



# Mid Cambridge Neighborhood Conservation District Commission

Cambridge Historical Commission, 831 Massachusetts Ave., 2<sup>nd</sup> Fl., Cambridge, MA 02139  
Telephone: 617-349-4683 TTY: 617-349-6112 histncds@cambridgema.gov  
www.cambridgema.gov/Historic/DistrictsHistoricProperties/MidCambridgeNCD


## APPLICATION FOR CERTIFICATE

### **Section I:**

1. The undersigned hereby applies to the Mid Cambridge Neighborhood Conservation District Commission for a Certificate of (check type of certificate): ☒ Appropriateness, ☐ Nonapplicability, or ☐ Hardship, in accordance with Ch. 2.78 of the Municipal Code and the order establishing the district.
2. Address of property: 29 Ellsworth Ave, Cambridge, Massachusetts
3. Describe the proposed alteration(s), construction, or demolition in the space provided below:  
(An additional page can be attached, if necessary).

**\*Installation of a safe and code-compliant, grid-tied PV solar system on an existing residential roof. 25 Panels**

**Note: removal of the chimney in order to fit the desired number of solar panels.**

|  |   |
|--|---|
| <b>Name of Property Owner of Record:</b> <u>Lucy Hadden</u>  |   |
| <b>Mailing Address:</b> <u>29 Ellsworth Ave Cambridge MA 02139</u>   |   |
| <b>Telephone/Fax:</b> <u>(617) 230-7154</u>  | <b>E-mail:</b> <u>brockman.hadden@gmail.com</u> |
| <b>Signature of Property Owner of Record*:</b> <u></u><br>(Required field; application will not be considered complete without property owner's signature)<br>*I have read the application in full and certify that the information contained herein is true and accurate to the best of my knowledge and belief. |   |
| <b>Name of proponent, if not record owner:</b> _____   |   |
| <b>Mailing Address:</b> _____  |   |
| <b>Telephone/Fax:</b> _____  | <b>E-mail:</b> _____                            |

|  |                           |                            |  |
|--|---------------------------|----------------------------|--|
| <u>(for office use only):</u>            |                           |                            |  |
| <b>Date Application Received:</b> _____  | <b>Case Number:</b> _____ | <b>Hearing Date:</b> _____ |  |
| <b>Type of Certificate Issued:</b> _____ | <b>Date Issued:</b> _____ |                            |  |

**Section II:**

Is property listed on the National Register of Historic Places? Yes Publicly owned? No  
Current Zoning District: C1 Current Use: Sngl-Fam-Res

**Section III:**

Will this project require: variance \_\_\_\_\_ special permit \_\_\_\_\_

If yes, nature of zoning relief sought: setbacks \_\_\_\_\_ FAR \_\_\_\_\_ use \_\_\_\_\_  
height \_\_\_\_\_ parking \_\_\_\_\_ other (explain) \_\_\_\_\_

**Section IV (Complete any portions that apply to proposed scope of work):**

**New Construction or Additions:**

\_\_\_\_\_ floor area of existing structures on the lot  
\_\_\_\_\_ amount of floor area (gross square feet) of proposed construction  
\_\_\_\_\_ percentage increase in total floor area after construction  
\_\_\_\_\_ total area of lot in square feet  
\_\_\_\_\_ percentage of total lot area covered after construction

**Demolition:**

\_\_\_\_\_ amount of floor area (gross square feet) of proposed demolition  
\_\_\_\_\_ floor area of existing structure  
\_\_\_\_\_ percentage decrease in total floor area after demolition

**Alterations:**

Does the proposed work include (check all that apply):

\_\_\_\_\_ enclosure or removal of decorative elements (including cornice, fascia, soffit, bay, porch, hood, cornerboard, window sash, or window or door casing);  
\_\_\_\_\_ increase or reduction of window or door size;  
\_\_\_\_\_ relocation of windows or doors;  
\_\_\_\_\_ change in slope, pitch, or configuration of roof;  
\_\_\_\_\_ ☒ removal of original or historic roofing material.

## Administration of the Mid Cambridge NCD

The administration of the Mid Cambridge Neighborhood Conservation District Commission is guided by the Article III, Section 2.78 of the Code of the City of Cambridge and by the order establishing the district. Before a building permit can be issued for the proposed work, the Commission must issue one of three types of certificates. A **Certificate of Appropriateness** is issued when the Commission determines that a project is not incongruous with the conservation of the district. A **Certificate of Hardship** is issued when refusal to issue a Certificate of Appropriateness would cause a substantial hardship, financial or otherwise, to the applicant, and when the project can be approved without substantial detriment to the public welfare or substantial derogation of the purpose of the order. A **Certificate of Non-Applicability** is issued for projects that are not subject to review. The last certificate is issued by the staff of the Commission without the Commission's full review.

In making its determinations, the Commission considers the impact of the proposal on the District as a whole and the potential adverse effects of the proposal on the surroundings. The objectives of the District are to 1) avoid excessive infill, 2) encourage new construction that complements existing buildings, 3) encourage the preservation of neighborhood buildings, 4) protect National Register properties, and 5) enhance the economic vitality of the neighborhood.

### Instructions for completing this application

This application must be filed at the offices of the Cambridge Historical Commission, under whose auspices the Mid Cambridge Neighborhood Conservation District Commission is staffed, **before** work begins. It must be accompanied by the required materials indicated on this application form and should include any other materials that may assist the Commission in making its decision. Filing deadlines may be obtained by calling the Cambridge Historical Commission office, 617 349 4683 (TTY 617 349 6112). **The Commission welcomes advance inquiries for interpretation of the order; please contact Allison Crosbie (617-349-4686 or [acrosbie@cambridgema.gov](mailto:acrosbie@cambridgema.gov)) at the Cambridge Historical Commission if you have any questions regarding this process.**

On receipt of a completed application, the Commission staff will schedule a public hearing for the next available regularly scheduled meeting of the Commission and send out the necessary public notifications of the hearing.

On receipt of a completed application, the Commission will schedule consideration of the application at a public hearing for the next available regularly scheduled meeting of the Commission. Owners are **strongly urged** to appear before the Commission in person. Though not required, professional consultants such as architects, attorneys, contractors, engineers, or landscape architects, may attend at the owner's invitation.

Applicants should be aware that exterior construction plans and elevations presented to the Inspectional Services Department for issuance of a building permit must conform to exterior construction plans and elevations presented to the Commission for its approval. **Any modifications to plans and elevations made subsequent to the Commission's approval are subject to additional review.** Failure to ensure conformance between Commission-approved plans and elevations and building permit plans and elevations may result in delays and additional appearances before the Commission.

### **Application Requirements for Binding Review**

(Applications will be subject to binding review if they include any of the following: construction involving additions of more than 750 sf of floor area, increase in lot coverage by more than 33%, enlargement of existing floor area by more than 33%, demolition of more than 33% of floor area, any alteration or construction of National Register listed properties, publicly owned structures, or structures containing a non-conforming use)

Plans not larger than 11" x 17" are preferred. The applicant should provide a total of 10 copies of the application and all supporting materials.

#### **The following are required for ALL applications subject to binding review:**

1. Completed application form with a **written description** of the work to be done, including any repair or replacement of features as part of related rehabilitation.
2. Assessor's plan of the area showing currently existing structures and the footprint of all proposed construction.
3. Detailed, dimensioned elevations and plans showing all proposed construction, alteration, or demolition.
4. Schedule of materials (may be described on plans and elevations).
5. If windows are proposed to be altered, provided detailed information about existing windows and renderings of the proposed conditions and product details.
6. Any application also needing zoning relief (variance or special permit) must include a copy of the Dimensional Form from Board of Zoning Appeal application.

#### **In addition, the following are also required for all applications for new structures:**

7. Plot plan of existing site, including a dimensioned footprint of all existing buildings, parking areas, and driveways.
8. Sun/shadow study (winter and summer solstices, AM and PM).
9. Streetscape elevation at 1/8<sup>th</sup> scale showing relative heights and distances of the surrounding buildings in comparison with any proposed new construction.

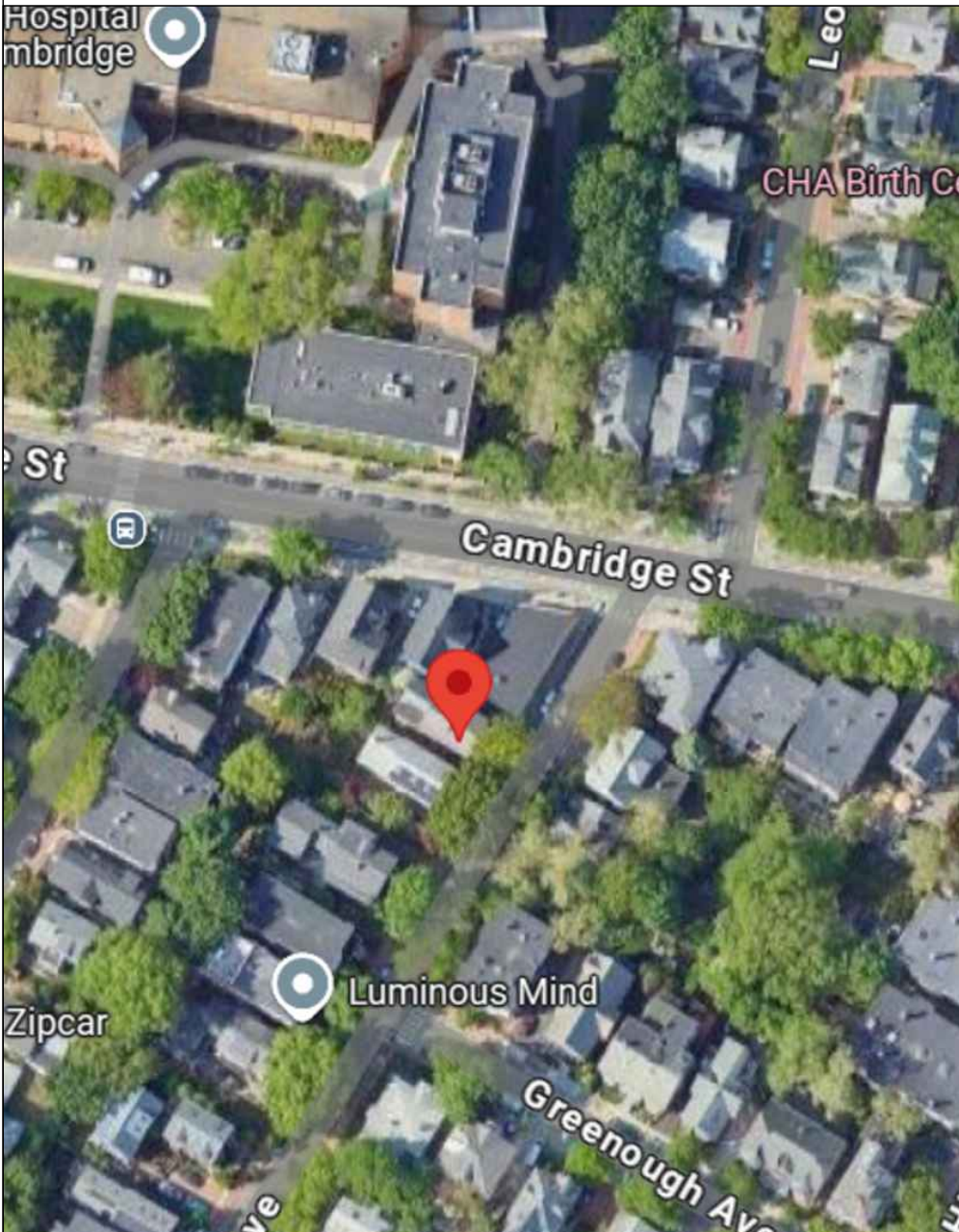


### **Application Requirements for Non-Binding (Advisory) Review**

(Applications will be subject to non-binding review if they include any of the following: new construction of more than 150 and less than 750 sf of floor area, alterations that require a special permit or variance, alteration that removes, encloses, relocates, increases or diminishes aspects of the exterior architectural fabric of the structure)

Plans not larger than 11" x 17" are preferred. The applicant should provide a total of 10 copies of the application and all supporting materials.

1. Completed application form with a **written description** of the work to be done, including any repair or replacement of features as part of related rehabilitation.
2. Assessor's plan of the area showing currently existing structures and the footprint of all proposed construction.
3. Detailed, dimensioned elevations and plans showing all proposed construction, alteration, or demolition.
4. Any application also needing zoning relief (variance or special permit) must include a copy of the Dimensional Form from Board of Zoning Appeal application.

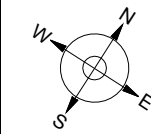
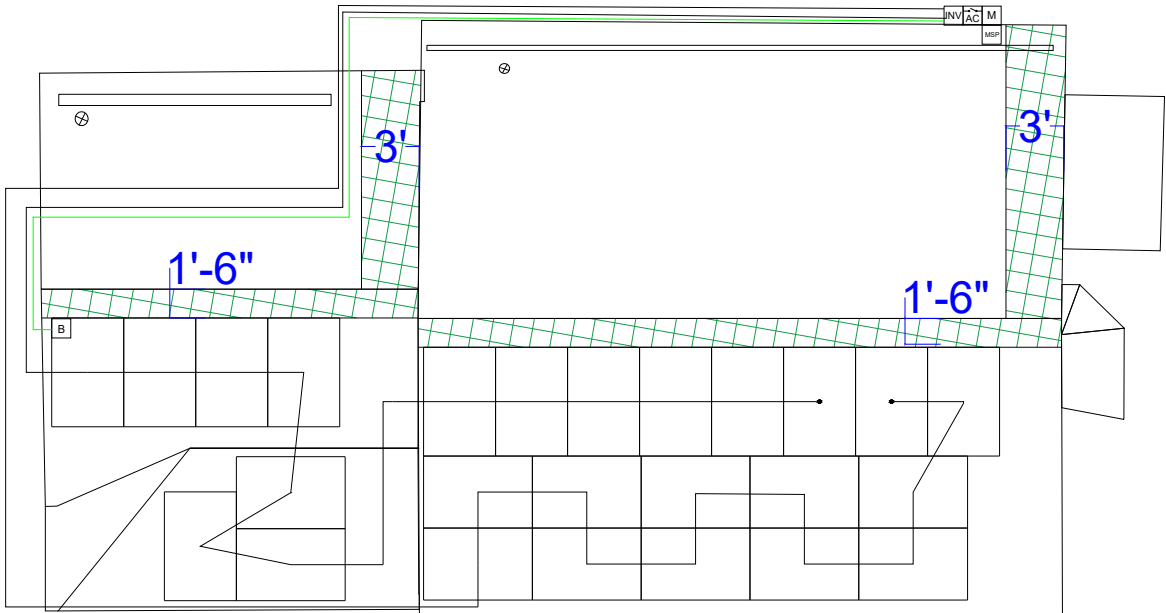


| ABBREVIATIONS  |                               |  |   | ELECTRICAL NOTES  |  | GENERAL NOTES  |  | INDEX   |   |   |  |   |  |                    |                  |
|--|-------------------------------|--|---|---|--|--|--|---|---|---|--|---|--|--------------------|------------------|
| A  | AMPERE                        | 1. WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A SIGN WILL BE PROVIDED WARNING OF THE HAZARDS PER ART. 690.17. | 2. EACH UNGROUNDED CONDUCTOR OF THE MULTIWIRE BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART. 210.5. | 3. A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART. 110.3. | 4. CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH ART. 250.97, 250.92(B) | 5. DC CONDUCTORS EITHER DO NOT ENTER BUILDING OR ARE RUN IN METALLIC RACEWAYS OR ENCLOSURES TO THE FIRST ACCESSIBLE DC DISCONNECTING MEANS PER ART. 690.31(E). | 6. ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING. | 7. MODULE FRAMES SHALL BE GROUNDED AT THE UL-LISTED LOCATION PROVIDED BY THE MANUFACTURER USING UL LISTED GROUNDING HARDWARE. | 8. ALL EXPOSED METAL PARTS (MODULE FRAMES, RAIL, BOXES, ETC.) SHALL BE GROUNDED USING UL LISTED LAY-IN LUGS LISTED FOR THE PURPOSE. POSTS SHALL BE MADE ELECTRICALLY CONTINUOUS WITH ATTACHED RAIL. | 9. MODULE FRAMES, RAIL, AND POSTS SHALL BE BONDED WITH EQUIPMENT GROUND CONDUCTORS AND GROUNDED AT THE MAIN ELECTRIC PANEL. | 10. THE DC GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED ACCORDING TO ART. 250.166(B) & 690.47. | <div>VICINITY</div> <div>N T S</div>  |  | PV1                | COVER SHEET      |
| AC   | ALTERNATING CURRENT           |  |   |   |  |  |  |   |   |   |  |   |  | PV2                | SITE PLAN        |
| BLDG   | BUILDING                      |  |   |   |  |  |  |   |   |   |  |   |  | PV3                | ARRAY DETAIL     |
| CONC   | CONCRETE                      |  |   |   |  |  |  |   |   |   |  |   |  | PV4                | STRUCTURAL VIEWS |
| C  | COMBINER BOX                  |  |   |   |  |  |  |   |   |   |  |   |  | PV5                | SINGLE LINE      |
| D  | DISTRIBUTION PANEL            |  |   |   |  |  |  |   |   |   |  |   |  | PV6                | LABEL SET        |
| DC   | DIRECT CURRENT                |  |   |   |  |  |  |   |   |   |  |   |  | PV7                | LABEL SET        |
| EGC  | EQUIPMENT GROUNDING CONDUCTOR |  |   |   |  |  |  |   |   |   |  | SCOPE OF WORK<br>TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE                               |  |                    |                  |
| (E)  | EXISTING                      |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| EMT  | ELECTRICAL METALLIC TUBING    |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| GALV   | GALVANIZED                    |  |   |   |  |  |  |   |   |   |  | APPLICABLE CODES<br>2015 IBC<br>2023 NEC  |  |                    |                  |
| GEC  | GROUNDING ELECTRODE CONDUCTOR |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| GND  | GROUND                        |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| HDG  | HOT DIPPED GALVANIZED         |  |   |   |  |  |  |   |   |   |  | AHJ:<br><br>831 MASSACHUSETTS AVE # 1,<br>CAMBRIDGE, MA 02139, USA<br><br>+1 617-349-6100                                 |  |                    |                  |
| I  | CURRENT                       |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| Imp  | CURRENT AT MAX POWER          |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| INVS   | INVERTERS                     |  |   |   |  |  |  |   |   |   |  | UTILITY: EVERSOURCE   |  |                    |                  |
| Isc  | SHORT CIRCUIT CURRENT         |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| kVA  | KILOVOLT AMPERE               |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| kW   | KILOWATT                      |  |   |   |  |  |  |   |   |   |  | EMPOWER ENERGY SOLUTION<br>30 OLD KINGS HWY S # 1001 , DARIEN<br>CT, 06820-4551   |  |                    |                  |
| LBW  | LOAD BEARING WALL             |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| MIN  | MINIMUM                       |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| (N)  | NEW                           |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| NEC  | NATIONAL ELECTRIC CODE        |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| NIC  | NOT IN CONTRACT               |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| NTS  | NOT TO SCALE                  |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| OC   | ON CENTER                     |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| P  | PANEL BOARD                   |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| PL   | PROPERTY LINES                |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| PV   | PHOTOVOLTAIC                  | LICENSES<br>HIC: 198351<br>ELEC: 8209-EL-A1  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| PVC  | POLYVINYL CHLORIDE            |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| S  | SUBPANEL                      |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| SCH  | SCHEDULE                      |    |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| SS   | STAINLESS STEEL               |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| SSD  | SEE STRUCTURAL DIAGRAMS       |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| STC  | STANDARD TESTING CONDITIONS   |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| SWH  | SOLAR WATER HEATER            |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| TYP  | TYPICAL                       |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| UON  | UNLESS OTHERWISE NOTED        |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| UPS  | UNINTERRUPTIBLE POWER SUPPLY  |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| V  | VOLT                          |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| Vmp  | VOLTAGE AT MAX POWER          |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| Voc  | VOLTAGE AT OPEN CIRCUIT       |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| W  | WATT                          |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
| 3R   | NEMA 3R, RAIN TIGHT           |  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
|  |                               | JOB NUMBER: 3901   |   | UTILITY: EVERSOURCE   |  | OWNER:<br>RHODES, HANNAN<br>29 ELLSWORTH AVE 1<br>CAMBRIDGE , MA, 02139<br>6172307154  |  | DESCRIPTION:<br>RHODES RESIDENCE<br>10.625 kW DC ROOF SOLAR SYSTEM<br>7.60 kW AC  |   | DESIGNED BY:<br>SU  |  | PAGE:<br><div>PV1</div>   |  |                    |                  |
|  |                               | RACKING: SLATE PLATE FLASHING RT-MINI  |   | UTILITY ACCT:7401 502 1244  |  |  |  |   |   | REVIEW BY:<br>MS  |  |   |  |                    |                  |
|  |                               | MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B   |   |   |  |  |  |   |   | REV:  |  |   |  | DATE:<br>1/16/2025 |                  |
|  |                               | INVERTER: (1) SOLAREEDGE HOME HUB INVERTER SE7600H-US (7.60 KW)  |   |   |  |  |  |   |   |   |  |   |  |                    |                  |
|  |                               |  |   |   |  |  |  |   |   | PAGE NAME: COVER SHEET  |  |   |  |                    |                  |

CAMBRIDGE ST

# DRIVEWAY

FOI



SCALE: 1" = 10'

## LEGEND

M

## UTILITY METER

INV

## INVERTER

AC

## AC DISCONNECT

MSF

## MAIN SERVICE PANEL

B

## DC JUNCTION BOX

 $\mu$ 

## MONITORING UNIT

D

## DISTRIBUTION PANEL

LC

LOAD CENTER

ATS

## AUTOMATIC TRANSFER SWITCH

## CONDUIT

## FENCE



JOB NUMBER: 3901

**RACKING:** SLATE PLATE FLASHING  
RT-MINI

MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B

INVERTER: (1) SOLAREEDGE HOME HUB INVERTER SE7600H-US (7.60 KW)

UTILITY: EVERSOURCE

|                            |
|----------------------------|
| UTILITY ACCT:7401 502 1244 |
|----------------------------|

OWNER:

RHODES, HANNAN  
29 ELLSWORTH AVE 1  
CAMBRIDGE , MA, 02139  
6172307154

DESCRIPTION:

DESCRIPTION:  
RHODES RESIDENCE  
10.625 kW DC ROOF SOLAR SYSTEM  
7.60 kW AC

|              |  |
|--------------|--|
| DESIGNED BY: |  |
|--------------|--|

SU

REVIEW BY:

MS

REV:

DATE: \_\_\_\_\_

1/16/2025

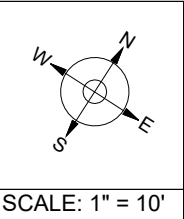
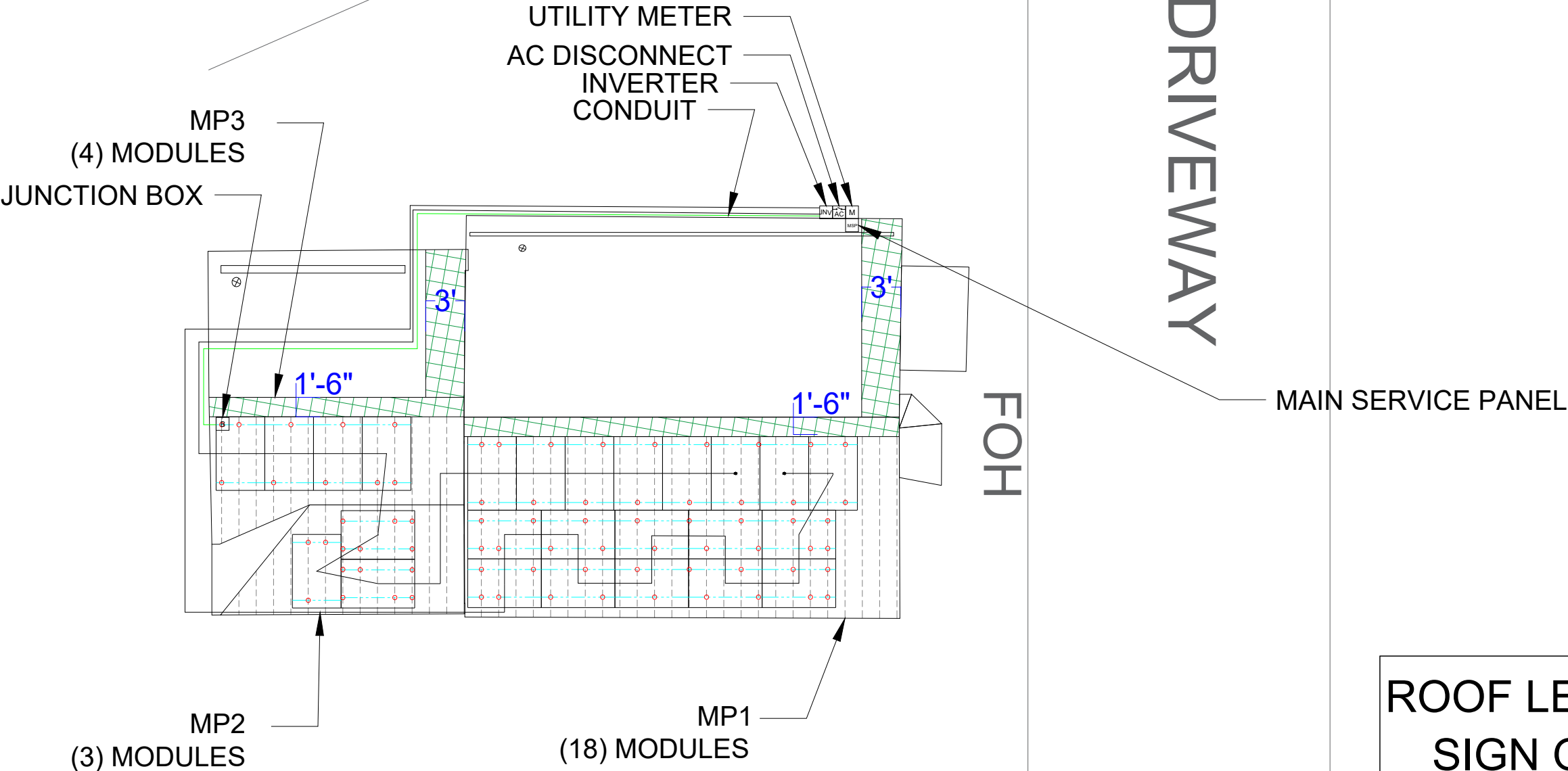
PAGE:

# PV2

PAGE NAME: SITE PLAN

|                                  |        |
|----------------------------------|--------|
| ROOF AREA, (sq. ft)              | 1641   |
| MODULES AREA, (sq. ft)           | 525.49 |
| ROOF AREA COVERED BY MODULES (%) | 32     |

CAMBRIDGE ST



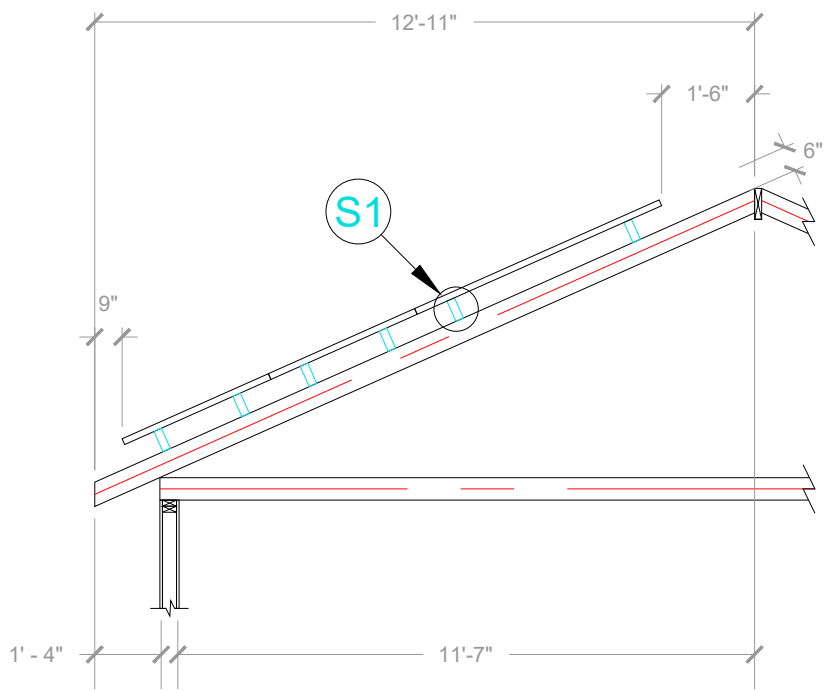
| LEGEND |             |
|--------|-------------|
|        | ROOF        |
|        | RAFTERS     |
|        | RAIL        |
|        | MOUNT       |
|        | OBSTRUCTION |

| TOTAL PENETRATION COUNT |        | 68 |
|-------------------------|--------|----|
| MP1                     |        |    |
| RAFTER PROFILE          | 2X8    |    |
| RAFTER SPACING          | 16"    |    |
| C.J. SPACING            | 16"    |    |
| ATTACHMENT SPACING      | 48"    |    |
| ROOF PITCH              | 35°    |    |
| ARRAY PITCH             | 35°    |    |
| ROOF AZIMUTH            | 211°   |    |
| ARRAY AZIMUTH           | 211°   |    |
| ROOF SURFACE TYPE       | SLATE  |    |
| STORIES                 | 2      |    |
| MP2                     |        |    |
| RAFTER PROFILE          | 2X8    |    |
| RAFTER SPACING          | 16"    |    |
| C.J. SPACING            | 16"    |    |
| ATTACHMENT SPACING      | 48"    |    |
| ROOF PITCH              | 12°    |    |
| ARRAY PITCH             | 12°    |    |
| ROOF AZIMUTH            | 213°   |    |
| ARRAY AZIMUTH           | 213°   |    |
| ROOF SURFACE TYPE       | RUBBER |    |
| STORIES                 | 2      |    |
| MP3                     |        |    |
| RAFTER PROFILE          | 2X8    |    |
| RAFTER SPACING          | 16"    |    |
| C.J. SPACING            | 16"    |    |
| ATTACHMENT SPACING      | 48"    |    |
| ROOF PITCH              | 35°    |    |
| ARRAY PITCH             | 35°    |    |
| ROOF AZIMUTH            | 212°   |    |
| ARRAY AZIMUTH           | 212°   |    |
| ROOF SURFACE TYPE       | SLATE  |    |
| STORIES                 | 2      |    |

ROOF LEAD  
SIGN OFF: \_\_\_\_\_

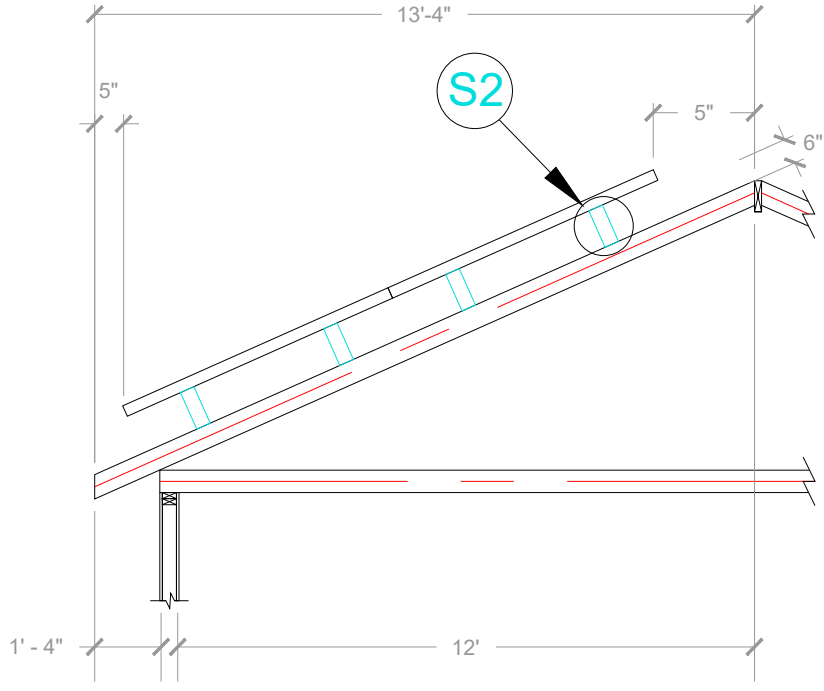
|  |  |                            |   |  |  |  |
|--|--|----------------------------|---|--|--|--|
|  | JOB NUMBER: 3901   | UTILITY: EVERSOURCE        | OWNER:<br>RHODES, HANNAN<br>29 ELLSWORTH AVE 1<br>CAMBRIDGE , MA, 02139<br>6172307154 | DESCRIPTION:<br>RHODES RESIDENCE<br>10.625 kW DC ROOF SOLAR SYSTEM<br>7.60 kW AC | DESIGNED BY:<br>SU<br>REVIEW BY:<br>MS<br>REV: _____ DATE: 1/16/2025 | PAGE:<br><b>PV3</b><br>PAGE NAME: ARRAY DETAIL |
|  | RACKING: SLATE PLATE FLASHING RT-MINI                          | UTILITY ACCT:7401 502 1244 |   |  |  |  |
|  | MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B             |                            |   |  |  |  |
|  | INVERTER: (1) SOLAREDGE HOME HUB INVERTER SE7600H-US (7.60 KW) |                            |   |  |  |  |





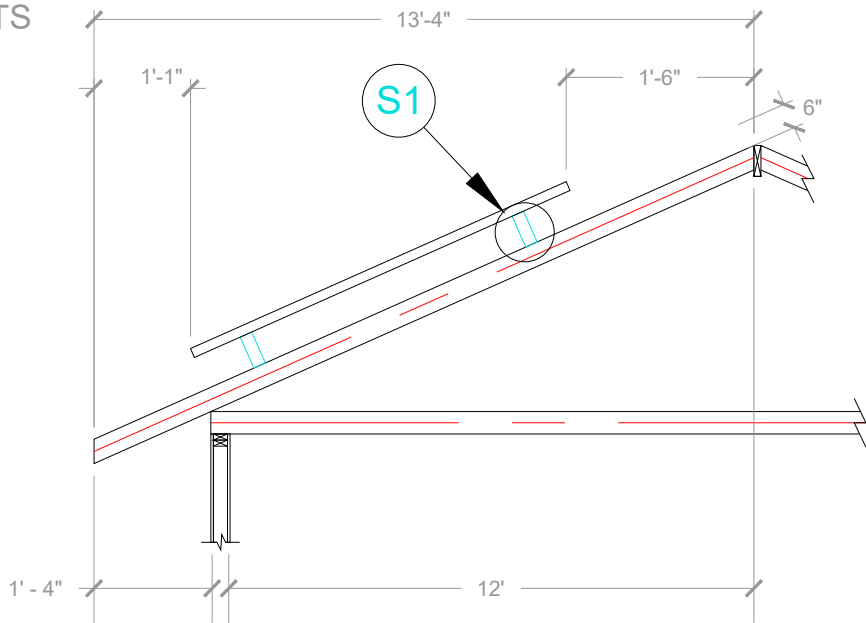
MP1 SIDE VIEW  
NTS

RAFTERS: 2X8 @ 16" O.C.  
MAX SPAN ~ 11'-7"



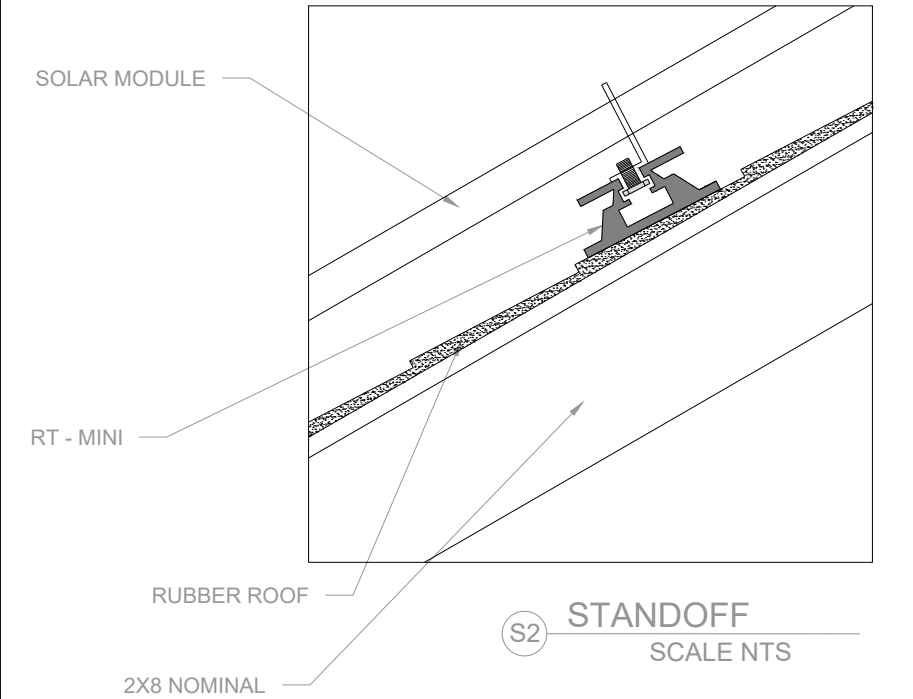
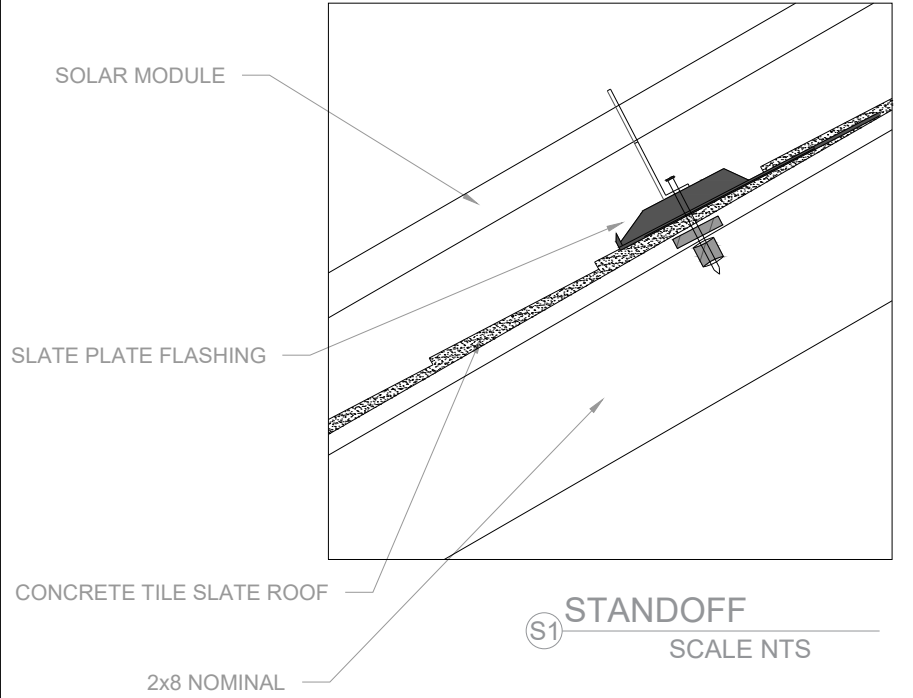
MP2 SIDE VIEW  
NTS

RAFTERS: 2X8 @ 16" O.C.  
MAX SPAN ~ 12'



MP3 SIDE VIEW  
NTS

RAFTERS: 2X8 @ 16" O.C.  
MAX SPAN ~ 12'



FOR MP2



JOB NUMBER: 3901  
UTILITY: EVERSOURCE  
RACKING: SLATE PLATE FLASHING  
RT-MINI  
MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B  
INVERTER: (1) SOLAREEDGE HOME HUB INVERTER SE7600H-US (7.60 KW)

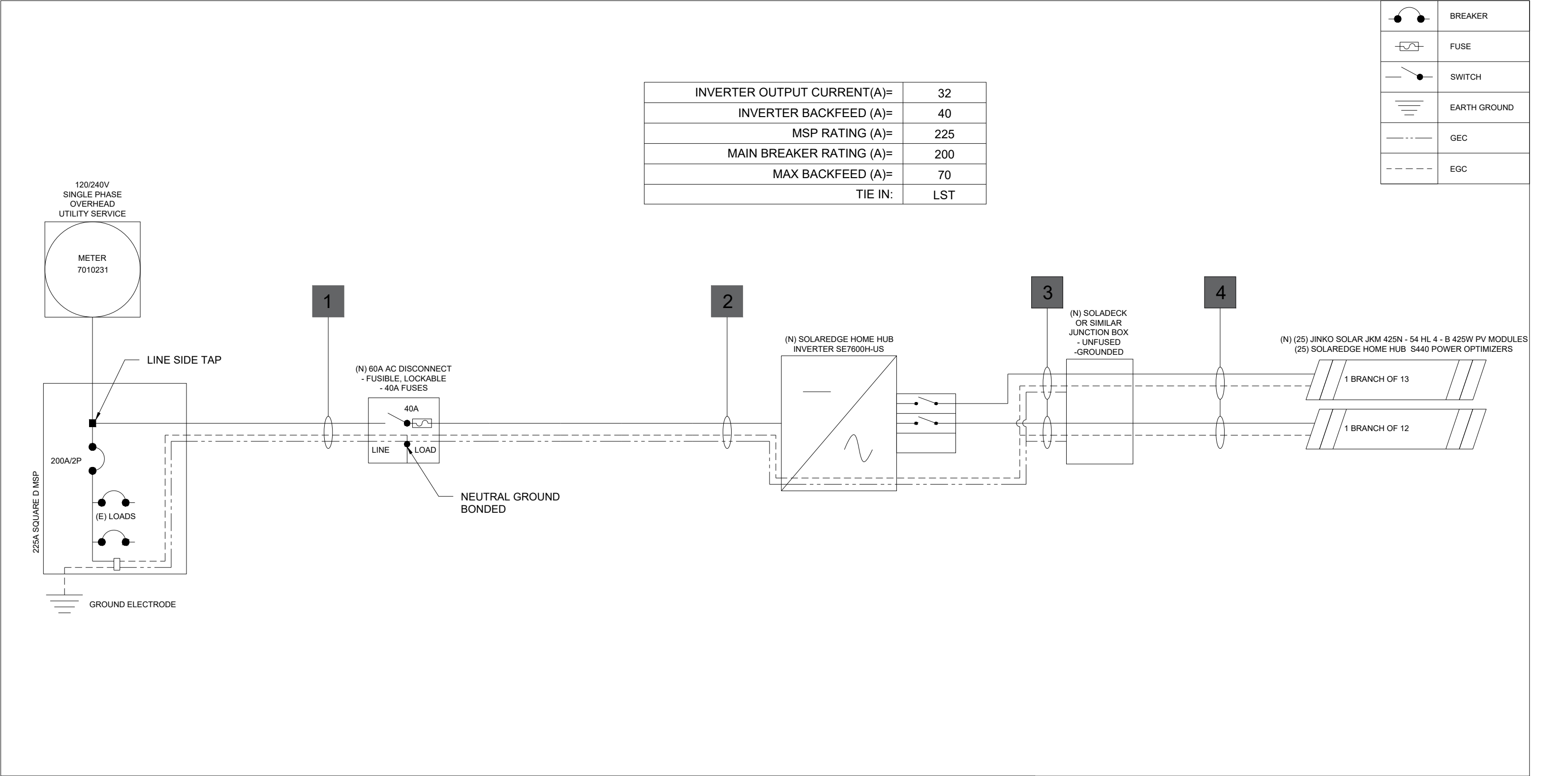
OWNER:  
RHODES, HANNAN  
29 ELLSWORTH AVE 1  
CAMBRIDGE , MA, 02139  
6172307154

DESCRIPTION:  
RHODES RESIDENCE  
10.625 kW DC ROOF SOLAR SYSTEM  
7.60 kW AC

DESIGNED BY: SU  
REVIEW BY: MS  
REV: DATE: 1/16/2025

PAGE: PV4  
PAGE NAME: STRUCTURAL VIEWS





|   |   |   |  |   |                       |   |   |                       |  |  |                       |
|---|---|---|--|---|-----------------------|---|---|-----------------------|--|--|-----------------------|
| 1   | Combiner Box/circuits/Conduit Combiner Box/Enclosures/EMT Enclosures /Main Service Disconnect/ Breaker Panel/Pull Boxes | SCALE<br>1/4" - 1'.0"   | 2  | Combiner Box/circuits/Conduit Combiner Box/Enclosures/EMT Enclosures /Main Service Disconnect/ Breaker Panel/Pull Boxes | SCALE<br>1/4" - 1'.0" | 3   | AC Disconnection/Point Of Interconnection                         | SCALE<br>1/4" - 1'.0" | 4  | DC Disconnect / Breaker / Recombiner Box | SCALE<br>1/4" - 1'.0" |
| <div><div>⚠️ WARNING</div><div>ELECTRICAL SHOCK HAZARD</div><div>TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION</div></div> <div>NEC 706.15(C)(4) and NEC 690.13(B)<br/>Roll: 596-00878 / 10-Pk: 596-00893<br/>Metal 5-Pk: 596-00921</div> |   |   | <div><div>⚠️ WARNING</div><div>TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL</div></div> <div>NEC 110.27(C) &amp; OSHA 1910.145(f)(7)<br/>Roll: 596-00499 / 10-Pk: 596-00664<br/>Metal 5-Pk: 596-00832</div>   |   |                       | <div><div>PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN</div><div>TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE SHOCK HAZERD IN THE ARRAY</div><div></div></div> <div>IFC 605.11.3.1(1) &amp; 690.56(C)<br/>Roll: 596-00885 / 10-Pk: 596-00888</div> |   |                       | <div><div>⚠️ WARNING</div><div>ELECTRICAL SHOCK HAZARD</div><div>TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION</div><div>DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT</div></div> <div>NEC 690.13(B) / Roll: 596-00879<br/>10-Pk: 596-00894 / Metal 5-Pk: 596-00920</div> |  |                       |
| 5   | DC Disconnect / Breaker / Recombiner Box  | SCALE<br>1/4" - 1'.0"   | 6  | DC Disconnect / Breaker / Recombiner Box  | SCALE<br>1/4" - 1'.0" | 7   | DC Disconnect / Breaker / Recombiner Box                          | SCALE<br>1/4" - 1'.0" | 8  | EMT / Conduit Raceways                   | SCALE<br>1/4" - 1'.0" |
| <div><div>PHOTOVOLTAIC</div><div>DC DISCONNECT</div></div> <div>NEC 690.13(B)<br/>Roll: 596-00238 / 10-Pk: 596-00854</div>  |   |   | <div><div>RATED AC OPERATING CURRENT: <div></div><div>MAX RATED AC OPERATING CURRENT: <div></div><div>RATED AC OPERATING VOLTAGE: <div></div><div>MAX RATED AC OPERATING VOLTAGE: <div></div><div>RATED SHORT CIRCUIT CURRENT: <div></div><div>MAXIMUM SYSTEM VOLTAGE: <div></div></div></div><div>FOR MARKING DC BACKUP SYSTEMS /<br/>Roll: 596-00240</div></div></div></div></div></div> |   |                       | <div><div>MAXIMUM DC VOLTAGE</div><div>OF PV SYSTEM</div></div> <div>NEC 690.53 / Roll: 596-01001 /<br/>10-Pk: 596-01009</div>  |   |                       | <div><div>SOLAR PV DC CIRCUIT</div><div>NEC 690.31(O)(2) / Roll: 596-00998 / 10-Pk: 596-01006</div><div><div>PHOTOVOLTAIC POWER SOURCE</div><div>NEC 690.31(D)(2) / Roll: 596-00999 / 10-Pk: 596-01007</div></div></div>   |  |                       |
| 9   | INVERTER  | SCALE<br>1/4" - 1'.0"   | 10   | Inverter / Breaker Panel / Pull Boxes / AC disconnect /Breaker/Points Of Connection                                     | SCALE<br>1/2" - 1'.0" | 11  | Production / Net Meter (Bi-directional) / Main Service Disconnect | SCALE<br>1/4" - 1'.0" | ENGINEERING STAMP (if appl.)   |  |                       |
| <div><div>⚠️ WARNING</div><div>THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT</div></div> <div>NEC 690.31(E) / Roll: 596-09323<br/>10-Pk: 596-09324 / Metal 5-Pk: 596-00924</div>  |   |   | <div><div>PHOTOVOLTAIC AC DISCONNECT</div><div>RATED AC OUTPUT CURRENT: <div></div><div>NOMINAL OPERATING AC VOLTAGE: <div></div></div></div><div>NEC 690.54 / Roll: 596-00892 /<br/>10-Pk: 596-00882</div></div>  |   |                       | <div><div>⚠️ WARNING</div><div>DUAL POWER SOURCE</div><div>SECOND SOURCE IS PHOTOVOLTAIC SYSTEM</div></div> <div>NEC 705.12(D)(3) &amp; NEC 690.59 / Roll: 596-00495<br/>10-Pk: 596-09665 / Metal 5-Pk: 596-00833</div>   |   |                       |  |  |                       |
|   |   | JOB NUMBER: 3901  | UTILITY: EVERSOURCE  | OWNER: RHODES, HANNAN   |                       | DESCRIPTION: RHODES RESIDENCE   |   | DESIGNED BY: SU       |  | PAGE: PV6                                |                       |
|   |   | RACKING: SLATE PLATE FLASHING RT-MINI                           | UTILITY ACCT:7401 502 1244   | 29 ELLSWORTH AVE 1  |                       | 10.625 kW DC ROOF SOLAR SYSTEM  |   | REVIEW BY: MS         |  |  |                       |
|   |   | MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B              |  | CAMBRIDGE , MA, 02139   |                       | 7.60 kW AC  |   | REV: DATE: 1/16/2025  |  | PAGE NAME: LABEL SETS                    |                       |
|   |   | INVERTER: (1) SOLAREEDGE HOME HUB INVERTER SE7600H-US (7.60 KW) |  | 6172307154  |                       |   |   |                       |  |  |                       |

|  |  |  |                       |  |  |   |                       |  |  |  |                       |  |
|--|--|--|-----------------------|--|--|---|-----------------------|--|--|--|-----------------------|--|
| 12   |  | AC Disconnect / Breaker / Points of Connection                 | SCALE<br>1/4" - 1'.0" | 13   |  | AC Disconnect / Breaker / Points of Connection  | SCALE<br>1/4" - 1'.0" | 14   |  | Main Service Disconnect/ Utility Meter | SCALE<br>1/4" - 1'.0" | NOTES:<br>ANSI Z535.4-2011 Product Safety Signs and Labels, provides guidelines for suitable font sizes, words, colors, symbols, and location requirements for labels. NEC 110.21(B)(1)<br><br>The label shall be of sufficient durability to withstand the environment involved. NEC 110.21(B)(3)<br><br>Adhesive fastened signs may be acceptable if properly adhered. Vinyl signs shall be weather resistant. IFC 605.11.1.3<br><br>Plaques and Directories at the Service Equipment (MSP) and the Location of All System Disconnects per NEC 705.10 & 690.56(A)(B)Roll:558-00350 |
| <div>PHOTOVOLTAIC</div> <div>AC DISCONNECT</div><br>NEC 690.13(B) / Roll: 596-00237 / 10-Pk: 596-00853   |  |  |                       | <div><div>⚠️ WARNING</div><div>THIS EQUIPMENT FED BY MULTIPLE SOURCES:<br/>TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN POWER SUPPLY SHALL NOT EXCEED AMPACITY OF BUSBAR</div></div><br>NEC 705.12(B)(3)(3) / Roll: 596-01000 10-Pk: 596-01008 |  |   |                       | <div>MAIN PHOVOLTAIC<br/>SYSTEM DISCONNECT</div><br>NEC 690.13(B) / Roll: 596-00243 10-Pk: 596-00675 / Metal 5-Pk: 596-00860   |  |  |                       |  |
| 15   |  | Main Service Disconnect  | SCALE<br>1/4" - 1'.0" | 16   |  | Main Service Disconnect   | SCALE<br>1/4" - 1'.0" | 17   |  | ENERGY STORAGE SYSTEMS                 | SCALE<br>1/4" - 1'.0" |  |
| <div><div>⚠️ WARNING</div><div>SINGLE 120-VOLT SUPPLY<br/>DO NOT CONNECT<br/>MULTIWIRE BRANCH CIRCUITS</div></div><br>NEC 710.15(C) & 692.9 (C) / Roll: 596-00591 10-Pk: 596-00699 / Metal 5-Pk: 596-00837 |  |  |                       | <div>DO NOT DISCONNECT<br/>UNDER LOAD</div><br>NEC 690.15 (B) & NEC 690.33(D)(2) Roll: 596-00244 / 10-Pk: 596-00671  |  |   |                       | <div>NOMINAL ESS AC VOLTAGE: <div></div><br/>NOMINAL ESS DC VOLTAGE: <div></div><br/>AVAILABLE FAULT CURRENT<br/>DERIVED FROM THE ESS: <div></div><br/>DATE CALCULATION PERFORMED: <div></div></div><br>NEC 690.15 (B) & NEC 690.33(D)(2) Roll: 596-00244 / 10-Pk: 596-00671 |  |  |                       |  |
| 18   |  | Main Service Disconnect  | SCALE<br>1/4" - 1'.0" | 19   |  | Main Service Disconnect   | SCALE<br>1/4" - 1'.0" | 20   |  | ENERGY STORAGE SYSTEMS                 | SCALE<br>1/4" - 1'.0" | ENGINEERING STAMP (if appl.)   |
| <div><div>⚠️ CAUTION</div><div>PHOTOVOLTAIC SYSTEM CIRCUIT IS<br/>BACKFEED</div></div><br>NEC 705.12(D) & NEC 690.59<br>Roll: 596-00587 / 10-Pk: 596-00666<br>Metal 5-Pk: 596-00834                        |  |  |                       | <div><div>⚠️ WARNING</div><div>POWER SOURCE OUTPUT<br/>CONNECTION. DO NOT<br/>RELOCATE THIS<br/>OVERCURRENT DEVICE.</div></div><br>NEC 705.12 (B)(3)(2) / Roll: 596-00883 10-Pk: 596-00884 / Metal 5-Pk: 596-00917                                       |  |   |                       | <div><div>⚠️ WARNING</div><div>FUEL CELL POWER<br/>SYSTEM<br/>CONTAINS ENERGY<br/>STORAGE DEVICES</div></div><br>NEC 692.56 / Roll: 596-01002 / 10-Pk: 596-01010   |  |  |                       |  |
|  |  | JOB NUMBER: 3901   |                       | UTILITY: EVERSOURCE  |  | OWNER:<br>RHODES, HANNAN<br>29 ELLSWORTH AVE 1<br>CAMBRIDGE , MA, 02139<br>6172307154 |                       | DESCRIPTION:<br>RHODES RESIDENCE<br>10.625 kW DC ROOF SOLAR SYSTEM<br>7.60 kW AC   |  | DESIGNED BY:<br>SU                     |                       | <div>PV7</div><br>PAGE NAME: LABEL SETS  |
|  |  | RACKING: SLATE PLATE FLASHING<br>RT-MINI                       |                       | UTILITY ACCT:7401 502 1244   |  |   |                       |  |  | REVIEW BY:<br>MS                       |                       |  |
|  |  | MODULES: (25) JINKO SOLAR - JKM 425N - 54 HL 4 - B             |                       |  |  |   |                       |  |  | REV:<br>DATE: 1/16/2025                |                       |  |
|  |  | INVERTER: (1) SOLAREDGE HOME HUB INVERTER SE7600H-US (7.60 KW) |                       |  |  |   |                       |  |  |  |                       |  |