

HISTORIC PRESERVATION COMMISSION STAFF REPORT

| | | | |
|---------------------|---|-----------------------|---------------|
| Address: | 13 Columbia Ave., Takoma Park | Meeting Date: | 12/06/17 |
| Resource: | Non-Contributing Resource Takoma Park Historic District | Report Date: | 11/29/17 |
| Review: | HAWP | Public Notice: | 11/22/17 |
| Case Number: | 37/03-17EEEE | Tax Credit: | None |
| Applicant: | Neal Cohen | Staff: | Dan Bruechert |
| Proposal: | Roof Solar Installation | | |

STAFF RECOMMENDATION:

Staff recommends that the HPC approve the HAWP application.

PROJECT DESCRIPTION

SIGNIFICANCE: Non-Contributing Resource to the Takoma Park Historic District
STYLE: Colonial Revival
DATE: c.1940-1950

The subject property at 13 Columbia Ave. is a two-story side gable house, three bays wide, with a full-width front porch. The lower level of the house is brick, with a Hardi-clad second floor. A two-story rear addition was approved by the HPC in September 2016.

PROPOSAL

The applicant proposes to install 45 flush-mounted solar photovoltaic panels on the rear of the house.

APPLICABLE GUIDELINES:

When reviewing alterations and additions for new construction within the Takoma Park Historic District, decisions are guided by the *Takoma Park Historic District Design Guidelines* (Design Guidelines) and *Montgomery County Code Chapter 24A* (Chapter 24A).

Takoma Park Historic District Design Guidelines

There are two very general, broad planning and design concepts which apply to all categories. These are:

The design review emphasis will be restricted to changes that are at all visible from the public right-of-way, irrespective of landscaping or vegetation (it is expected that the majority of new additions will be reviewed for their impact on the overall district), and,

The importance of assuring that additions and other changes to existing structures act to reinforce and continue existing streetscape, landscape, and building patterns rather than to impair the character of the district.

Alterations to features that are not visible from the public right-of-way should be allowed as a matter of course

Non-Contributing/Out-of-Period Resources should receive the most lenient level of design review. Most alterations and additions to Non-Contributing/Out-of-Period Resources should be approved as a matter of course. The only exceptions would be major additions and alterations to the scale and massing of Non-Contributing/Out-of-Period Resources which affect the surrounding streetscape and/or landscape and could impair character of the district as a whole.

Montgomery County Code; Chapter 24A-8(b)

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:

- (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
- (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

STAFF DISCUSSION

The applicant is proposing to install a large number of solar panels (45) on the roof. These photovoltaic panels will be installed in four arrays of various sizes. The panels will face east, south, and west and are all to the rear of the front gable.

Because of the placement of these panels at the rear of the house, most of the panels will not be visible from the public right of way. Due to the large shared driveway, some of the panels on the southeast corner of the roof may be visible (Staff believes that no more than three panels will be visible from the public right-of-way), however, they will have a minimal impact on the surrounding streetscape and will not affect the scale or massing of the resource. The *Design Guidelines* state that changes to out-of-period resources that do not affect the streetscape and do not impair the character of the district as a whole should be approved as a matter of course. Staff supports approval of this HAWP.

STAFF RECOMMENDATION:

Staff recommends that the Commission **approve** the HAWP application as being consistent with Chapter 24A-8 and the Takoma Park Historic District Design Guidelines; and with the general condition applicable to all Historic Area Work Permits that **the applicant will present 3 permit sets of drawings to HPC staff for review and stamping prior to submission for permits (if applicable)**. After issuance of the Montgomery County Department of Permitting Services (DPS) permit, the applicant will arrange for a field inspection by calling the DPS Field Services Office at 240-777-6370 prior to commencement of work and not more than two weeks following completion of work.



DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Email: NEALSCOHEN@GMAIL.COM Contact Person: NEAL S. COHEN
Daytime Phone No.: 301.504.7504

Tax Account No.: 01069418

Name of Property Owner: NEAL S. COHEN Daytime Phone No.: 917.405.2939 (C)

Address: 13 COLUMBIA AVE, TAKOMA PARK, MD 20912

Street Number City State Zip Code

Contractor: SOLAR ENERGY WORLD Phone No.: 410.579.2009

Contractor Registration No.: _____

Agent for Owner: ERIC WINKLER Daytime Phone No.: 301.928.7722

LOCATION OF BUILDING/STRUCTURE

House Number: 13 Street: COLUMBIA AVE,

Town/City: TAKOMA PARK Nearest Cross Street: PINE

Lot: 17 Block: 18 Subdivision: 25

Liber: _____ Folio: _____ Parc: _____

PART ONE: TYPE OF PERMIT/ACTIVATION AND USE

1A. CHECK ALL APPLICABLE:

- Construct Extend Alter/Renovate AC Stbs Room Addition Porch Deck Shed
 Move Install Wreck/Raze Solar Fireplace Woodburning Stove Single Family
 Revision Repair Removable Fence/Wall (complete Section 4) Other: _____

1B. Construction cost estimate: \$ 31,000

1C. If this is a revision of a previously approved active permit, see Permit # _____

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTENSIONS

2A. Type of sewage disposal: 01 WSSC 02 Septic 03 Other: N/A

2B. Type of water supply: 01 WSSC 02 Well 03 Other: N/A

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height: _____ feet: _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

- On property line/property line Entirely on land of owner On public right of way/assessment

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

Thomas M. Simpson

Nov. 14, 2017

Signature of owner or authorized agent

Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

Application/Permit No.: _____ Date Filed: _____ Date Issued: _____

SEE REVERSE SIDE FOR INSTRUCTIONS

819886
Eds 9/27/99

(3)

Historic Area Work Permit Application for a Solar Electric System

on the home of

Neal S. Cohen, 13 Columbia Ave, Takoma Park, MD 20912

1. Written description of the project

- a. The existing structure was a two-story single-family residence constructed in 1960. It has recently been renovated and modified, by a two-story addition on the rear of the home. The renovation updated the appearance and function of the home, using period appropriate fixtures and finishes. The neighborhood is of the same vintage.
- b. The proposed solar system will be flush-mounted to the rear (south facing) roof of the primary section of the home, and the east- and west-facing roofs of the addition. The addition of solar panels will be primarily on the rear of the building, hence will pose little disruption to the environment of the neighborhood, and will be nearly unnoticeable from the street level.

2. Site Plan

- a. Please see attached sheet
- b. 2 copies, 11"x17"

3. Plans & Elevations

- a. Please see attached sheet
- b. 2 copies, 11"x17"

4. Materials Specifications

- a. Please see attached spec sheets

5. Photographs

6. Tree Survey – no trees will be disturbed or removed as part of this work

7. Addresses of Adjacent and Confronting Property Owners

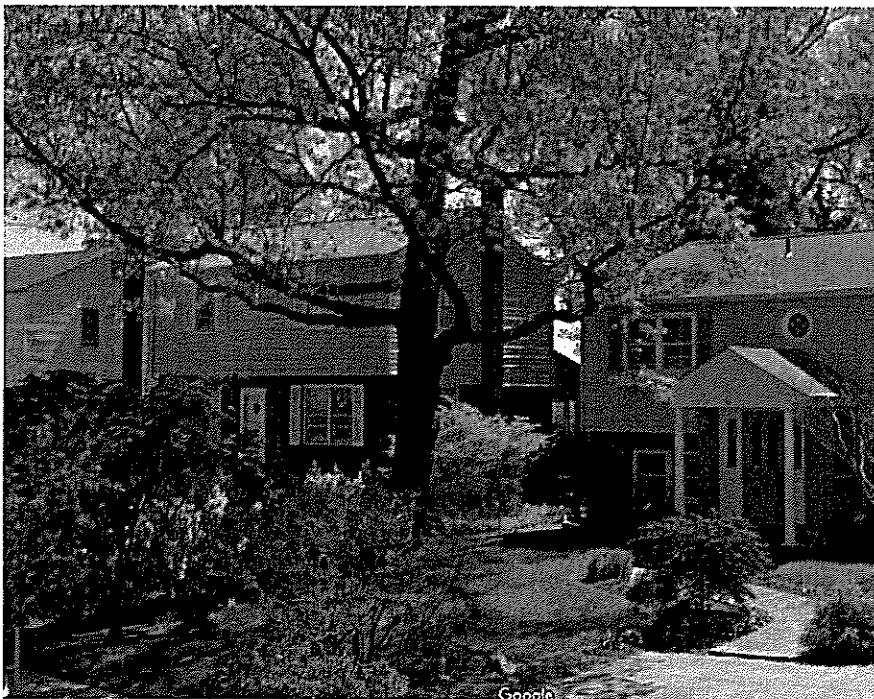
| Owner's mailing address | Owner's agent mailing address |
|--|---|
| Neal S. Cohen 13 Columbia Ave Takoma Park, MD 20912 | Solar Energy World 5681 Main St. Elkridge, MD 21075 |
| Adjacent and confronting property owners mailing addresses | |
| Lot 18, Block 18 Adjoining | Lucinda Meehan 15 Columbia Ave. Takoma Park, MD 20912 |
| Lot 16, Block 18 Adjoining | Ronald Levine 8 Columbia Ave. Takoma Park, MD 20912 |
| Lot 1, Block 19 Confronting | David & Lori Potts-DuPree 8 Columbia Ave. Takoma Park, MD 20912 |
| Lot 6, Block 16 Rear-adjoining | Paul Miller 12 Montgomery Ave. Takoma Park, MD 20912 |

Historic Area Work Permit Application for a Solar Electric System
on the home of
Neal S. Cohen, 13 Columbia Ave, Takoma Park, MD 20912

Existing Property Condition Photographs



Pre-renovation/addition, East view



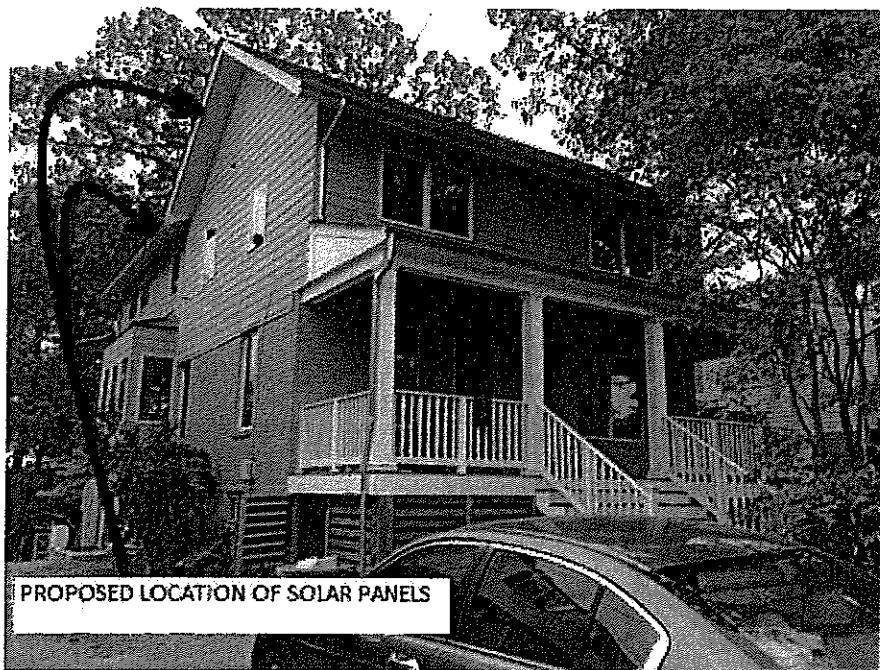
Pre-renovation/addition, West view

(5)

Historic Area Work Permit Application for a Solar Electric System

on the home of

Neal S. Cohen, 13 Columbia Ave, Takoma Park, MD 20912



Post renovation/addition



Equipment Location

(6)

ENERGIZING LIFE TOGETHER



REC TWINPEAK 2 SERIES

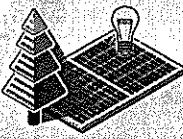
PREMIUM SOLAR PANELS WITH SUPERIOR PERFORMANCE

REC TwinPeak 2 Series solar panels feature an innovative design with high panel efficiency and power output, enabling customers to get the most out of the space used for the installation.

Combined with industry-leading product quality and the reliability of a strong and established European brand, REC TwinPeak 2 panels are ideal for residential and commercial rooftops worldwide.



MORE POWER
OUTPUT PER M²



IMPROVED PERFORMANCE
IN SHADED CONDITIONS

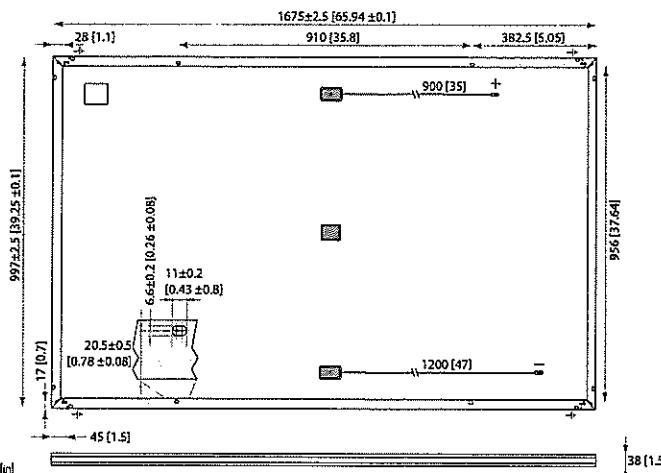


100%
PID FREE



REDUCES BALANCE OF
SYSTEM COSTS

REC TWINPEAK 2 SERIES



Measurements in mm [in]

| ELECTRICAL DATA @ STC* | 275 WP | 280 WP | 285 WP | 290 WP |
|---------------------------------------|--------|--------|--------|--------|
| Nominal Power - P_{MPP} (Wp) | 275 | 280 | 285 | 290 |
| Watt Class Sorting - (W) | 0/+5 | 0/+5 | 0/+5 | 0/+5 |
| Nominal Power Voltage - V_{MPP} (V) | 31.5 | 31.7 | 31.9 | 32.1 |
| Nominal Power Current - I_{MPP} (A) | 8.74 | 8.84 | 8.95 | 9.05 |
| Open Circuit Voltage - V_{OC} (V) | 38.2 | 38.4 | 38.6 | 38.8 |
| Short Circuit Current - I_{SC} (A) | 9.30 | 9.39 | 9.49 | 9.58 |
| Panel Efficiency (%) | 16.5 | 16.8 | 17.1 | 17.4 |

Values at standard test conditions STC (airmass AM1.5, irradiance 1000 W/m², cell temperature 25°C).

At low irradiance of 200 W/m² (AM1.5 and cell temperature 25°C) at least 94% of the STC module efficiency will be achieved.

*Product code, RECxxTP2, where xx is the watt class shown, can be followed by the suffix BLK for black framed modules.

| ELECTRICAL DATA @ NOCT | 275 WP | 280 WP | 285 WP | 290 WP |
|---------------------------------------|--------|--------|--------|--------|
| Nominal Power - P_{MPP} (Wp) | 206 | 210 | 214 | 218 |
| Nominal Power Voltage - V_{MPP} (V) | 29.2 | 29.4 | 29.6 | 29.8 |
| Nominal Power Current - I_{MPP} (A) | 7.07 | 7.15 | 7.24 | 7.32 |
| Open Circuit Voltage - V_{OC} (V) | 35.4 | 35.6 | 35.8 | 36.0 |
| Short Circuit Current - I_{SC} (A) | 7.52 | 7.59 | 7.68 | 7.75 |

Nominal operating cell temperature NOCT (800 W/m², AM1.5, windspeed 1 m/s, ambient temperature 20°C).

*Product code, RECxxTP2, where xx is the watt class shown, can be followed by the suffix BLK for black framed modules.

CERTIFICATIONS



UL 1703, Fire classification Type 2; IEC 61215, IEC 61730, IEC 61701 (Salt Mist- severity level 6), IEC 62804 (PID Free), IEC 62716 (Ammonia Resistance), ISO 11925-2 (Ignitability Class 1), UNI 8457/9174 (Class A), ISO 9001:2015, ISO 14001, OHSAS 18001

WARRANTY

10 year product warranty
25 year linear power output warranty
(max. degression in performance of 0.7% p.a. from 97% after the first year)
See warranty conditions for further details.

| | |
|---|--|
| 17.4% | EFFICIENCY |
| 10 | YEAR PRODUCT WARRANTY |
| 25 | YEAR LINEAR POWER OUTPUT WARRANTY |
| DUTY-FREE | |
| TEMPERATURE RATINGS | |
| Nominal operating cell temperature (NOCT) 44.6°C (+2°C) | |
| Temperature coefficient of P_{MPP} | -0.39 %/°C |
| Temperature coefficient of V_{oc} | -0.31 %/°C |
| Temperature coefficient of I_{sc} | 0.045 %/°C |
| GENERAL DATA | |
| Cell type: | 120 REC HC multicrystalline 6 strings of 20 cells |
| Glass: | 0.13" (3.2 mm) solar glass with anti-reflective surface treatment |
| Back sheet: | Highly resistant polyester polyolefin construction |
| Frame: | Anodized aluminum* (available in silver or black) |
| Junction box: | IP67 rated, 3-part with bypass diodes 12AWG(4mm ²) PV wire, 35°~47° (0.9 m + 1.2 m) |
| Connectors: | Multi-Contact MC4 PV-KBT4/PV-KST4 12 AWG (4 mm ²) |
| MAXIMUM RATINGS | |
| Operational temperature: | -40 ~ +185°F (-40 ... +85°C) |
| Maximum system voltage: | 1000 V |
| Design Loads: | (+) 75.2 lbs/ft ² (3600 Pa) (-) 33.4 lbs/ft ² (1600 Pa) Refer to installation manual |
| Max series fuse rating: | 20 A |
| Max reverse current: | 20 A |
| MECHANICAL DATA | |
| Dimensions: | 65.9 x 39.25 x 1.5 (1675 x 997 x 38 mm) |
| Area: | 17.98 ft ² (1.67 m ²) |
| Weight: | 39.7 lbs (18 kg) |
| Note! Specifications subject to change without notice. | |

Celebrating its 20th anniversary in 2016, REC is a leading European brand of solar panels. Through integrated manufacturing from polysilicon to wafers, cells, panels and turnkey solar solutions, REC strives to help meet the world's growing energy needs. Founded in 1996, REC is a Bluestar Elkem company with headquarters in Norway and operational headquarters in Singapore. REC concluded 2015 with 2000 employees worldwide, 1.3 GW solar panel production capacity, and annual revenues of USD 755 million.

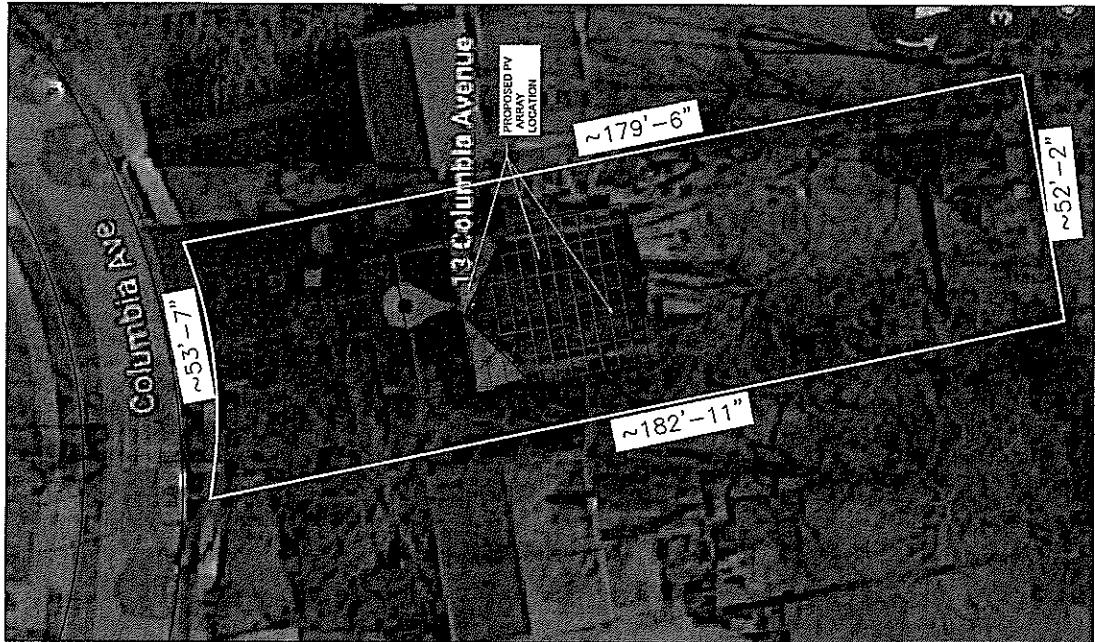


www.recgroup.com

Ref. No.: U-07-07 Rev. C 2016

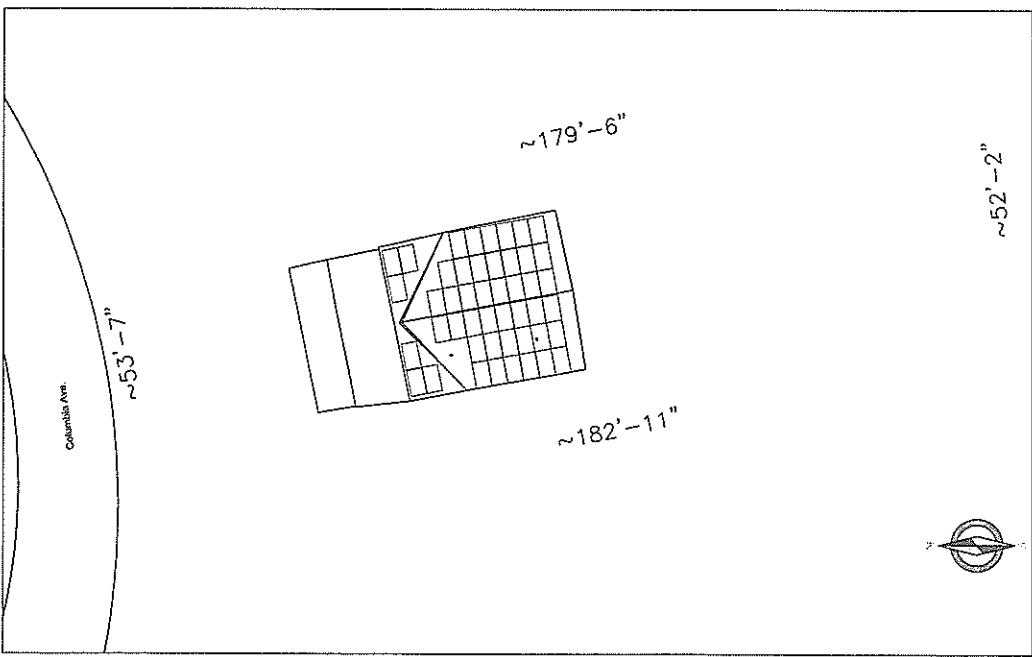


| | |
|--|--|
| General Notes | |
|  SolarEnergyWorld <i>Because Tomorrow Matters</i> Solar Energy World LLC, 3681 Main Street Elkridge, MD 21075 (888) 497-5233 | |
| <small>Disclaimer:</small> <p>The drawings herein are the property of Solar Energy World Inc. The drawings are to be used for the benefit of Solar Energy World. It shall not be disclosed to others outside the recipient organization, in whole or in part, without the written consent of Solar Energy World. Any other use of the drawings is prohibited.</p> | |
| <small>Drawings:</small> <p>This drawing shows the proposed PV array location on the roof of the building at 13 Columbia Avenue, Takoma Park, MD. The dimensions shown are along the roof slope. The roof area is approximately 182' x 179'.</p> | |
| <small>Notes:</small> | |
| <small>Printed Name and Address:</small> Cohen, Neal 13 Columbia Ave. Takoma Park, MD 20912 12.88 kW | |
| <small>Date:</small> 02-NOV-2017 <small>SP</small> <small>AS NOTED</small> | |



SITE PLAN

Scale: 1" = 25'



SITE PLAN

Scale: 1" = 25'

NOTES:

1. THE SYSTEM SHALL INCLUDE [46] REC SOLAR REC280P2 BLK MODULES
2. UNIFAC SOLARMOUNT RAIL WILL BE INSTALLED IN ACCORDANCE WITH UNIFAC INSTALLATION MANUAL 227.3.
3. DIMENSIONS MARKED (*) ARE ALONG ROOF SLOPE.
4. REFER TO STRUCTURAL DRAWING FOR SECTIONS MARKED AND ADDITIONAL NOTES.

29

NOTES:
 ENERGY SURVEY DATA INDICATES THAT SITE PREPARED ON
 APPROXIMATELY 100 FT X 100 FT LOT. THIS SURVEY WAS PERFORMED BY
 ENGINEER INDEPENDENT MEANS OF THE STATE OF MARYLAND, LICENSED
 NO. 2631 EXP. PERIOD 01/01/2017 - 01/01/2018.
 STAKEOUT AND SURVEY FOR STRUCTURE IS SOLELY
 PROVIDED BY THE CONTRACTOR.

Printed Name and Address:
 Cohen, Neal
 13 Columbia Ave.
 Takoma Park, MD 20912
 12.88 kW

| | |
|--|-------------------------|
| <small>Printed Name and Address:</small> | <small>SP</small> |
| <small>Date:</small> 02-NOV-2017 | <small>AS NOTED</small> |

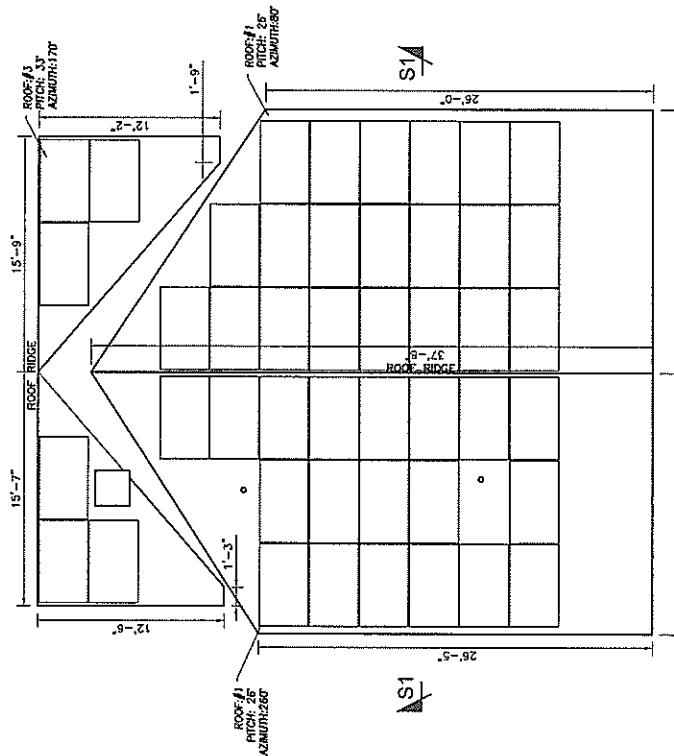
General Notes



SolarEnergyWorld Because Tomorrow Matters

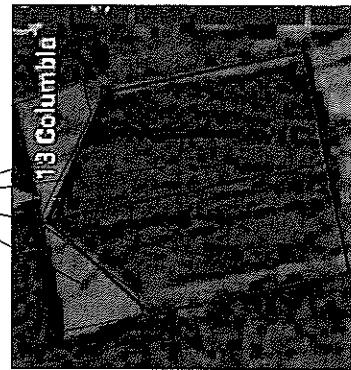
Solar Energy World LLC,
5881 Main Street
Elkridge, MD 21075
(888) 487-3233

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NOTES:

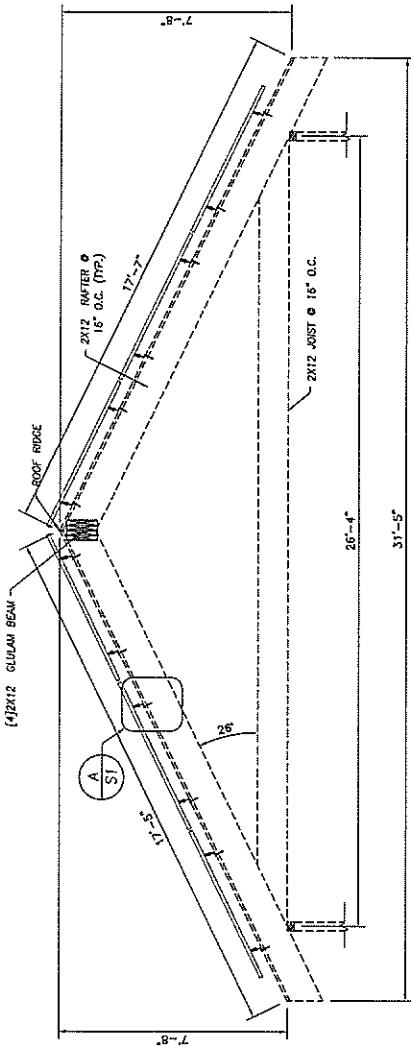
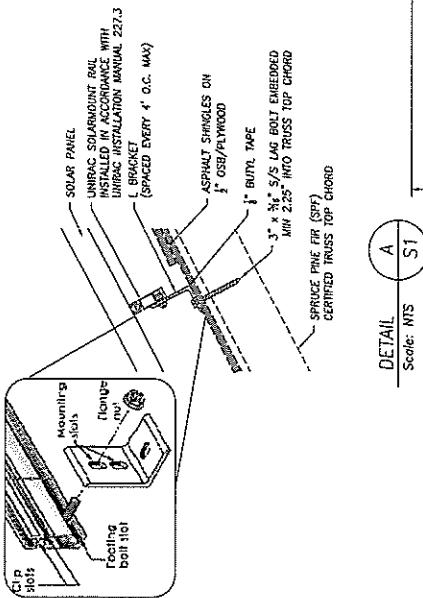
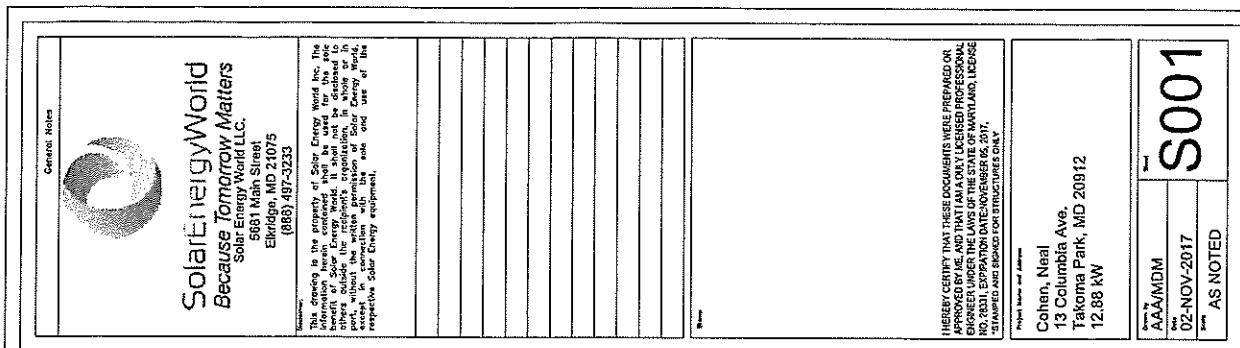
1. THE SYSTEM SHALL INCLUDE [6] REC SOLAR REC230TP2 BLK MODULES
2. UNIRAC SOLARMOUNT RAIL WILL BE INSTALLED IN ACCORDANCE WITH UNIRAC INSTALLATION MANUAL 227.5.
3. DIMENSIONS MARKED (*) ARE ALONG ROOF SLOPE.
4. REFER TO STRUCTURAL DRAWING FOR SECTIONS MARKED AND ADDITIONAL NOTES.



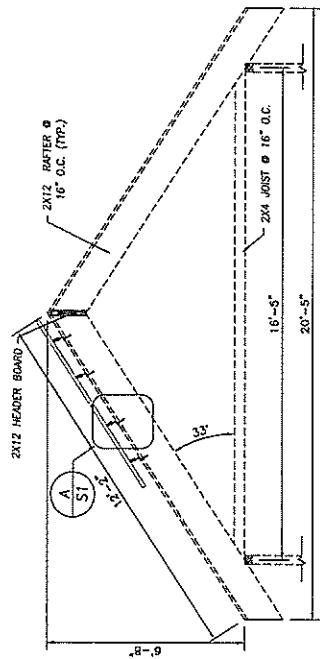
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 02-N00100, AND THAT THE INFORMATION CONTAINED THEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Cohen, Neal
13 Columbia Ave.
Takoma Park, MD 20912
12.88 kW
02-NOV-2017
AS NOTED

A001



STRUCTURAL SECTION S1



STRUCTURAL SECTION S2

- NOTES:**
- ALL WORK SHALL COMPLY WITH REQUIREMENTS OF INTERNATIONAL RESIDENTIAL CODE (IRC 2015).
 - LOADING CODE (ASCE 7-16), WOOD DESIGN CODE (NDS 2015) AND LOCAL REQUIREMENTS.
 - EXPOSURE CATEGORY "B"
 - GROUND SNOW LOAD, $P_s = 30 \text{ PSF}$
 - RISK CATEGORY "T"
 - ULTIMATE DESIGN WIND SPEED = 115 MPH
 - SOLAR PANELS AND RACKING SYSTEMS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.
 - FOLLOW ALL LOCAL AND FEDERAL SAFETY REQUIREMENTS.

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED ON APPROVED BY ME AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE STATE OF MARYLAND, REGISTRATION NO. P231, EXPANSION DATE OF EXAMINEE 05, 2017.
"Stamp" and "Signature" of Structural Engineer

Doban, Neal
13 Columbia Ave.
Takoma Park, MD 20912
12.88 kW

| | |
|----------|-------------|
| APPROV'D | S001 |
| PER | 02-NOV-2017 |
| BY | AS NOTED |



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(888) 487-5233

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None

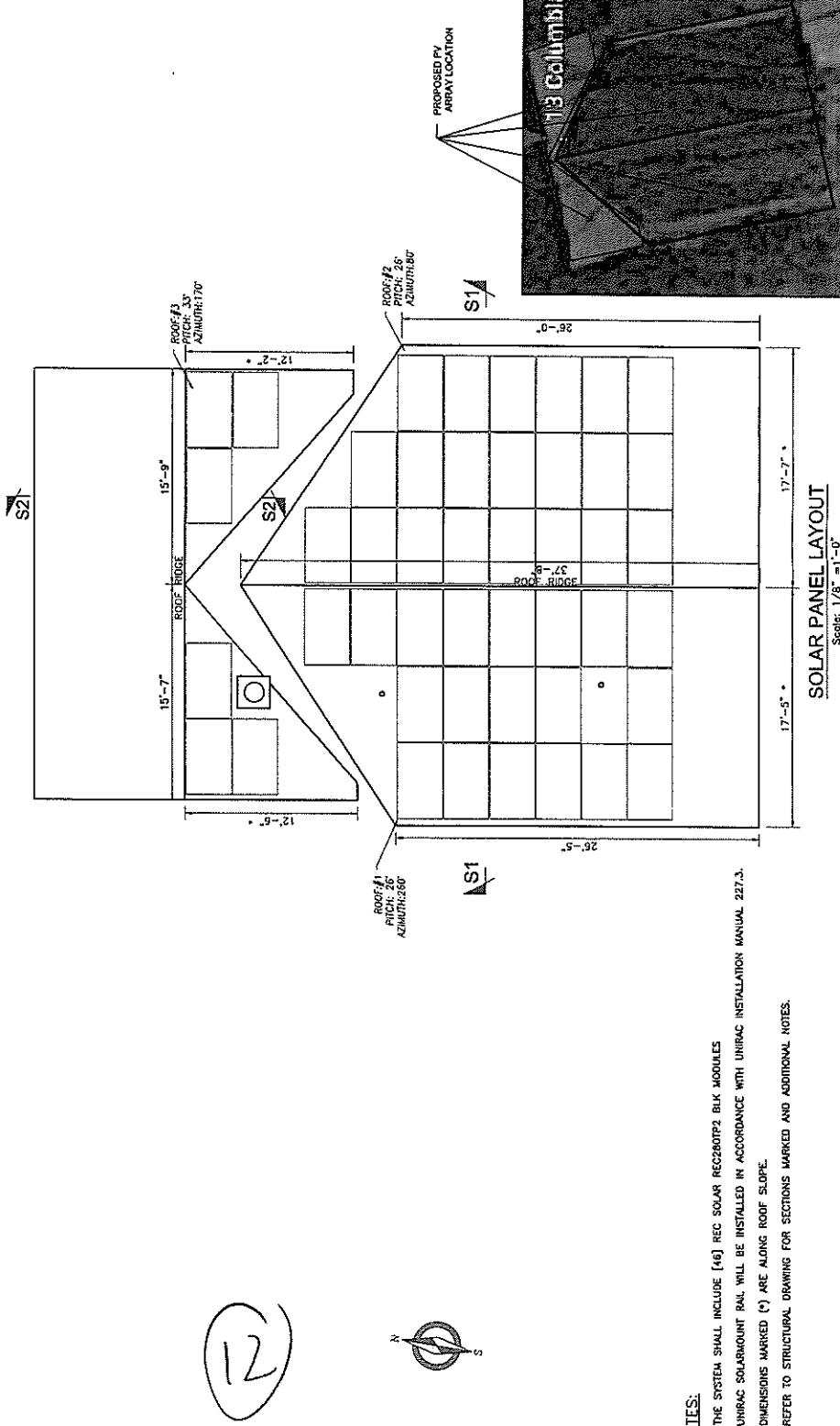
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 5435, ISSUED ON DATE OF EXPIRY 12/22/2013, AND THAT THE DRAWINGS CONTAINED HEREIN WERE DRAWN PER STANDARDS ONLY.

Project Name: 144-Avenue

Cohen, Neal
13 Columbia Ave,
Takoma Park, MD 20912
12.88 KW

Form # AAADM
Date: 02-Nov-2017
Page: AS NOTED

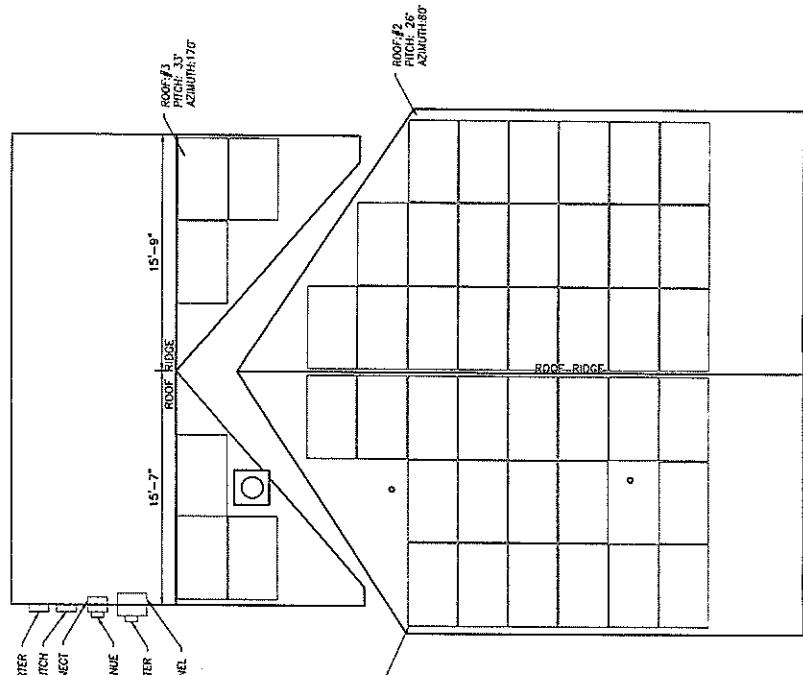
A001



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Solar Energy World LLC,
508 Main Street
Elkridge, MD 21075
(888) 497-3233

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13

NOTE:
EQUIPMENT LOCATION PLAN IS APPROXIMATE. EXACT LOCATION
IS TO BE DETERMINED WITH INSTALLATION CREW AND HOME OWNER
AS THE DATE OF INSTALLATION.

NIS

EQUIPMENT LOCATION PLAN

Scale: NIS

E001

AA-MDM
02-NOV-7-2017
AS NOTED

Cohen, Neal
13 Columbia Ave.
Takoma Park, MD 20912
12.88 kW

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DAY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE
NO. 53483, EXPIRATION DATE DECEMBER 31, 2019.
STAMPED AND SIGNED FOR STRUCTURAL USE ONLY

Print Name: Neal Cohen

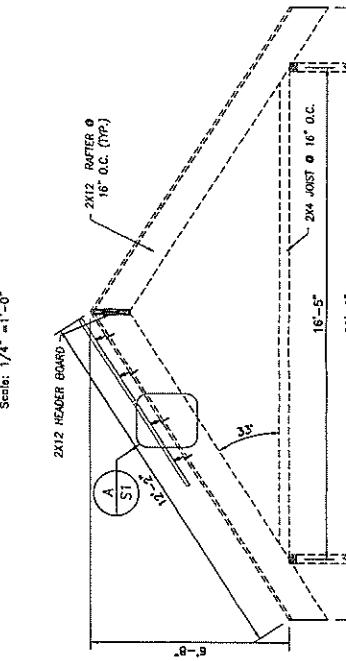
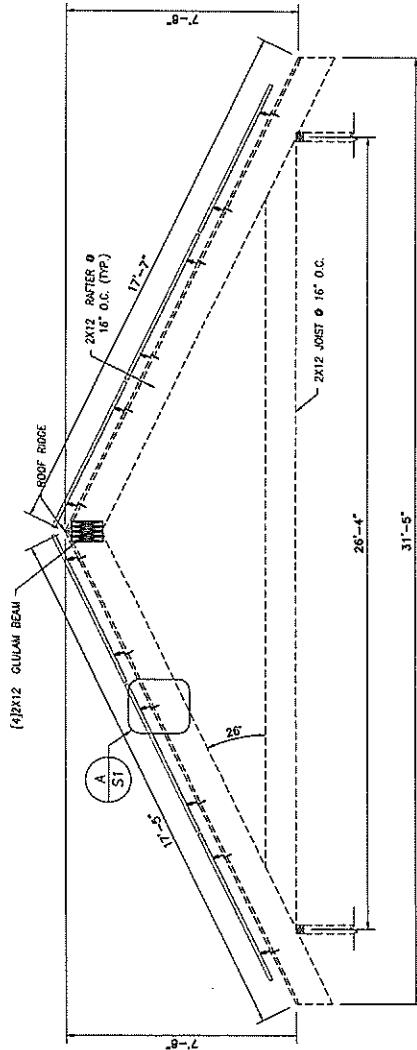
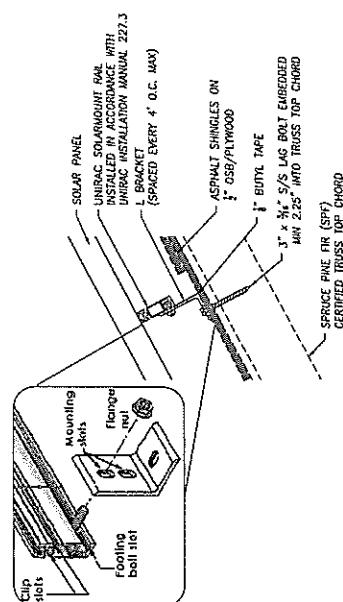
General Notes



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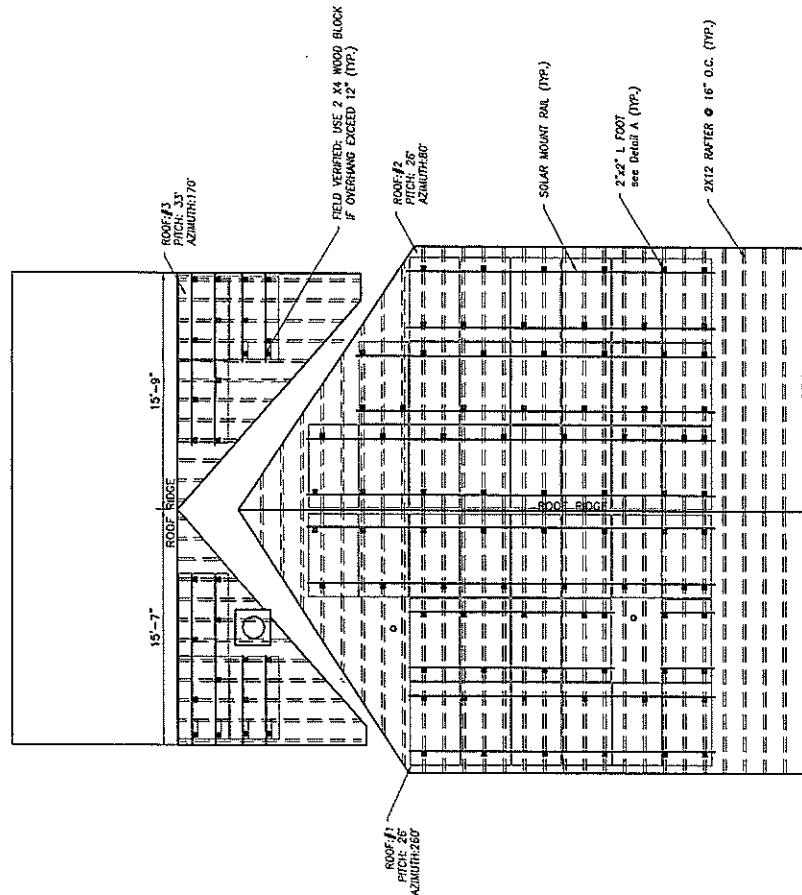
- NOTES:**
1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF INTERNATIONAL RESIDENTIAL CODE (IRC 2015), LOADING CODE (ASCE 7-10), WOOD DESIGN CODE (IRC 2015) AND LOCAL REQUIREMENTS.
 2. LOAD CRITERIA PER :
 - EXPOSURE CATEGORY 'B'
 - GROUND SNOW LOAD, $P_s = 30 \text{ psf}$
 - RISK CATEGORY "H"
 - ULTIMATE DESIGN WIND SPEED = 115 MPH
 - SOLAR PANEL AND RACKING SYSTEMS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.
 - 4. FOLLOW ALL LOCAL AND FEDERAL SAFETY REQUIREMENTS.

| | | |
|--|-------------------|---------------------------------|
| Cohen, Neal 13 Columbia Ave. Takoma Park, MD 20912 12.88 kW | Drawn by AAADM | S001 02-NOV-2017 AS NOTED |
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Elkridge, MD 21075
(888) 497-3233

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SOLAR PANEL FOOTING PLAN

Scale: 1/8" = 1'-0"

- NOTES:
1. UHRC SOLARMOUNT RAIL SHALL BE INSTALLED IN ACCORDANCE WITH UNRAC INSTALLATION MANUAL 227.3.
 2. 1" FEET SHALL BE SPACED AT A MAXIMUM OF 4' O/C.
 3. AN 1" FOOT SHALL BE PLACED WITHIN 25% OF MAXIMUM 1" FOOT SPACING (1' MAX) AT THE CANTILEVERED END OF EACH SECTION OF RAIL.

| | |
|---------------------|--------------------|
| Drawn by AAA/MDM | Reviewed by *** |
| 02-NOV-2017 | AS NOTED |

| | |
|---|--------------------|
| Drawn by Cohen, Neal | Reviewed by *** |
| 13 Columbia Ave. Takoma Park, MD 20912 | 12.88 kW |

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|-------------------------|--------------------|
| Drawn by Cohen, Neal | Reviewed by *** |
| S002 | *** |