

ANN ARBOR HISTORIC DISTRICT COMMISSION**Staff Report****ADDRESS:** 436 Second Street, Application Number HDC13-201**DISTRICT:** Old West Side Historic District**REPORT DATE:** November 14, 2013**REPORT PREPARED BY:** Jill Thacher, Historic Preservation Coordinator**REVIEW COMMITTEE DATE:** Tuesday, November 12, 2013**OWNER****APPLICANT**

Name: Greg McGuire
Address: 436 Second St
 Ann Arbor, MI 48103
Phone: (617) 335-1486

Sur Energy LLC
 221 Buena Vista Ave
 Ann Arbor, MI 48103
 (734)913-9944

BACKGROUND: This handsome two-story gable-fronter first appears in the 1896 Polk City Directory as number 24 Second Street, the home of Louis Boes, a teacher. It features a full-width wrap-around front porch, with decorative octagon shingles and wide board trim in the front gable.

LOCATION: The site is located on the west side of Second Street, south of West William and north of West Jefferson.

APPLICATION: The applicant seeks HDC approval to install a 22' x 13'3" solar array on the south-facing roof of the rear addition.

APPLICABLE REGULATIONS:**From the 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 shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- (10) New additions and adjacent or related new construction shall 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.

From the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings:

Roofs

Recommended: Identifying, retaining, and preserving roofs--and their functional and decorative features—that are important in defining the overall historic character of the building.

Not Recommended: Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Energy Efficiency

Recommended: Placing a new addition that may be necessary to increase energy efficiency on non-character-defining elevations.

Not Recommended: Designing a new addition which obscures, damages, or destroys character-defining features.

Mechanical Equipment

Recommended: Providing adequate structural support for new mechanical equipment.

Not Recommended: Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.

Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.

From the Ann Arbor Historic District Design Guidelines (other Guidelines may apply):

Solar

Appropriate: Mounting solar panels at grade or on ground pole mountings. In the absence of an appropriate ground-based mounting location, panels should be mounted on side or rear facing roof surfaces.

Installing mechanical and service equipment on the roof related to the solar units and their related devices so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

For sloped roof installations, mounting solar panels parallel to and within 8" of roof surface.

Not Appropriate: Mounting solar panels and their related devices on primary elevations or roofs that face the primary elevation or in planes that are highly visible from the street view. This location has the highest impact on the historic character of the historic building and all other options should be thoroughly explored.

Any other alteration or installation procedure that will cause irreversible changes to historic features or materials.

STAFF FINDINGS:

1. The application proposes to add an array of solar panels to the roof of the house's rear addition. The addition's roof is dropped slightly below the original rake. The panels would nearly completely cover the addition's roof, extending up to the ridge (but not above it) and down to two feet from the eave. The array is 22' wide and 13'3" tall. The top surface of the panels would be 5.75 inches above, and parallel to, the roof's surface.
2. The application requests black modules with silver framing. An email attached to the application explains that black modules with black framing provide 7.5% less energy at a cost of approximately \$1,200 more for this installation. Because the applicant is trying to restrict the panels to the rear addition of the house, and that addition is more than 50' from the sidewalk, staff's opinion is that the silver-framed modules will not be a visual distraction from the historic structure the way they might be if located closer to the street.
3. Staff believes that the materials and design of the solar panels are compatible with the existing structure, neighboring buildings, and the surrounding historic district, and meet both the Secretary of the Interior's Standards and the *Ann Arbor Historic District Design Guidelines*.

POSSIBLE MOTIONS: (Note that the motion is only a suggestion. The Review Committee, consisting of staff and at least two Commissioners, will meet with the applicant on site and then make a recommendation at the meeting.)

I move that the Commission issue a certificate of appropriateness for the application at 436 Second Street, a contributing property in the Old West Side Historic District, to install a solar array on the south-facing roof of the rear addition, as proposed. The work is compatible in exterior design, arrangement, texture, material and relationship to the rest of the building and the surrounding area and meets *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, in particular standards 2, 9 and 10 and the guidelines for roofs, energy efficiency, and mechanical systems, as well as the *Ann Arbor Historic District Design Guidelines*, particularly as they pertain to solar installations.

MOTION WORKSHEET:

I move that the Commission issue a Certificate of Appropriateness for the work at 436 Second Street in the Old West Side Historic District

_____ Provided the following condition(S) is (ARE) met: 1) STATE CONDITION(s)

The work is generally compatible with the size, scale, massing, and materials and meets the Secretary of the Interior's Standards for Rehabilitation, standard(S) number(S) (*circle all that apply*): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

ATTACHMENTS: application, drawings, photos, technical information.

436 Second Street (2008 Survey Photo)





City of Ann Arbor

PLANNING & DEVELOPMENT SERVICES — PLANNING SERVICES

Mailing: 301 E. Huron Street | P.O. Box 8647 | Ann Arbor, Michigan 48107-8647
Location: Larcom City Hall | First Floor | 301 E. Huron St. | Ann Arbor, MI 48104-6120
p. 734.794.6265 | f. 734.994.8312 | planning@a2gov.org

ANN ARBOR HISTORIC DISTRICT COMMISSION APPLICATION

Section 1: Property Being Reviewed and Ownership Information

Address of Property: 436 2ND ST. A2 48103

Historic District: OWS

Name of Property Owner (If different than the applicant):

GREG MCGUIRE

Address of Property Owner: 436 2ND

Daytime Phone and E-mail of Property Owner: 617-335-1486
GREG.MCGUIRE@GMAIL.COM

Signature of Property Owner: [Signature] Date: 10/28/13

Section 2: Applicant Information

Name of Applicant: SUR ENERGY LLC

Address of Applicant: 221 BUENA VISTA AVE. 48104

Daytime Phone: (734) 913-9944 Fax: (734) 913-9915 C: 734-395-

E-mail: JOHN@SUR.BIZ (NO DOT COM) 2990

Applicant's Relationship to Property: owner, architect, contractor, other

Signature of applicant: [Signature] Date: 10-24-2013

Section 3: Building Use (check all that apply)

Residential Single Family Multiple Family Rental
 Commercial Institutional

Section 4: Stille-DeRossett-Hale Single State Construction Code Act (This item **MUST BE INITIALED** for your application to be **PROCESSED**)

Public Act 169, Michigan's Local Historic Districts Act, was amended April 2004 to include the following language: "...the applicant has certified in the application that the property where the work will be undertaken has, or will have before the proposed completion date, a fire alarm or smoke alarm complying with the requirements of the Stille-DeRossett-Hale Single State Construction Code Act, 1972 PA 230, MCL 125.1501 to 125.1531."

Please initial here: JW

Section 5: Description of Proposed Changes (attach additional sheets as necessary)

1. Provide a brief summary of proposed changes. 4x4 SOLAR ARRAY
ON WEST MOST ROOF FACING SOUTH.

2. Provide a description of existing conditions. THE HOUSE IS BEAUTIFUL AND
ROOF IS NEW

3. What are the reasons for the proposed changes? ENERGY "ACSTNETIC."
BETTER ENERGY.

4. Attach any additional information that will further explain or clarify the proposal, and indicate these attachments here.
CITY SOLAR PANEL SPEC. FORM, PANEL + RACK SPECIFICATION,
LAYOUT W/ DIMENSIONS, PARTS OF LOCATION FROM SIDEWALK

5. Attach photographs of the existing property, including at least one general photo and detailed photos of proposed work area.

STAFF USE ONLY

Date Submitted: 10/24-2013 Application to _____ Staff or _____ HDC

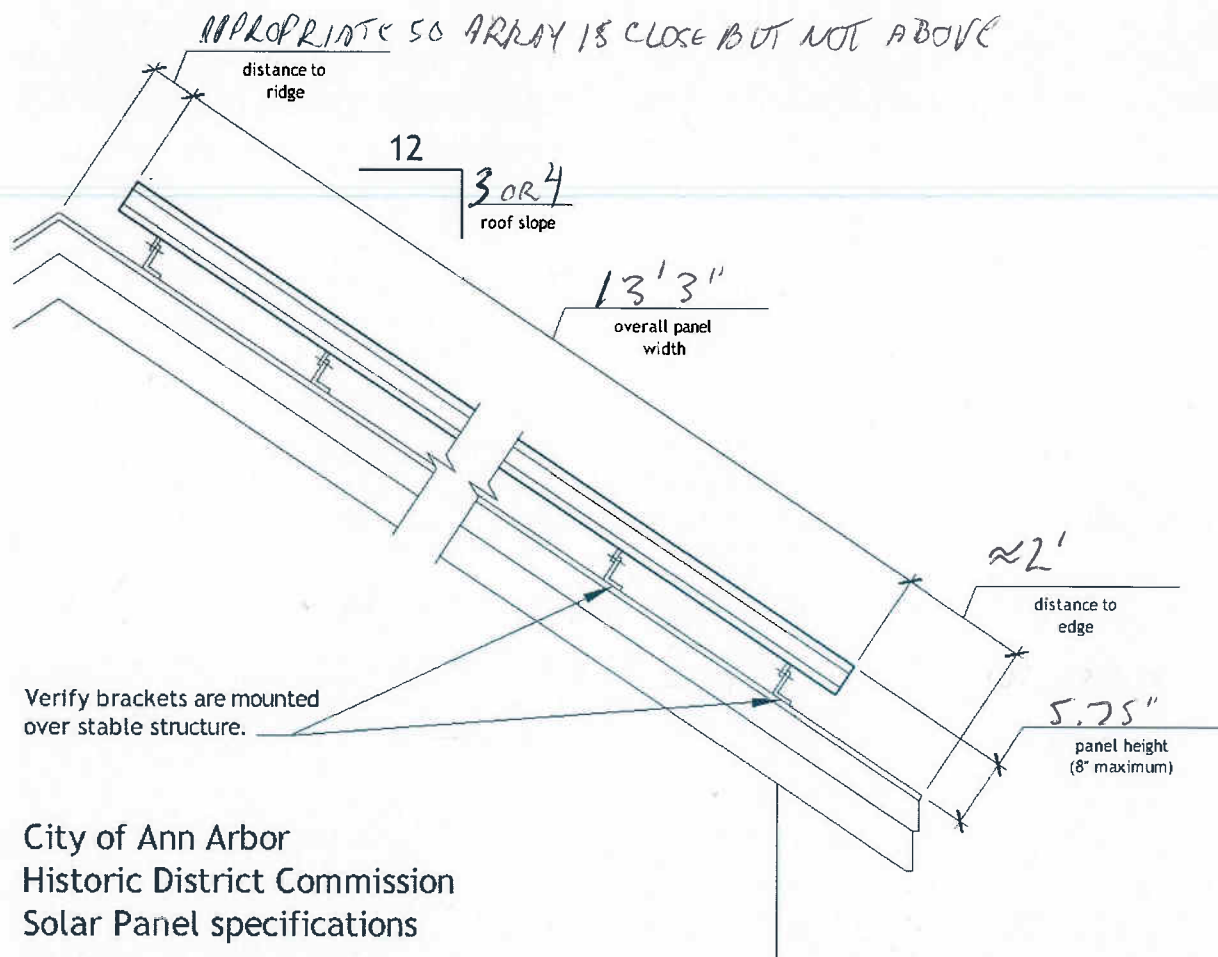
Project No.: HDC 13-201 Fee Paid: 100⁰⁰

Pre-filing Staff Reviewer & Date: _____ Date of Public Hearing: 11/14-2013

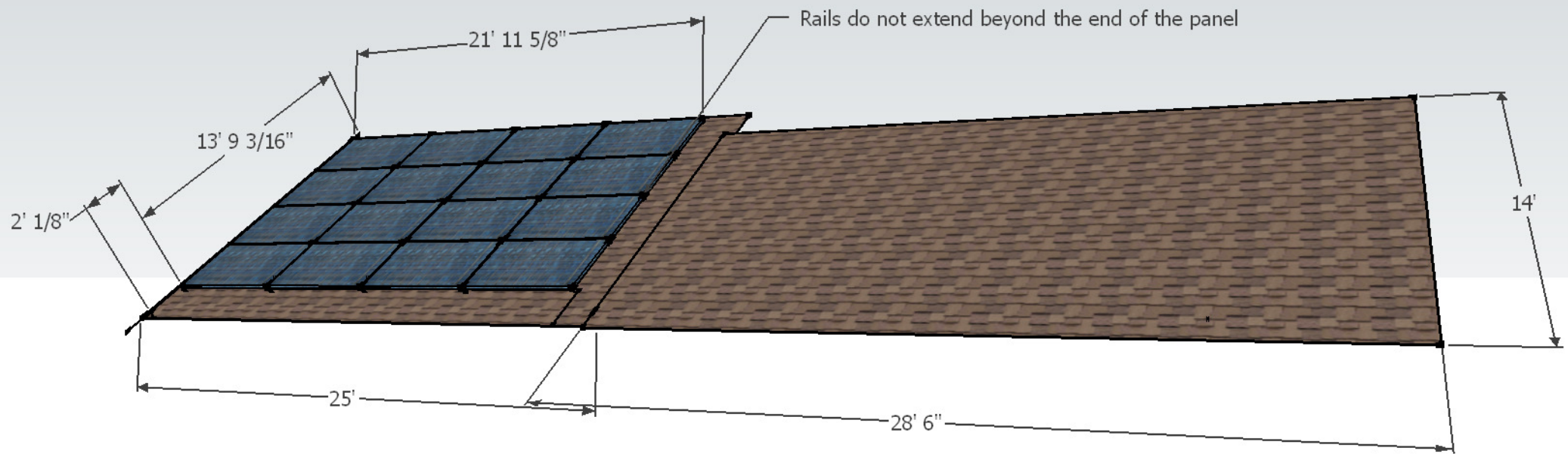
Application Filing Date: _____ Action: _____ HDC COA _____ HDC Denial

Staff signature: _____ HDC NTP _____ Staff COA

Comments:



City of Ann Arbor
 Historic District Commission
 Solar Panel specifications

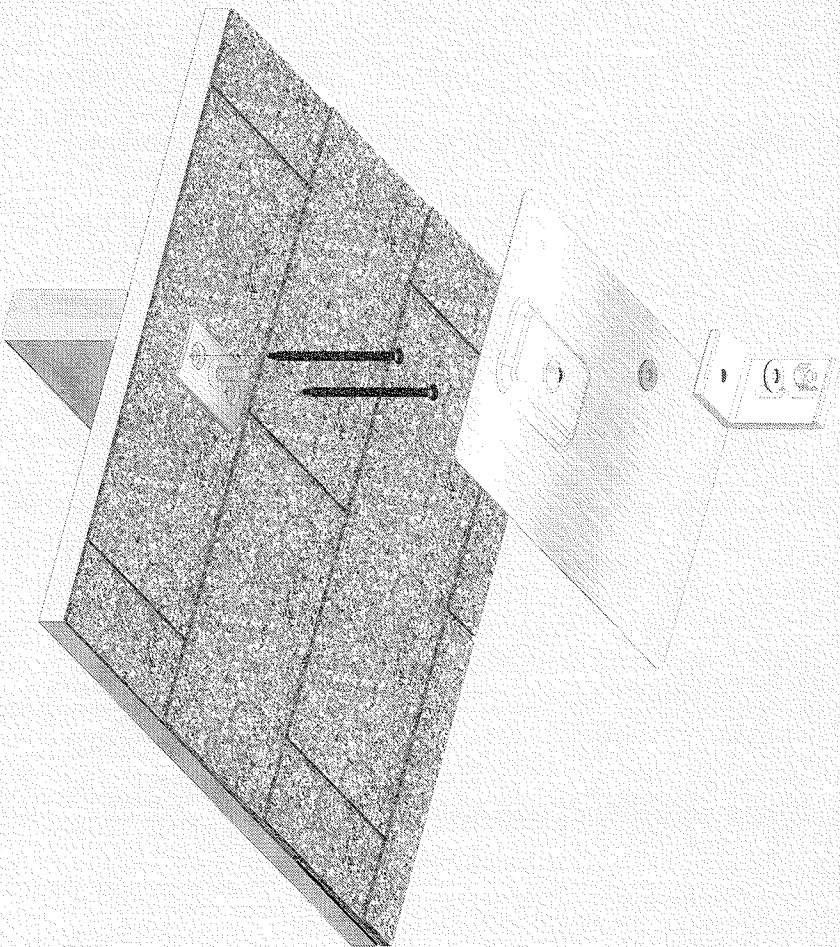


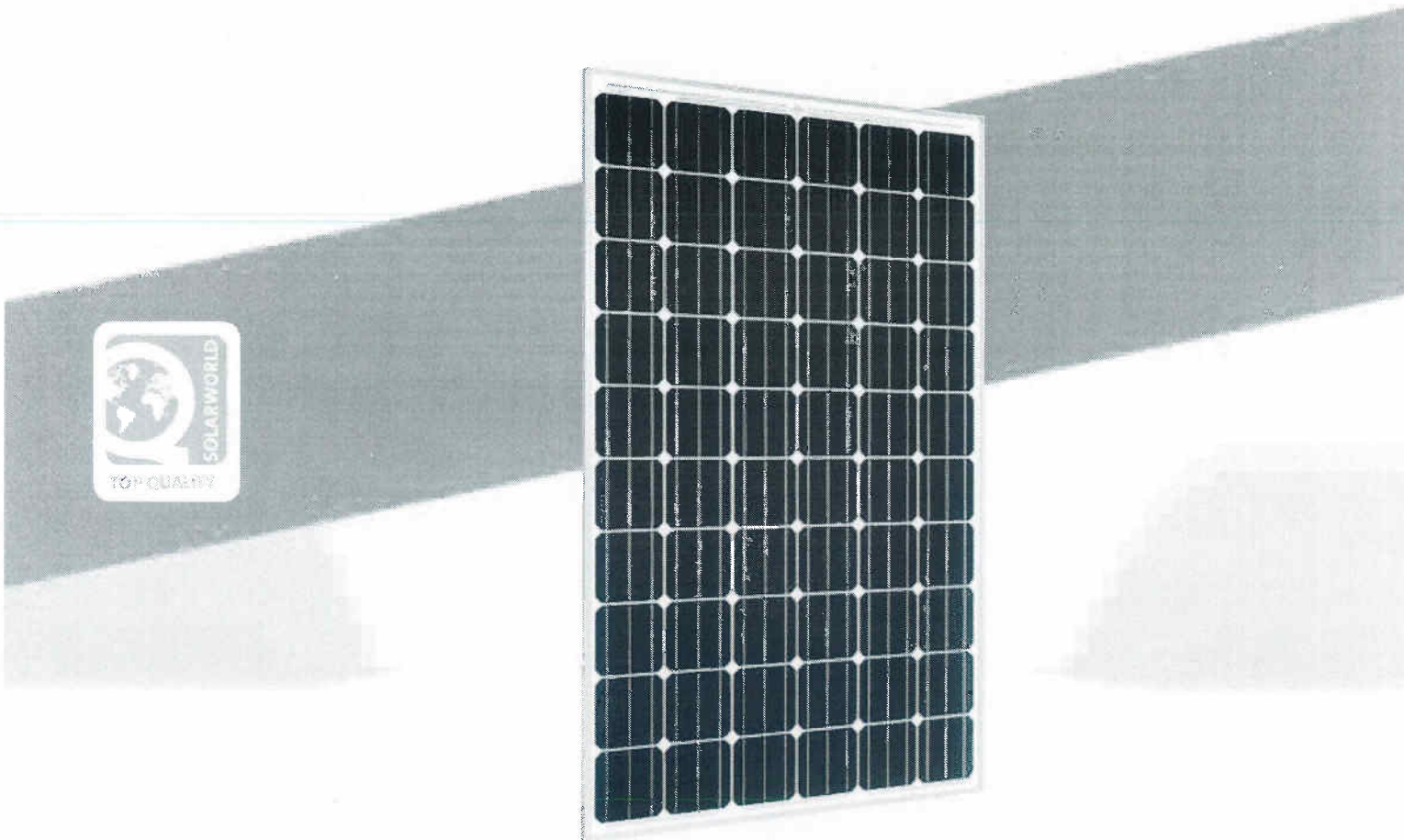
STEEP-SLOPE APPLICATIONS

QuickFoot PRODUCT GUIDE

Exploded Product View/B.O.M. – 1
Installation Instructions – 2
Cut Sheets – 3
Specifications – 4
Test Data – 5
Price List – 6

QUICK PLASINED + ATTACHED TO PLANE MEMBER





Sunmodule⁺™

SW 270 mono / Version 2.5 Frame

World-class quality

Fully-automated production lines and seamless monitoring of the process and material ensure the quality that the company sets as its benchmark for its sites worldwide.

SolarWorld Plus-Sorting

Plus-Sorting guarantees highest system efficiency. SolarWorld only delivers modules that have greater than or equal to the nameplate rated power.

25 years linear performance guarantee and extension of product warranty to 10 years

SolarWorld guarantees a maximum performance degeneration of 0.7% p.a. in the course of 25 years, a significant added value compared to the two-phase warranties common in the industry. In addition, SolarWorld is offering a product warranty, which has been extended to 10 years.*

*in accordance with the applicable SolarWorld Limited Warranty at purchase.
www.solarworld.com/warranty



Qualified, IEC 61215
 Safety tested,
 IEC 61730
 Periodic Inspection



ISO 9001
 ISO 14001
 Certified



SW 270 mono / Version 2.5 Frame

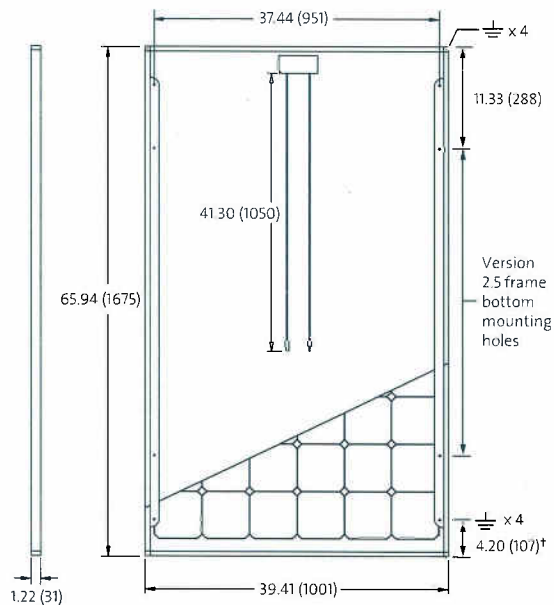
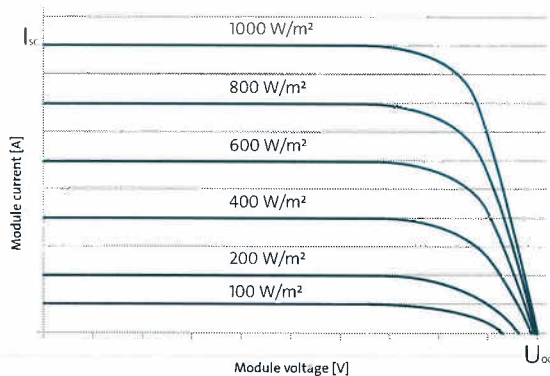
PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

		SW 270
Maximum power	P_{max}	270 Wp
Open circuit voltage	V_{oc}	38.3 V
Maximum power point voltage	V_{mpp}	32.1 V
Short circuit current	I_{sc}	8.90 A
Maximum power point current	I_{mpp}	8.42 A

*STC: 1000W/m², 25°C, AM 1.5

THERMAL CHARACTERISTICS

NOCT	46 °C
TC I_{sc}	0.004 %/K
TC V_{oc}	-0.30 %/K
TC P_{mpp}	-0.45 %/K
Operating temperature	-40 °C to 85 °C



PERFORMANCE AT 800 W/m², NOCT, AM 1.5

		SW 270
Maximum power	P_{max}	194.9 Wp
Open circuit voltage	V_{oc}	34.5 V
Maximum power point voltage	V_{mpp}	28.9 V
Short circuit current	I_{sc}	7.19 A
Maximum power point current	I_{mpp}	6.74 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200W/m², 95% (+/-3%) of the STC efficiency (1000 W/m²) is achieved.

COMPONENT MATERIALS

Cells per module	60
Cell type	Mono crystalline
Cell dimensions	6.14 in x 6.14 in (156 mm x 156 mm)
Front	tempered glass (EN 12150)
Frame	Clear anodized aluminum
Weight	46.7 lbs (21.2 kg)

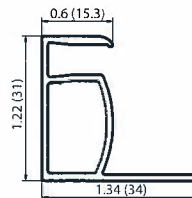
SYSTEM INTEGRATION PARAMETERS

Maximum system voltage SC II	1000 V	
Max. system voltage USA NEC	600 V	
Maximum reverse current	16 A	
Number of bypass diodes	3	
UL Design Loads*	Two rail system	113 psf downward 64 psf upward
UL Design Loads*	Three rail system	170 psf downward 64 psf upward
IEC Design Loads*	Two rail system	113 psf downward 50 psf upward

*Please refer to the Sunmodule installation instructions for the details associated with these load cases.

ADDITIONAL DATA

Power sorting ²⁾	-0 Wp / +5 Wp
J-Box	IP65
Connector	MC4 / KSK4
Module efficiency	16.10 %
Fire rating (UL 790)	Class C



VERSION 2.5 FRAME

- Compatible with both "Top-Down" and "Bottom" mounting methods
- Grounding Locations:
 - 4 corners of the frame
 - 4 locations along the length of the module in the extended flange†

NEW!

Black & Veatch validated PAN files now available.
Ask your account manager for more information.

1) Sunmodules dedicated for the United States and Canada are tested to UL 1703 Standard and listed by a third party laboratory. The laboratory may vary by product and region. Check with your SolarWorld representative to confirm which laboratory has a listing for the product.

2) Measuring tolerance traceable to TUV Rheinland: +/- 2% (TUV Power Controlled).

3) All units provided are imperial. SI units provided in parentheses.









From: John Wakeman [John@sur.biz]
Sent: Friday, October 25, 2013 12:13 PM
To: Thacher, Jill
Cc: Greg McGuire; Joan Webster
Subject: RE: solar for 436 2nd St.

Categories: Attention Needed

Hi Jill,
This email is to explain the difference in Black on Black modules compared to standard aluminum frame. Here is the text I sent to Greg a couple of weeks ago regarding this issue:
I asked for black frames and the module spec attached shows one available from the same vendor. The cost would be about \$.20/watt more, and they are less efficient. 16 modules times 250 watts is 4000 watts on the nose rather than 4300W. There would also be a slight price bump on the racking and I'm not sure what that is.
So Jill, the \$.20 extra comes out to \$800 more for the purchase price of the black on black modules. Also, the aluminum frame modules are located in a warehouse in Ann Arbor, so there is no additional shipping cost. I typically budget about \$400 for shipping this quantity of solar equipment which would have to be added to cost of the project. Normally a client might just order another row of modules when the efficiency goes down, because usually the cost of less efficient modules is lower. This is not the case in this installation. Greg and I are trying to get as much energy as we can while keeping it on the back roof to comply with the intent of the HDC. So the bottom line is more expense for 7.5% less energy if forced to go with black on black.
Thank you for your consideration in this regard.

Warmly,

John Wakeman, Owner
SUR Energy, LLC
Office: 734-913-9944

www.sur.biz