



HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Robert K. Sutton
Chairman

Date: September 22, 2022

MEMORANDUM

TO: Mitra Pedoeem
Department of Permitting Services

FROM: Dan Bruechert
Historic Preservation Section
Maryland-National Capital Park & Planning Commission Historic

SUBJECT: Area Work Permit #997771 - Solar Installation

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **Approved** at the July 27, 2022 HPC meeting.

The HPC staff has reviewed and stamped the attached construction drawings.

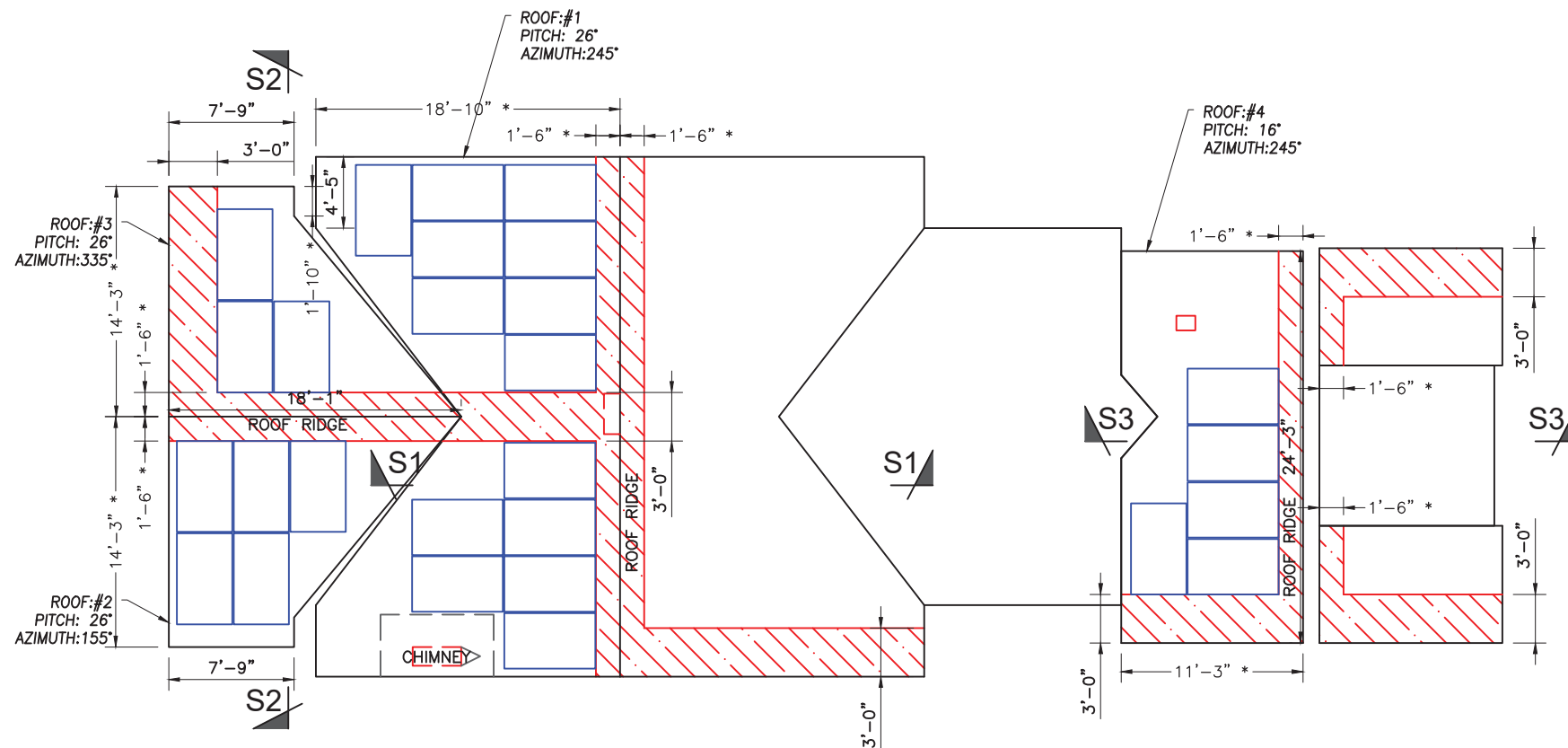
THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Tom Smerling
Address: 7105 Sycmore Ave., Takoma Park

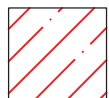
This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Dan Bruechert at 301.563.3400 or dan.bruechert@montgomeryplanning.org to schedule a follow-up site visit.



SolarEdge Crittter Guard Detached Garage



KEY



FIRE SAFETY ZONE



PLAN VIEW TOTAL ROOF AREA: 2300 SQFT

SOLAR ARRAY AREA: 540.7 SQFT

THE SOLAR ARRAY IS 23.5% OF THE PLAN VIEW TOTAL ROOF AREA


NOTES:

1. THE SYSTEM SHALL INCLUDE [41] HANWHA Q.PEAK DUO BLK-G10+-360W MODULES.
2. SNAPRACK UR-40 RAIL WILL BE INSTALLED IN ACCORDANCE WITH SNAPRACK INSTALLATION MANUAL.
3. DIMENSIONS MARKED (*) ARE ALONG ROOF SLOPE.
4. REFER TO STRUCTURAL DRAWING FOR SECTIONS MARKED AND ADDITIONAL NOTES.

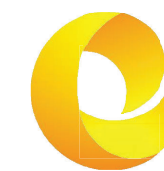
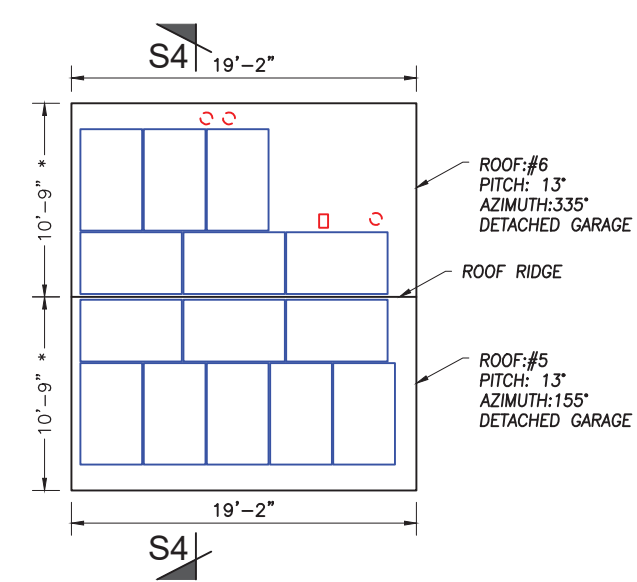
SOLAR PANEL LAYOUT

Scale: 3/32" = 1'-0"

APPROVED
Montgomery County
Historic Preservation Commission



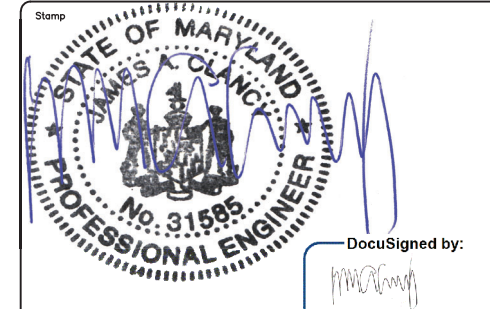
REVIEWED
By Dan.Bruechert at 1:52 pm, Sep 22, 2022



Solar Energy World
Because Tomorrow Matters

Solar Energy World LLC.
5681 Main Street
Elkridge, MD 21075
(888) 497-3233

Disclaimer:
This drawing is the property of Solar Energy World Inc. The information herein contained shall be used for the sole benefit of Solar Energy World. It shall not be disclosed to others outside the recipient's organization, in whole or in part, without the written permission of Solar Energy World, except in connection with the sale and use of the respective Solar Energy equipment.



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. 31585, expiration date: JULY 18, 2023. Stamped and signed for structures only

*STAMPED AND SIGNED FOR STRUCTURES ONLY

REV	DESCRIPTIONS	BY	DATE
01	-----	--	--

Plotted By: Garrett Connors on 6/3/2022 9:37 AM

Project Name and Address
Thomas Smerling
7105 Sycamore Ave
Takoma Park, MD 20912
14.76 kW
MD11189

Drawn by: CJA
Date: 1-JAN-2022
Scale: AS NOTED

Sheet: **A001**
11

PV Designer Report

5/12/2022

For:

Thomas Smerling R1-R4

By:

SEW



REVIEWED

By Dan.Bruechert at 1:52 pm, Sep 22, 2022

Session Design Summary:

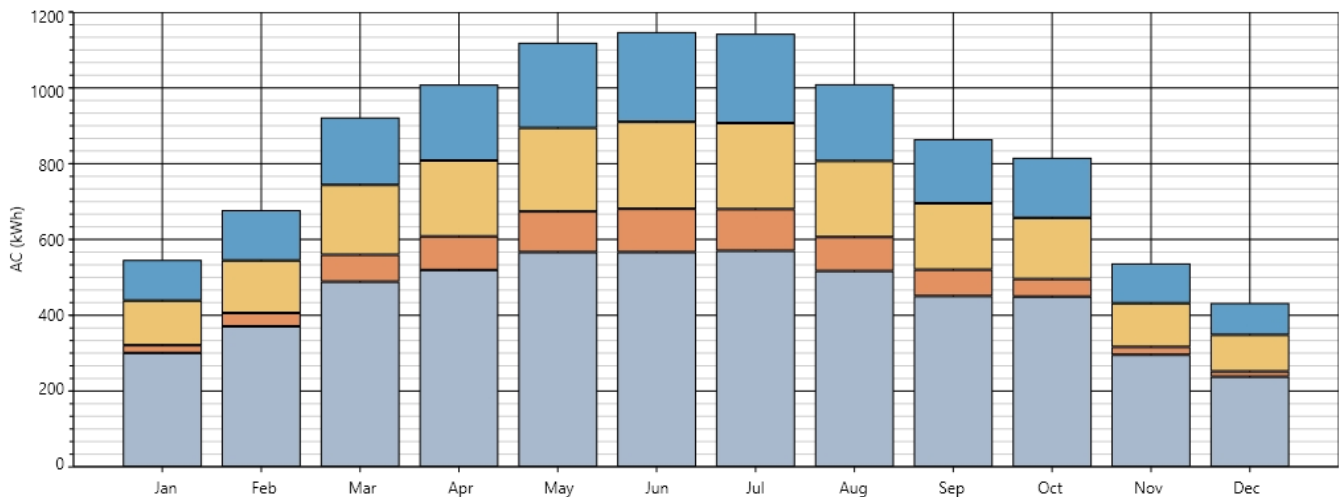
Session Design Summary:

Name: Thomas Smerling MD11189
 Location: 39.40 °N, 76.70 °W
 Minimum Temperature: -12.00 °C
 Maximum Temperature: 55.00 °C

Weather Properties:

Station Name: BALTIMORE
 Data Source: TMY2-93721
 Location: 39.18 °N, 76.67 °W
 Distance From Session Location: 15.30 mi

Design Result Chart:



Monthly Total AC kWh:

Month	Design 1 AC (kWh)	Design 2 AC (kWh)	Design 3 AC (kWh)	Design 4 AC (kWh)	Delta AC kWh	Combined AC kWh
Jan	300.6	20.4	117.9	107.6	280.2	546.5
Feb	370.7	35.2	138.6	133.1	335.6	677.6
Mar	488.6	71.0	184.4	178.1	417.6	922.1
Apr	519.3	88.9	200.3	200.8	430.4	1009.3
May	566.5	107.2	220.5	225.3	459.2	1119.6
Jun	566.8	114.3	229.2	237.2	452.4	1147.5
Jul	570.1	109.9	227.3	235.9	460.2	1143.2
Aug	516.9	89.6	200.8	202.7	427.2	1010.0
Sep	450.5	69.8	175.3	169.3	380.7	864.8
Oct	449.3	46.5	161.1	159.0	402.7	815.9
Nov	295.8	20.8	114.9	105.6	275.0	537.1
Dec	238.1	14.3	96.0	84.1	223.8	432.4
Annual	5333.1	787.9	2066.4	2038.6	4545.1	10225.9

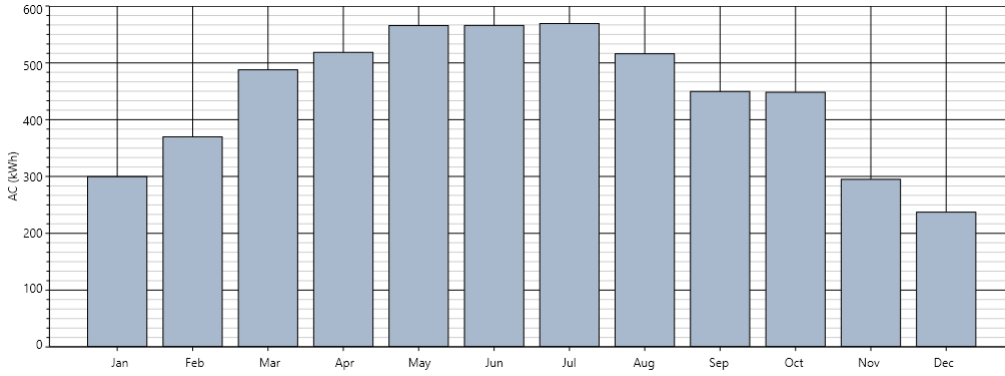
Design 1:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

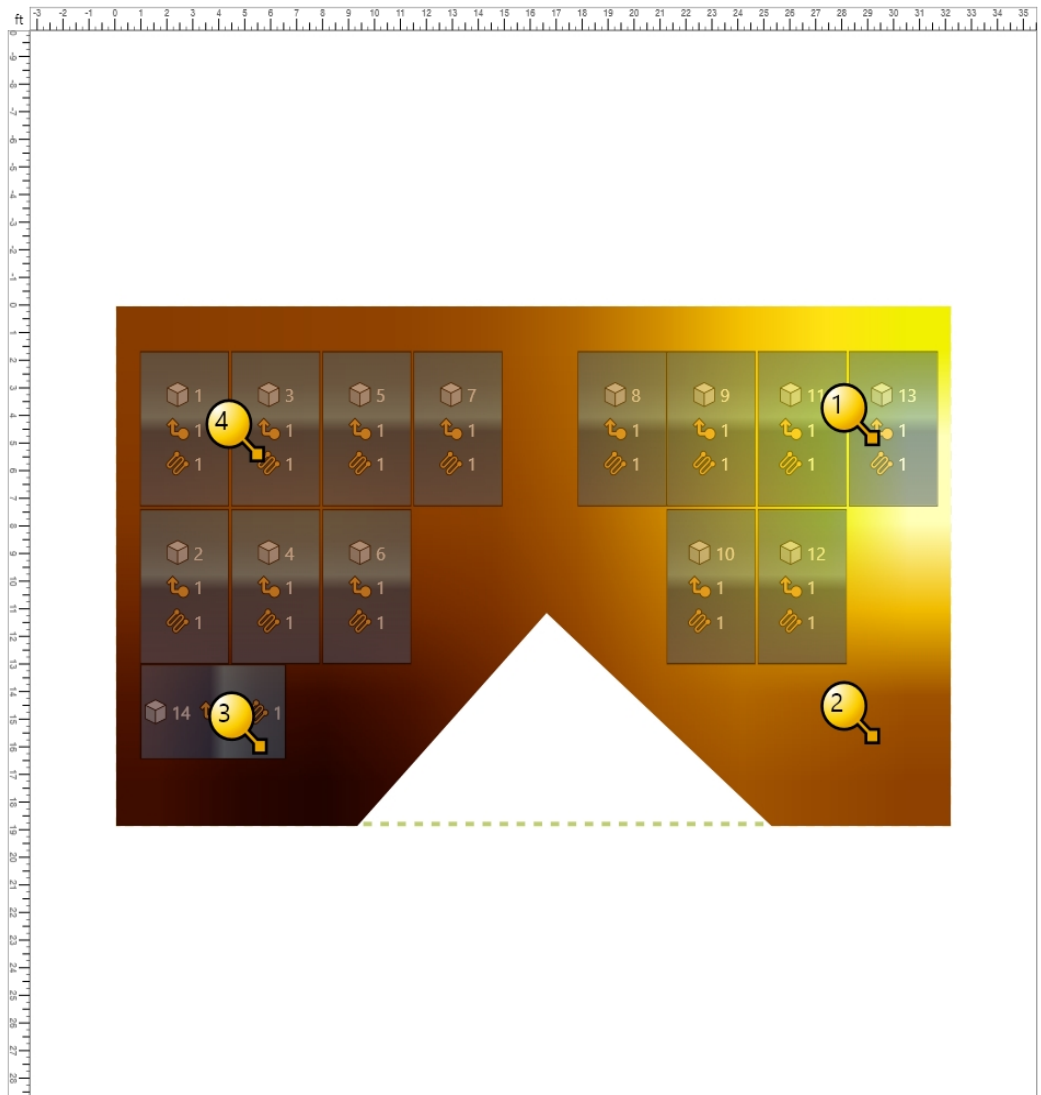
Month	Design 1 AC (kWh)
Jan	300.6
Feb	370.7
Mar	488.6
Apr	519.3
May	566.5
Jun	566.8
Jul	570.1
Aug	516.9
Sep	450.5
Oct	449.3
Nov	295.8
Dec	238.1
Annual	5333.1

Design Result Chart:



Layout View:

Length: 32.17 ft
 Width: 18.83 ft
 Azimuth: 245.00 °
 Slope: 26.00 °
 Total Modules: 14



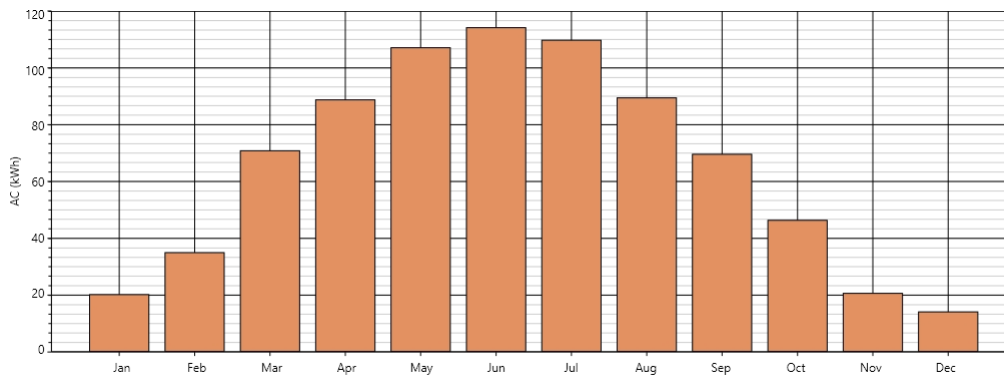
Design 2:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

Month	Design 2 AC (kWh)
Jan	20.4
Feb	35.2
Mar	71.0
Apr	88.9
May	107.2
Jun	114.3
Jul	109.9
Aug	89.6
Sep	69.8
Oct	46.5
Nov	20.8
Dec	14.3
Annual	787.9

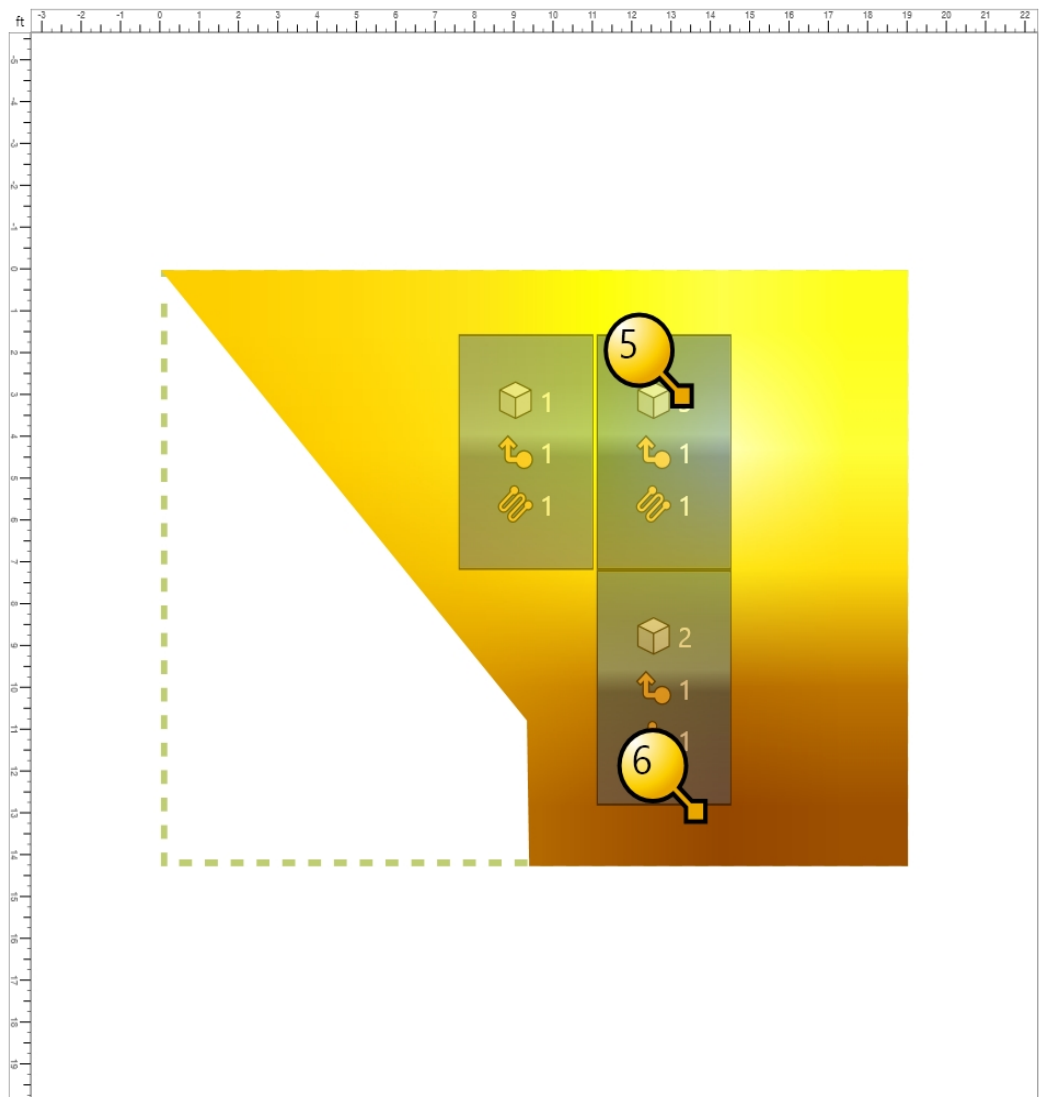
Design Result Chart:



Layout View:

Length: 19.00 ft
 Width: 14.25 ft
 Azimuth: 335.00 °
 Slope: 26.00 °
 Total Modules: 3

Color	Solar Access
	75%
	70%
	65%



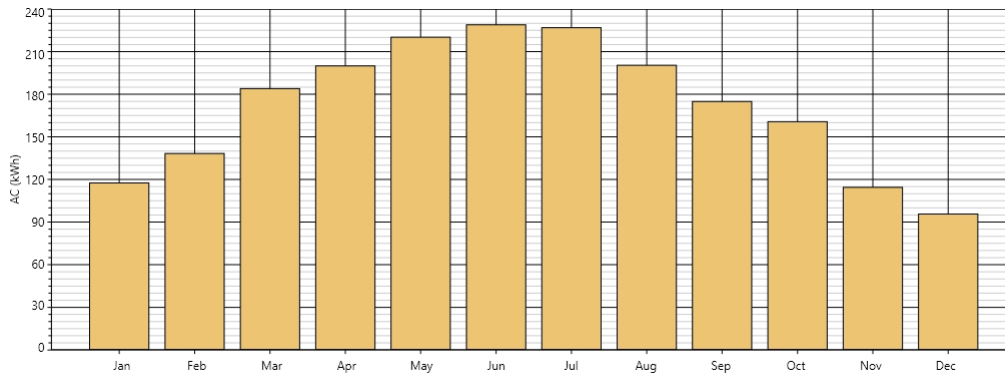
Design 3:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

Month	Design 3 AC (kWh)
Jan	117.9
Feb	138.6
Mar	184.4
Apr	200.3
May	220.5
Jun	229.2
Jul	227.3
Aug	200.8
Sep	175.3
Oct	161.1
Nov	114.9
Dec	96.0
Annual	2066.4

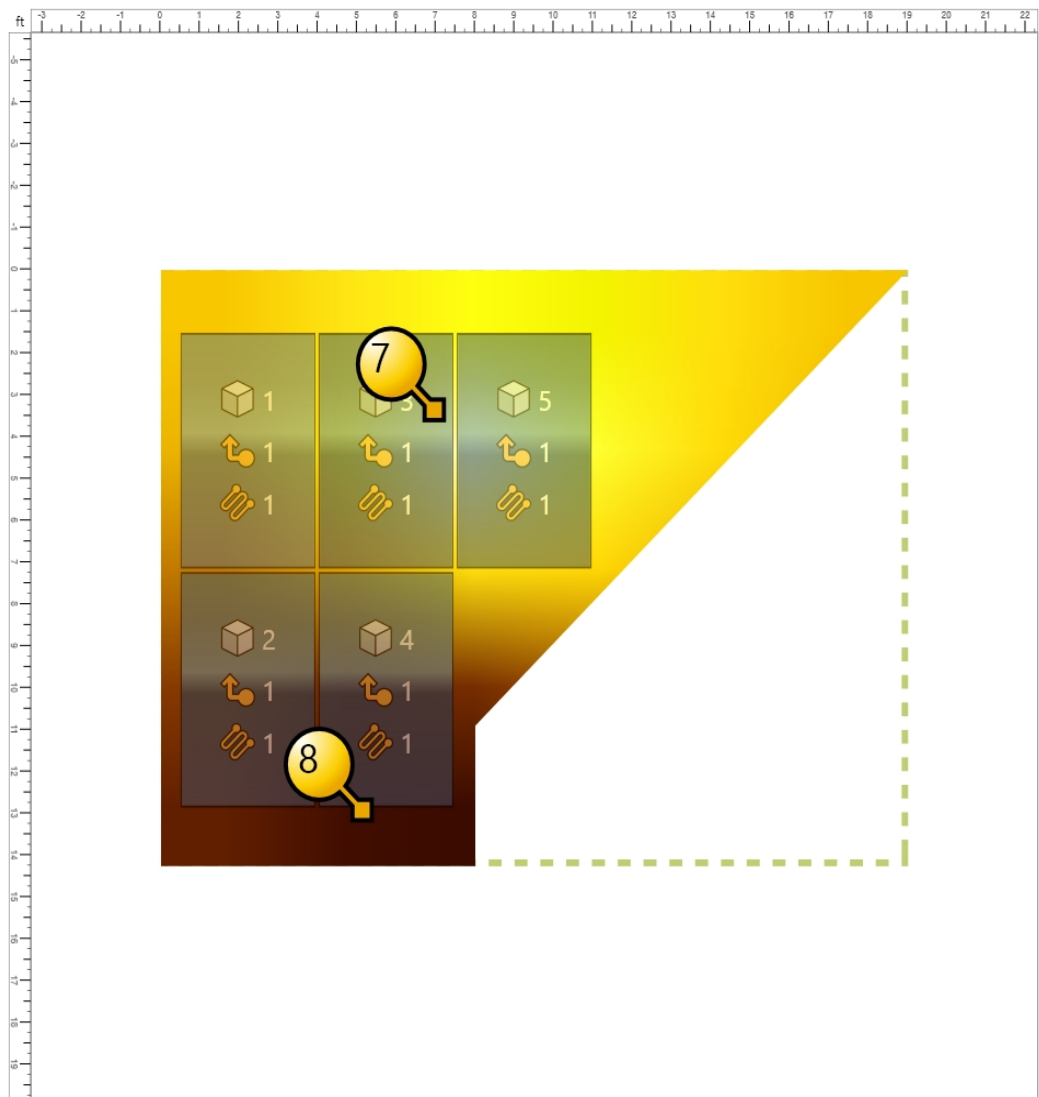
Design Result Chart:



Layout View:

Length: 19.00 ft
 Width: 14.25 ft
 Azimuth: 155.00 °
 Slope: 26.00 °
 Total Modules: 5

Color	Solar Access
	95%
	90%
	85%
	80%
	75%



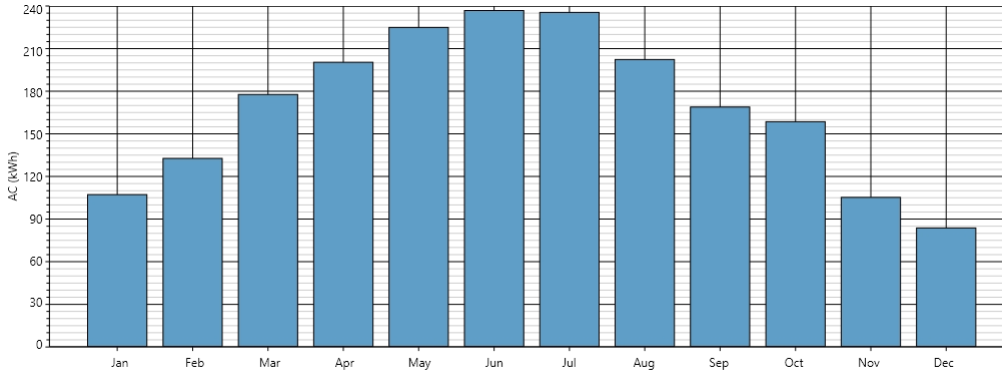
Design 4:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

Month	Design 4 AC (kWh)
Jan	107.6
Feb	133.1
Mar	178.1
Apr	200.8
May	225.3
Jun	237.2
Jul	235.9
Aug	202.7
Sep	169.3
Oct	159.0
Nov	105.6
Dec	84.1
Annual	2038.6

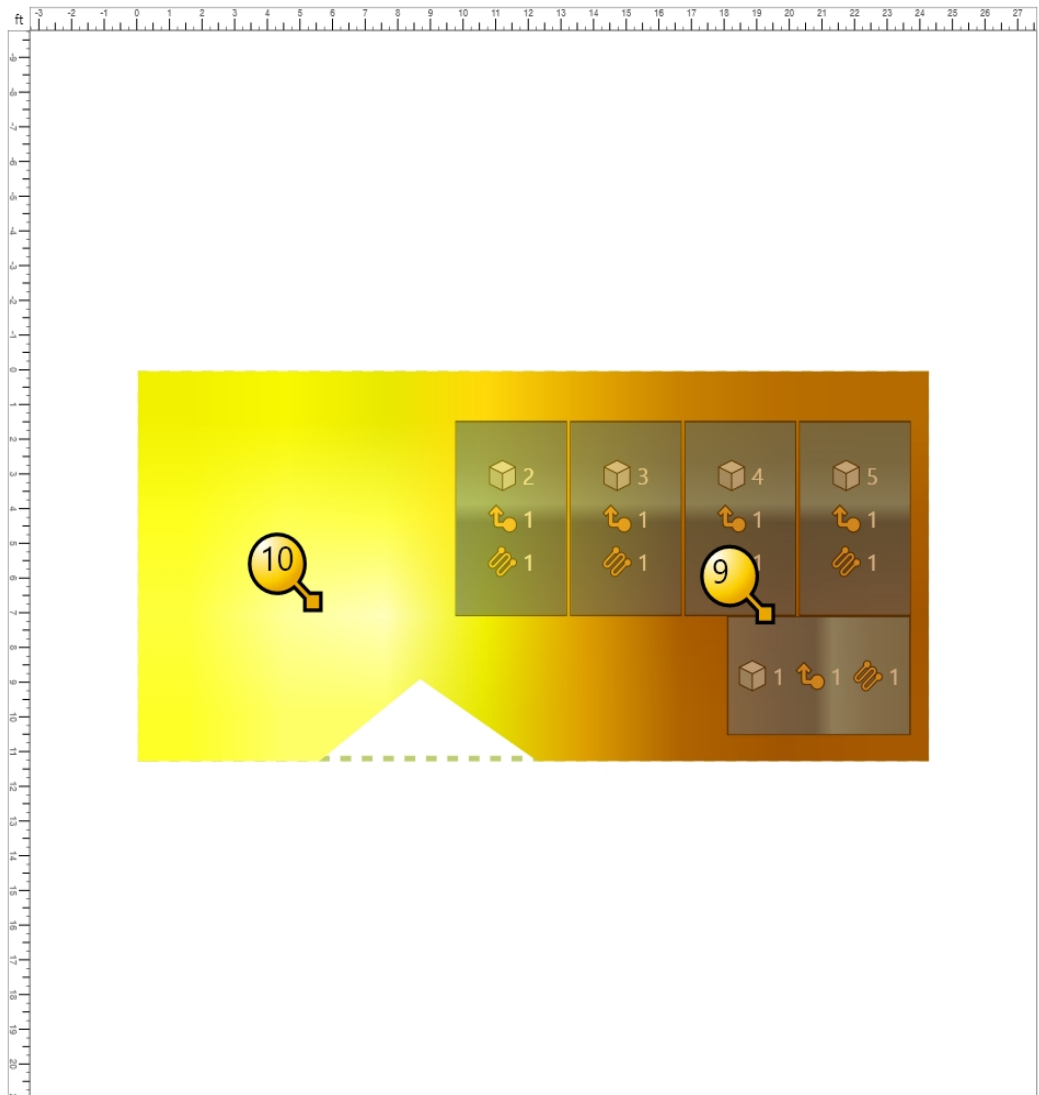
Design Result Chart:



Layout View:

Length: 24.25 ft
 Width: 11.25 ft
 Azimuth: 245.00 °
 Slope: 16.00 °
 Total Modules: 5

Color	Solar Access
	90%
	85%
	80%



PV Designer Report

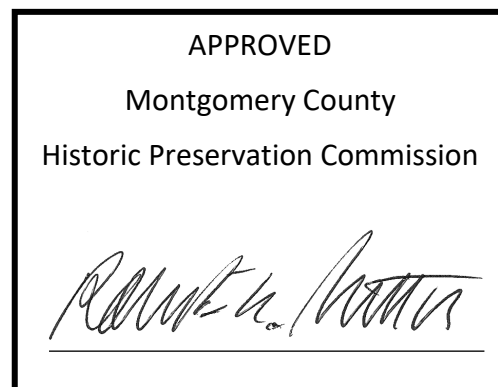
5/11/2022

For:

Thomas Smerling R5-R6

By:

SEW



REVIEWED

By Dan.Bruechert at 1:51 pm, Sep 22, 2022

Session Design Summary:

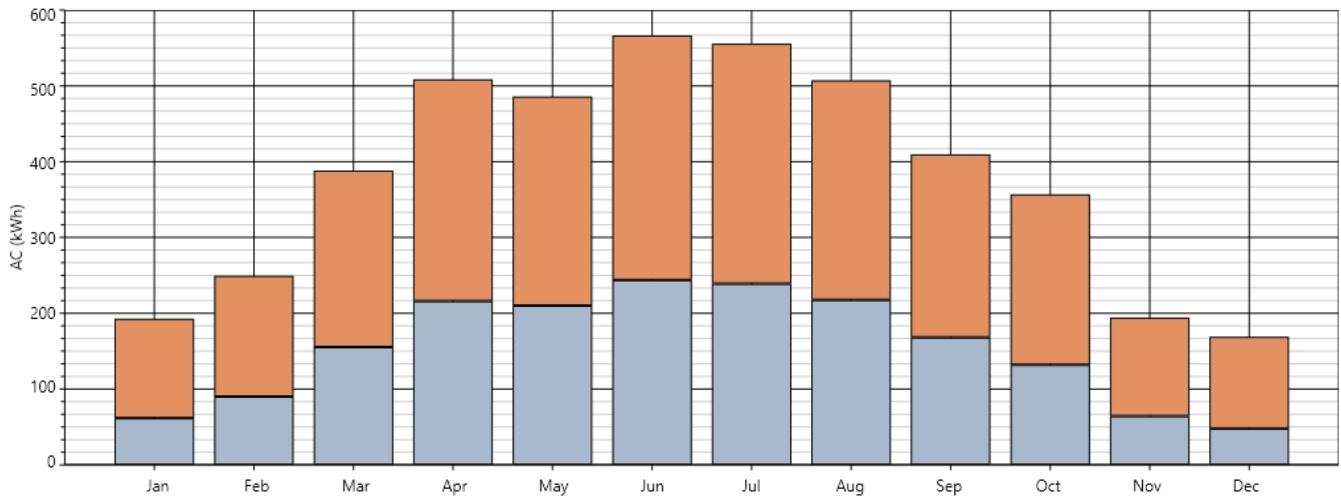
Session Design Summary:

Name: Thomas smerling MD11189 revisit
 Location: 39.00 °N, 77.00 °W
 Minimum Temperature: -12.00 °C
 Maximum Temperature: 55.00 °C

Weather Properties:

Station Name: Arlington-Ronald Reagan Washin
 Data Source: TMY3
 Location: 38.87 °N, 77.03 °W
 Distance From Session Location: 9.14 mi

Design Result Chart:



Monthly Total AC kWh:

Month	Design 1 AC (kWh)	Design 2 AC (kWh)	Delta AC kWh	Combined AC kWh
Jan	61.6	131.3	69.7	192.9
Feb	90.1	159.5	69.4	249.6
Mar	155.3	232.9	77.6	388.2
Apr	216.0	292.7	76.7	508.8
May	210.0	276.0	65.9	486.0
Jun	243.8	322.7	78.9	566.5
Jul	239.1	316.7	77.6	555.8
Aug	217.5	289.8	72.2	507.3
Sep	168.2	241.5	73.3	409.7
Oct	132.1	224.9	92.8	357.0
Nov	64.4	130.0	65.7	194.4
Dec	48.1	120.9	72.9	169.0
Annual	1846.3	2738.9	892.6	4585.2

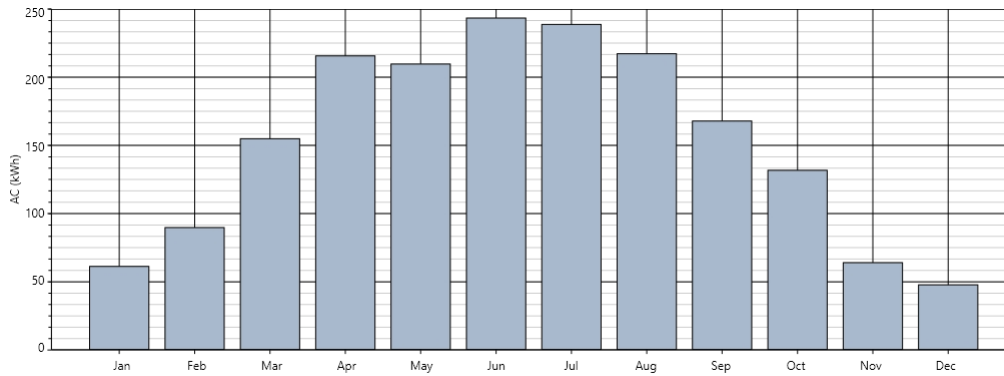
Design 1:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

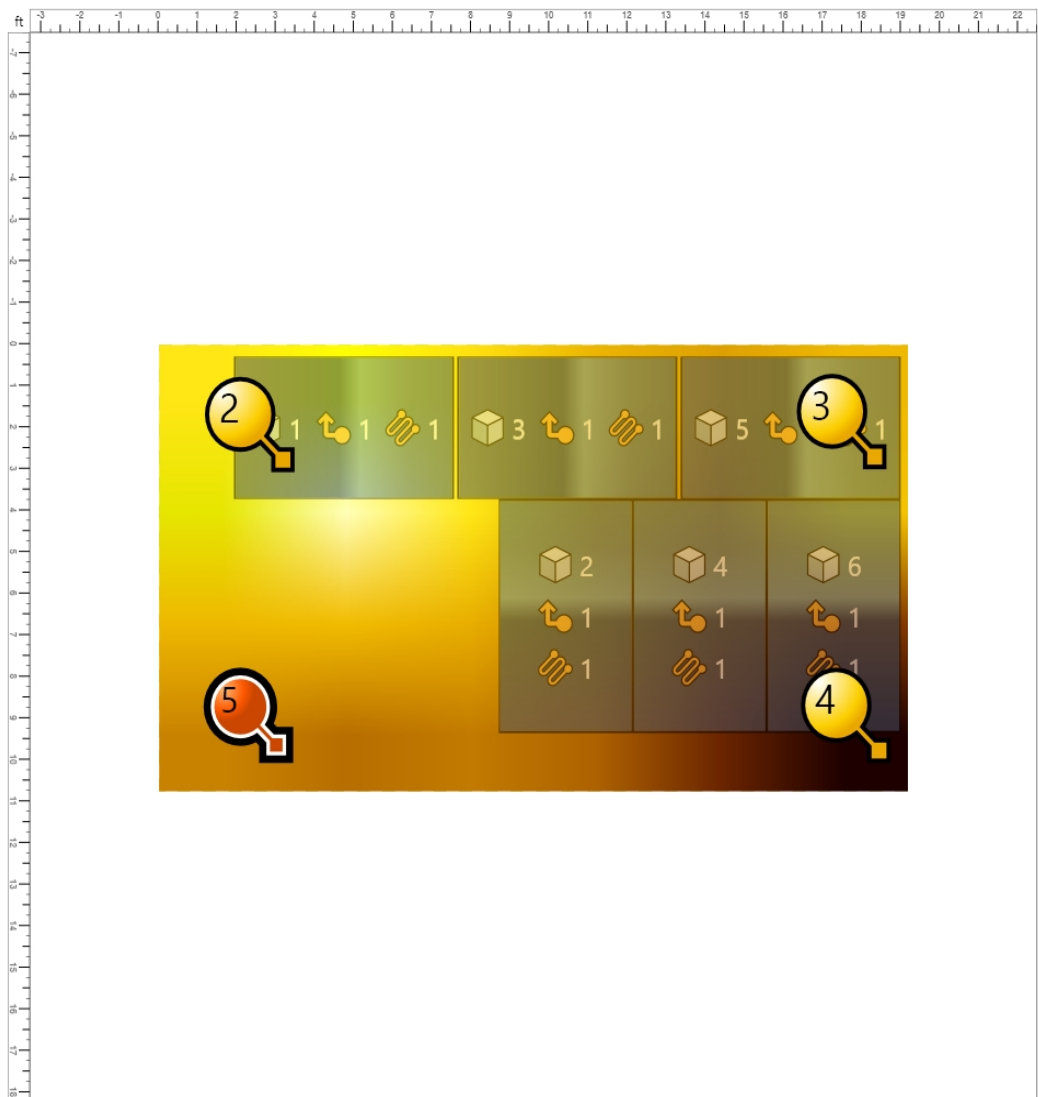
Month	Design 1 AC (kWh)
Jan	61.6
Feb	90.1
Mar	155.3
Apr	216.0
May	210.0
Jun	243.8
Jul	239.1
Aug	217.5
Sep	168.2
Oct	132.1
Nov	64.4
Dec	48.1
Annual	1846.3

Design Result Chart:



Layout View:

Length: 19.17 ft
 Width: 10.75 ft
 Azimuth: 335.00 °
 Slope: 13.00 °
 Total Modules: 6



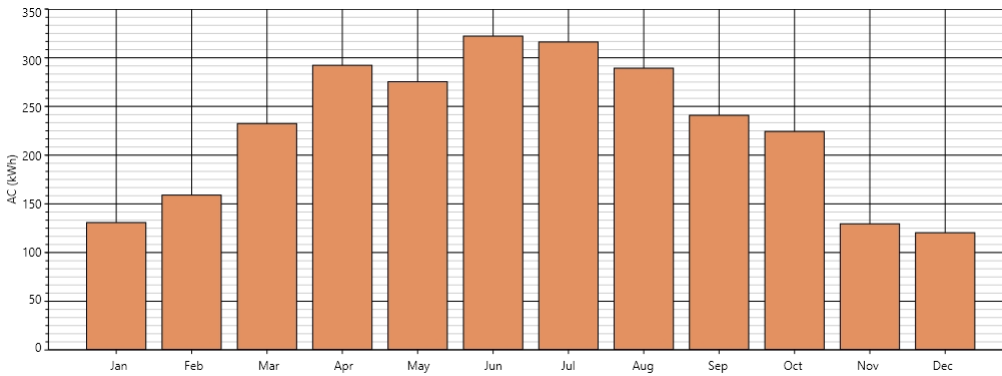
Design 2:

Design Properties:

Module Manufacturer: Custom
 Module Model: Q.PEAK DUO BLK-G10+ 360W
 Inverter Manufacturer: Custom
 Inverter Model: Enphase IQ7+-60-2-US
 (Due to spacing constraints, only the manufacturer and model of the first inverter is include in this report)
 Derate Factor: 0.83

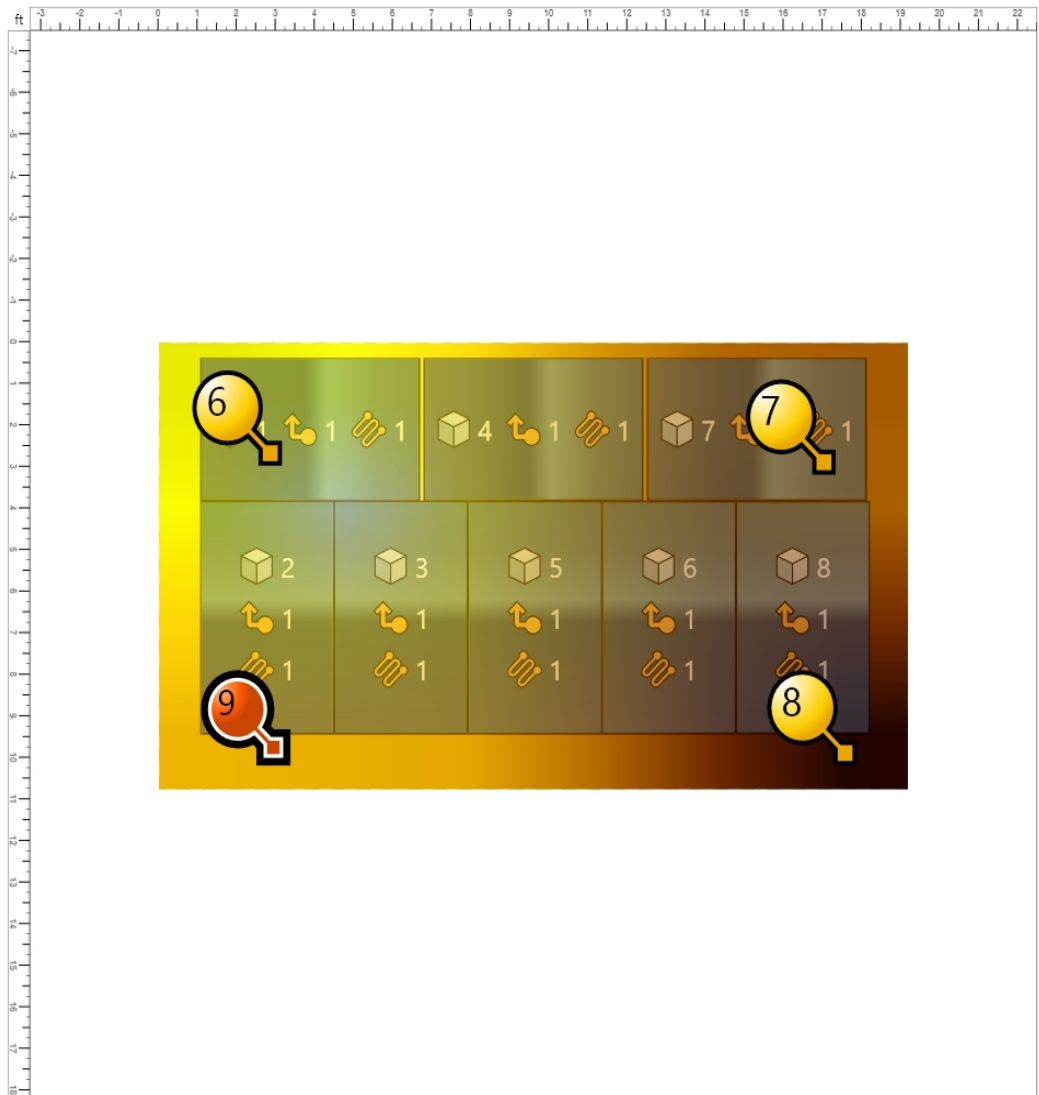
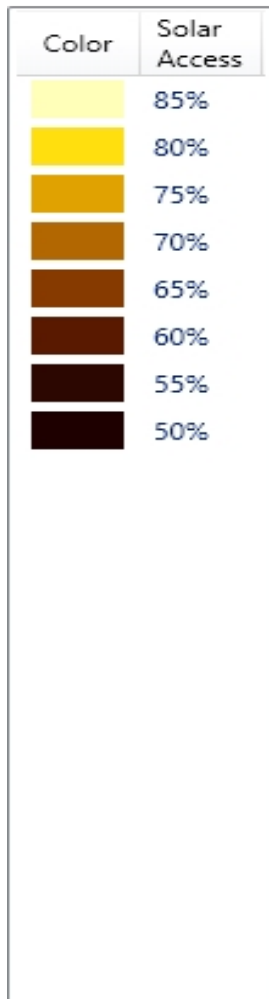
Month	Design 2 AC (kWh)
Jan	131.3
Feb	159.5
Mar	232.9
Apr	292.7
May	276.0
Jun	322.7
Jul	316.7
Aug	289.8
Sep	241.5
Oct	224.9
Nov	130.0
Dec	120.9
Annual	2738.9

Design Result Chart:



Layout View:

Length: 19.17 ft
 Width: 10.75 ft
 Azimuth: 155.00 °
 Slope: 16.00 °
 Total Modules: 8



Thomas Smerling Project Breakdown by Layout		
Layout	Output kWh	Savings per year
Original 41 Panel Design	14811	\$ 2,222
Historic Proposed 19 Panel Design	6724	\$ 1,009
Difference	-8087	\$ (1,213)

APPROVED
 Montgomery County
 Historic Preservation Commission


REVIEWED
 By Dan.Bruechert at 1:53 pm, Sep 22, 2022

SREC Income per year	Total \$ Benefit from Solar per year
\$ 4,591	\$ 6,813
\$ 2,084	\$ 3,093
\$ (2,507)	\$ (3,720)