MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION

Address: 20 Montgomery Avenue, Takoma Park  
Meeting Date: 9/9/2020

Resource: Contributing Resource  
Takoma Park Historic District  
Report Date: 9/2/2020

Applicant: Joshua Stebbins  
Public Notice: 8/26/2020

Review: HAWP  
Tax Credit: n/a

Case No.: 37/03-20MMM  
Staff: Dan Bruechert

Proposal: Solar Panel Installation

RECOMMENDATION

Staff recommends the HPC approve the HAWP application.

PROPERTY DESCRIPTION

SIGNIFICANCE: Contributing Resource to the Takoma Park Historic District
STYLE: Vernacular
DATE: 1888

Figure 1: 20 Montgomery Ave. has a side gable roof with a non-historic rear addition.
PROPOSAL

The applicant proposes to install 29 (twenty-nine) solar panels on the roof of the house.

APPLICABLE GUIDELINES

When reviewing alterations and new construction within the Takoma Park Historic District several documents are to be utilized as guidelines to assist the Commission in developing their decision. These documents include the historic preservation review guidelines in the approved and adopted amendment for the Takoma Park Historic District (Guidelines), Montgomery County Code Chapter 24A (Chapter 24A), and the Secretary of the Interior’s Standards for Rehabilitation (Standards). The work proposed is additionally covered by the adopted policy on solar panels, Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS. The pertinent information in these documents is outlined below.

Montgomery County Code, Chapter 24A Historic Resources Preservation

(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

Takoma Park Historic District 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.

Contributing Resources should receive a more lenient review than those structures that have been classified as Outstanding. This design review should emphasize the importance of the resource to the overall streetscape and its compatibility with existing patterns rather than focusing on a close scrutiny of architectural detailing. In general, however, changes to Contributing Resources should respect the predominant architectural style of the resource. As stated above, 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.

Some of the factors to be considered in reviewing HAWPs on Contributing Resources include:

- All exterior alterations, including those to architectural features and details, should be generally consistent with the predominant architectural style and period of the resource
and should preserve the predominant architectural features of the resource; exact replication of existing details and features is, however, not required

- Minor alterations to areas that do not directly front on a public right-of-way such as vents, metal stovetops, air conditioners, fences, skylights, etc. – should be allowed as a matter of course; alterations to areas that do not directly front on a public way-of-way which involve the replacement of or damaged to original ornamental or architectural features are discouraged, but may be considered and approved on a case-by-case basis

- Some non-original building materials may be acceptable on a case-by-case basis; artificial siding on areas visible to the public right-of-way is discouraged where such materials would replace or damage original building materials that are in good condition

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

- All changes and additions should respect existing environmental settings, landscaping, and patterns of open space.

Secretary of the Interior’s Standards for Rehabilitation:

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportions, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Chapter 24A

(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

(3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located.

(6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

(d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic
II.

For architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

*Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS*

Now, THEREFORE:

WHEREAS, Historic Area Work Permit decisions are guided by the criteria in Section 24A, The Secretary of the Interior’s Standards for Rehabilitation, and pertinent guidance from applicable master plan amendments and/or site or district-specific studies;

WHEREAS, The Secretary of the Interior’s Standards for Rehabilitation as interpreted by the National Park Service limit the placement of rooftop solar panels under Standards 2, 9, and 10 to less conspicuous locations;

WHEREAS, the County Council has established a Climate Emergency;

WHEREAS, the Historic Preservation is a body established by the County Executive and County Council;

WHEREAS, Section 24-8(b)(6) states, “In balancing the interest of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit;”

WHEREAS, the widespread use of solar panels, both for hot water and for electricity production, will reduce greenhouse gases in the county, in accordance with the aims of the Emergency Climate Mobilization resolution (Resolution No.: 18-974), it shall be the policy of the Historic Preservation Commission that:

1. The preferred locations for solar panel installation(s) on a designated historic site or an historic resource located within an historic district is a) on the rear of the property, b) on non-historic building additions, c) on accessory structures, or d) in ground-mounted arrays;

2. If it is not feasible to install solar panels in one of the identified preferred locations due to resource orientation or other site limitations; and,

3. The roof is determined to be neither architecturally significant, nor a character-defining feature of the resource, nor is it a slate or tile roof, that unless it can be demonstrated that the solar array will be installed without damaging the historic character of the resource or historic fabric; then

4. The public welfare is better served by approving a Historic Area Work Permit for solar panels on all visible side or front roof slopes under Section 24A-8(b)(6).

5. A Historic Area Work Permit (HAWP) is required for all work referenced in this policy.

**STAFF DISCUSSION**

The subject property is a two-story, south-facing, house with a T-shaped plan. The existing roof is sheathed in modern asphalt shingles. The applicant proposes to install 29 (twenty-nine) roof-mounted solar panels in five arrays. Two of the arrays, encompassing 17 panels, are on a rear non-historic
addition; while a two-panel array is on the rear projecting gable; and two arrays with ten panels are on the front gable slope and front gable-L.

Of the proposed 29 (twenty nine) panels, 19 (nineteen) of them are on the rear of the house and are not visible from the public right-of-way. The Design Guidelines state that these features should be approved as a matter of course. The remaining 10 (ten) panels will be installed on front-facing roof surfaces that are visible from the right-of-way. The adopted Solar Policy encourages the installation of solar panels on accessory structures, non-historic construction, or the rear of historic buildings. Staff finds the applicant proposes installing the maximum number of solar panels that can be accommodated on the non-historic rear addition and rear slope of the roof.

![Figure 2: Front elevation of 20 Montgomery Ave.](image)

To maximize the solar collection of the proposed array the remaining panels need to be installed to face south or west. Due to the southern orientation of the house, panels installed in these locations will necessarily be visible from the right-of-way. The adopted Solar Policy states that where solar panels cannot be located in one of the preferred locations and the roof is not architecturally significant, the proposal should be approved under 24A-8(b)(6). Staff supports the approval of the proposed 10 (ten) front-facing solar panels.

**STAFF RECOMMENDATIONS**

Staff recommends that the Commission approve the HAWP application under the Criteria for Issuance in
Chapter 24A-8(b)(1), (6), and (d), having found that the proposal, is consistent with and compatible in character with the purposes of Chapter 24A; The Takoma Park Historic District Design Guidelines; the HPC Policy 20-01 on Roof-Mounted Solar Panels;

and with the Secretary of the Interior’s Standards for Rehabilitation #2, 9, and 10;

and with the general condition that the applicant shall present the **3 permit sets of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping** prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make **any alterations** to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.
APPLICATION FOR
HISTORIC AREA WORK PERMIT
HISTORIC PRESERVATION COMMISSION
301.563.3400

APPLICANT:

Name: JOSHUA STEBBINS
E-mail: JOSH.STEBBINS@SIERRACLUB.ORG
Address: 20 MONGOMERY AVE
City: TAKOMA PARK Zip: 20912
Daytime Phone: 202-294-5421
Tax Account No.: 01062576

AGENT/CONTACT (if applicable):

Name: AARON WILLIAMS
E-mail: AWILLIAMS@FUSIONSS.NET
Address: 3600 COMMERCE DR, #601
City: BALTIMORE Zip: 21227
Daytime Phone: 443-425-5988
Contractor Registration No.: MHIC30991

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property

Is the Property Located within an Historic District? X Yes/District Name TAKOMA PARK
__No/Individual Site Name

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: ____________ Street: ______________________________________________

Town/City: __________________________ Nearest Cross Street: __________________________

Lot: __________ Block: __________ Subdivision: ______ Parcel: ______

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

☐ New Construction ☐ Deck/Porch ☐ Shed/Garage/Accessory Structure
☐ Addition ☐ Fence ☐ Solar
☐ Demolition ☐ Hardscape/Landscape ☐ Tree removal/planting
☐ Grading/Excavation ☐ Roof ☐ Window/Door
☐ Other: ______________________

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

Signature of owner or authorized agent Date

JOSHUA STEBBINS
20 MONGOMERY AVE
TAKOMA PARK
20912
202-294-5421
01062576
JOSH.STEBBINS@SIERRACLUB.ORG

AARON WILLIAMS
3600 COMMERCE DR, #601
BALTIMORE
21227
443-425-5988
MHIC30991

7/29/2020
<table>
<thead>
<tr>
<th>Owner's mailing address</th>
<th>Owner's Agent's mailing address</th>
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<tr>
<td>20 MONGOMERY AVE, TAKOMA PARK, MD 20912</td>
<td>3600 COMMERCE DR, # 601, BALTIMORE, MD 21227</td>
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<th>Adjacent and confronting Property Owners mailing addresses</th>
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<td>NEIGHBOR TO THE WEST 18 MONTGOMERY AVE</td>
</tr>
<tr>
<td>ACROSS THE STREET 25 MONTGOMERY AVE</td>
</tr>
<tr>
<td>ACROSS THE STREET 17 MONTGOMERY AVE</td>
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Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

STANDARD 2 STORY SINGLE FAMILY HOME, CRAFTSMAN STYLE W/ FRONT AND BACK YARD

Description of Work Proposed: Please give an overview of the work to be undertaken:

ADDING SOLAR PANELS TO MULTIPLE ROOF SURFACES. TREES IN FRONT YARD SHOULD BLOCK VIEW FROM THE STREET
<table>
<thead>
<tr>
<th>Work Item 1: <strong>SOLAR PANELS</strong></th>
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<td>ADDING SOLAR PANELS TO MULTIPLE ROOF SURFACES. TREES IN FRONT YARD SHOULD BLOCK VIEW FROM THE STREET</td>
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<tbody>
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<td>Proposed Work:</td>
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BUILDING PERMIT

Issue Date: 07/21/2020

Permit No: 919870
AP Type: BUILDING
Expires: 07/21/2021
X Ref.: 
Rev. No: 
ID: 1308656

THIS IS TO CERTIFY THAT: Joe Rice
3701 Commerce Drive
STE 108
HALTHORPE, MD 21227

HAS PERMISSION TO: ALTER SINGLE FAMILY DWELLING

PERMIT CONDITIONS: Customer Wants To Use ePlans, INSTALL 29 ROOF MOUNTED SOLAR PANELS

MODEL NAME:
PREMISE ADDRESS: 20 MONTGOMERY AVE-TAKOMA PARK, MD 20912
LOT - BLOCK: 10 - 18
ZONE: R-60
ELECTION DISTRICT: 13
BOND NO.: 
BOND TYPE: 
PS NUMBER: 
PERMIT FEE: $227.12
SUBDIVISION: TAKOMA PARK

The permit fee is calculated based on the approved Executive Regulations multiplied by the Enterprise Fund Stabilization Factor for the current fiscal year.

TRANSPORTATION IMPACT TAX DUE:
SCHOOLS IMPACT TAX DUE:
SCHOOLS FACILITY PAYMENT DUE:

MUST BE KEPT AT JOB SITE
AN APPROVED FINAL INSPECTION IS REQUIRED PRIOR TO USE OR OCCUPANCY

Every new one- or two-family dwelling, every townhouse and any attached accessory structure must be equipped with a fire sprinkler system. A separate sprinkler permit is required for the installation of the fire sprinkler system.

Many subdivisions and neighborhoods within Montgomery County have private deed restrictions and covenants regulating building construction. Obtaining a building permit does not relieve the property owner of responsibility for complying with applicable covenants.

Notice
This Approval Does Not Include Plumbing, Gas Piping Or Electrical Or Construction In Any Dedicated Right-Of-Way.

Note
This Permit Does Not Include Approval For Any Electrical Work. You Must Have A Separate Electrical Permit To Do Any Electrical Work.

Mitra Pedoeem
Director, Department of Permitting Services
**ELECTRICAL PERMIT**

**Issue Date:** 07/21/2020

**THIS IS TO CERTIFY THAT:**  
FUSION SOLAR SERVICES LLC  
25 BEAVER POND CIR  
PARKVILLE, MD 21234

**HAS PERMISSION TO:**  
INSTALL SINGLE FAMILY DWELLING

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<td>0 Motion Picture</td>
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<td>0 Pt Thre Equip</td>
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<td>0 Signs</td>
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</table>

**DESIGN FOR LIFE:**  
N Alternative Sensory Alarm, Appliance or Control

**NOTE:**  
*Please do not request inspections under this permit until 2 business days after permit issuance.*

**PREMISE ADDRESS:**  
20 MONTGOMERY AVE  
TAKOMA PARK, MD 20912

The permit fee is calculated based on the approved Executive Regulations multiplied by the Enterprise Fund Stabilization Factor for the current fiscal year.

**LOT - BLOCK:** 10 - 18  
**ZONE:** R-60  
**ELECTION DISTRICT:** 13

**BOND NO:**  
**BOND TYPE:**  
**PS NUMBER:**

**PERMIT FEE:** $346.08

**PERMIT MUST BE KEPT AT THE JOB SITE**

Any activity within 10 feet of a high voltage line shall comply with Maryland DLLR Articles 6-106 and 6-107.

This permit does not include the formal review or permission to install the fire alarm system or devices. Submit shop drawings, equipment lists and specifications to this office for review, approval and a fire alarm permit prior to installation/alteration of any fire alarm system. Failure to obtain these permits may result in the imposition of civil or criminal penalties and/or loss of license.

---

Director, Department of Permitting Services

255 Rockville Pike, 2nd Floor · Rockville, MD 20850 · (240)777-0311 · (240)777-6256 TTY  
www.montgomerycountymd.gov/dps
SOLAR PV SYSTEM: 10.44 kWp

STEBBINS RESIDENCE
20 MONTGOMERY AVENUE TAKOMA PARK, MD UNITED STATES 20912

PROJECT INFORMATION
OWNER: JOSHUA STEBBINS
ADDRESS: 20 MONTGOMERY AVENUE TAKOMA PARK, MD UNITED STATES 20912

AHJ: MONTGOMERY
ADDRESS: 255 ROCKVILLE PIKE, 2ND FLOOR ROCKVILLE, MD 20850
ZONING: RESIDENTIAL
BUILDING CODE: IBC 2015
ELECTRICAL CODE: NEC 2017
ASCE VERSION: ASCE 7-10
SNOW LOAD: 30 PSF
WIND SPEED: 115 MPH
WIND EXPOSURE: B

DC RATING: 10.44 kW
AC RATING: 8.41 kW
RACKING: UNIRAC SM LIGHT RAIL
MODULE: (29) REC360AA
INVERTER: (29) IQ7PLUS-72-2-US

GENERAL NOTES
1) THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURER’S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2) 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).
3) THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM, AND THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE.
4) ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE AND AS REQUIRED BY THE NEC AND AHJ.
5) PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.

GENERAL NOTES
1) THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURER’S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
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E002 ELECTRICAL - WIRE CALC
E003 STRING & CONDUIT LAYOUT
E004 EQUIP. RATINGS & SIGNAGE

APPENDIX
MODULE DATASHEET
INVERTER DATASHEET
RACKING DATASHEET
ANCHOR DATASHEET
INSTALLATION NOTES

1) ALL RACKING SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS

2) ALL ROOFING PENETRATIONS SHALL EMBED IN STRUCTURAL MEMBERS AND PROPER FLASHING SEALANT SHALL BE USED TO PROVIDE WATERTIGHT ASSEMBLY

3) WHEN POSSIBLE, ALL RACKING STANDBOFFS WILL BE STAGGERED AMONGST THE ROOF SUPPORT MEMBERS

4) REFER TO PAGE S001 FOR MAXIMUM ALLOWABLE RAIL SPAN AND MODULE OVERHANG, AND ATTACHMENT DETAILS

5) ALL RACKING AND STRUCTURAL WORK FOR THIS PROJECT SHALL COMPLY WITH BUILDING CODE, IBC 2015 AND ASCE 7-10

- ALL SOLAR MODULES SUPPORTED BY ROOF ATTACHMENTS 48" O.C.
- SOLAR PHOTOVOLTAIC SYSTEM INSTALLED PARALLEL TO ROOF SURFACE
- SOLAR PHOTOVOLTAIC SYSTEM INSTALLED AT A MAXIMUM HEIGHT OF 6" ABOVE ROOF SURFACE

FOR PERMITTING USE ONLY

FOR ENGINEERING USE ONLY

STAMPED AND SIGNED FOR STRUCTURAL ONLY

Professional Certification: 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. 09930

Expiration: 01/15/2020

ANDREW OSTERMEIER
A0525042E4G447

CONTRACTOR INFO:

JOSHUA STEBBINS
3701 Commerce Dr
Suite 101
Baltimore, MD 21227
(443) 955-0779

LICENSE NUMBER:

MHIC-30991

PROJECT ADDRESS:

20 Montgomery Park
Avenue Takoma Park, MD United States 20912

ATTACHMENT & SITE PLAN

A001

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### Dead Load Calculation

<table>
<thead>
<tr>
<th>LOAD</th>
<th>QTY. OR LIN. FT.</th>
<th>WEIGHT PER (LB)</th>
<th>TOTAL LBS</th>
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<td>1247.00</td>
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<tr>
<td>M.L.E.'S</td>
<td>29</td>
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<td>69.02</td>
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<tr>
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<td>STANDOFF</td>
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</table>

**TOTAL ARRAY WEIGHT (LBS)**: 1597.4

**TOTAL ARRAY AREA (SQ.FT.)**: 545.8

**DISTRIBUTED LOAD (PSF)**: 2.93

### Point Load Calculation

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<tr>
<th>TOTAL ARRAY WEIGHT (LBS)</th>
<th>TOTAL NUMBER OF STANDOFFS (TYP.)</th>
<th>TOTAL ARRAY AREA (SQ.FT.)</th>
<th>DISTRIBUTE LOAD (PSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1597.38</td>
<td>115</td>
<td>545.8</td>
<td>2.93</td>
</tr>
</tbody>
</table>

**TOTAL ARRAY AREA (SQ.FT.)**: 545.8

**TOTAL ARRAY WEIGHT (LBS)**: 1597.38

**TOTAL POINT LOAD (LBS/STANDOFF)**: 13.89
1) All equipment to be listed and labeled for its application.
2) Working clearances around all new and existing electrical equipment shall comply with NEC110.26.
3) If used, PV power source breaker to be located at bottom of bus per NEC690.64(b)(5).
4) Listing agency name and number to be indicated on inverters and modules per NEC110.3(b).
5) AC combiner panels shall be labeled as "inverter AC combiner panel".
ELECTRICAL NOTES
1) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 90°C AND WET ENVIRONMENT, UNLESS OTHERWISE NOTED.
2) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
3) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER MANUFACTURER'S INSTRUCTION.
4) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER GEC VIA WEEB LUG PER NEC690.4(c).

CALCULATION FOR PV BREAKER & CIRCUITS

SYSTEM CURRENT: 1.21 x 29 = 35.09 A
DESIGN AMPERAGE: 35.09 x 125% = 43.8625 A
MAIN BUS RATING: 200 x 120% = 240 A
EXISTING MAIN BREAKER: 240 A
MAX SOLAR BREAKER: 240 A

CIRCUIT #1 = 10 x 1.21 x 125% = 15.13 A
CIRCUIT #2 = 10 x 1.21 x 125% = 15.13 A
CIRCUIT #3 = 10 x 1.21 x 125% = 15.13 A

CALCULATION FOR MAIN PV BREAKER & CIRCUITS

E002
WARNING: PHOTOVOLTAIC POWER SOURCE

LABEL TO BE INSTALLED AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS, SPACED AT MAXIMUM 10FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS. [NEC 690.31(G)]

LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE [IFC 605.11.1.1]

PHOTOVOLTAIC DC DISCONNECT

LABEL TO BE INSTALLED AT EACH DC DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT [NEC 690.13 AND 690.15]

PHOTOVOLTAIC AC DISCONNECT

LABEL TO BE INSTALLED AT EACH AC DISCONNECTING MEANS [NEC 690.13(B)]

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

LABEL TO BE INSTALLED AT RAPID SHUTDOWN SWITCH [NEC 690.55(C)]

LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE [IFC 605.11.1.1]

SOLAR PV SYSTEM DISCONNECT

LABEL TO BE INSTALLED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE [NEC 690.54]

WARNING: ELECTRICAL SHOCK HAZARD

DO NOT TOUCH TERMINALS! TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

PHOTOVOLTAIC SYSTEM CONNECTED

LABEL TO BE APPLIED TO THE DISTRIBUTION EQUIPMENT [NEC 690.64(B)(7)]

INTERACTIVE PHOTOVOLTAIC SYSTEM CONNECTED

LABEL TO BE INSTALLED AT A UTILITY METER [NEC 690.56(B)]

SOLAR PV LOADCENTER

10.44 kW DC SOLAR ARRAY

240 VOLT AC SYSTEM

INSTALLED COMPONENTS

(29) REC 360W Modules

(29) IQ7PLUS-72-2-US Inverters

CIRCUIT #1 = 10 x 125% = 12.53

CIRCUIT #2 = 10 x 125% = 12.53

CIRCUIT #3 = 9 x 125% = 11.29

SYSTEM CURRENT: 1.21 x 29 = 35.09 A

DESIGN AMPERAGE: 35.09 x 125% = 43.8625 A

WARNING: DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

LABEL TO BE INSTALLED ON EXTERIOR OF MAIN ELECTRICAL PANEL

WARNING: INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL TO BE APPLIED TO THE DISTRIBUTION EQUIPMENT [NEC 690.64(B)(7)]

FOR PERMITTING USE ONLY

CISIONAL PV SYSTEM DISCONNECT

LABEL TO BE INSTALLED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE [NEC 690.54]

WARNING

ELECTRICAL SHOCK HAZARD

IF GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

PHOTVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

LABEL TO BE INSTALLED AT RAPID SHUTDOWN SWITCH [NEC 690.55(C)]

LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE [IFC 605.11.1.1]

SOLAR PV SYSTEM DISCONNECT

LABEL TO BE INSTALLED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE [NEC 690.54]