

# NOTICE OF DECISION

PLANNING DIVISION  
555 LIBERTY ST. SE, RM 305  
SALEM, OREGON 97301  
PHONE: 503-588-6173  
FAX: 503-588-6005



*Si necesita ayuda para comprender esta informacion, por favor llame  
503-588-6173*

## DECISION OF THE PLANNING ADMINISTRATOR

**MINOR HISTORIC DESIGN REVIEW CASE NO.: HIS18-36**

**APPLICATION NO. : 18-122623-DR**

**NOTICE OF DECISION DATE: DECEMBER 6, 2018**

**SUMMARY:** Minor Historic Design Review of a proposal to install 75 solar panels on the roof of the administration building and education wing of the First United Methodist Church.

**REQUEST:** Minor Historic Design Review of a proposal to install 75 solar panels on the roof of the administration building and education wing of the First United Methodist Church, individually designated on the National Register of Historic Places, located at 600 State Street, 97301; Marion County Assessor Map and Tax Lot number 073W27AA-2400.

**OWNER/APPLICANT:** First United Methodist Church

**REPRESENTATIVE:** David Cox

**LOCATION:** 600 State St / 97301

**CRITERIA:** Salem Revised Code Chapter. 230.060 - Standards for historic contributing buildings in public historic districts and individually listed public historic resources

**FINDINGS:** The findings are in the attached Decision dated December 6, 2018.

**DECISION:** The **Historic Preservation Officer**, (a Planning Administrator Designee), **APPROVED** Historic Design Review HIS18-36 based upon the application materials deemed complete on December 5, 2018 and the findings as presented in this report.

*This Decision becomes effective on **December 22, 2018**. No work associated with this Decision shall start prior to this date unless expressly authorized by a separate permit, land use decision, or provision of the Salem Revised Code (SRC).*

The rights granted by the attached decision must be exercised, or an extension granted, by December 22, 2020 or this approval shall be null and void.

|                                  |                   |
|----------------------------------|-------------------|
| Application Deemed Complete:     | December 5, 2018  |
| Notice of Decision Mailing Date: | December 6, 2018  |
| Decision Effective Date:         | December 22, 2018 |
| State Mandate Date:              | April 4, 2019     |

Case Manager: Kimberli Fitzgerald, [kfitzgerald@cityofsalem.net](mailto:kfitzgerald@cityofsalem.net), 503.540.2397

This decision is final unless written appeal from an aggrieved party is filed with the City of Salem Planning Division, Room 305, 555 Liberty Street SE, Salem OR 97301, no later than **5:00 p.m., December 21, 2018**. The notice of appeal must contain the information required by SRC 300.1020 and must state where the decision failed to conform to the provisions of the applicable code section, SRC Chapter 230. The appeal must be filed in duplicate with the City of Salem Planning Division. The appeal fee must be paid at the time of filing. If the appeal is untimely and/or lacks the proper fee, the appeal will be rejected. The Historic Landmarks Commission will review the appeal at a public hearing. After the hearing, the Historic Landmarks Commission may amend, rescind, or affirm the action, or refer the matter to staff for additional information.

The complete case file, including findings, conclusions and conditions of approval, if any, is available for review at the Planning Division office, Room 305, City Hall, 555 Liberty Street SE, during regular business hours.

<http://www.cityofsalem.net/planning>

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503-588-6173***

**BEFORE THE PLANNING ADMINISTRATOR OF THE CITY OF SALEM**

**HISTORIC DESIGN REVIEW CASE NO. HIS18-36  
DECISION**

**IN THE MATTER OF APPROVAL OF ) MINOR HISTORIC DESIGN REVIEW  
HISTORIC DESIGN REVIEW )  
CASE NO. HIS18-36 )  
600 STATE STREET ) DECEMBER 6, 2018**

In the matter of the application for a Minor Historic Design Review submitted by David Cox on behalf of the First United Methodist Church, the Historic Preservation Officer (a Planning Administrator Designee), having received and reviewed evidence and the application materials, makes the following findings and adopts the following order as set forth herein.

**REQUEST**

**SUMMARY:** Minor Historic Design Review of a proposal to install 75 solar panels on the roof of the administration building and education wing of the First United Methodist Church.

**REQUEST:** Minor Historic Design Review of a proposal to install 75 solar panels on the roof of the administration building and education wing of the First United Methodist Church, individually designated on the National Register of Historic Places, located at 600 State Street, 97301; Marion County Assessor Map and Tax Lot number 073W27AA-2400.

A vicinity map illustrating the location of the property is attached hereto, and made a part of this decision (**Attachment A**).

**DECISION**

**APPROVED** based upon the application materials deemed complete on December 5, 2018 and the findings as presented in this report.

**FINDINGS**

1. Minor Historic Design Review Applicability

SRC 230.020(f) requires Historic Design Review approval for any alterations to historic resources as those terms and procedures are defined in SRC 230. The Planning

Administrator shall render a decision supported by findings that explain conformance or lack thereof with relevant design standards, state the facts relied upon in rendering the decision, and explain justification for the decision.

## 2. Analysis of Minor Historic Design Review Approval Criteria

**Summary and Background:** The applicant is proposing to install seventy-five (75) solar panels on the roof of the administration building and education wing of the First United Methodist Church. Staff finds that the applicant adequately demonstrated that this proposal complies with the applicable provisions of the Salem Revised Code (SRC) as follows:

**Criteria: 230.060 (e) (3) Solar Panels, Rooftop Mechanical Devices, and Skylights.** Solar panels and other rooftop mechanical structures may be added to historic contributing buildings and individually listed public historic resources.

### **(A) Materials.**

**(i) *Non-reflective glass and metal panels are allowed.***

**Finding:** The applicant is proposing to install SunPower Performance Series 1500 Volt P17 aluminum framed solar panels with tempered anti-reflective black coated glass panels, thereby meeting this standard.

**(ii) *Reflective glass and plastic frames are prohibited.***

**Finding:** The applicant's proposal does not include reflective glass or plastic frames, thereby meeting this standard.

### **(B) Design.**

**(i) *Solar panels shall not alter the existing profile of the roof, and shall be mounted parallel to the roof plane on rear-facing roofs or placed on the ground in an inconspicuous location.***

**Finding:** The applicant is proposing to mount the solar panels on frames that will be mounted parallel to the flat roof plane. The glass panels will be tilted at a 20 degree angle to a height of 30" in order to function adequately. The panels will be mounted on the flat portion of the roofs of both the administration building and the education wing, behind a 4' parapet wall and will not visibly alter the existing profile of the roof of either of these buildings. Staff finds that this standard has been met.

**(ii) *Satellite dishes, TV antennae and other rooftop mechanical structures shall be installed so they are not visible from the street and do not damage or obscure significant architectural features of the resource.***

**Finding:** The applicant has proposed to install the solar panels and the associated conduit on the flat portion of the roof behind the parapet wall. The applicant has

adequately demonstrated that at this height and located on the flat portion of the roof, behind the parapet wall, the solar panels and conduit will not be visible from the right of way, and will not damage or obscure any significant architectural features of either the administration building or the education wing. Staff finds that this standard has been met.

**(iii) Skylights shall be flat and shall not alter the existing profile of the roof. Bubble-type skylights are prohibited.**

**Finding:** The applicant is not proposing to install skylights as part of this proposal, therefore this standard is not applicable to the evaluation of this proposal.

### DECISION

Based upon the application materials deemed complete on December 5, 2018 and the findings as presented in this report, the application for HIS18-36 is **APPROVED**.



Kimberli Fitzgerald, AICP  
Historic Preservation Officer  
Planning Administrator Designee

Attachments: A. Vicinity Map  
B. Applicant's Submittal Material

Application Deemed Complete: December 5, 2018  
Notice of Decision Mailing Date: December 6, 2018  
Decision Effective Date: December 22, 2018  
State Mandate Date: April 4, 2019

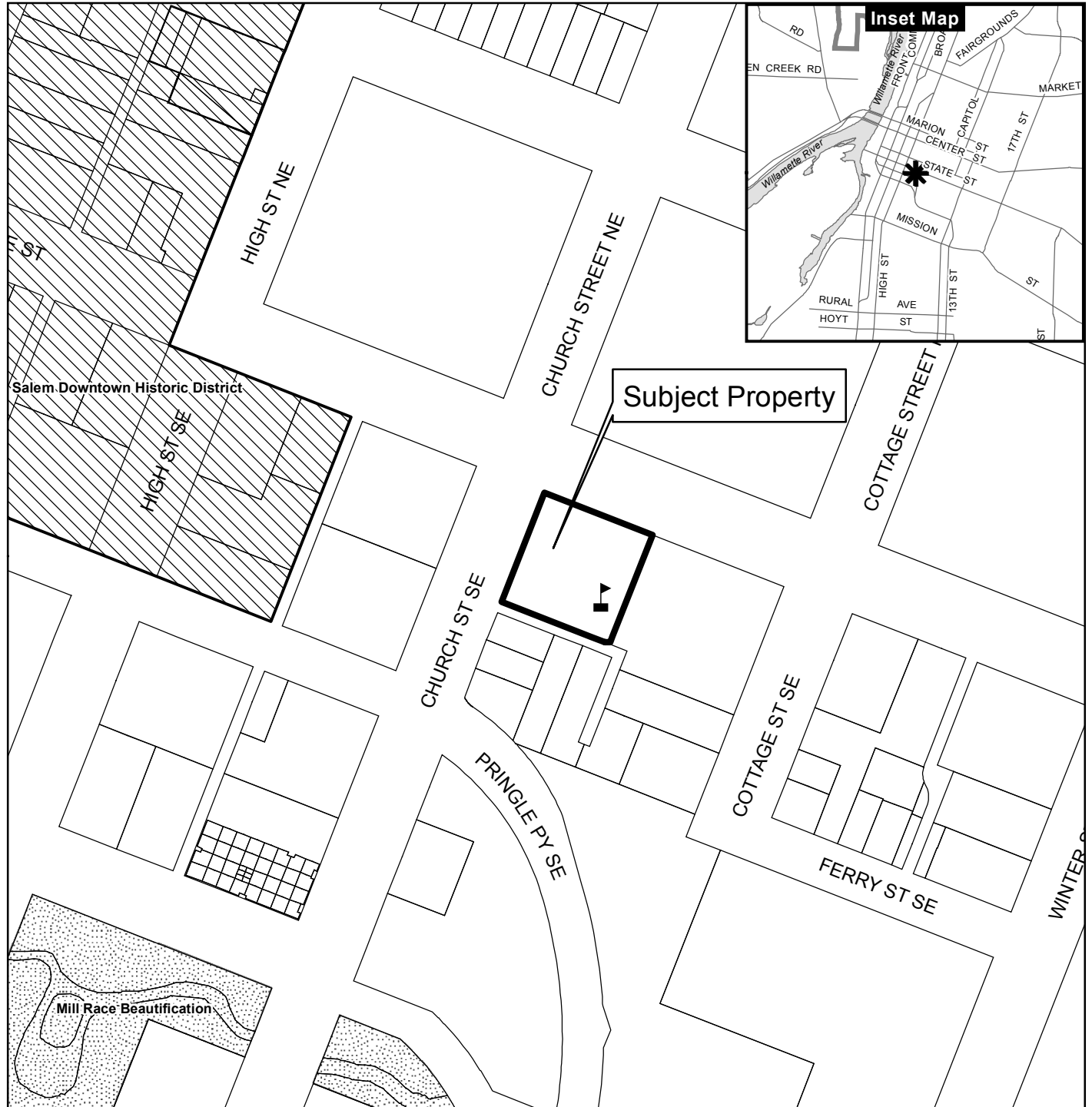
*This Decision becomes effective on **December 22, 2018**. No work associated with this Decision shall start prior to this date unless expressly authorized by a separate permit, land use decision, or provision of the Salem Revised Code (SRC).*

The rights granted by this decision must be exercised by **December 22, 2020** or this approval shall be null and void.








This decision is final unless written appeal from an aggrieved party is filed with the City of Salem Planning Division, Room 305, 555 Liberty Street SE, Salem, OR 97301, no later than **5:00 p.m., December 21, 2018**. The appeal must state where the decision failed to conform to the provisions of the historic preservation ordinance (SRC Chapter

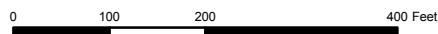
230). The appeal must be filed in duplicate with the City of Salem Planning Division. The appeal fee must be paid at the time of filing. If the appeal is untimely and/or lacks the proper fee, the appeal will be rejected. The Salem Historic Landmarks Commission will review the appeal at a public hearing. After the hearing, the Historic Landmarks Commission may amend, rescind, or affirm the action, or refer the matter to staff for additional information.

# Vicinity Map 600 State St



### Legend

-  Taxlots
-  Urban Growth Boundary
-  City Limits
-  Outside Salem City Limits
-  Historic District
-  Schools
-  Parks



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Case No. H1518-36

**Historic Alteration Review - General Resource Worksheet**

Site Address: 600 State Street Resource Status:  Contributing  
Salem, OR 97301  Individual Landmark  Non-Contributing

**Type of Work Activity Proposed**

Major  Minor

**Replacement, Alteration, Restoration or Addition of:**

**Architectural Feature:**

- Deck
- Door
- Exterior Trim
- Porch
- Roof
- Siding
- Window(s) Number of windows: \_\_\_\_\_
- Other architectural feature (describe) \_\_\_\_\_

**Landscape Feature:**

- Fence
- Retaining wall
- Other Site feature
- Streetscape

**New Construction:**

- Addition
- New Accessory Structure
- Sign
- Awning

Will the proposed alteration be visible from any public right-of-way?  YES  NO

Project's Existing Material: \_\_\_\_\_ Project's New Material: \_\_\_\_\_

**Project Description**

Briefly provide an overview of the type of work proposed. Describe how it meets the applicable design criteria in SRC Chapter 230. Please attach any additional information (i.e., product specification sheets) that will help Staff and the HLC clearly understand the proposed work:

**This project will consist of the installation of 75 solar panels on the flat portion of the roofs of the "Education wing" (30 panels) and the "Administrative wing" (45 panels). These wings are attachments to the Historic First United Methodist Church. Both the roofs of the education wing and the administrative wing are surrounded by parapet walls. Neither the solar panels, their supports nor their electrical conduits will be visible from the ground. (See attachments)**

RO Miller  
Signature of Applicant

11/13/18  
Date Submitted/Signed



Application Packet  
Historic Design Review –Minor  
First United Methodist Church  
600 State Street  
Salem Oregon 97301

Installation of Roof Top Solar Panels

Submitted  
November 13, 2018

# MEMO

**To:** Kimberli Fitzgerald

**From :** First United Methodist Church

David Cox (503) 508 1956

**Subject :** Historic Design Review – Minor

Thank you for meeting with us last week. As a result of that meeting we have made the following changes and clarifications to the materials we presented to you at that time.

1. This submission and all of the supporting displays deal only with the Historic First United Methodist Church. We will deal with the MICAH building separately at another time.
2. In discussion with the potential contractors we believe we can lower the tilt angle of the panels. We will now require that they be placed at a 20 degree angle rather than the 30 degree angle we discussed with you last week. Their performance at 20 degrees is very near to what it would be at 30 degrees and will still meet our power generation needs. The top of these panels will never be above the top of the parapet wall.
3. We have clarified that all conduit will enter through the roof as soon as possible and never be visible from the ground. (See note on contractor's letter.)
4. The details on the type of solar panels and on their supporting brackets is now included.

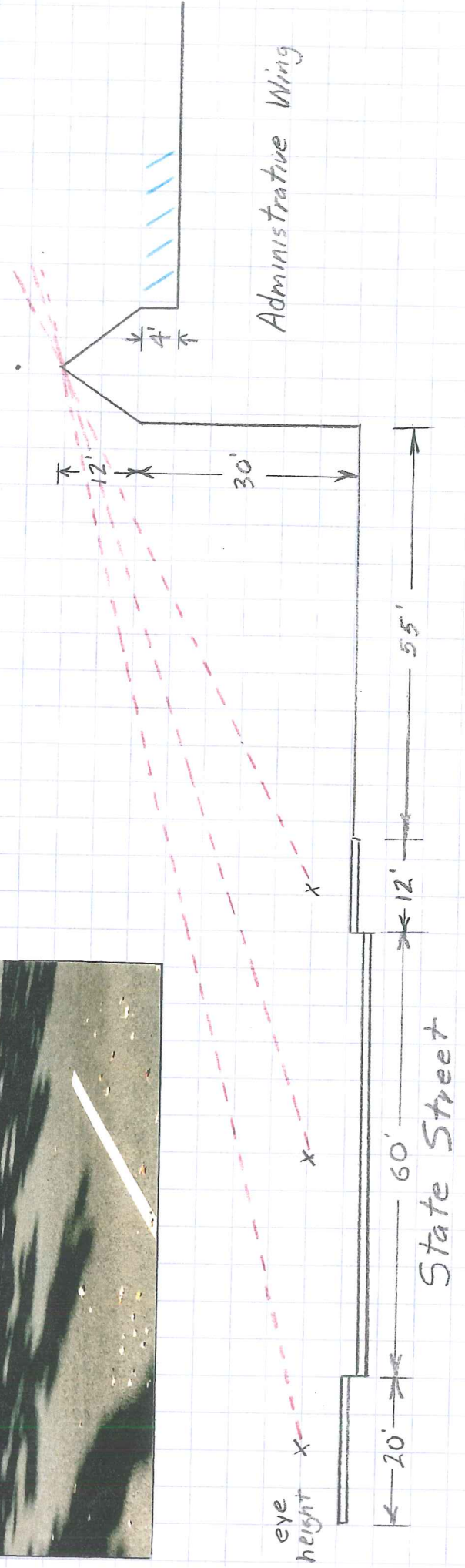
Thank you again for all of your help.

# Historic First United Methodist Church

## Administrative Wing

### Street View

Solar Panels shown in Blue -----

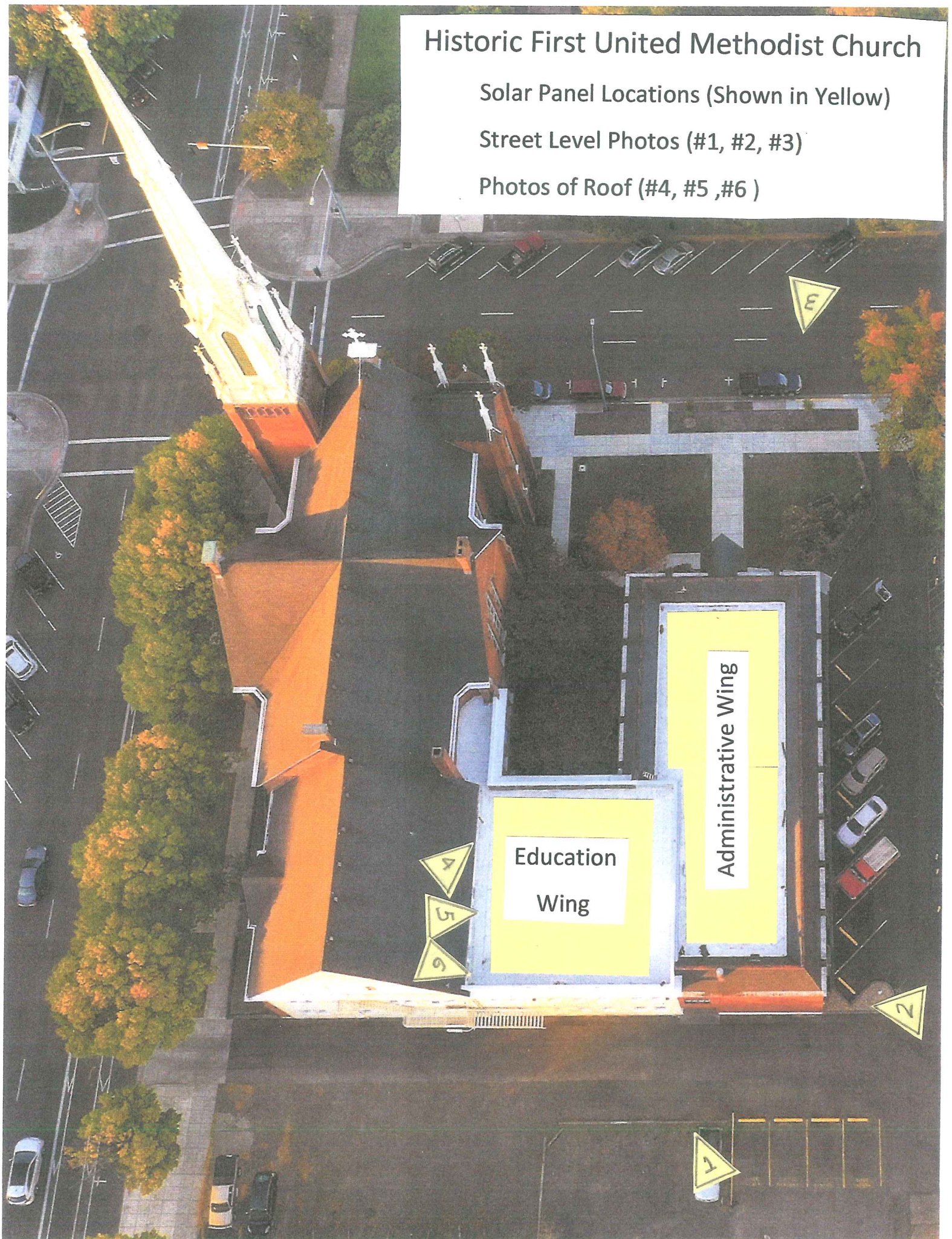


# Historic First United Methodist Church

Solar Panel Locations (Shown in Yellow)

Street Level Photos (#1, #2, #3)

Photos of Roof (#4, #5, #6)



Education  
Wing

Administrative Wing

4

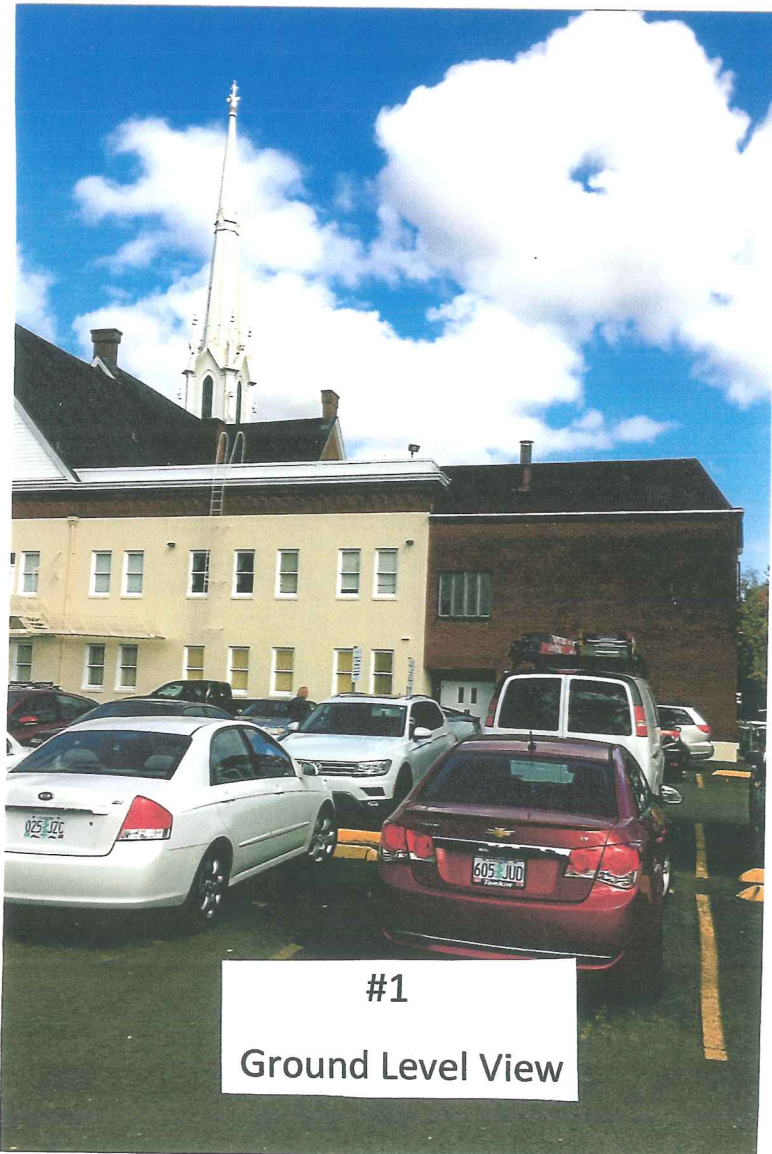
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6

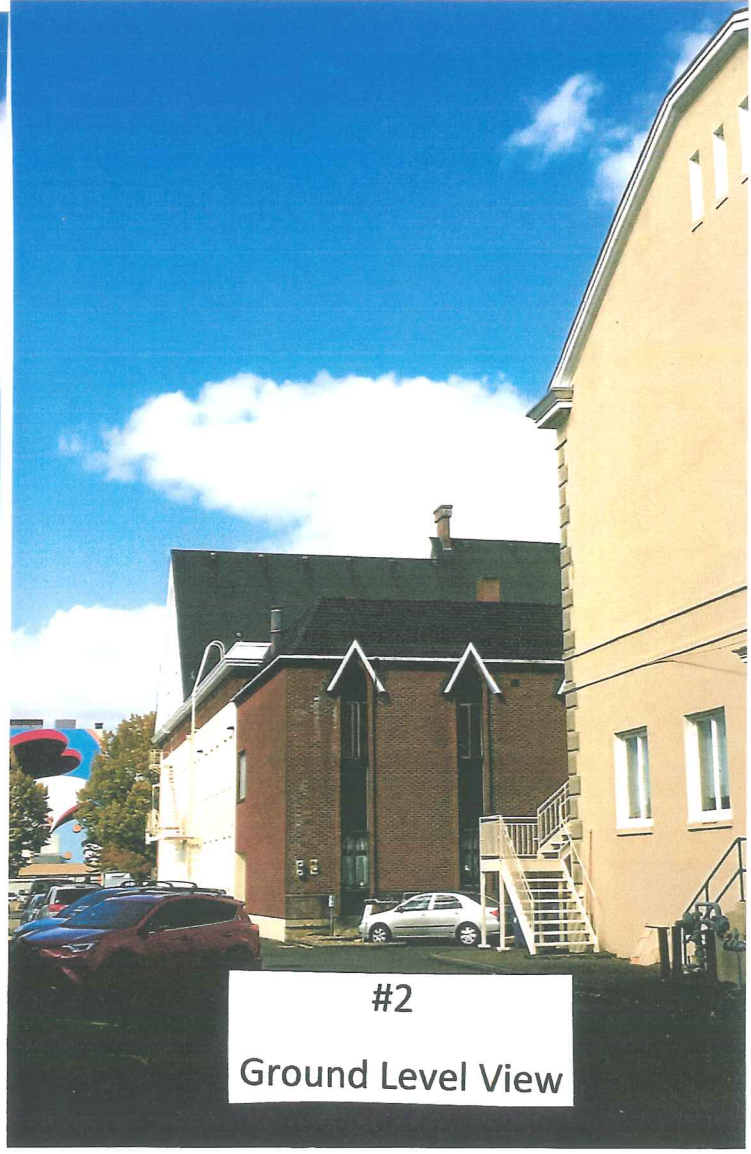
2

1

3



#1  
Ground Level View



#2  
Ground Level View



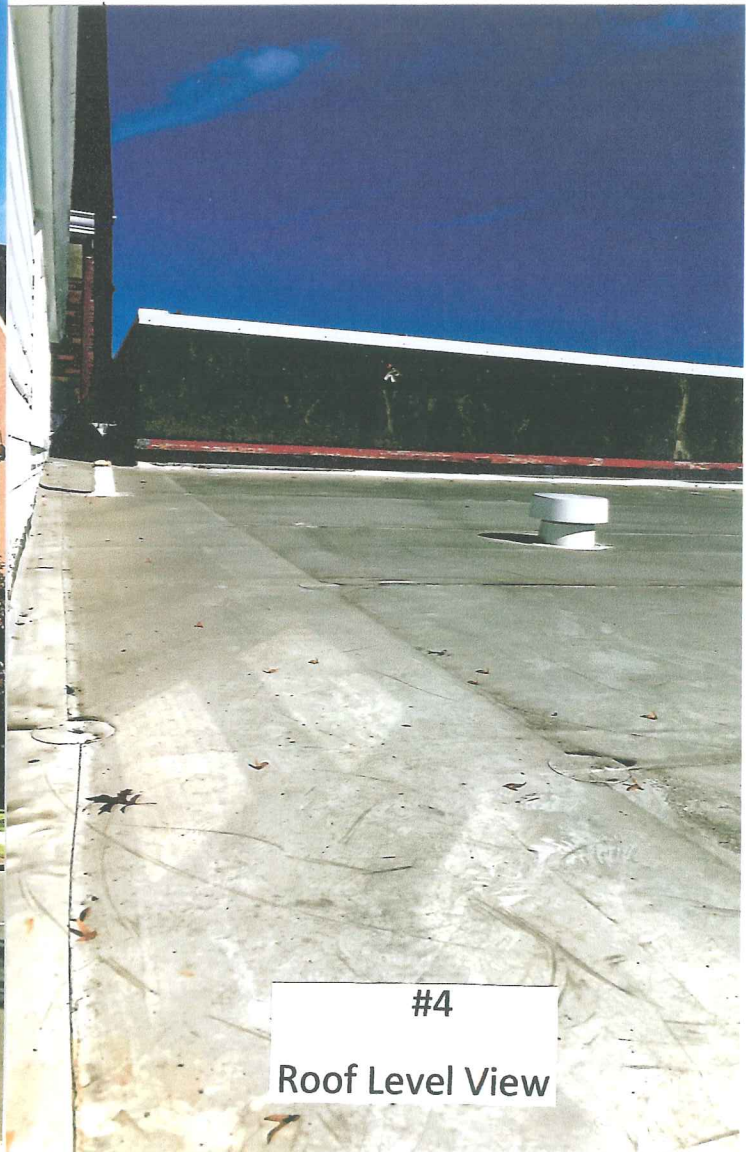
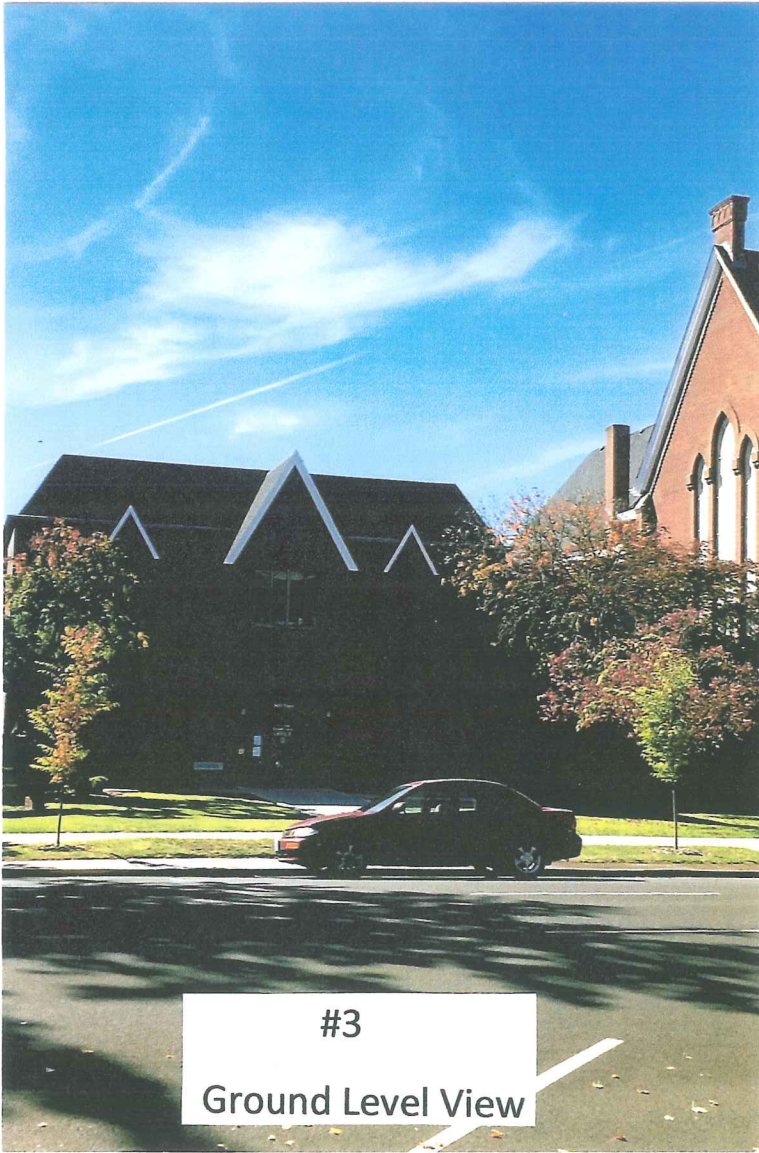
#5

Roof Level View



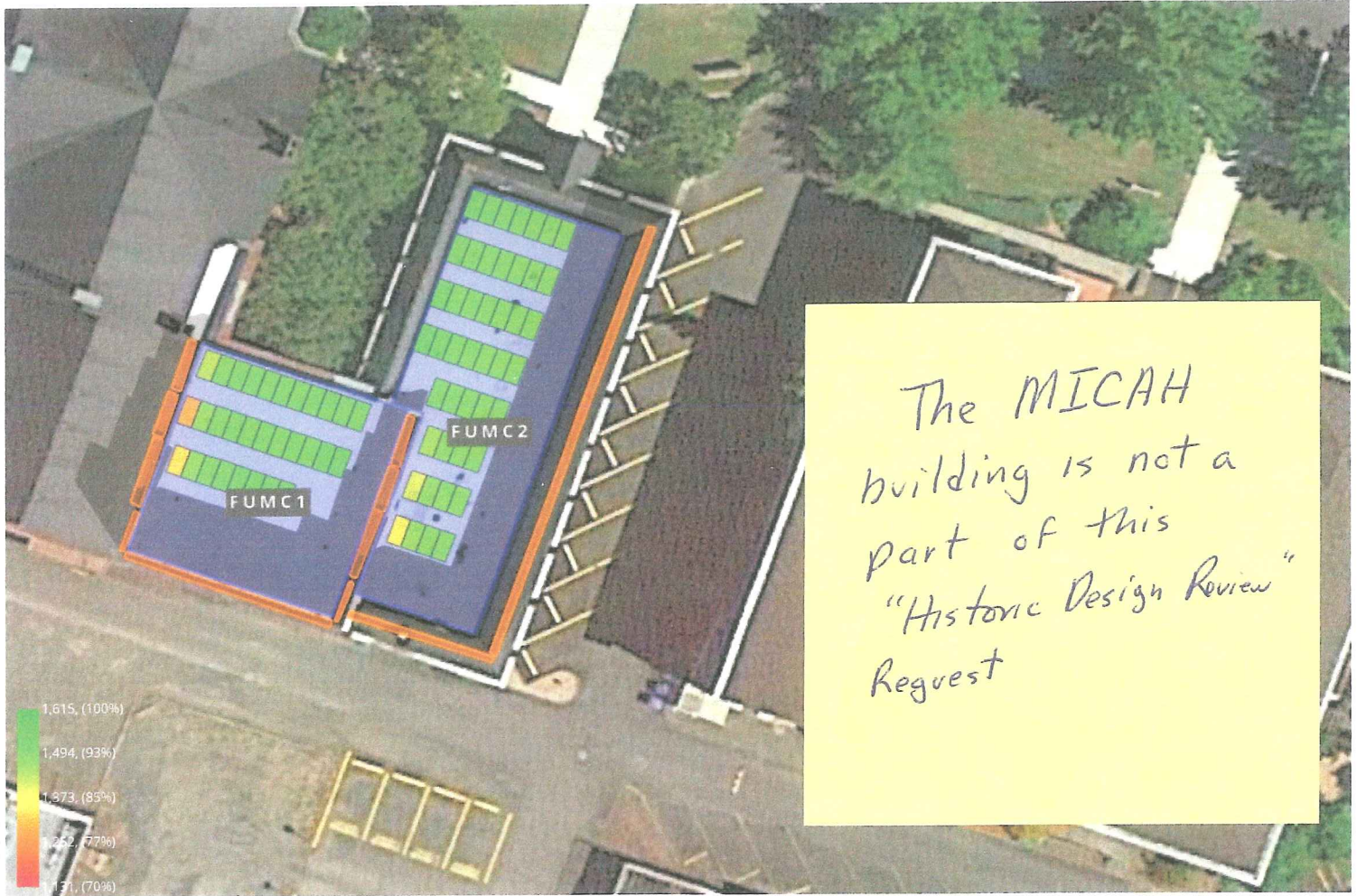
#6

Roof Level View



FUMC-MICAH p17-355-com Ry-FUMC Roof 1 & 2, 600 State St Salem Oregon

Shading Heatmap



Shading by Field Segment

| Description             | Tilt  | Azimuth | Modules | Nameplate | Shaded Irradiance         | AC Energy             | TOF <sup>2</sup> | Solar Access | TSRF <sup>2</sup> |
|-------------------------|-------|---------|---------|-----------|---------------------------|-----------------------|------------------|--------------|-------------------|
| MICAH                   | 20.0° | 200.0°  | 35      | 12.4 kWp  | 1,565.2kWh/m <sup>2</sup> | 15.9 MWh <sup>1</sup> | 96.9%            | 100.0%       | 96.9%             |
| FUMC1                   | 20.0° | 200.0°  | 30      | 10.7 kWp  | 1,498.3kWh/m <sup>2</sup> | 13.2 MWh <sup>1</sup> | 96.9%            | 95.7%        | 92.7%             |
| FUMC2                   | 20.0° | 200.0°  | 45      | 16.0 kWp  | 1,500.2kWh/m <sup>2</sup> | 19.8 MWh <sup>1</sup> | 96.9%            | 95.9%        | 92.9%             |
| Totals, weighted by kWp |       |         | 110     | 39.1 kWp  | 1,520.3kWh/m <sup>2</sup> | 48.9 MWh              | 96.9%            | 97.1%        | 94.1%             |

<sup>1</sup> approximate, varies based on inverter performance  
<sup>2</sup> based on location Optimal POA Irradiance of 1,615.4kWh/m<sup>2</sup> at 35.0° tilt and 182.7° azimuth

Solar Access by Month

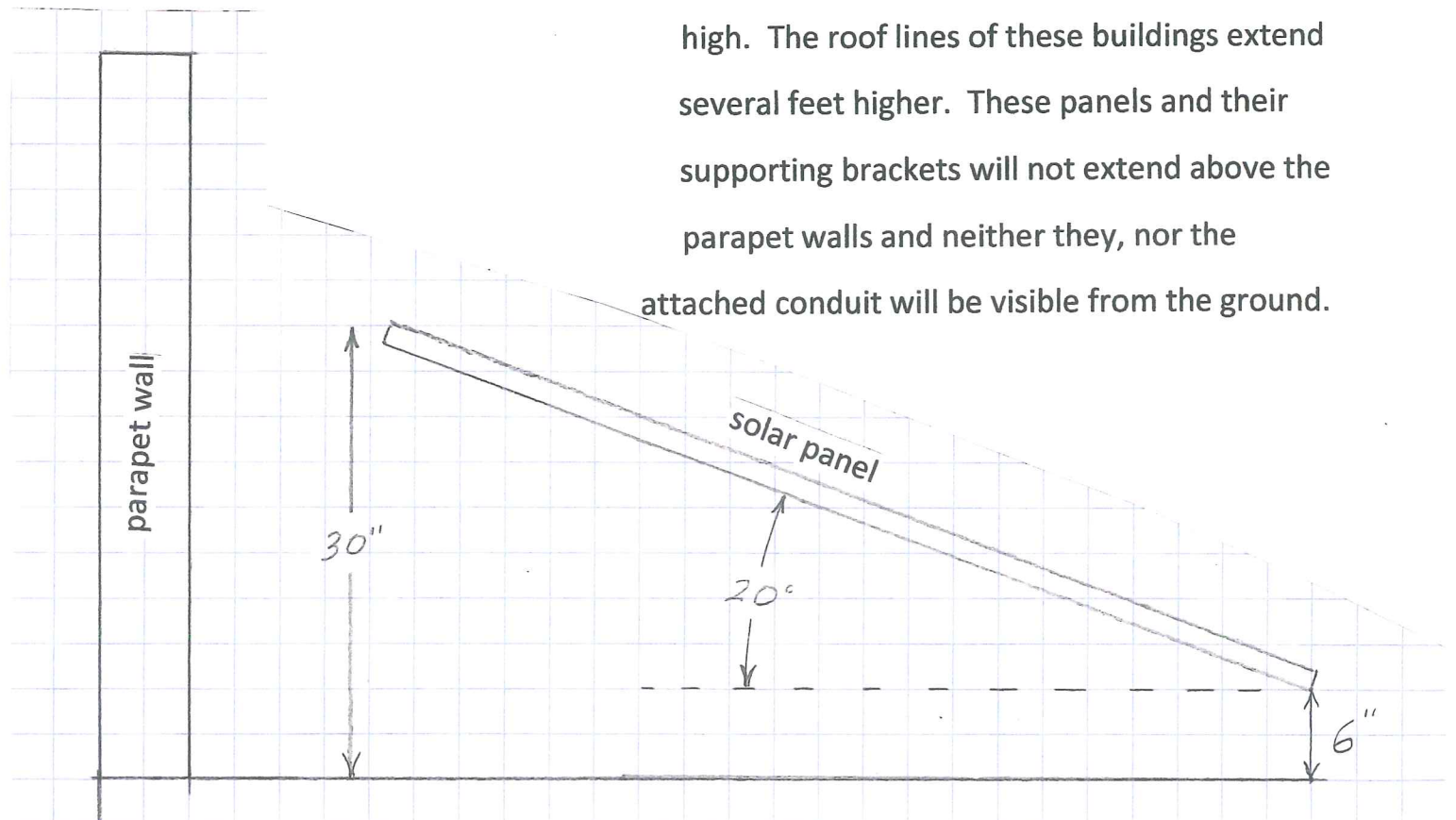
| Description                   | jan     | feb     | mar     | apr     | may     | jun     | jul     | aug     | sep     | oct     | nov     | dec     |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| MICAH                         | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    | 100%    |
| FUMC1                         | 88%     | 92%     | 96%     | 96%     | 97%     | 97%     | 97%     | 97%     | 97%     | 96%     | 92%     | 87%     |
| FUMC2                         | 84%     | 91%     | 97%     | 97%     | 98%     | 98%     | 98%     | 98%     | 98%     | 95%     | 87%     | 83%     |
| Solar Access, weighted by kWp | 90.3%   | 94.3%   | 97.5%   | 98.0%   | 98.1%   | 98.1%   | 98.4%   | 98.4%   | 98.2%   | 96.7%   | 92.5%   | 89.4%   |
| AC Power (kWh)                | 1,657.6 | 2,578.2 | 3,516.9 | 4,624.7 | 5,606.6 | 5,955.8 | 6,823.9 | 6,735.0 | 5,166.3 | 3,184.0 | 1,874.4 | 1,168.4 |



## Flat Roof Mounting Details



The solar panels on a flat roof are mounted with a south facing slope. At the 45 degree latitude here in Salem, the panels will operate efficiently at a slope between 30 degrees and 20 degrees. We will mount these panels at a 20 degree slope. In this configuration, the lower edge of the panels will be approx. 6 inches above the roof and the higher edge will be approx. 30 inches above the roof. The parapet walls around the administrative wing and the education wing are approx. 48 inches high. The roof lines of these buildings extend several feet higher. These panels and their supporting brackets will not extend above the parapet walls and neither they, nor the attached conduit will be visible from the ground.



Jeremiah Chavez <jeremiah@solarenergydesign.com>

11/9/2018 12:15 PM

## FUMC Historic Society Information for Solar Installation

To dandd1973@comcast.net

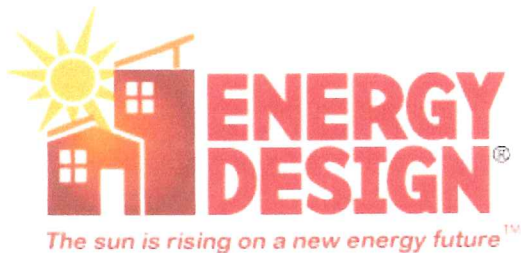
Greetings,

Attached are a few photos from installations we have completed in the last couple years to illustrate what to expect from this system design.

There are photos from an installation in Albany on the DJ Architecture building, an installation for Springfield School District, and an installation for the Hummingbird Wholesale building in Eugene.

I could not find great photos of the conduit runs into the building. It is best practice to limit the number of penetrations into the building and keep conduit runs on the roof that interconnect the individual rows of solar modules. We would then have one or two conduits running straight down into an attic space, to then make their way back to the electrical switch gear. This conduit would be EMT, supported on weather resistant rubber blocks. We would not have conduit runs visible on the side of the building, or traversing multiple roof lines.

Jeremiah



Jeremiah Chavez *Project Manager* Energy Design

p:800.200.2372 m: 541.554.3795

a:860 Conger Unit 12, Eugene, OR 97402 w: [solarenergydesign.com/](http://solarenergydesign.com/) e: [jeremiah@solarenergydesign.com](mailto:jeremiah@solarenergydesign.com)



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- P1010002.JPG (882 KB)
- P2280018.JPG (870 KB)
- 20170925\_094211.jpg (2 MB)
- P2280025.JPG (753 KB)
- sunmodo 2018-Catalog-v018-Web.pdf (3 MB)
- ds-sunpower-p17-355-1500v-commercial-solar-panels.pdf (518 KB)
- FUMC-MICAH P17-355 SHADE Report.pdf (2 MB)







# SunPower® Performance Series 1500 Volt | P17

SunPower® Performance Series 1500 Volt panels are designed to deliver consistent performance for many decades in advanced 1500 Volt power plant applications.

## Increased Energy Production

The Performance Series modules' linear shading response enables true-tracking in single-axis tracking systems, generating more energy than conventional systems that require backtracking.<sup>1</sup>

*Design Tip: When modeling P-Series energy performance be sure to use linear shading losses. For more detailed guidance please visit <https://us.sunpower.com/sites/sunpower/files/media-library/manuals/mn-sunpower-p-series-modeling-guide.pdf>*

## Higher Efficiency

The Performance Series design minimizes white space between solar cells, eliminates reflective metal lines on the cells, and lowers electrical resistance between cells, increasing efficiency compared to Conventional Commercial Panels.<sup>2</sup>

## Optimized for the Oasis Power Plant

From the mounting hardware, to the electrical design within the panel, to the connectors and the 1500 V rating, everything is designed as an integral part of the Oasis Power Plant.

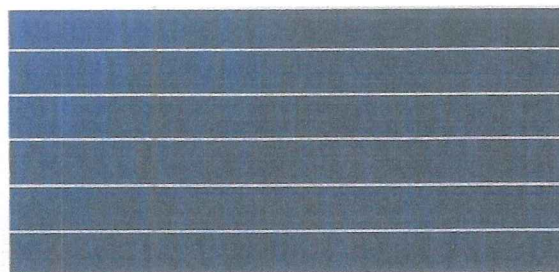
## High Reliability

Innovative panel design uses flexible and redundant electrical connections between solar cells to deliver enhanced reliability.

## SunPower Quality

Tested to SunPower's rigorous quality standards, and backed by the industry's best Combined Power and Product Warranty.

## High Performance & Excellent Reliability

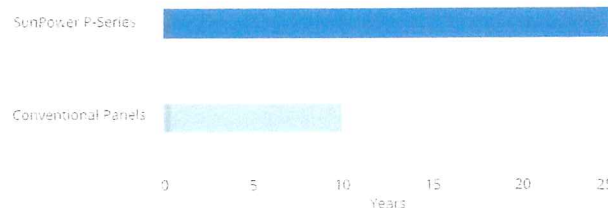


SPR-P17-355-COM

## 25 Year Combined Warranty

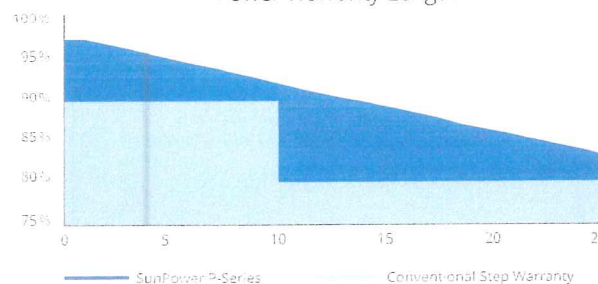
Protect your investment

Product Warranty Length



SunPower provides the best 25 year Combined Power and Product warranty in the industry, providing coverage regardless of product defect or power loss.

Power Warranty Length



SunPower's Performance Series is warranted to produce more than 97% power in the first year, then declining by 0.6% per year, ending at 82.6% power after 25 years.



# SunPower® Performance Series 1500 Volt | P17

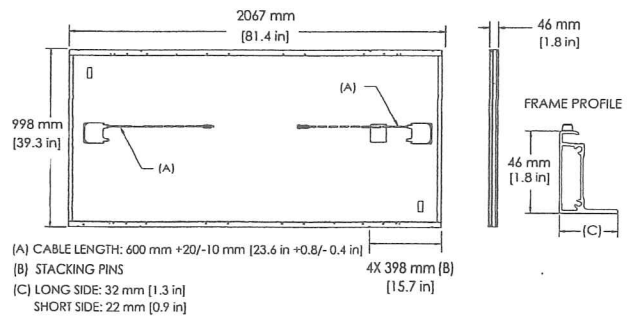
| Model                                    | Electrical Data, STC <sup>3</sup> |                 |                 |                 |                 |
|--|-----------------------------------|-----------------|-----------------|-----------------|-----------------|
|  | SPR-P17-355-COM                   | SPR-P17-350-COM | SPR-P17-345-COM | SPR-P17-340-COM | SPR-P17-335-COM |
| Nominal Power (P <sub>nom</sub> )        | 355 W                             | 350 W           | 345 W           | 340 W           | 335 W           |
| Power Tolerance                          | +5/-0%                            | +5/-0%          | +5/-0%          | +5/-0%          | +5/-0%          |
| Efficiency                               | 17.2%                             | 17.0%           | 16.7%           | 16.5%           | 16.2%           |
| Rated Voltage (V <sub>mpp</sub> )        | 43.4 V                            | 43.1 V          | 42.8 V          | 42.5 V          | 42.2 V          |
| Rated Current (I <sub>mpp</sub> )        | 8.18 A                            | 8.12 A          | 8.06 A          | 8.00 A          | 7.94 A          |
| Open-Circuit Voltage (V <sub>oc</sub> )  | 51.9 V                            | 51.7 V          | 51.5 V          | 51.3 V          | 51.1 V          |
| Short-Circuit Current (I <sub>sc</sub> ) | 8.68 A                            | 8.65 A          | 8.57 A          | 8.52 A          | 8.51 A          |
| Power Temp. Coef.                        | -0.37% / °C                       |                 |                 |                 |                 |
| Voltage Temp. Coef.                      | -176.5 mV / °C                    | -175.8 mV / °C  | -175.1 mV / °C  | -174.4 mV / °C  | -173.7 mV / °C  |
| Current Temp. Coef.                      | 3.6 mA / °C                       |                 |                 |                 |                 |
| Maximum System Voltage                   | 1500 V UL & 1500 V IEC            |                 |                 |                 |                 |
| Maximum Series Fuse                      | 15 A                              |                 |                 |                 |                 |

| Operating Condition And Mechanical Data |  |
|---|--|
| Temperature                             | -40° F to +185° F (-40° C to +85° C)   |
| Impact Resistance                       | 1 inch (25 mm) diameter ball at 52 mph (23 m/s)  |
| Appearance                              | Class B  |
| Solar Cells                             | Multicrystalline cells   |
| Tempered Glass                          | High-transmission tempered anti-reflective   |
| Junction Box                            | IP-65, 23.6 in (600 mm) cables / MC4 compatible  |
| Weight                                  | 51 lbs (23.1 kg)   |
| Max. Load                               | Wind: 50 psf, 2400 Pa, 245 kg/m <sup>2</sup> front & back<br>Snow: 112 psf, 5400 Pa, 550 kg/m <sup>2</sup> front |
| Frame                                   | Class 2 silver anodized; stacking pins   |

| Tests And Certifications    |   |
|-----------------------------|---|
| Standard Tests <sup>4</sup> | UL1703 (Type 2 Fire Rating), IEC 61215, IEC 61730 Rated to 1500 V |
| Quality Certs               | ISO 9001:2008, ISO 14001:2004                                     |
| EHS Compliance              | OHSAS 18001:2007, PV Cycle  |
| Ammonia Test                | IEC 62716   |
| Desert Test                 | 10.1109/PVSC.2013.6744437   |
| Salt Spray Test             | IEC 61701 (maximum severity)                                      |
| PID Test                    | Potential-Induced Degradation free: 1500 V                        |
| Available Listings          | UL, CEC, TUV, FSEC  |

**REFERENCES:**

- 1 Independent Shade Study by CPV Laboratory
- 2 Compared to a Conventional Commercial Panel (310 W, 16% efficient, approx. 1.93 m<sup>2</sup>)
- 3 Measured at Standard Test Conditions (STC), irradiance of 1000 W/m<sup>2</sup>, AM 1.5, and cell temperature 25° C.
- 4 Type 2 fire rating per UL1703:2013, Class C fire rating per UL1703:2003 and IEC 61730.



Read safety and installation instructions before using this product.

[sunpower.com](http://sunpower.com)

Document # 519601 Rev D/LTR\_US