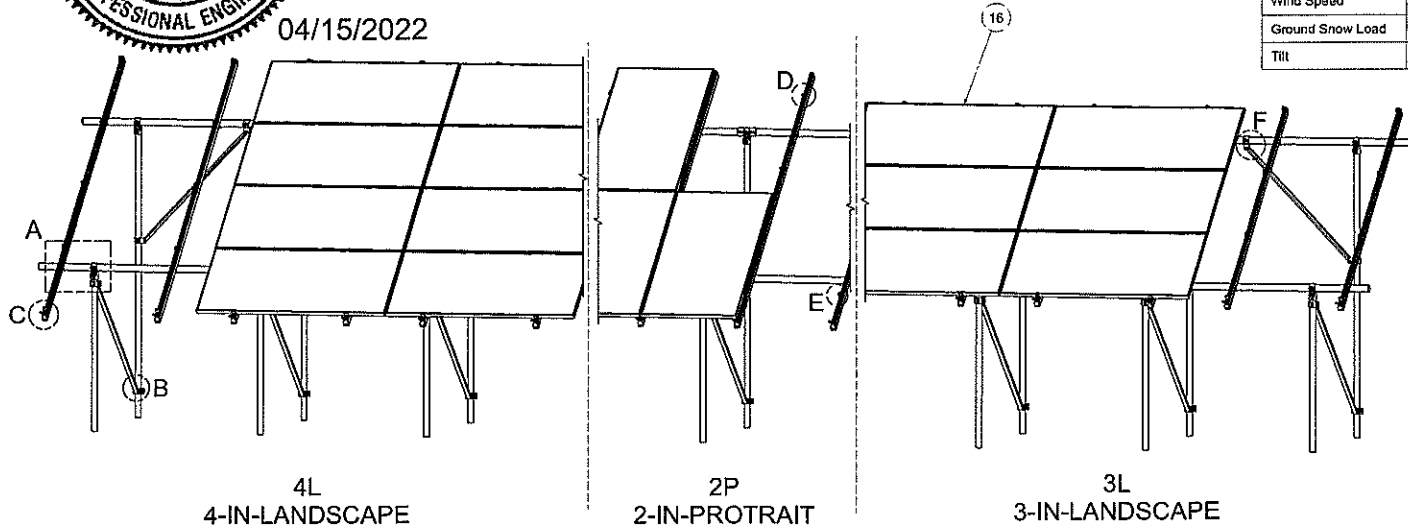
551 W. GALENA PARK BLVD., STE. 101 DRAPER, UTAH 84020
 PHONE (801) 990-1775 WWW.VECTORSE.COM
 VECTOR PROJECT #: U2716.0337.221

04/15/2022

Packet A7	
Model Code	ASCE 7-10
Exposure Category	C and Lower
Wind Speed	110 mph and Lower
Ground Snow Load	50 PSF and Lower
Tilt	35 DEG and Lower

NOTES: UNLESS OTHERWISE SPECIFIED

- THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ENGINEERING HAS REVIEWED AND STAMPED THIS DOCUMENT.
- DIMENSIONS SHOWN ARE INCHES.
- THE SELF-BONDING SYSTEM AND SINGLE GROUND LUG IS FOR USE WITH PV MODULES THAT HAVE A MAXIMUM SERIES FUSE RATING OF 30A.
- MATERIALS ARE AS SPECIFIED OR EQUIVALENT:
 HARDWARE: 304 STAINLESS STEEL
 FABRICATED EXTRUDED PARTS: 6005-T5 ALUMINUM ALLOY
 FABRICATED DIE CAST PARTS: ANSIAA A380 ALUMINUM ALLOY
 STEEL PIPE: SCHEDULE 40 GALVANIZED
 ALUMINUM PIPE: SCHEDULE 10 ANODIZED
- THE MAXIMUM PERMISSIBLE LENGTH OF ANY STRUCTURE SHALL BE 200 FT. FOR SYSTEMS USING A SHARED RAIL CONFIGURATION, A THERMAL BREAK IS REQUIRED IN THE RAIL EVERY 40 FT. PER THE DRAWING DETAILS.
- SUNTURF SYSTEM CONFIGURATIONS:
 PANEL ARRANGEMENT: 4LXN, 3LXN, OR 2PXN.
 TILT ANGLE: 35DEG. OR LESS.
 FOUNDATION TYPE: GSM, AGM, BGM, OR PGM.
- PANEL DIMENSIONS ARE AS FOLLOWS:
 STANDARD PANEL (SP): MAX AREA: 3444 in²
 LARGE FORMAT (LF): MAX AREA: 3825 in²
 PANEL FRAME HEIGHTS: 30mm TO 50mm.
- FOUNDATION TYPES:
 GSM = GROUND SCREW GROUND MOUNT
 AGM = HELICAL AUGER GROUND MOUNT
 PGM = POST-IN-CONCRETE GROUND MOUNT
 BSM = BALLAST GROUND MOUNT



ITEM	PART NUMBER	DESCRIPTION	QTY
16		PANEL	
15	K10459-001	SMR GROUND LUG KIT	
14	K10420-XXX	SHARED RAIL END CLAMP, SMR POP-ON, CLEAR	
13	K10419-XXX	SHARED RAIL MID CLAMP, SMR POP-ON, CLEAR	
12	K10418-XXX	SMR POP-ON END CLAMP KIT, CLEAR	
11	K10417-XXX	MID CLAMP, SMR POP-ON, CLEAR	
10	K10343-005	2.5" AL PIPE U-CLAMP KIT	
9	K10342-001	2.5" PIPE SPLICE KIT	
8	K10341-002	2.5" PIPE TEE KIT	
7	K10222-001	2.5" PIPE CLAMP KIT	
6	K10219-001	2" AL PIPE CLAMP KIT	
5	A50164-XXX	1.5" SQ. STL TUBE BRACE, L=XXX	
4	A21168-XXX	PIPE, HSS, 2.875" OD X 12 GAUGE, L=XXX	
3	A21165-XXX (REAR)	PIPE, HSS, 2.375" OD X 12 GAUGE, L=XXX	
2	A21165-XXX (FRONT)	PIPE, HSS, 2.375" OD X 12 GAUGE, L=XXX	
1	A20444-XXX	SMR300 RAIL, L=XXX	

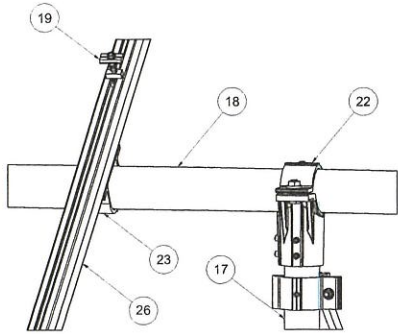
SEE BOM	
DATE: 04/15/2022	
BY: JSP	
CHECKED: JSP	
DATE: 04/15/2022	
SCALE:	

THIS DRAWING IS THE PROPERTY OF SUNMODE AND ITS CONTENTS ARE NOT TO BE DISCLOSED WITHOUT THE PRIOR WRITTEN CONSENT OF SUNMODE CORP.

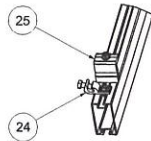
NOTES: UNLESS OTHERWISE SPECIFIED

1. APPROVED RAIL PROFILES - STANDARD PANELS
 A20288-XXX (HR300 RAIL), A20297-001 (END CAP),
 K10343-002 (U-CLAMP KIT),
 A20145-XXX (HR350 RAIL), A20285-001 (END CAP),
 K10341-001 (U-CLAMP KIT).
2. APPROVED RAIL PROFILES - OVERSIZE PANELS
 * A20288-XXX (HR300 RAIL), A20297-001 (END CAP),
 K10343-002 (U-CLAMP KIT);
 * A20145-XXX (HR350 RAIL), A20285-001 (END CAP),
 K10343-001 (U-CLAMP KIT).
3. K10224-XXX END CLAMP KIT OR K10299-XXX ADJ.
 END CLAMP KIT.

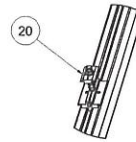
**ALTERNATE(ALT) DETAILS
 HR300, HR350 RAIL PROFILES**



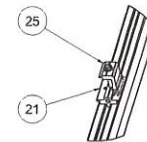
DETAIL A-ALT



DETAIL C-ALT



DETAIL D-ALT



DETAIL E-ALT



651 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
 DRAPER, UTAH 84020 WWW.VECTORSE.COM
VECTOR PROJECT #: U2716.0337.221

ITEM	PART NUMBER	DESCRIPTION	QTY
26		HELIO RAIL, VARIES PER NOTE 1 & 2	
25		END CLAMP KIT, VARIES PER NOTE 3	
24	K10469-003	HR GROUNDING LUG KIT	
23	K10343-XXX	2.5" AL PIPE U-CLAMP KIT	
22	K10341-002	2.5" PIPE TEE KIT	
21	K10176-001	END CLAMP SHARED RAIL ADAPTOR	
20	K10182-001	SHARED RAIL GROUNDING MID-CLAMP KIT (FOR 2P)	
19	K10180-001	GROUNDING MID-CLAMP KIT WITH T COLLAR BOLT AND GROUNDING BASE	
18	A21168-XXX	PIPE, HSS, 2.875" OD X 12 GAUGE, L=XXX	
17	A21165-XXX	PIPE, HSS, 2.375" OD X 12 GAUGE, L=XXX	

SunModo Corp.

FILE: PACKET A7

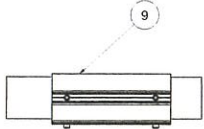
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SCALE: SHEET 2 of 5 REV

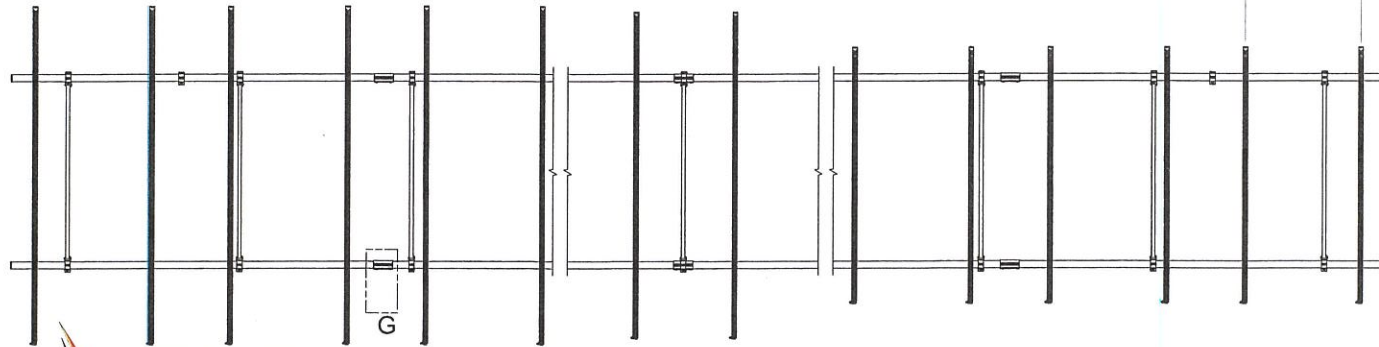
NOTES:

- 1. DIMENSIONS LABELED AS MAX ARE MAXIMUM ALLOWABLE AND MAY RESULT IN END POSTS BEING OUTSIDE ARRAY EDGES. MAXIMUM DIMENSIONS MAY BE REDUCED IF DESIRED.
- 2. SEE NOTE 7 OF COVER PAGE FOR PANEL SIZES.

RAIL SPACING
 LANDSCAPE: PER PANEL MANUFACTURER
 PORTRAIT: PANEL WIDTH + 0.25"



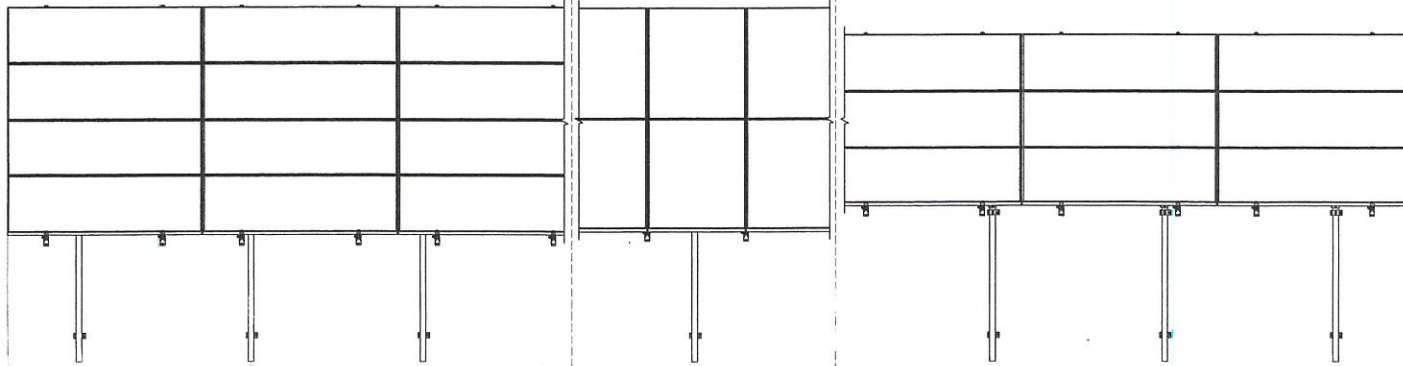
DETAIL G



04/15/2022



651 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
 DRAPER, UTAH 84020 WWW.VECTORSE.COM
 VECTOR PROJECT #: U2716.0337.221



32 MAX

96 MAX¹

4L
 4-IN-LANDSCAPE

2P
 2-IN-PORTRAIT

3L
 3-IN-LANDSCAPE

SunModo Corp.	
TITLE	PACKET A7
D	DESIGNED BY/DATE
SCALE	SHEET 3 of 5 REV 1

DIMENSIONS - STANDARD PANEL			
ITEM	4L	2P	3L
A	172	166	130
B	34	31	13
C	53	51	41
D	113	111	101

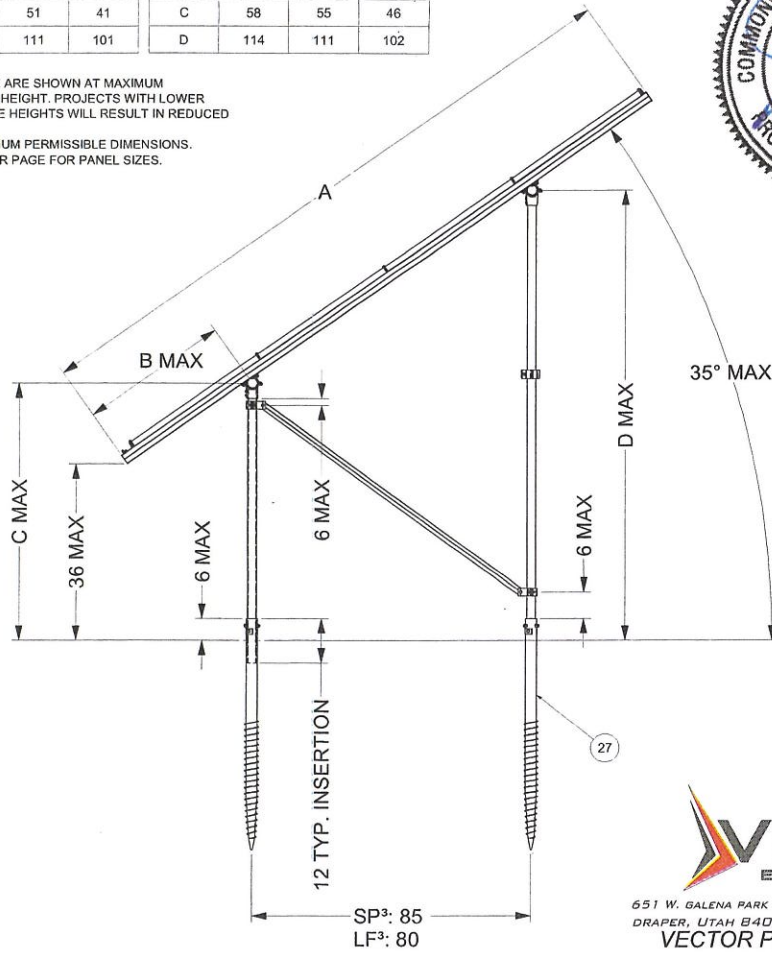
DIMENSIONS - LARGE FORMAT PANEL			
ITEM	4L	2P	3L
A	184	172	140
B	43	37	21
C	58	55	46
D	114	111	102

NOTES

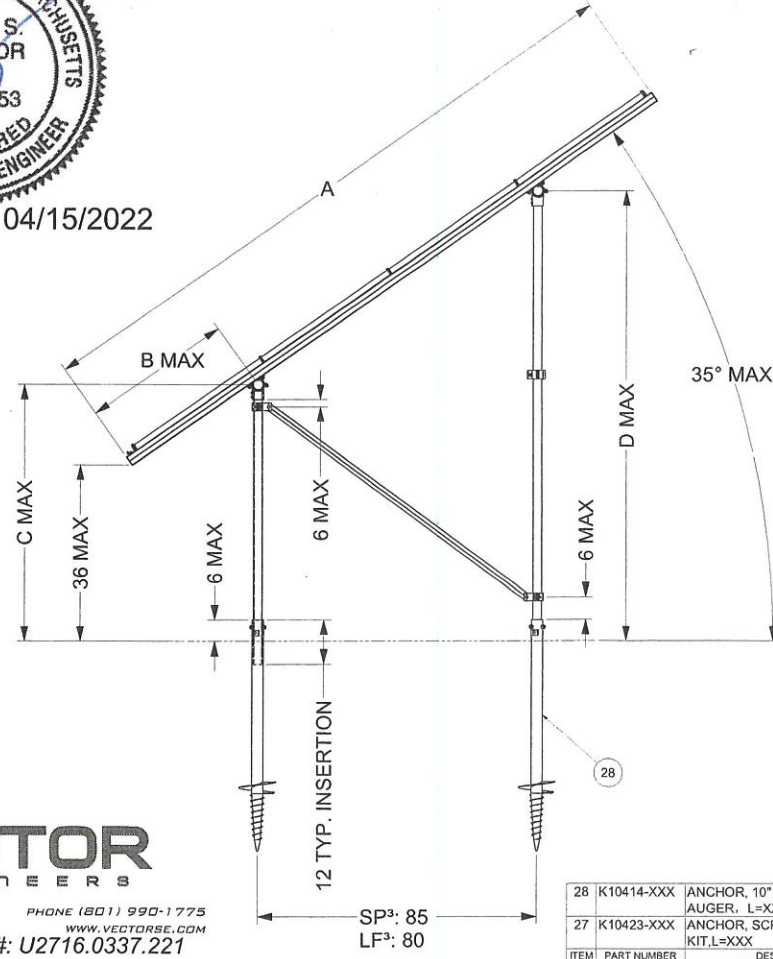
1. DIMENSIONS IN TABLE ARE SHOWN AT MAXIMUM TILT & LEADING EDGE HEIGHT. PROJECTS WITH LOWER TILTS & LEADING EDGE HEIGHTS WILL RESULT IN REDUCED DIMENSIONS.
2. MAX DENOTES MAXIMUM PERMISSIBLE DIMENSIONS.
3. SEE NOTE 7 OF COVER PAGE FOR PANEL SIZES.



04/15/2022



GROUND SCREW GROUND MOUNT (GSM)



AUGER GROUND MOUNT (AGM)

VECTOR ENGINEERS
 651 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
 DRAPER, UTAH 84020 WWW.VECTORSE.COM
 VECTOR PROJECT #: U2716.0337.221

28	K10414-XXX	ANCHOR, 10" HELIX SCREW AUGER, L=XXX	
27	K10423-XXX	ANCHOR, SCREW AUGER KIT, L=XXX	
ITEM	PART NUMBER	DESCRIPTION	QTY
SunModo Corp.			
TITLE: PACKET A7			
D: [REDACTED]			
SCALE: SHEET 4 of 5 REV			

DIMENSIONS - STANDARD PANEL			
ITEM	4L	2P	3L
A	172	166	130
B	34	31	13
C	53	51	41
D	113	111	101

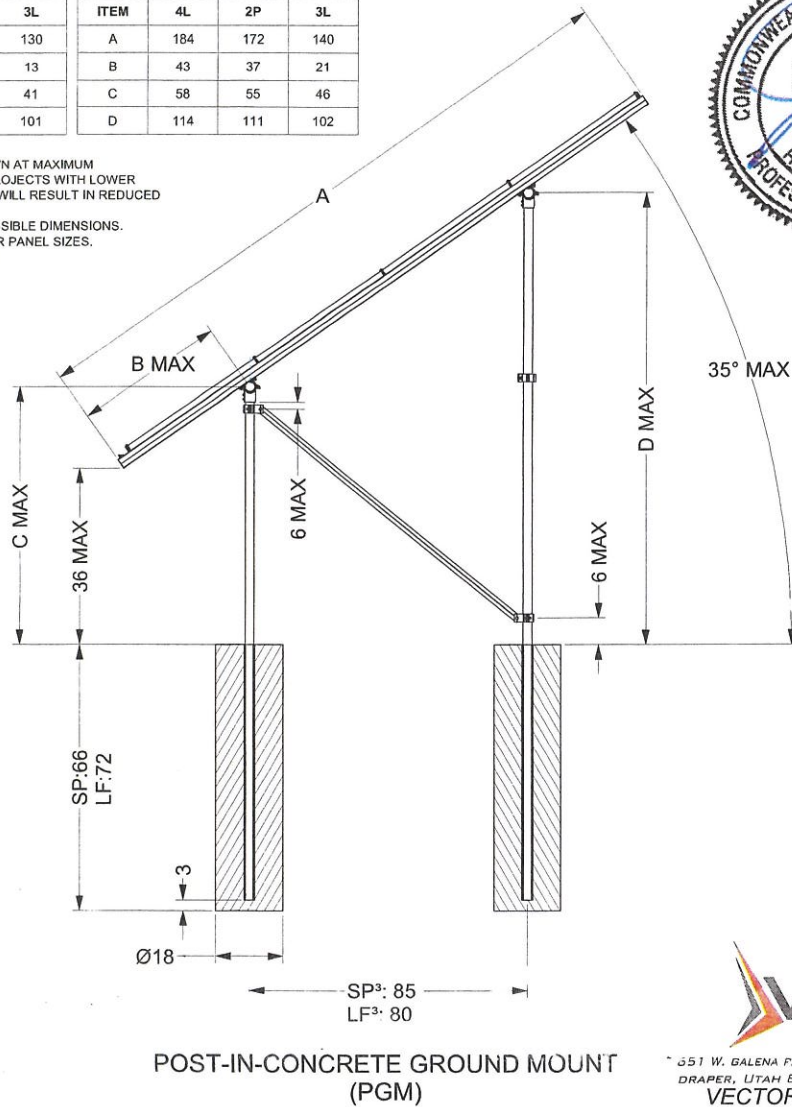
DIMENSIONS - LARGE FORMAT PANEL			
ITEM	4L	2P	3L
A	184	172	140
B	43	37	21
C	58	55	46
D	114	111	102

NOTES

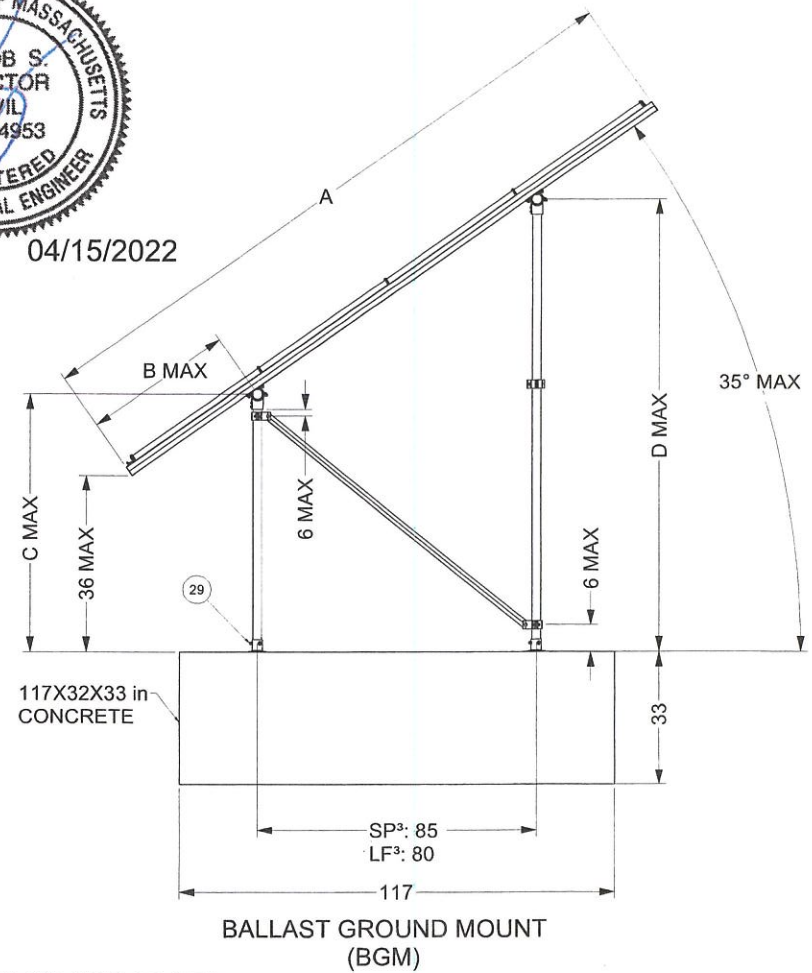
1. DIMENSIONS IN TABLE ARE SHOWN AT MAXIMUM TILT & LEADING EDGE HEIGHT. PROJECTS WITH LOWER TILTS & LEADING EDGE HEIGHTS WILL RESULT IN REDUCED DIMENSIONS.
2. MAX DENOTES MAXIMUM PERMISSIBLE DIMENSIONS.
3. SEE NOTE 7 OF COVER PAGE FOR PANEL SIZES.
4. K10268-005 (2" PIPE BASE KIT) OR K10302-001 (2" PIPE BASE KIT)



04/15/2022



POST-IN-CONCRETE GROUND MOUNT (PGM)



BALLAST GROUND MOUNT (BGM)



351 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
 DRAPER, UTAH 84020 WWW.VECTORSE.COM
 VECTOR PROJECT #: U2716.0337.221

29		POST BASE. VARIES PER NOTE	
ITEM	PART NUMBER	DESCRIPTION	QTY
		SunModo Corp.	
		PACKET A7	
D		DATE	
		SCALE	SHEET 5 of 5 REV

GENERAL NOTES

- 1.1.1 **PROJECT NOTES:**
- 1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
- 1.1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION
- 1.1.4 ALL PV SYSTEM COMPONENTS, MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4: **PV MODULES:** UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE **INVERTERS:** UL 1741 CERTIFIED, IEEE 1547, 929, 519 **COMBINER BOX(ES):** UL 1703 OR UL 1741 ACCESSORY
- 1.1.5 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.
- 1.1.6 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING (NEC 110.3).
- 1.1.7 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.
- 1.2.1 **SCOPE OF WORK:**
- 1.2.2 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE GROUND MOUNT ARRAY PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.
- 1.3.1 **WORK INCLUDES:**
- 1.3.2 GROUND MOUNT RACKING - SUNMODO GROUND MOUNT SYSTEM - SUNTURF
- 1.3.3 PV MODULE AND INVERTER INSTALLATION - HANWHA Q-CELLS Q.PEAK DUO XL-G10.d 480 / ENPHASE IQ8A-72-2-US
- 1.3.4 PV EQUIPMENT GROUNDING
- 1.3.5 PV LOAD CENTERS (IF INCLUDED)
- 1.3.6 PV METERING/MONITORING (IF INCLUDED)
- 1.3.7 PV DISCONNECTS
- 1.3.8 PV GROUNDING ELECTRODE & BONDING TO (E) GEC
- 1.3.9 PV FINAL COMMISSIONING
- 1.3.10 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV
- 1.3.11 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE
- 1.3.12 TRENCHING (IF NECESSARY)

SCOPE OF WORK
 SYSTEM SIZE: STC: 28 X 100W = 13.440KW
 PTC: 26 X 447 1W = 12.519KW DC
 (24) HANWHA Q-CELLS Q.PEAK DUO XL-G10.d 480
 (28) ENPHASE IQ8A-72-2-US

ATTACHMENT TYPE: SUNMODO GROUND MOUNT SYSTEM - SUNTURF

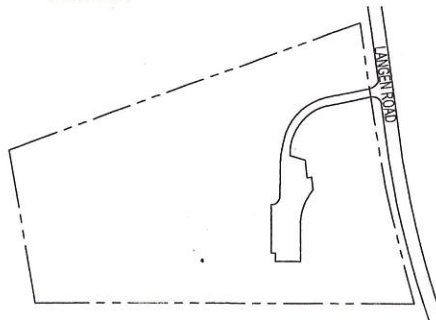
MSP UPGRADE: NO

NEW PV SYSTEM: 13.440 kWp
DUPLEASE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 ASSESSOR'S #: LANCM0290B0000L00080



01 AERIAL PHOTO
 NOT TO SCALE



02 PLAT MAP
 NOT TO SCALE



Signed 4-20-22

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
T-001	COVER PAGE
G-001	NOTES
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A-103	SOLAR ATTACHMENT PLAN
S-501	ASSEMBLY DETAILS
E-601	LINE DIAGRAM
E-602	DESIGN TABLES
E-603	PLACARDS
R-001	RESOURCE DOCUMENT
R-002	RESOURCE DOCUMENT
R-003	RESOURCE DOCUMENT
R-004	RESOURCE DOCUMENT
R-005	RESOURCE DOCUMENT
R-006	RESOURCE DOCUMENT

PROJECT INFORMATION

OWNER
 NAME: HENRY DUPLEASE

PROJECT MANAGER
 NAME:
 PHONE:

CONTRACTOR
 NAME: SGE SOLAR
 PHONE: 508-377-4037

AUTHORITIES HAVING JURISDICTION
 BUILDING: LANCASTER, MA
 ZONING: LANCASTER, MA
 UTILITY: NATIONAL GRID

DESIGN SPECIFICATIONS
 OCCUPANCY: II
 CONSTRUCTION: SINGLE-FAMILY
 ZONING: RESIDENTIAL
 GROUND SNOW LOAD: 50 PSF
 WIND EXPOSURE: B
 WIND SPEED: 122 MPH

APPLICABLE CODES & STANDARDS
 BUILDING: MASSACHUSETTS BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR), MASSACHUSETTS RESIDENTIAL BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR)
 ELECTRICAL: NEC 2020
 FIRE: MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE (527 CMR 1.00)



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

LIC. NO.: 162163 HIC
 HIC. NO.:
 ELE. NO.:

UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 13.440 kW

DUPLEASE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

COVER PAGE



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

T-001.00

(SHEET 1)

A	B	C	D	E	F	G	H
2.1.1	SITE NOTES:						
2.1.2	THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.	2.5.4	NOT EXCEED 120% OF BUSBAR RATING [NEC 705.12(B)(2)(3)].				PHASE C OR L3- BLUE, YELLOW, ORANGE ¹ , OR OTHER CONVENTION NEUTRAL- WHITE OR GRAY
2.1.3	THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING OR MECHANICAL.						
2.1.4	PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26.						
2.2.1	EQUIPMENT LOCATIONS	2.5.5					
2.2.2	ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.						
2.2.3	WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31 (A),(C) AND NEC TABLES 310.15 (B)(2)(A) AND 310.15 (B)(3)(C).	2.5.6	THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR, PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC 705.12(B)(2)(3)].		2.7.9		* IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].
2.2.3	JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.						ELECTRICAL WIRES IN TRENCH SHALL BE AT LEAST 18IN. BELOW GRADE (RESIDENTIAL).
2.2.4	ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.	2.5.7	AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12 (B)(2)(3)(C).				
2.2.5	ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.	2.5.8	FEEDER TAP INTERCONNECTION (LOAD SIDE) ACCORDING TO NEC 705.12 (B)(2)(1)				
2.2.6	ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.	2.6.1	SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12 (A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42				
2.2.7	SOLAR ARRAY LOCATION SHALL BE ADJUSTED ACCORDINGLY TO MEET LOCAL SETBACK REQUIREMENTS.	2.6.2	BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12 (B)(5)].				
2.3.1	STRUCTURAL NOTES:	2.6.3	DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:				
2.3.2	RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.	2.6.4	DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).				
2.3.3	JUNCTION BOX WILL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS. IT SHALL BE SEALED PER LOCAL REQUIREMENTS.	2.6.5	DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.				
2.3.4	ALL PV RELATED ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.	2.6.6	BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED. THEREFORE BOTH MUST OPEN WHERE A DISCONNECT IS REQUIRED, ACCORDING TO NEC 690.13.				
2.4.1	GROUNDING NOTES:	2.6.7	ISOLATING DEVICES OR EQUIPMENT DISCONNECTING MEANS SHALL BE INSTALLED IN CIRCUITS CONNECTED TO EQUIPMENT AT A LOCATION WITHIN THE EQUIPMENT, OR WITHIN SIGHT AND WITHIN 10 FT. OF THE EQUIPMENT. AN EQUIPMENT DISCONNECTING MEANS SHALL BE PERMITTED TO BE REMOTE FROM THE EQUIPMENT WHERE THE EQUIPMENT DISCONNECTING MEANS CAN BE REMOTELY OPERATED FROM WITHIN 10 FT. OF THE EQUIPMENT, ACCORDING TO NEC 690.15 (A).				
2.4.2	GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.	2.6.8	PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12(A) THROUGH (D)				
2.4.3	PV SYSTEMS REQUIRE AN EQUIPMENT GROUNDING CONDUCTOR. ALL METAL ELECTRICAL EQUIPMENT AND STRUCTURAL COMPONENTS BONDED TO GROUND, IN ACCORDANCE WITH 250.134 OR 250.136(A). ONLY THE DC CONDUCTORS ARE UNGROUNDED.	2.6.8	ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9, AND 240.				
2.4.4	PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.	2.6.9	BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED, THEREFORE BOTH REQUIRE OVER-CURRENT PROTECTION, ACCORDING TO NEC 240.21. (SEE EXCEPTION IN NEC 690.9)				
2.4.5	METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURE CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).	2.7.1	IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL1699B.				
2.4.6	EACH MODULE WILL BE GROUNDED USING WEEB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEEBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS.	2.7.2	WIRING & CONDUIT NOTES:				
2.4.7	THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.	2.7.3	ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.				
2.4.8	GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119]	2.7.4	ALL CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.				
2.4.9	THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 AND AHJ.	2.7.5	EXPOSED PV SOURCE CIRCUITS AND OUTPUT CIRCUITS SHALL USE WIRE LISTED AND IDENTIFIED AS PHOTOVOLTAIC (PV) WIRE [690.31 (C)]. PV MODULES WIRE LEADS SHALL BE LISTED FOR USE ON PV ARRAYS, ACCORDING TO NEC 690.31 (A).				
2.4.10	DC PV ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION MEETING THE REQUIREMENTS OF 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS.	2.7.6	PV WIRE BLACK WIRE MAY BE FIELD-MARKED WHITE [NEC 200.6 (A)(6)].				
2.5.1	INTERCONNECTION NOTES:	2.7.7	MODULE WIRING SHALL BE LOCATED AND SECURED UNDER THE ARRAY. ACCORDING TO NEC 200.7, UNGROUNDED SYSTEMS DC CONDUCTORS COLORED OR MARKED AS FOLLOWS:				
2.5.2	LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12 (B)]	2.7.8	DC POSITIVE- RED, OR OTHER COLOR EXCLUDING WHITE, GRAY AND GREEN				
2.5.3	THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY		DC NEGATIVE- BLACK, OR OTHER COLOR EXCLUDING WHITE, GRAY AND GREEN				
			AC CONDUCTORS COLORED OR MARKED AS FOLLOWS:				
			PHASE A OR L1- BLACK				
			PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE				



CONTRACTOR

SGE SOLAR

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 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

LIC. NO.: 162163 HIC
 HIC. NO.:
 ELE. NO.:

UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 13.440 kW

DUPLICATE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD



Signed 4-20-22

PAPER SIZE: 11" x 17" (ANSI B)

NOTES



DATE: 04.12.2022

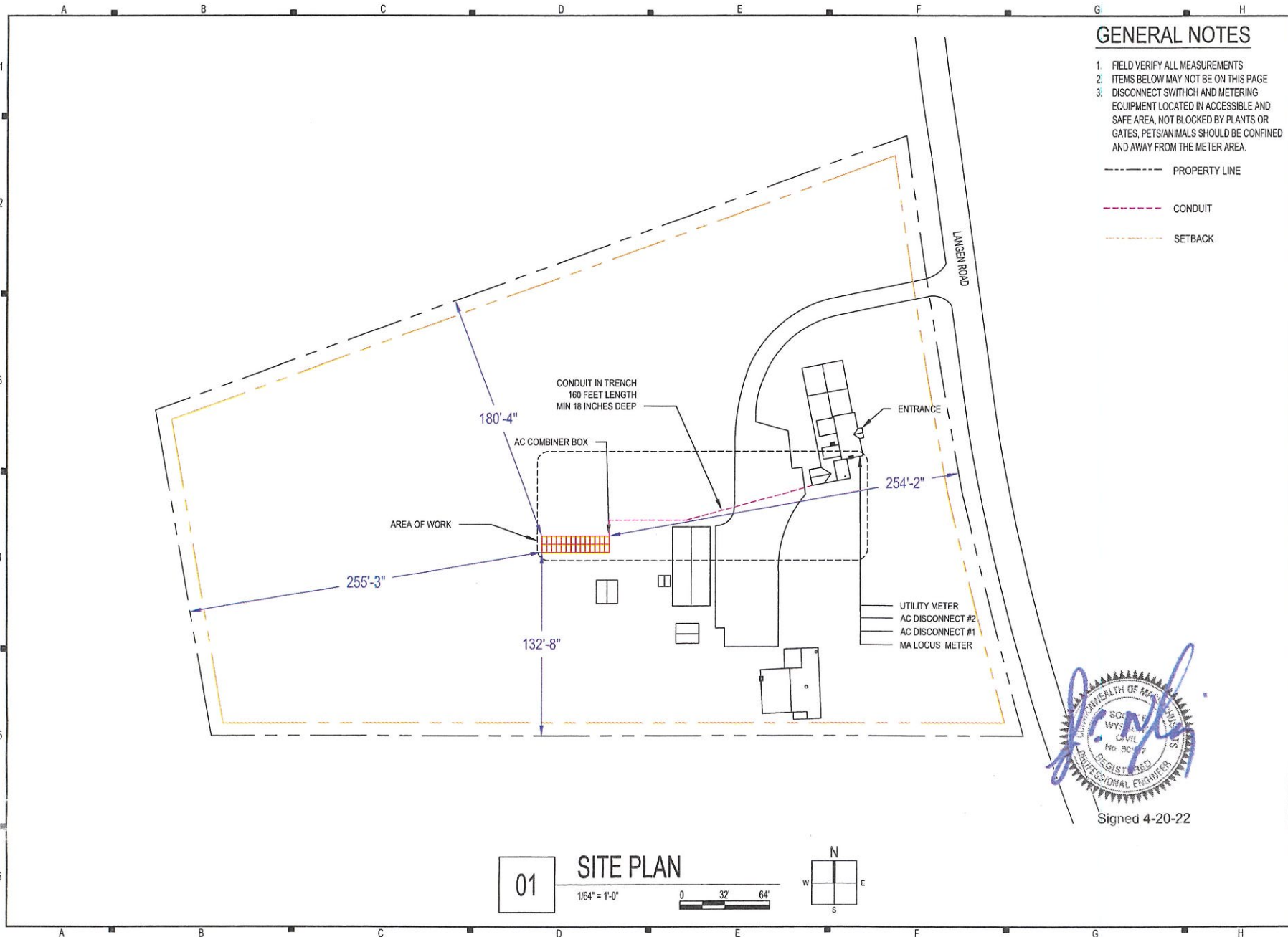
DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

G-001.00

(SHEET 2)



GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE
3. DISCONNECT SWITCH AND METERING EQUIPMENT LOCATED IN ACCESSIBLE AND SAFE AREA, NOT BLOCKED BY PLANTS OR GATES, PETS/ANIMALS SHOULD BE CONFINED AND AWAY FROM THE METER AREA.

- PROPERTY LINE
- CONDUIT
- SETBACK



CONTRACTOR

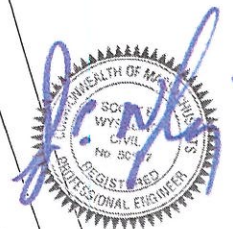
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 MILFORD, MA 01757
 LIC. NO.: 162163 HIC
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NEW PV SYSTEM: 13.440 kW

DUPELASE RESIDENCE

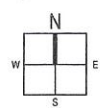
275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD



Signed 4-20-22

01 SITE PLAN
 1/64" = 1'-0"
 0 32' 64'



PAPER SIZE: 11" x 17" (ANSI B)

SITE PLAN



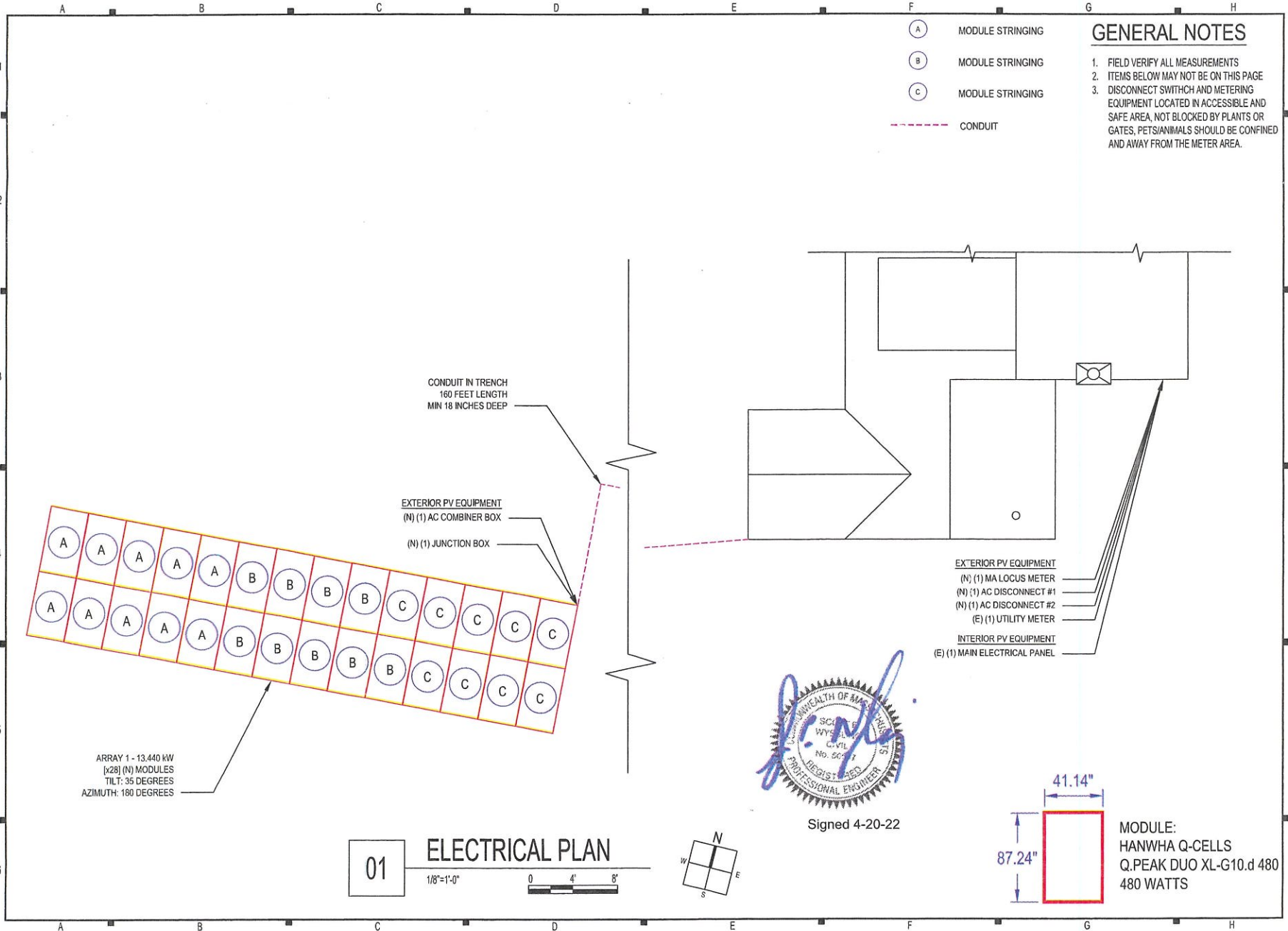
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DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

A-101.00
 (SHEET 3)



GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
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CONTRACTOR

SGE SOLAR

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 HIC. NO.:
 ELE. NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLESE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

ELECTRICAL PLAN



DATE: 04.12.2022

DESIGN BY: M.P.

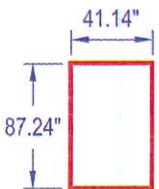
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REVISIONS

A-102.00
 (SHEET 4)



Signed 4-20-22



MODULE:
 HANWHA Q-CELLS
 Q.PEAK DUO XL-G10.d 480
 480 WATTS

01 ELECTRICAL PLAN
 1/8"=1'-0"
 0 4' 8'

GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS
2. ITEMS BELOW MAY NOT BE ON THIS PAGE



CONTRACTOR

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NEW PV SYSTEM: 13.440 KW

DUPLEASE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

SOLAR ATTACHMENT PLAN



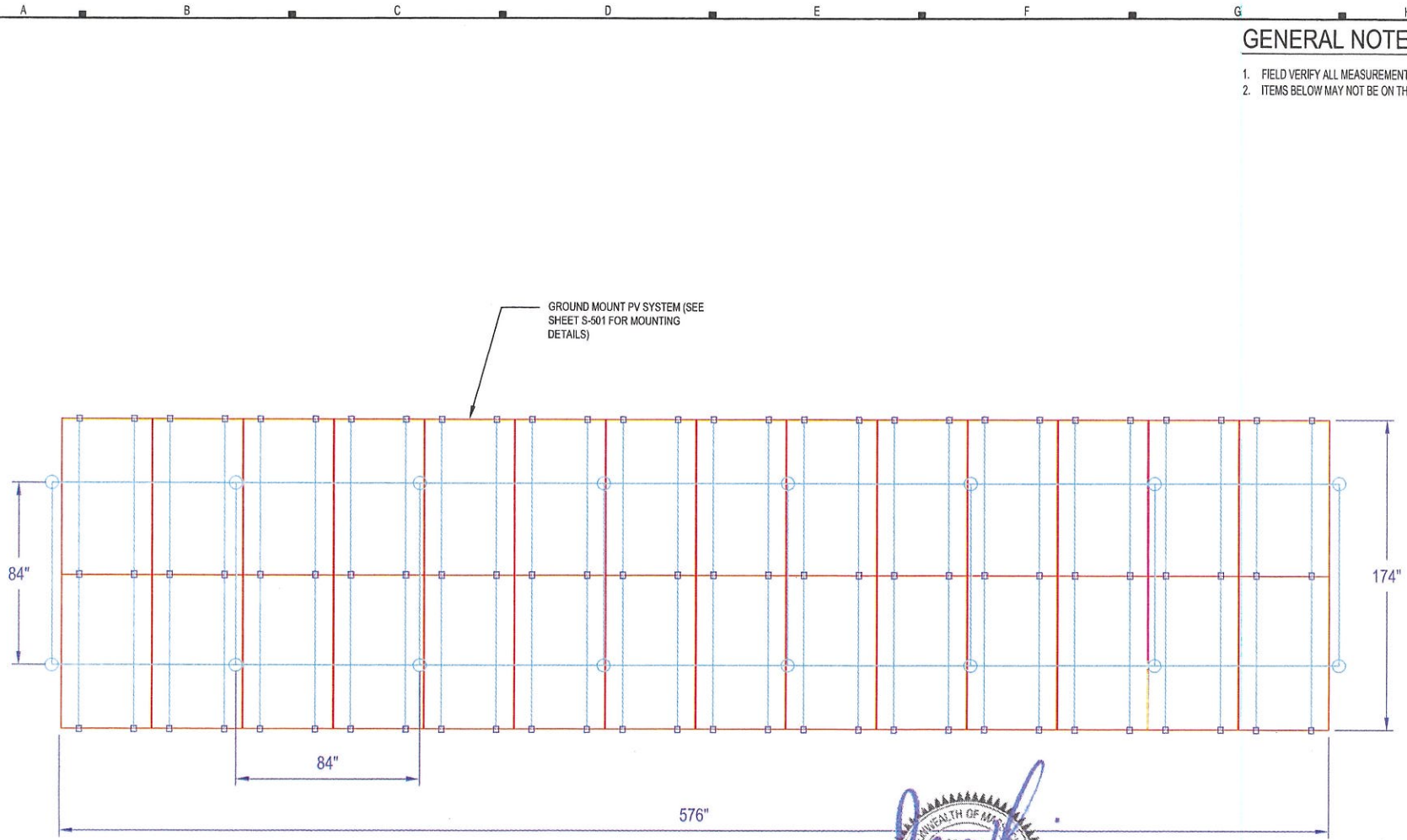
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DESIGN BY: M.P.

CHECKED BY: M.M.

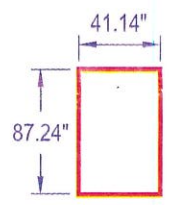
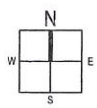
REVISIONS

A-103.00
 (SHEET 5)



Signed 4-20-22

01 SOLAR ATTACHMENT PLAN
 1/4" = 1'-0"



MODULE:
 HANWHA Q-CELLS
 Q.PEAK DUO XL-G10.d 480
 480 WATTS



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
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UNAUTHORIZED USE OF THIS
 DRAWING SET WITHOUT WRITTEN
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 AND WILL BE SUBJECT TO CIVIL
 DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 13.440 KW

**DUPLEASE
 RESIDENCE**

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

ASSEMBLY DETAILS



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

S-501.00
 (SHEET 6)

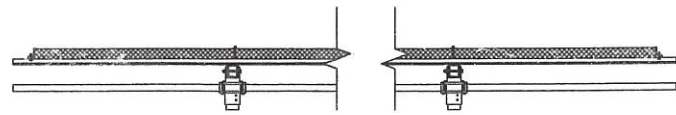
GENERAL NOTES

1. FIELD VERIFY ALL MEASUREMENTS

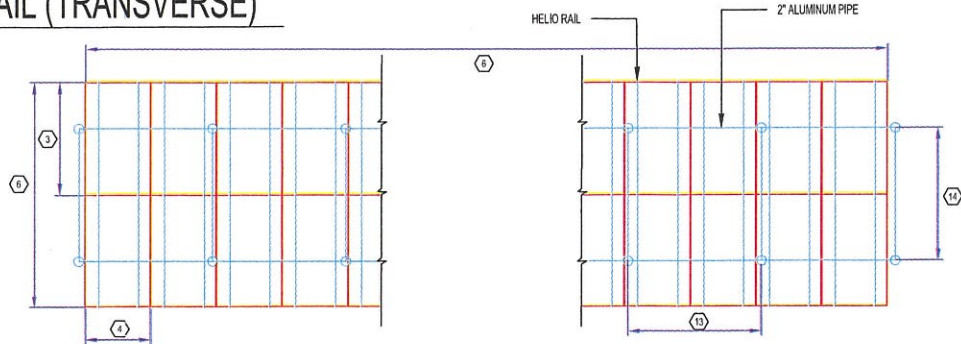
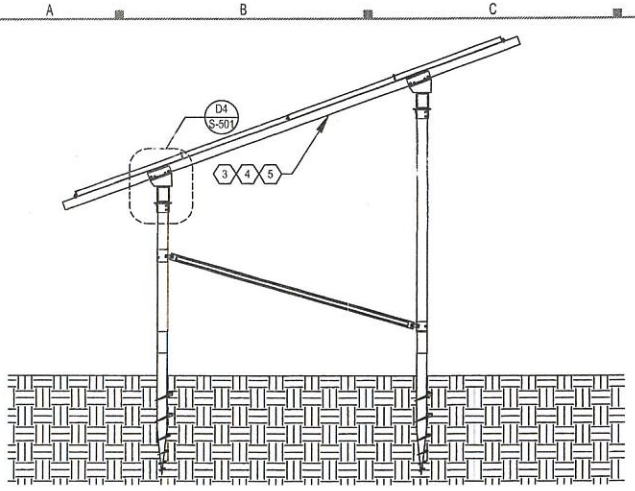
SHEET KEYNOTES

1. MODULE MANUFACTURER: HANWHA Q-CELLS
2. MODULE MODEL: Q.PEAK DUO XL-G10.0 480
3. MODULE LENGTH: 87.24"
4. MODULE WIDTH: 41.14"
5. MODULE WEIGHT: 57.32 LBS.
6. SEE SHEET A-103 FOR DIMENSION(S)
7. MIN. SETBACK REQUIREMENT: 10 FT.
8. FOUNDATION/ANCHOR TYPE: EARTH SCREW
9. TOTAL # OF FOUNDATION/ANCHOR: 16
10. TOTAL AREA: 697.87 SQ. FT.
11. TOTAL WEIGHT: 1671.6 LBS.
12. WEIGHT PER ATTACHMENT: 104.48 LBS.
13. EAST/WEST SPACING: 84"
14. NORTH/SOUTH SPACING: 84"
15. RACKING MANUFACTURER (OR EQUIV.): SUNMODO
16. RACKING MODEL (OR EQUIVALENT): SUNTURF GROUND MOUNT SYSTEM
17. MIN. SCREW DEPTH
 FRONT : 63" REAR: 63"
18. FRONT CLEARANCE: 12 IN.
19. REAR CLEARANCE: 103.5 IN.

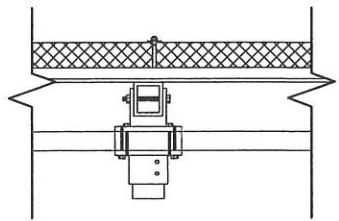
D2 RACKING DETAIL (LONGITUDINAL)
 NOT TO SCALE



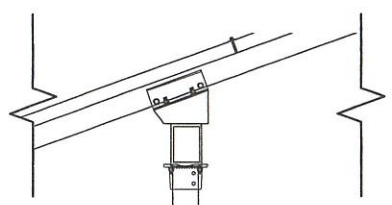
D1 RACKING DETAIL (TRANSVERSE)
 NOT TO SCALE



D3 RACKING DETAIL (TOP)
 NOT TO SCALE



D5 DETAIL (LONGITUDINAL)
 NOT TO SCALE



D4 DETAIL (TRANSVERSE)
 NOT TO SCALE



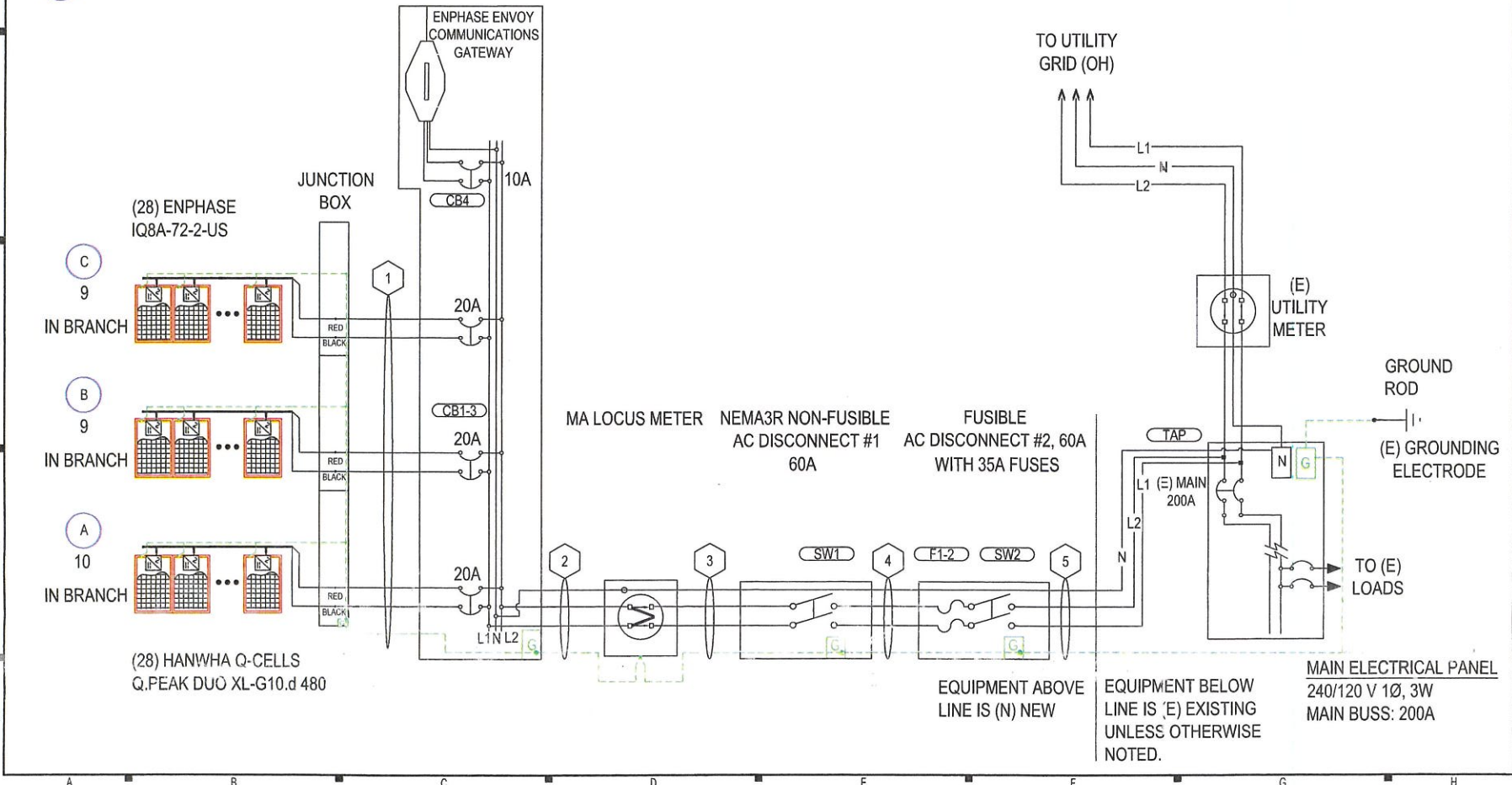
Signed 4-20-22

CONDUCTOR AND CONDUIT SCHEDULE W/ELECTRICAL CALCULATIONS

ID	TYPICAL	CONDUCTOR	CONDUIT	CURRENT-CARRYING CONDUCTORS IN CONDUIT	OCPD	EGG	TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	AMP. @ TERMINAL	LENGTH	VOLTAGE DROP
1	1	10 AWG THWN-2, COPPER	0.75" DIA EMT	6	20A	10 AWG THWN-2, COPPER	1 (29.7 °C)	0.8	14.5A	18.13A	40A	32A	75°C	35A		
2	1	4 AWG THWN-2, COPPER	1" DIA PVC-40	2	N/A	6 AWG THWN-2, COPPER	1 (29.7 °C)	1	40.6A	50.75A	95A	75A	75°C	85A	160FT	1.57%
3	1	6 AWG THWN-2, COPPER	0.75" DIA EMT	2	N/A	6 AWG THWN-2, COPPER	1 (29.7 °C)	1	40.6A	50.75A	75A	75A	75°C	65A		
4	1	6 AWG THWN-2, COPPER	0.75" DIA EMT	2	60A	6 AWG THWN-2, COPPER	1 (29.7 °C)	1	40.6A	50.75A	75A	75A	75°C	65A		
5	1	6 AWG THWN-2, COPPER	0.75" DIA EMT	2	N/A	6 AWG THWN-2, COPPER	1 (29.7 °C)	1	40.6A	50.75A	75A	75A	75°C	65A		

- (A) MODULE STRINGING
- (B) MODULE STRINGING
- (C) MODULE STRINGING

125A AC COMBINER BOX
 X-IQ-AM1-240-4
 120/240V, 1Ø, 3W
 MAX. CONTINUOUS CURRENT: 65A
 MAX. OCPD: 90A



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

LIC. NO.: 162163 HIC
 HIC NO.:
 ELE. NO.:
UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 13.440 kW

DUPELASE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)
 LINE DIAGRAM
 POWERED BY GREENLANCER
 www.greenlancer.com

DATE: 04.12.2022
 DESIGN BY: M.P.
 CHECKED BY: M.M.

REVISIONS

E-601.00
 (SHEET 7)



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

LIC. NO.: 162163 HIC
 HIC. NO.:
 ELE. NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLICATE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

DESIGN TABLES



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

E-602.00
 (SHEET 8)

SYSTEM SUMMARY				MODULES										
	BRANCH #1	BRANCH #2	BRANCH #3	REF.	QTY.	MAKE AND MODEL	PMAX	PTC	ISC	IMP	VOC	VMP	TEMP. COEFF. OF VOC	FUSE RATING
INVERTERS PER BRANCH	10	9	9	PM1-28	28	HANWHA Q-CELLS Q-PEAK DUO XL-G10.D 480	480W	447.1W	11.26A	10.71A	53.61V	44.81V	-0.145V/°C (-0.27%/°C)	20A
MAX AC CURRENT	14.5A	13.05A	13.05A											
MAX AC OUTPUT POWER	3,660W	3,294W	3,294W											
ARRAY STC POWER	13,440W													
ARRAY PTC POWER	12,519W													
MAX AC CURRENT	40.6A													
MAX AC POWER	10,248W													
DERATED (CEC) AC POWER	10,248W													
INVERTERS														
REF.	QTY.	MAKE AND MODEL	AC VOLTAGE	GROUND	OCPD RATING	RATED POWER	MAX OUTPUT CURRENT	MAX INPUT CURRENT	MAX INPUT VOLTAGE	CEC WEIGHTED EFFICIENCY				
I1-28	28	ENPHASE IQ8A-72-2-US	240V	FLOATING	20A	349W	1.45A	15A	60V	97.5%				
DISCONNECTS														
REF.	QTY.	MAKE AND MODEL	RATED CURRENT	MAX RATED VOLTAGE										
SW1	1	EATON DG222URB OR EQUIV.	60A	240VAC										
SW2	1	EATON DG222NRB OR EQUIV.	60A	240VAC										
OCPDS														
REF.	QTY.	RATED CURRENT	MAX VOLTAGE											
CB1-3	3	20A	240VAC											
CB4	1	10A	240VAC											
F1-2	2	60A	240VAC											
ASHRAE EXTREME LOW		-22.8°C (-9.0°F), SOURCE: WORCESTER REGIONAL ARPT (42.27°; -71.88°)												
ASHRAE 2% HIGH		29.7°C (85.5°F), SOURCE: WORCESTER REGIONAL ARPT (42.27°; -71.88°)												
BILL OF MATERIALS														
CATEGORY	MAKE	MODEL NUMBER	REF	QTY	UNIT	QTY/UNIT	DESCRIPTION							
MODULE	HANWHA Q-CELLS	Q-PEAK DUO XL-G10.D 480	PM1-28	28	PIECES	1	HANWHA Q-CELLS Q-PEAK DUO XL-G10.D 480 480W 144 HALF-CELLS, MONOCRYSTALLINE SILICON							
INVERTER	ENPHASE	IQ8A-72-2-US	I1-28	28	PIECES	1	ENPHASE IQ8A-72-2-US 349W INVERTER							
DISCONNECT	EATON	DG222URB	SW1	1	PIECE	1	EATON DG222URB, NON FUSED, 2-POLE, 60A, 240VAC OR EQUIVALENT							
DISCONNECT	EATON	DG222NRB	SW2	1	PIECE	1	EATON DG222NRB, FUSED, 2-POLE, 60A, 240VAC OR EQUIVALENT							
PRODUCTION METER	GENERIC MANUFACTURER	GEN-METER-80A	M1	1	PIECE	1	ELECTRICAL METER, OWNER APPROVED							
MISC ELECTRICAL EQUIPMENT		GEN-CABLE-CLIP	HDWR31-171	140	PIECES	1	GENERIC CABLE CLIP							
AC COMBINER PANEL		ENPHASE-IQ4-PANEL	EP1	1	PIECE	1	ENPHASE IQ COMBINER 4 (X-IQ-AM1-240-4)							
MONITORING		ENPHASE-ENVOY	ENV1	1	PIECE	1	ENPHASE ENVOY							
WIRING	ENPHASE	Q-12-20-200	EN1-28	28	PIECES	1	ENPHASE ENGAGE (TM) TRUNK CABLE							
WIRING	ENPHASE	Q-TERM-10	EN29	1	BUNDLE	10	ENPHASE ENGAGE (TM) BRANCH TERMINATOR							
WIRING	ENPHASE	Q-SEAL-10	EN30	1	BUNDLE	10	ENPHASE ENGAGE (TM) WATERTIGHT SEALING CAP							
WIRING		GEN-10-AWG-THWN-2-CU-RD	WR1	135	FEET	1	10 AWG THWN-2, COPPER, RED (LINE 1)							
WIRING		GEN-10-AWG-THWN-2-CU-BLK	WR1	135	FEET	1	10 AWG THWN-2, COPPER, BLACK (LINE 2)							
WIRING		GEN-10-AWG-THWN-2-CU-GR	WR1	45	FEET	1	10 AWG THWN-2, COPPER, GREEN (GROUND)							
WIRING		GEN-6-AWG-THWN-2-CU-RD	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, RED (LINE 1)							
WIRING		GEN-6-AWG-THWN-2-CU-BLK	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, BLACK (LINE 2)							
WIRING		GEN-6-AWG-THWN-2-CU-WH	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, WHITE (NEUTRAL)							
WIRING		GEN-6-AWG-THWN-2-CU-GR	WR2-5	190	FEET	1	6 AWG THWN-2, COPPER, GREEN (GROUND)							
WIRING		GEN-4-AWG-THWN-2-CU-RD	WR2	160	FEET	1	4 AWG THWN-2, COPPER, RED (LINE 1)							
WIRING		GEN-4-AWG-THWN-2-CU-BLK	WR2	160	FEET	1	4 AWG THWN-2, COPPER, BLACK (LINE 2)							
WIRING		GEN-4-AWG-THWN-2-CU-WH	WR2	160	FEET	1	4 AWG THWN-2, COPPER, WHITE (NEUTRAL)							
WIREWAY	ENPHASE	ET-SPLK-05	EN6	1	BUNDLE	5	ENPHASE ENGAGE (TM) ENGAGE COUPLER							
WIREWAY		GEN-EMT-0.75" DIA	WW1, 3-5	75	FEET	1	EMT CONDUIT, 0.75" DIA							
WIREWAY		GEN-PVC-40-1" DIA	WW2	160	FEET	1	PVC-40 CONDUIT, 1" DIA							
OCPD	GENERIC MANUFACTURER	GEN-CB-20A-240VAC	CB1-3	3	PIECES	1	CIRCUIT BREAKER, 20A, 240VAC							
OCPD	GENERIC MANUFACTURER	GEN-CB-10A-240VAC	CB4	1	PIECE	1	CIRCUIT BREAKER, 10A, 240VAC							
OCPD	GENERIC MANUFACTURER	GEN-FU-60A-240VAC	F1-2	2	PIECES	1	FUSE, 60A, 240VAC							
TRANSITION BOX	GENERIC MANUFACTURER	GEN-AWB-TB-4-4X	JB1	1	PIECE	1	TRANSITION/PASS-THROUGH BOX, WITH 4 TERMINAL BLOCKS							

LABELING NOTES
 1.1 LABELING REQUIREMENTS BASED ON THE 2020 NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE 605.11, OSHA STANDARD 1910.145, ANSI Z535
 1.2 MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
 1.3 LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
 1.4 LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8" AND PERMANENTLY AFFIXED.
 1.5 ALERTING WORDS TO BE COLOR CODED. "DANGER" WILL HAVE RED BACKGROUND; "WARNING" WILL HAVE ORANGE BACKGROUND; "CAUTION" WILL HAVE YELLOW BACKGROUND. [ANSI Z535]

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

LABEL 1
 AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (2" X 4").
 [NEC 690.13].

WARNING
 POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL 2
 AT POINT OF INTERCONNECTION OVERCURRENT DEVICE (2" X 4").
 [NEC 705.12(B)(2)(3)(B)].

AC DISCONNECT
 PHOTOVOLTAIC SYSTEM POWER SOURCE
 RATED AC OUTPUT CURRENT 40.6 AMPS
 NOMINAL OPERATING AC VOLTAGE 240 VOLTS

LABEL 3
 AT POINT OF INTERCONNECTION, MARKED AT DISCONNECTING MEANS (4" X 3").
 [NEC 690.54]

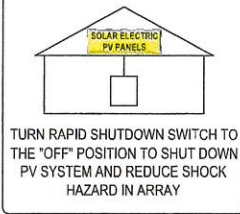
PHOTOVOLTAIC SYSTEM DISCONNECT

LABEL 4
 AT EACH AC DISCONNECTING MEANS (4" X 1").
 [NEC 690.13(B)].

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL 5
 AT RAPID SHUTDOWN DISCONNECT SWITCH (5 1/4" X 2").
 [NEC 690.56(C)(3)].

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN



LABEL 6
 AT RAPID SHUTDOWN SYSTEM (3 3/4" X 5 1/4"). [NEC 690.56(C)(1)(A)].

WARNING
 DUAL POWER SUPPLY SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL 7
 AT POINT OF INTERCONNECTION (2 3/4" X 1 5/8").
 [NEC 705.12(B)(3)]

WARNING
 SOLAR ELECTRIC CIRCUIT BREAKER IS BACKFED

LABEL 8
 AT POINT OF INTERCONNECTION (2" X 1").
 [NEC 705.12(B)(3)]

INTERACTIVE PHOTOVOLTAIC SYSTEM CONNECTED PHOTOVOLTAIC SYSTEM DISCONNECT LOCATED SOUTH SIDE OF THE HOUSE

DIRECTORY
 PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION (5 3/4" X 1 1/8").
 [NEC 690.56(B)]

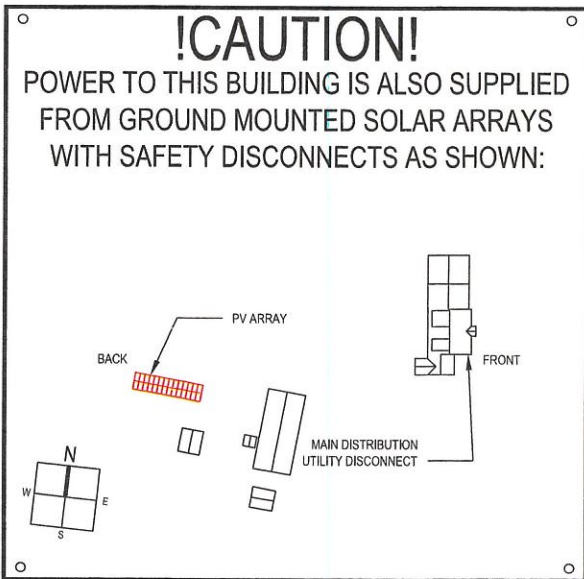
WHERE THE PV SYSTEMS ARE REMOTELY LOCATED FROM EACH OTHER, A DIRECTORY IN ACCORDANCE WITH 705.10 SHALL BE PROVIDED AT EACH PV SYSTEM DISCONNECTING MEANS. PV SYSTEM EQUIPMENT AND DISCONNECTING MEANS SHALL NOT BE INSTALLED IN BATHROOMS
 [NEC 690.4(D),(E)]

PHOTOVOLTAIC POWER SOURCE

LABEL 9
 AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS (5 3/4" X 1 1/8").
 [NEC 690.31(G)]
 LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE
 [IFC 605.11.1.1]

CAUTION
 SOLAR ELECTRIC SYSTEM CONNECTED

LABEL 10
 AT UTILITY METER (5 3/4" X 1 1/8")
 [NEC 690.56(B)]



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

LIC. NO.: 162163 HIC
 HIC NO.:
 ELE. NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLEASE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

PLACARDS



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

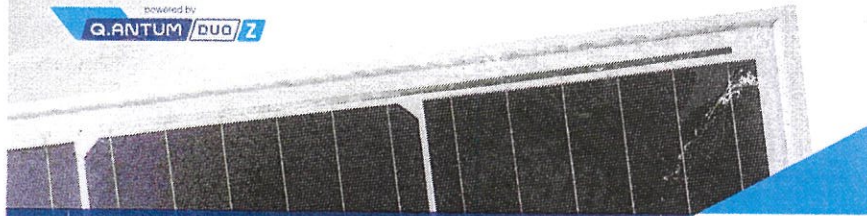
REVISIONS

E-603.00

(SHEET 9)

A B C D E F G H

powered by
Q.ANTUM DUO Z



Q.PEAK DUO XL-G10.d

475-495

ENDURING HIGH PERFORMANCE



BREAKING THE 21% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.6%.



LOW-ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs and up to 60 watts more module power than standard 144 half-cell modules.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum silky frame, certified for high snow (5400Pa) and wind loads (3000Pe).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty².



STATE OF THE ART MODULE TECHNOLOGY

Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

¹ APF test conditions according to IEC/TS 62804-1:2015, method A (-1500V, 96h)
² See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:



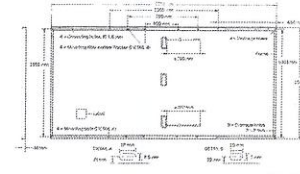
Engineered in Germany



MECHANICAL SPECIFICATION

Format	2278mm x 1045mm x 25mm (including frame)
Weight	26.0kg
Front Cover	3.2mm thin, multi-ply, pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized aluminum
Cell	6 x 26 monocrystalline Q.ANTUM solar half-cells
junction box	63-101mm x 32-60mm x 15-18mm Protection class IP67, with bypass diodes ¹
Cable	4mm ² Solar cable; (+) x 700mm, (-) x 500mm ²
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HGQ4; IPEB

¹ Long cables (+) x 1450mm, (-) x 1450mm for landscape installation are available upon request.

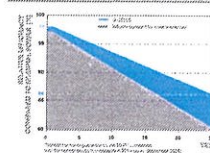


ELECTRICAL CHARACTERISTICS

POWER CLASS	475	480	485	490	495	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE ±5W / -0.5W)						
Power at MPP ¹	P _{MPP} [W]	475	480	485	490	495
Short Circuit Current ¹	I _{sc} [A]	11.24	11.26	11.29	11.31	11.34
Open Circuit Voltage ¹	V _{oc} [V]	53.58	53.61	53.64	53.68	53.71
Current at MPP	I _{MPP} [A]	10.66	10.71	10.76	10.81	10.86
Voltage at MPP	V _{MPP} [V]	44.54	44.81	45.07	45.33	45.59
Efficiency ¹	η [%]	≥20.5	≥20.7	≥20.9	≥21.2	≥21.4
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOPT ²						
Power at MPP	P _{MPP} [W]	356.4	360.1	363.0	367.6	371.4
Short Circuit Current	I _{sc} [A]	9.05	9.07	9.09	9.12	9.14
Open Circuit Voltage	V _{oc} [V]	50.53	50.56	50.59	50.62	50.65
Current at MPP	I _{MPP} [A]	8.33	8.43	8.47	8.52	8.56
Voltage at MPP	V _{MPP} [V]	42.72	42.72	42.94	43.17	43.30

¹ Measurement tolerance P_{MPP} ±3%, I_{sc}, V_{oc} ±1.5% at STC, 1000W/m², 26±0.2°C, AM 1.5 according to IEC 60904-3 / 3000W/m², NIMT spectrum AM 1.5

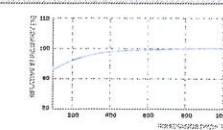
Q CELLS PERFORMANCE WARRANTY



At least 99% of nominal power during test year. Thereafter max. 0.5% degradation per year. At least 99.5% of nominal power up to 10 years. At least 99% of nominal power up to 25 years.

All data within measurement tolerance. Full warranty in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000W/m²)

TEMPERATURE COEFFICIENTS

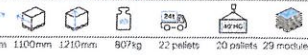
Temperature Coefficient of I _{sc}	α [%/K]	+0.04	Temperature Coefficient of V _{oc}	β [%/K]	-0.27
Temperature Coefficient of P _{MPP}	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°C]	43±3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V _{sys} [V]	1500	PV module classification	Class II
Maximum Reverse Current	I _r [A]	20	Fire Rating based on ANSI/UL 61730	C/T TYPE 1
Max. Design Load, Push/Pull	[Pa]	3600/2000	Permitted Module Temperature on Continuous Duty	-40°C ~ +85°C
Max. Test Load, Push/Pull	[Pa]	8400/3000		

QUALIFICATIONS AND CERTIFICATES

IEC 61718:2016
IEC 61508:2015
The sun is not a joke
with Q CELLS Q CELLS



Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS GmbH
© Hanwha 17-21, 08708 Birekenring-Wolffen, Germany | TEL +49 (0)30-74 66 99-23444 | FAX +49 (0)30-74 66 99-23000 | EMAIL: info@q-cells.com | WEB: www.q-cells.com

Engineered in Germany



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037

ADDRESS: 85 S BOW ST
MILFORD, MA 01757

LIC. NO.: 162163 HIC

HIC NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLEASE RESIDENCE

275 LANGEN ROAD
LANCASTER, MA 01523
APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

R-001.00

(SHEET 10)



DATA SHEET



IQ8M and IQ8A Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCO-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

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IQBMA-DS-0003-01-EN-US-2021-10-10

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

IQ8M and IQ8A Microinverters

INPUT DATA (DC)		IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings ⁽¹⁾	W	260 - 400	295 - 500
Module compatibility		60-cell/120 half-cell and 72-cell/144 half-cell	
MPPT voltage range	V	33 - 45	36 - 45
Operating range	V		25 - 58
Min/max start voltage	V		30 / 56
Max input DC voltage	V		60
Max DC current ⁽²⁾ (module hot)	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1cd Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	

OUTPUT DATA (AC)		IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	VA	330	366
Max continuous output power	VA	325	349
Nominal (L-L) voltage/range ⁽³⁾	V		240 / 211 - 264
Max continuous output current	A	1.35	1.45
Nominal frequency	Hz		60
Extended frequency range	Hz		50 - 68
Max unbalance 20 A (L-L) branch circuit ⁽⁴⁾			11
Total harmonic distortion			<5%
Overvoltage class AC port			III
AC port backfeed current	mA		30
Power factor setting			1.0
Grid-tied power factor (adjustable)			0.85 leading - 0.85 lagging
Peak efficiency	%	97.6	97.6
CEC weighted efficiency	%	97	97.5
Night-time power consumption	mW		60

MECHANICAL DATA	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
DC Connector type	MC4
Dimensions (HxWxD)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection - no fans
Approved for wet locations	Yes
Acoustic noise at 1m	<60 dBA
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, UL 1741/IEEE1547, FCC Part 15 Class B, IEC61000-3 Class B, CAN/CSA-C22.2 No. 107.1-01

(1) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/mv-module-compatibility>. (2) Maximum continuous input DC current is 10.6A. (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define this number of microinverters per branch in your area.

IQBMA-DS-0003-01-EN-US-2021-10-10



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037

ADDRESS: 85 S BOW ST
MILFORD, MA 01757

LIC. NO.: 162163 HIC

HIC. NO.:

ELE. NO.:

UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 13.440 kW

DUPLICATE RESIDENCE

275 LANGEN ROAD
LANCASTER, MA 01523

APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

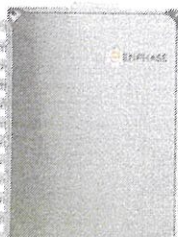
REVISIONS

R-002.00

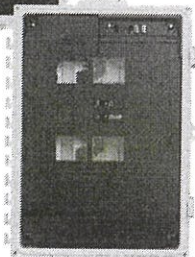
(SHEET 11)

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C



X-IQ-AM1-240-4C



X-IQ-AM1-240-4



To learn more about Enphase offerings, visit enphase.com

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKUs
- UL listed



Enphase IQ Combiner 4/4C

MODEL NUMBER

IQ Combiner 4 (X-IQ-AM1-240-4)

IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI G12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.

IQ Combiner 4C (X-IQ-AM1-240-4C)

IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI G12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area). Includes a silver solar shield to match the IQ Battery and IQ System Controller, and to deflect heat.

ACCESSORIES AND REPLACEMENT PARTS

(not included, order separately)

Ensemble Communications Kit
COMMS-CELLMODEM-M1-06
CELLMODEM-M1-06-SP-05
CELLMODEM-M1-06-AT-05

Includes COMMS-NIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites.

Circuit Breakers

BRK-10A-2-240V
BRK-15A-2-240V
BRK-20A-2P-240V
BRK-15A-2P-240V-B
BRK-20A-2P-240V-B

4G based LTE-M1 cellular modem with 5-year Sprint data plan
4G based LTE-M1 cellular modem with 5-year AT&T data plan
Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers.
Circuit breaker, 2 pole, 10A, Eaton BR210
Circuit breaker, 2 pole, 15A, Eaton BR215
Circuit breaker, 2 pole, 20A, Eaton BR220
Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support
Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support

EPLC-01

Power line carrier (communication bridge pair), quantity - one pair

XA-SOLARSHIELD-ES

Replacement solar shield for IQ Combiner 4/4C

XA-PLUG-120-3

Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)

XA-ENV-PCBA-3

Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C

X-IQ-HA-HD-125A

Hold down kit for Eaton circuit breaker with screws.

ELECTRICAL SPECIFICATIONS

Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV storage)	54 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Production metering CT	200 A end core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers

MECHANICAL DATA

Dimensions (WxHxD)	37.5 x 49.5 x 15.8 cm (14.75" x 19.5" x 6.25"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +40° C (-40° to 104° F)
Coating	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 1/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)

INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)

COMPLIANCE

Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 605 Production metering: ANSI G12.20 accuracy class D 5 (PV production) Consumption metering: accuracy class 2 S
Compliance, IQ Gateway	UL 60601-1/CAN/CSA 22.2 No. 610.1-1

To learn more about Enphase offerings, visit enphase.com

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CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
ADDRESS: 85 S BOW ST
MILFORD, MA 01757

LIC. NO.: 162163 HIC
LIC. NO.:

ELE. NO.
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NEW PV SYSTEM: 13.440 kW

DUPLICATE RESIDENCE

275 LANGEN ROAD
LANCASTER, MA 01523
APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

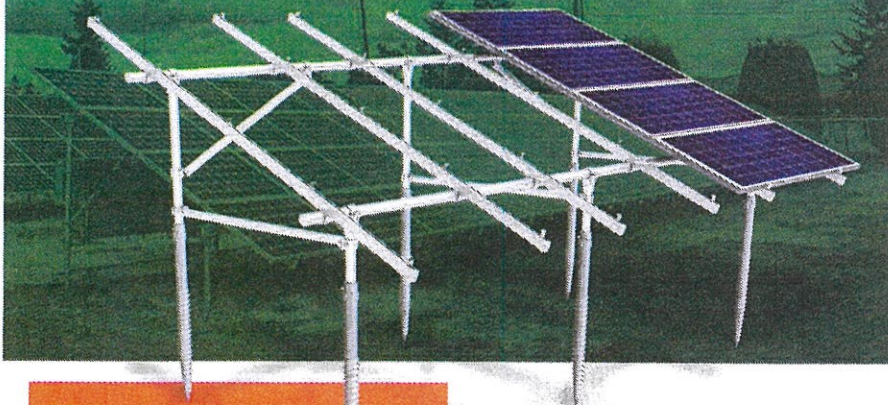
R-003.00

(SHEET 12)

SUNMODO

GO BIG ON TURF

SunTurf™ Ground Mount System



SunModo offers the next generation Ground Mount System with SunTurf™. The streamlined design combines the strength of Helio Rails with steel pipes to create the perfect ground mount solution.

SunTurf™ is ideal for solar installers looking for a durable and cost-effective system that can accommodate a wide variety of soil conditions.

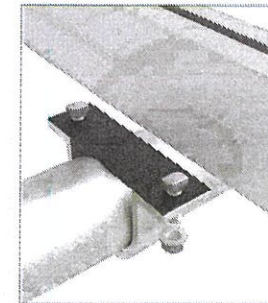
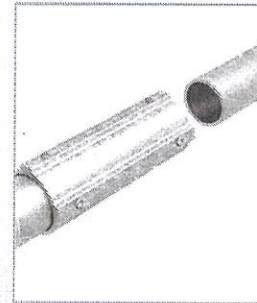
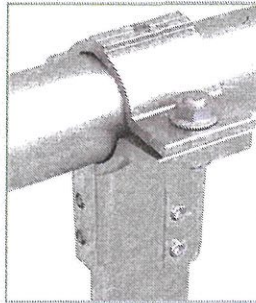
The SunTurf™ Ground Mount Advantage

- ✓ Easily scalable from kilowatts to multimegawatts PV Arrays.
- ✓ Foundation design solution for every soil condition.
- ✓ Online configuration tool available to streamline design process.
- ✓ Components optimized for strength, durability and fast installation.
- ✓ UL 2703 Listed by Intertek.

Key Features of SunTurf™ Ground Mount System

SUNMODO

SunTurf™ Ground Mount System easily integrate Helio Rails with Schedule 40 steel pipes. No drilling is required to attach the aluminum rails to the horizontal pipe. Optional bracing can provide additional structural rigidity for sites with high snow or wind load conditions. Anchor any ground mount installation using one of our fountain types including helical piles, precast ballasts and concrete piers.



Augers and Ground Screws

Our augers are suitable for use in weak to moderate strength soils and areas with a high-water table. Our ground screws are ideal for use in hard packed earth or soils with large amounts of cobble and gravel.



Ground Screw



Earth Auger

Technical Data

Application	Ground Mount
Material	High grade aluminum, galvanized steel and 304 stainless steel hardware
Module Orientation	Portrait and Landscape
Tilt Angle	Range between 10 to 50 degrees
Foundation Types	Post in concrete, helical earth auger, ground screw anchor and ballast
Structural Integrity	Stamped engineering letters available
Certificate	UL2703 listed by ETL
Warranty	25 years

SunModo, Corp. Vancouver, WA., USA • www.sunmodo.com • 360.844.0048 • info@sunmodo.com

SGE Solar
Local & Trusted

CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
ADDRESS: 85 S BOW ST
MILFORD, MA 01757

LIC. NO.: 162163 HIC
HIC. NO.:
ELE. NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLEASE RESIDENCE

275 LANGEN ROAD
LANCASTER, MA 01523
APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT

POWERED BY
GREENLANCER
www.greenlancer.com

DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

R-004.00

(SHEET 13)

Henry Duplease
44EF77
Ground Mount - SunTurf System



Project Details

Project Name	Henry Duplease	Zip Code	01523
ASCE	7-15	City, State	Lancaster, MA
Total Watts	13kW	Date	04/12/22
Total Modules	28		
Module Dimensions	Height: 2,215.9 mm, Width: 1,045.0 mm, Depth: 35.0 mm (87.24" x 41.14" x 1.38")		

Load Assumptions

Wind Speed	115 mph
Wind Exposure	B
Ground Snow Load	40 psf

Structure & Foundation

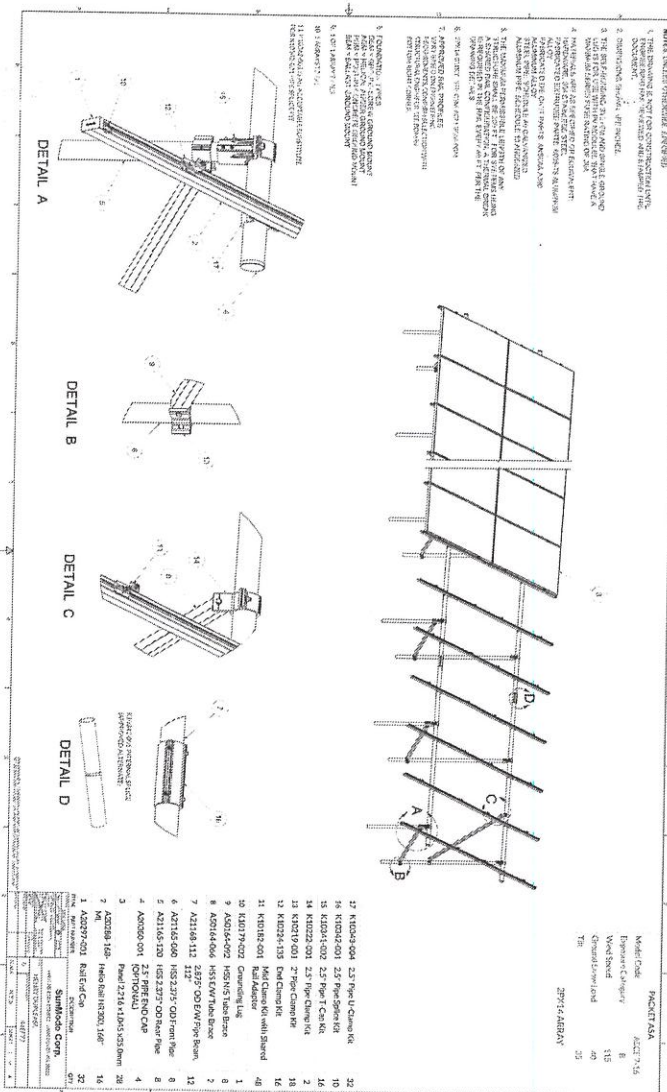
Span Selection	Automatic: 84"
Front Edge Height	12"
Foundation Type	Ground Screw
Length of Screw	63"
Tilt	35°

Sub Array #1 Details

Orientation	Portrait	Rail Type	Hello Rail HR300, 166"
Layout	2 rows by 14 cols	N/S Span (in)	84
Front Posts	8	E/W Max Span (in)	84
Back Posts	8	Area	576" (E/W) x 174" (N/S)

Bill of Materials

Part	Spares	Total Qty
K10423-063 Ground Screw, 63"		16
A21165-060 HSS 2.375" OD Front Pipe		8
A21165-120 HSS 2.375" OD Rear Pipe		8
A21168-112 2.875" OD E/W Pipe Beam, 112"		12
A50144-066 HSS E/W Tube Brace		2
A50144-092 HSS N/S Tube Brace		8
A20288-168-ML Hello Rail HR300, 166"		16
K10343-004 2.5" Pipe U-Clamp Kit		32
K10176-001 Shared Rail Adapter Kit		16
K10341-002 2.5" Pipe T-Cap Kit		16
K10219-001 2" Pipe Clamp Kit		18
K10222-001 2.5" Pipe Clamp Kit		2
K10342-001 2.5" Pipe Splice Kit		10
K10182-001 Mid Clamp Kit with Shared Rail Adapter		48
K10224-135 End Clamp Kit		16
K10179-002 Grounding Lug		1
A20297-001 Rail End Cap		32



Sub Array #1 Layout



CONTRACTOR

SGE SOLAR

PHONE: 508-377-4037
 ADDRESS: 85 S BOW ST
 MILFORD, MA 01757

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 ELE. NO.:

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NEW PV SYSTEM: 13.440 kW

DUPLESE RESIDENCE

275 LANGEN ROAD
 LANCASTER, MA 01523
 APN: LANCM0290B0000L000

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

RESOURCE DOCUMENT



DATE: 04.12.2022

DESIGN BY: M.P.

CHECKED BY: M.M.

REVISIONS

R-005.00
 (SHEET 14)



267.95

1'

430'

8

7

586.16'

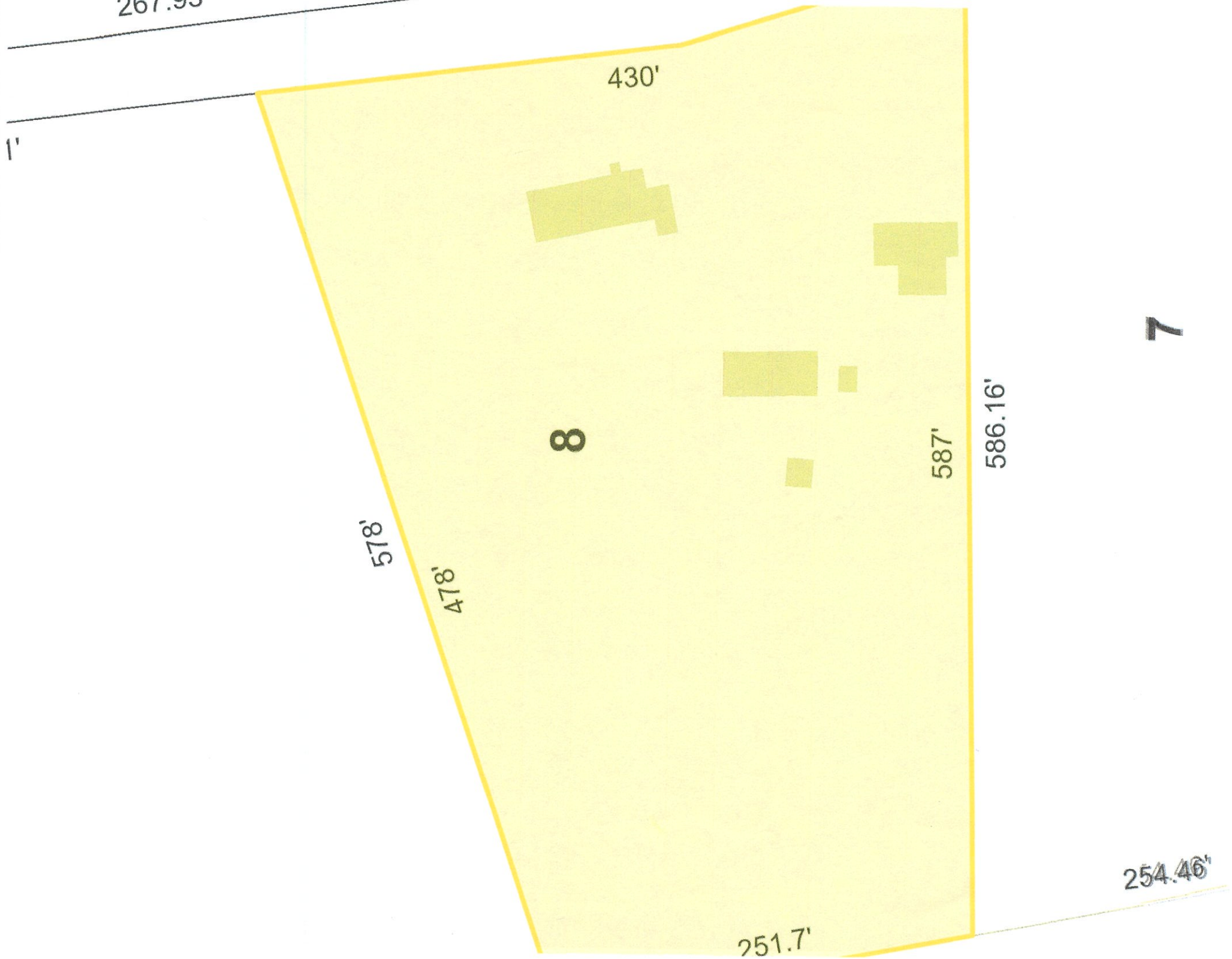
587'

578'

478'

254.46'

251.7'





Rob Motes <rmotes@sgegroup.com>

00423213 1332151006 275 LANGEN RD LANCASTER MA : Conditional Approval to Interconnect

1 message

'Customer Application Portal' via Operations <operations@sgegroup.com>

Mon, Apr 18, 2022 at 11:22 AM

Reply-To: Customer Application Portal <cap@nationalgrid.com>

To: "hduplicate@aol.com" <hduplicate@aol.com>, "operations@sgegroup.com" <operations@sgegroup.com>

Ref: 5006T00001wPTOVQA4



Greetings,

Your Simplified Interconnection Application:00423213 has been conditionally approved for construction, meaning that you are authorized to construct and test the new system, but not to leave it online. **National Grid will provide an "Authority to Interconnect" letter only after all requirements and standards, as detailed below, have been met, and after your standard meter has been replaced with a bi-directional net meter.** This is especially important, as operating a generation system behind a standard meter may cause billing errors.

*****This Conditional Approval is not authorization to perform a service upgrade, service relocation, parallel service, or service drop replacement. Any modification to the existing service will require approval under a separate work order and is subject to existing ESB requirements.**

*****A bi-directional meter MAY be set at your location per our discretion once Conditional Approval has been issued but you are not authorized to operate your system until National Grid has provide an "Authority to Interconnect" letter. The bi-directional meter may be in place but it will not bill correctly until the "Authority to Interconnect" has been issued.**

Please use the [Simplified Checklist](#) to ensure that you provide all necessary documentation. *Note: The project completion documentation on the checklist may need to be submitted at different times.* Any documents not attached to this email are available at http://www.nationalgridus.com/narragansett/home/energyeff/4_interconnection-documents.asp.

********Any permanent plaques must be suitable for the environment in which they are located and rated to last for the lifetime of the generation equipment. **NO STICKERS** of any type will be accepted as permanent plaques for equipment that is located outside.

- **For you records:** Please find attached a scanned copy of the approved Simplified Interconnection Application (SIA) and Service Agreement (and Exhibit H if applicable) for your generator installation.

- **For technical requirements:** The National Grid's Electric System Bulletin ESB756 "Requirements for Parallel Generation Connected to a National Grid-Owned EPS" applies to this distributed generation system. In Rhode Island, [Appendix D of ESB756](#) should be referenced for all distributed generation projects that operate in parallel with National Grid's EPS.

Note about Qualifying Facilities: *While the Company is required to purchase output from a customer-owned generator as a Qualifying Facility (QF), the price the Company is authorized to pay is the hourly wholesale clearing price at the ISO-NE. Unlike net-metering, where a customer can assign credits to other customers, or 'bank' excess power over a billing month, payments for QFs are calculated for every hour there is export back to the Company's system. Customers receiving payments as a QF are not able to transfer these payments to other accounts. It is important Customers understand how their electric usage profile compares to their proposed generation profile in order to properly assess the particular economics of any installation. Please refer to the below links on the ISO-NE website for further information: http://www.iso-ne.com/markets/hrly_data/index.html.*

Note about Witness Testing: *National Grid reserves the right to request a witness test before the Authorization to*

Interconnect is granted.

Once all other items have been satisfactorily completed, National Grid will request the installation of a new meter (if applicable). A new meter installation could take up to three weeks for installation after all documentation is provided. Then, National Grid will provide the Interconnecting Customer with the Authorization to Interconnect (after the new meter has been installed). In order to help facilitate the timely installation of your bi-directional net meter (after all other requirements are met), please notify National Grid of any changes to your anticipated online date.

*****A bi-directional meter MAY be set at your location per our discretion once Conditional Approval has been issued but you are not authorized to operate your system until National Grid has provide an "Authority to Interconnect" letter. The bi-directional meter may be in place but it will not bill correctly until the "Authority to Interconnect" has been issued.**

If anything changes with the project please let me know. All communications to National Grid should be sent to me, with a copy to Distributed.Generation@nationalgrid.com.

Thank you and best of luck with the construction of your new system.

Regards,

Distributed Generation

nationalgrid

40 Sylvan Rd, Waltham, MA 02451-1120

Distributed.Generation@NationalGrid.com

Please select the appropriate link below for the latest information on:

[Interconnection Standards - MA, RI](#)

[Net Metering - MA, RI](#)

[Wholesale Energy Procurements](#)



Signed Service Agreement.pdf

244K



TOWN OF LANCASTER
BOARD OF ASSESSORS



Request for Certified Abutters List

SUBJECT PARCEL: ADDRESS: 275 Langen Rd
MAP: 29 PARCEL: 009-0008.0
CURRENT OWNER: Henry Dujease Crumby Trust
REQUESTER'S NAME: NAME: Henry Dujease
MAILING ADDRESS: PO Box 391
CITY: LANCASTER STATE: MA ZIP: 01523
PHONE#: 978 365 7689

INTENDED USE: CHECK APPROPRIATE BOX
 BOARD OF APPEALS (ZONING) CONSERVATION
 BOARD OF HEALTH PLANNING BOARD
 BOARD OF SELECTMEN OTHER: _____

CERTIFIED LIST SHOULD BE: CHECK APPROPRIATE BOX
 EMAIL TO: _____
 PICKED UP (WILL CALL WHEN READY)
 FORWARDED TO DEPARTMENT: _____
 MAILED TO OWNER (Must include a self-addressed stamped envelope)
 MAILED TO REQUESTER (Must include a self-addressed stamped envelope)
 OTHER: _____

5/23/2022
DATE OF REQUEST

[Signature]
SIGNATURE OF REQUESTER

**PLEASE ALLOW A MINIMUM OF 2 WORKING DAYS FROM REQUEST DATE
FOR COMPLETED CERTIFIED LIST**



300 foot Abutters List Report

Lancaster, MA
May 23, 2022

Subject Property:

Parcel Number: 029-0008.0
CAMA Number: 029-0008.0
Property Address: 275 LANGEN RD

Mailing Address: DUPLEASE HENRY F & SANDRA TRS
DUPLEASE LIVING TRU
PO BOX 391
LANCASTER, MA 01523

Abutters:

Parcel Number: 029-0001.A
CAMA Number: 029-0001.A
Property Address: 290 LANGEN RD

Mailing Address: W P SPRATT CORP
PO BOX 65
BOLTON, MA 01740

Parcel Number: 029-0001.B
CAMA Number: 029-0001.B
Property Address: 240 LANGEN RD

Mailing Address: SPRATT WILLIAM P & DAWN C
240 LANGEN RD
LANCASTER, MA 01523

Parcel Number: 029-0002.0
CAMA Number: 029-0002.0
Property Address: 0 LANGEN RD

Mailing Address: NEW ENGLAND FORESTRY
FOUNDATION INC
PO BOX 1346 32 FORSTER ST
LITTLETON, MA 01460-4360

Parcel Number: 029-0006.0
CAMA Number: 029-0006.0
Property Address: 341 LANGEN RD

Mailing Address: DIENER JOCELYN TR JORDAN IRREV
TRUST
341 LANGEN RD
LANCASTER, MA 01523

Parcel Number: 029-0007.0
CAMA Number: 029-0007.0
Property Address: 309 LANGEN RD

Mailing Address: MINER PAULA A TR LUZZETTI FAMILY
TRU
C/O LUZZETTI ANTHONY J & ELAINE M
309 LANGEN RD
LANCASTER, MA 01523

Parcel Number: 029-0014.0
CAMA Number: 029-0014.0
Property Address: 0 LANGEN RD

Mailing Address: FULLER ANN P STADTHERR DAVID K
185 LANGEN RD
LANCASTER, MA 01523

Parcel Number: 029-0014.A
CAMA Number: 029-0014.A
Property Address: 245 LANGEN RD

Mailing Address: STADTHERR DAVID K & SHARON M
245 LANGEN RD
LANCASTER, MA 01523

CERTIFIED COPY

Debra A Sanders
Debra A Sanders, Member
Lancaster Board of Assessors
May 24, 2022
1 page



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