



**COUNTY OF MENDOCINO**  
**DEPARTMENT OF PLANNING AND BUILDING SERVICES**  
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120 WEST FIR STREET · FORT BRAGG · CALIFORNIA · 95437

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## MEMORANDUM

DATE: May 2, 2016  
TO: Mendocino Historical Review Board  
FROM: Planning and Building Services  
SUBJECT: MHRB 2016-0005 St John, Install Solar Collectors

At the applicant's request, this item was continued from April 4, 2016 to May 2, 2016, Mendocino Historical Review Board Meeting.



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**MENDOCINO HISTORICAL REVIEW BOARD  
STAFF REPORT**

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**MAY 2, 2016  
MHRB\_2016-0005**

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**OWNER:** STJOHN MICHAEL  
PO BOX 338  
MENDOCINO, CA 95460

**APPLICANT/AGENT:** STJOHN MICHAEL  
PO BOX 338  
MENDOCINO, CA 95460

**PROJECT DESCRIPTION:** A request for a Mendocino Historical Review Board Permit to install solar collectors on the south-facing roof of an existing house.

Note: The existing site is listed in the Mendocino Town Plan Appendix Inventory of Historic Structures as a Category III structure (Architecture ostensibly altered but basic structure is still discernible.)

**STREET ADDRESS:** 45351. Calpella Street, Mendocino, California

**PARCEL SIZE:** 0.15 acres or 6,360 square-feet

**ENVIRONMENTAL DETERMINATION:** Categorically Exempt from CEQA pursuant to California Code of Regulations, Title 14, Chapter 3, Article 19, Section 15331 Historical Resource Restoration/Rehabilitation, this is a Class 31 exemption. Categorically Exempt

**HISTORIC STRUCTURES:** Site: Category III 45351 Calpella Street  
North: Category IIa "H" at 45350 Calpella Street  
Category IIb 10600 Heeser Street  
East: Category III 10450 Heeser Street  
West: Category IVb 44920 Little Lake Street  
South: Category I "Antonio D Freitas House" at 45350 Ukiah Street

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**PAST MHRB PERMITS:** MHRB 2015-0011 denied; 93-21 paint and repair; 2002-25 demolition, reconstruct and remodel; 2003-15 add windows; 2004-29 minor changes-paths, eyebrows, and roof; 2006-35 extend chimney, vestibule, tank, restore carriage house, deck remodel.

**HISTORIC ORDINANCE STANDARDS:** The Mendocino Historical Preservation District Ordinance provides standards for the MHRB to consider when reviewing applications. Relative to this application, the following issues are raised and should be addressed:

- |   |                 |
|---|-----------------|
| ✓ Building Size, Height, Proportions and Form     | Roof Shape      |
| ✓ Relationship of Building Masses and Open Spaces | Color(s)        |
| ✓ Relationship to Surrounding Structures          | Sign Size       |
| ✓ Materials and Textures                          | Number of Signs |

- ✓ Architectural Details and Style
- Facade Treatment
- Proportions of Windows and Doors
- Landscaping
- ✓ Placement/Location
- Lighting
- Paving/Grading
- ✓ Solar guidelines

**APPLICABLE SECTIONS OF MHRB GUIDELINES:** Solar Energy and Wind Devices, page 12: “Where solar energy is to be used as a primary or supplementary source of heat or other energy, solar collection devices should be located on the rear of other non-public sides of a building, or on roof surfaces which are not visible from adjacent streets or other public areas in town. Solar collection devices which are not attached to the building should be located only in the side or rear yards.”

**STAFF NOTES:** The project complies with the development standards of Chapter 20.652 MTR Zoning District (Table 1) and the Secretary of the Interior’s Standards for Rehabilitation & Illustrated Guidelines on Sustainability for rehabilitating historic buildings, pages 14-15 “Solar Technology” recommended preservation treatment (Table 2).

| <b>Table 1: MTR District Regulations and Accessory Use Regulations</b> |                           |                           |
|--|---------------------------|---------------------------|
| MTZC Section   | Standard                  | Proposed                  |
| 20.652.010(A) Permitted Residential Use Type                           | Single-Family Residential | Single-Family Residential |
| 20.652.030 Minimum Front and Rear Yards                                | 10-feet                   | 2-feet (rear yard)        |
| 20.652.035 Minimum Side Yard   | 6-feet                    | 2-feet                    |
| 20.652.045 Maximum Building Height                                     | 28-feet                   | 16.75-feet                |
| 20.652.055 Maximum Lot Coverage  | 25%                       | 37% (no change)           |

The proposed solar panel location is on the south-facing elevation of the principal structure’s shed roof (a Category III structure). The panels will be oriented in the same plane as the existing shed-roof slope. Views of this elevation are obscured by residential structures situated on an adjacent lot and facing Ukiah Street and by the low-rise of the roof’s slope. No historic roof features will be removed. No alteration of historic, character-defining roof slopes is proposed. At a future date, the solar panels could be removed and the roof restored to its current presentation.

| <b>Table 2: Solar Technology, Secretary of the Interior’s Guidelines for Sustainability</b>  |  |
|--|--|
| Recommended Preservation Treatment   | Proposed Treatment   |
| Consider on-site, solar technology only after implementing all appropriate treatments to improve energy efficiency of the building ...   | Property owner completed an energy audit on February 4, 2016.  |
| Analyzing whether solar technology can be used successfully and will benefit a historic building without compromising its character or the character of the site or the surrounding historic district. | Property owner applied for an MHRB Permit and is seeking the Review Board’s approval that the proposed solar collection device harmonizes with the character of the Mendocino and Headlands Historic District. |
| Installing a solar device in a compatible location on the site or on a non-historic building or addition where it will have minimal impact on the historic building and its site.                      | Solar panels will not be visible from the Calpella Street or the building’s primary elevation.   |

| Table 2: Solar Technology, Secretary of the Interior’s Guidelines for Sustainability  |  |
|---|--|
| Recommended Preservation Treatment  | Proposed Treatment   |
| Installing a solar device on the historic building only after other locations have been investigated and determined infeasible.   | The proposed siting of the solar panels provides the best opportunity to obscure the improvement from public roads while maximizing exposure to the sun.   |
| Install a low-profile solar device on the historic building so that it is not visible or only minimally visible from the public right-of-way.   | The low-profile solar panel dimensions are 61.39 by 41.18 by 1.81-inches deep. The 1.81-inch deep panels will be installed on the low-rising shed roof.  |
| Installing a solar device on the historic building in a manner that does not damage historic roofing material or negatively impact the building’s historic character and is reversible. | The existing structure is a Category III Historic Resource; meaning, the architecture ostensibly altered but basic structure is still discernible. The roofing material was last replaced about year 2003. |
| Installing solar roof panels horizontally -- flat or parallel to the roof -- to reduce visibility.  | The panels are proposed to be installed in plane -- flat or parallel to the roof -- with the roof.   |

**REQUIRED FINDINGS:** The Historical Review Board shall not approve or conditionally approve any application for proposed work unless it affirmatively makes the following findings:

- (a) The exterior appearance and design of the proposed work is in harmony with the exterior appearance and design of the existing structures within the District and with that of existing subject structure, if any  
  
Locating 1.81-inch solar panels on a south-facing, low-rise, shed roof that is not visible from Calpella Street and may not be visible from Ukiah Street does not disrupt the historic character of the District; and
- (b) The appearance of the proposed work will not detract from the appearance of other property within the District  
  
The proposed work will be nominally visible from public locations and will not detract from other property within the District; and
- (c) Where the proposed work consists of alteration or demolition of an existing structure, that such work will not unnecessarily damage or destroy a structure of historical, architectural or cultural significance  
  
The proposed alteration to the existing shed roof will not damage or destroy the Category III historic resource and the roof may be restored to its existing presentation at any time in the future.

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The Review Board’s action and this permit will not be final and effective and work may not commence on the project until after a ten day appeal period has ended. You will be notified if a timely appeal is filed.

Appeal Fee: \$1,040.00 (Check payable to County of Mendocino).

Appeal Period: Appeals must be received within 10 days of Review Board Action.

## APPENDIX

Secretary of the Interior Standards for the treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings:

The Secretary of the Interior Standards (Department of the Interior regulations 36 CFR 67) pertain to all historic properties listed in or eligible for listing in the National Register of Historic Places. The project site is a designated historic resource (Category IIa). It is situated within the boundaries of Mendocino Headlands Historic District, which is a National Register of Historic Places (Number PH0037087 (1970)) and one of several historic structures (Category I and II) located on the same block of Calpella Street. (Nine similarly stated standards are referenced in the appendix of MHRB Design Guidelines and called "General principles for rehabilitation, restoration or renovation of existing historic structures.")

There are ten Standards of consideration:

*1. A property shall be used for its intended historic purpose.*

Historic records list the use as residential. The proposal is to continue a residential use at this site.

*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.*

While the proposal is to install solar devices, the applicant has considered each of the Secretary of the Interior's Guidelines on Sustainability, especially regarding solar technology. The proposed work will be located on a low-rise, shed-roof that was replaced about year 2003. No removal of historic materials is proposed. The alteration adding the solar panels can be reversed (solar panels removed) at any time.

*3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.*

The proposed scope of work recognizes the existing, historic physical record of the home's time, place, and use by proposing minor alterations that are in keeping with the historic land use and building's architectural features. The property owner has previously documented the site's structure and history (see appendixes/attachments).

*4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*

A current assessment of the property was prepared in year 2015. Documentation of changes to the structure is limited and information about whether those changes have acquired historic significance has not been reviewed by a historian or archaeologist.

*5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.*

The proposed work will not alter distinctive features, finishes, and construction techniques that characterize the primary residential structure located at 45351 Calpella Street, Mendocino.

*6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.*

The current property owner has maintained the existing primary residence. The proposal does not identify any deteriorated historic features that require repair. The roof was restored about 2003; it is relatively new, but maintains the historic features of the building's roof slope.

*7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used.*

Conditions of project approval could suitably ensure that the surface cleaning of the structures, if appropriate, would be undertaken using the gentlest means possible.

*8. Significant archeological resources affected by a project shall be protected and preserved.*

Title 22 of the Mendocino County Code, Chapter 22.12 Archaeological Resources establishes specific procedures that sufficiently satisfy item 8.

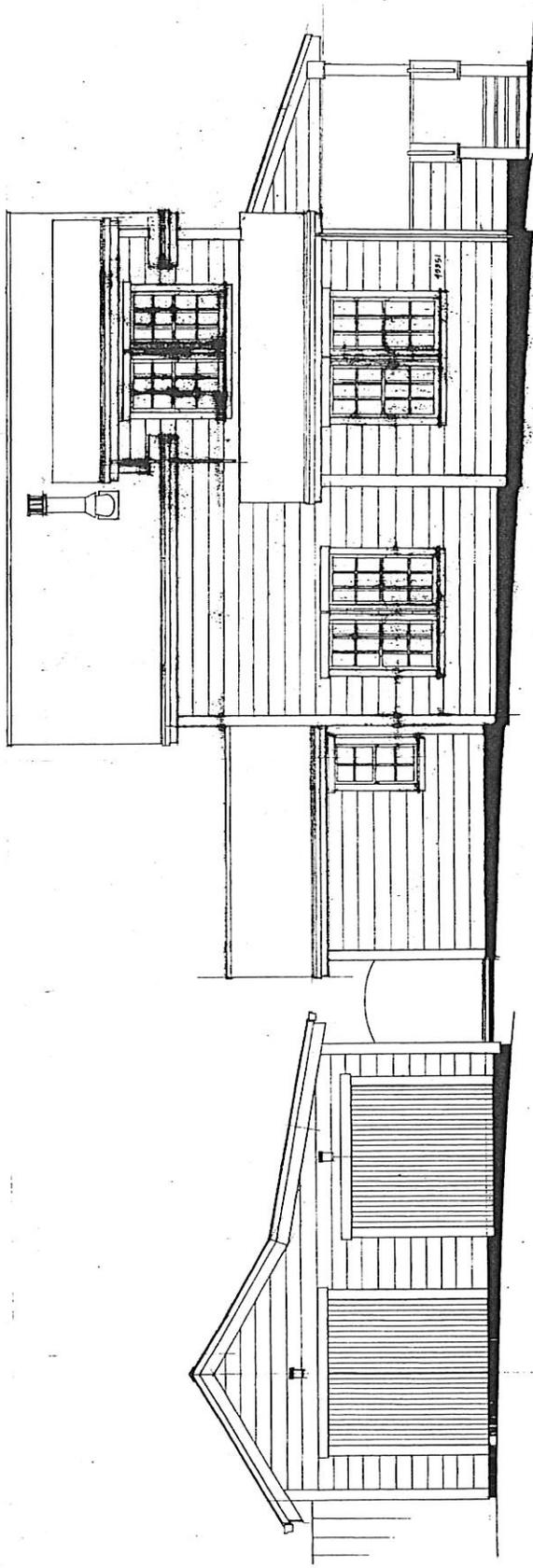
*9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity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

Conditions of project approval for the proposed renovations could stipulate that 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.*

In the future, it would be possible to remove the solar devices from the Category III structure without altering its present character. Conditions of project approval for the proposed project could require that the additions and building alterations 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.





NORTH ELEVATION - CAPECOD STREET - PROPOSED - 2016 - 10 - 10  
 SCALE 3/8" = 1'-0"

PROJECT TITLE: \_\_\_\_\_  
 NORTH EXTERIOR ELEVATION  
 SCALE: 3/8" = 1'-0" DRAWING # 1016-10-10

PROJECT TITLE: \_\_\_\_\_  
 PHOTOGRAPHIC INSTALLATION FOR MR. MICHAEL & JOHN  
 1150 STATE STREET, WILMINGTON, MA 01897-2400  
 PHONE: 617-261-1212 FAX: 617-261-1213

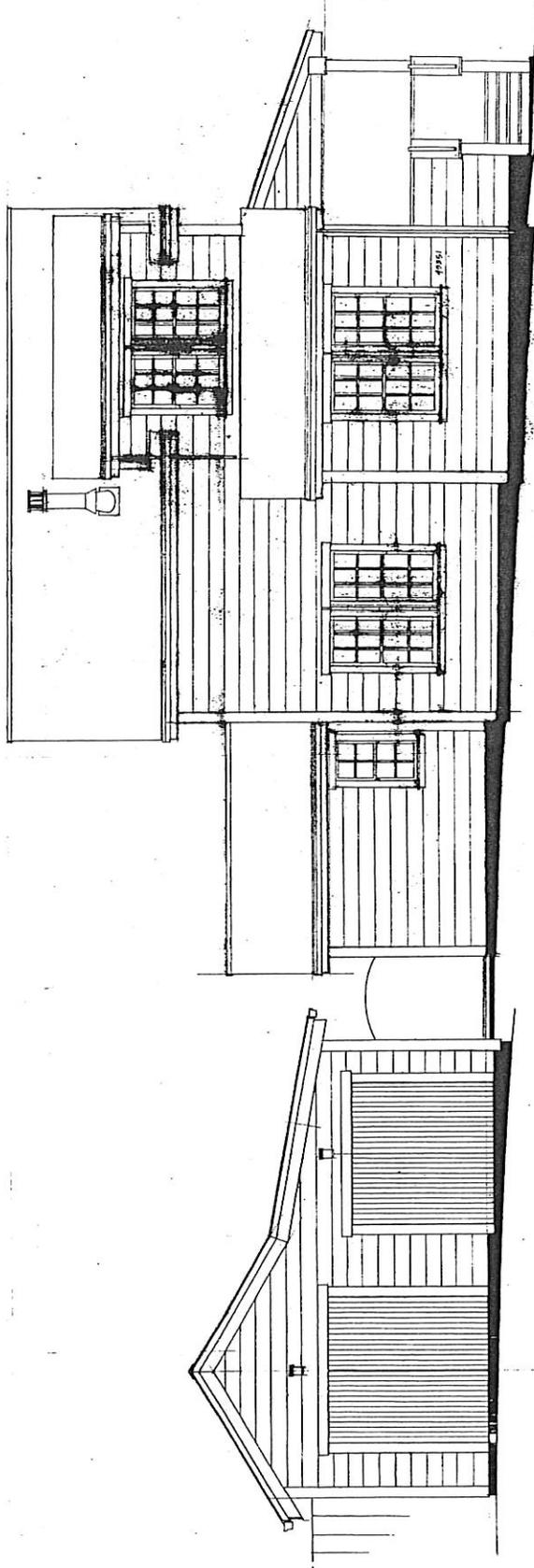
JOE GILMAN, ARCHITECT  
 1150 STATE STREET, WILMINGTON, MA 01897-2400  
 PHONE: 617-261-1212 FAX: 617-261-1213

| DATE | BY | NO. | REV. | DATE | DESCRIPTION |
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2.





NORTH ELEVATION - CAPELLA STREET - 1/8" = 1'-0"

2.  
OF 24 SHEETS

NORTH EXTERIOR ELEVATION

PROJONALIC INSTALLATION FOR MR. MICHAEL JOHN  
 1100 S. 10TH ST. - TULSA, OKLA. 74106

JACQUES ANTHONY  
 ARCHITECT  
 1100 S. 10TH ST. - TULSA, OKLA. 74106  
 PHONE 462-1234

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# SUNPOWER

## E20/327 SOLAR PANEL

### 20% EFFICIENCY

SunPower E20 panels are the highest efficiency panels on the market today, providing more power in the same amount of space

### MAXIMUM SYSTEM OUTPUT

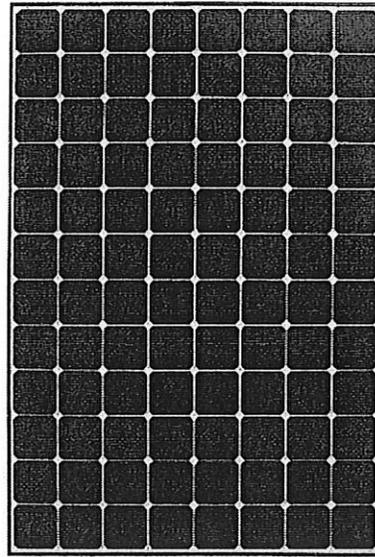
Comprehensive inverter compatibility ensures that customers can pair the highest efficiency panels with the highest efficiency inverters, maximizing system output

### REDUCED INSTALLATION COST

More power per panel means fewer panels per install. This saves both time and money.

### RELIABLE AND ROBUST DESIGN

SunPower's unique Maxeon™ cell technology and advanced module design ensure industry-leading reliability

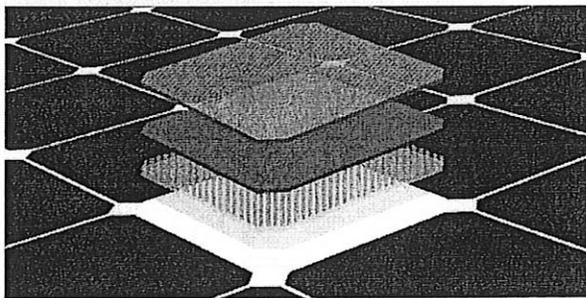
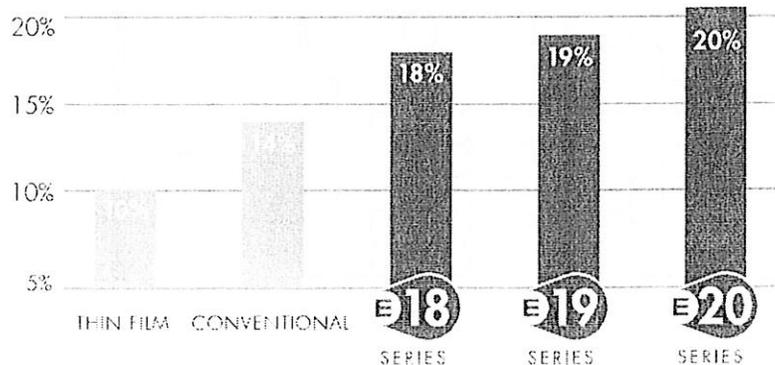


**E20**  
SERIES

### THE WORLD'S STANDARD FOR SOLAR™

SunPower™ E20 Solar Panels provide today's highest efficiency and performance. Powered by SunPower Maxeon™ cell technology, the E20 series provides panel conversion efficiencies of up to 20.1%. The E20's low voltage temperature coefficient, anti-reflective glass and exceptional low-light performance attributes provide outstanding energy delivery per peak power watt.

### SUNPOWER'S HIGH EFFICIENCY ADVANTAGE



### MAXEON™ CELL TECHNOLOGY

Patented all-back-contact solar cell, providing the industry's highest efficiency and reliability

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



## MODEL: SPR-327NE-WHT-D

### ELECTRICAL DATA

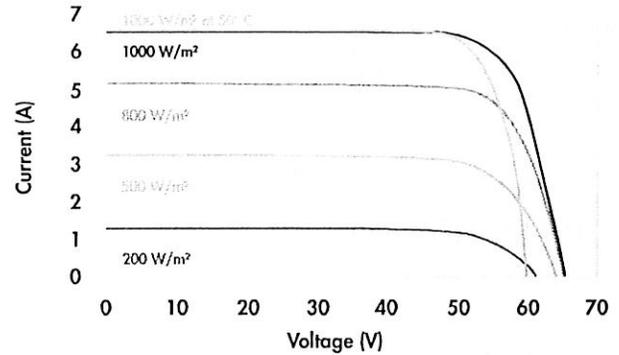
Measured at Standard Test Conditions (STC): irradiance of 1000W/m<sup>2</sup>, AM 1.5, and cell temperature 25° C

|                          |                            |                                 |
|--------------------------|----------------------------|---------------------------------|
| Peak Power (+5/-3%)      | P <sub>max</sub>           | 327 W                           |
| Cell Efficiency          | η                          | 22.5 %                          |
| Panel Efficiency         | η                          | 20.1 %                          |
| Rated Voltage            | V <sub>mpp</sub>           | 54.7 V                          |
| Rated Current            | I <sub>mpp</sub>           | 5.98 A                          |
| Open Circuit Voltage     | V <sub>oc</sub>            | 64.9 V                          |
| Short Circuit Current    | I <sub>sc</sub>            | 6.46 A                          |
| Maximum System Voltage   | UL                         | 600 V                           |
| Temperature Coefficients | Power (P)                  | -0.38%/K                        |
|                          | Voltage (V <sub>oc</sub> ) | -176.6mV/K                      |
|                          | Current (I <sub>sc</sub> ) | 3.5mA/K                         |
| NOCT                     |                            | 45° C +/- 2° C                  |
| Series Fuse Rating       |                            | 20 A                            |
| Grounding                |                            | Positive grounding not required |

### MECHANICAL DATA

|               |  |
|---------------|--|
| Solar Cells   | 96 SunPower Maxeon™ cells  |
| Front Glass   | High-transmission tempered glass with anti-reflective (AR) coating |
| Junction Box  | IP-65 rated with 3 bypass diodes<br>Dimensions: 32 x 155 x 128 mm  |
| Output Cables | 1000 mm cables / Multi-Contact (MC4) connectors                    |
| Frame         | Anodized aluminum alloy type 6063 (black)                          |
| Weight        | 41.0 lbs (18.6 kg)   |

### I-V CURVE



Current/voltage characteristics with dependence on irradiance and module temperature.

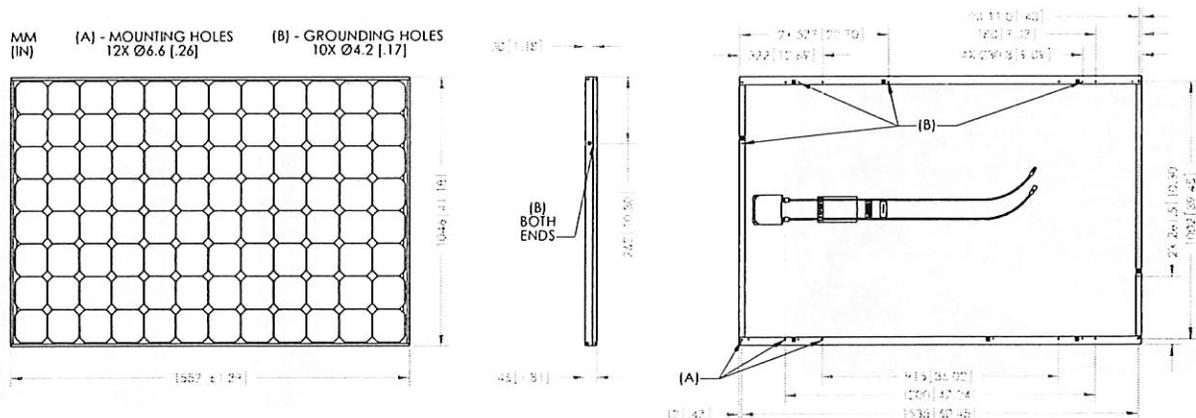
### TESTED OPERATING CONDITIONS

|                   |  |
|-------------------|--|
| Temperature       | -40° F to +185° F [-40° C to +85° C]   |
| Max load          | 113 psf 550 kg/m <sup>2</sup> (5400 Pa), front (e.g. snow)<br>w/specified mounting configurations<br>50 psf 245 kg/m <sup>2</sup> (2400 Pa) front and back (e.g. wind) |
| Impact Resistance | Hail: (25 mm) at 51 mph (23 m/s)   |

### WARRANTIES AND CERTIFICATIONS

|                |  |
|----------------|--|
| Warranties     | 25-year limited power warranty<br>10-year limited product warranty |
| Certifications | Tested to UL 1703. Class C Fire Rating                             |

### DIMENSIONS



Please read safety and installation instructions before using this product, visit [sunpowercorp.com](http://sunpowercorp.com) for more details.



# Your Energy Audit

## Home

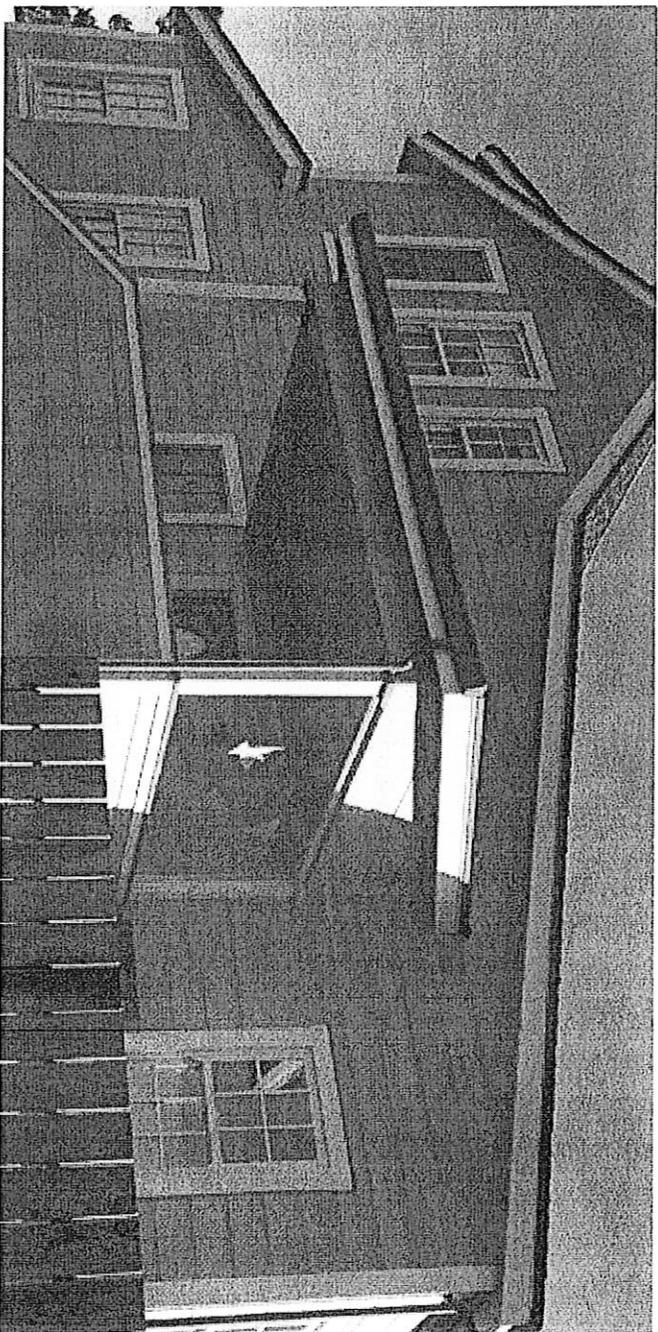
Michael St. John  
45351 Calpella St.  
Mendocino, CA 95460  
707-937-3711  
msjetal@pacbell.net

## Audit Date

Feb 4, 2016  
9:00 am

## Audited By

John Kemp  
Simple Home Energy  
Certified Rater  
BPI, HERS Alterations and New  
Construction, Energy Star  
PO Box 456  
Los Gatos, CA 95031  
877-300-4665  
john@simplehomeenergy.com



Thank you for selecting Simple Home Energy to perform a Whole House Energy Assessment on your home. Enclosed are the analysis results and recommendations from my recent Rebate Assessment Service energy inspection and testing. Please note that the service we have performed focuses on structural energy efficiency only. While we have tried to include all the information you will need to understand these, we expect to go over this information with you and are happy to answer any questions and assist you with any follow-on steps you wish to take. Please don't hesitate to contact us any time!

### Inside Your Report

- Your Energy Audit
- Concerns
- Recommendations for Your Home
- Upgrade details
- Additional notes
- Metrics
- Tech Specs
- Glossary



### **We listened to you!**

As our client, we want to make sure we are addressing all of your concerns for your home. If we have missed any concerns in this report, please let us know right away.

# Concerns

## Ensure home is efficient enough for PV solar

The home owners are very concerned about efficiency and renewable energy. They want to make sure that their home is efficient and in turn will not require oversized PV solar.

The home owners remodeled this home in 2004 and made sure that all current energy efficiency best practices were implemented.

The home owners would like to know if there are any other energy efficiency improvements that can be reasonably implemented.

**IMPORTANT NOTE:** The installed costs and cost savings projected in this report are not particularly accurate and only to be used as a rough metric. Upon discussion and decisions of any planned improvements we are happy to rerun the model for more accurate savings.



# Recommendations for Your Home

## Totals

**Approximate Cost**  
\$ 2,100

This is a ballpark guess. Ask your contractor for a detailed bid.

## Estimated Savings

\$ 471 per year

This is an estimate of how much you could save starting in Year 1. Savings will only increase as energy prices rise over the years.

## Impact of upgrades

| Details              | Approximate installed cost | Approximate annual savings |
|----------------------|----------------------------|----------------------------|
| Building Leakage     | \$700                      | \$43                       |
| Insulate Crawl Space | \$1,300                    | \$214                      |
| Upgrade Lighting     | \$200                      | \$176                      |
| Heating Ducts        | \$0                        | \$16                       |
| Heating System       | \$0                        | \$20                       |
| Your Water Heater    | \$0                        | \$9                        |
| Walls                | \$0                        | \$31                       |
| Windows              | \$0                        | NA                         |
| Vaulted Ceiling      | \$0                        | \$35                       |
| Refrigerator         | \$0                        | \$15                       |
| Dishwasher           | \$0                        | \$12                       |

Call us today at 877-300-4665 to ask a question or discuss the next step!



# Recommendations for Your Home

## Totals

### Approximate Cost

\$ 2,100

This is a ballpark guess. Ask your contractor for a detailed bid.

### Estimated Savings

\$ 471 per year

This is an estimate of how much you could save starting in Year 1. Savings will only increase as energy prices rise over the years.

### Impact of upgrades

|                                       |        |
|---------------------------------------|--------|
| Energy Reduction                      | 22%    |
| Carbon (CO2) Savings                  | 2 tons |
| Equivalent cars removed from the road | 0.4/yr |

Call us today at 877-300-4665 to ask a question or discuss the next step!

### Details

Clothes washer-Dryer

Approximate installed cost

\$0

Approximate annual savings

\$3



# Building Leakage

AIR LEAKAGE

**Estimated Cost**  
\$ 700

**Energy Savings**

Approx. \$ 43

## Why it matters

Air sealing is typically the most cost effective improvement you can make to your home. To properly seal out air leaks, a large fan called a blower door is used to depressurize your house. This makes air leaks easy to find, so corrective measures can be taken. A good air sealing job will dramatically increase the comfort of your home and help you save significant energy.

## Notes to Homeowners

Your house appears to be only slightly leaky. A certain amount of air leakage is normal and appropriate for healthy indoor air (without installing mechanical ventilation). Sealing your house is only an option. Note that some sealing could be done under the sub-floor prior to insulating if that will be done.

## Now & Goal

| Details                | Now                       | Goal                  |
|------------------------|---------------------------|-----------------------|
| Blower Door Reading    | 1,730.00 CFM50            | 1,297.50 CFM50        |
| Wind Zone              | 2                         | N/A                   |
| N-Factor               | 13.49                     | N/A                   |
| Equivalent NACH        | 0.58 NACH                 | 0.43 NACH             |
| Conditioned Air Volume | 13,302.50 ft <sup>3</sup> | N/A                   |
| Effective Leakage Area | 97.11 in <sup>2</sup>     | 72.83 in <sup>2</sup> |
| Equivalent ACH50       | 7.80 ACH50                | 5.85 ACH50            |



# Insulate Crawl Space

## CRAWL SPACE

### Estimated Cost

\$ 1,300

### Energy Savings

Approx. \$ 214

### Why it matters

Insulating the sub-floor prevents heat and cool loss from the floor, just like walls and ceiling. Crawlspace can be converted from an unconditioned to a conditioned space which includes sealing off any vents to the outside, insulating the foundation walls, and installing a vapor barrier on top of the dirt floor. It often includes adding a jump vent to the main conditioned space in the house or ducting the furnace and/or A/C into the crawlspace as well. While common in many parts of the country, it is not cost justified in CA



Currently your sub-floor is not insulated. With good access under your house. It would be relatively easy to add this.

## Notes to Homeowners

Insulating your sub-floor would further help to maintain consistent temperature inside and thus minimize furnace run time.

## Now & Goal

| Details                         | Now                      | Goal                |
|---------------------------------|--------------------------|---------------------|
| Modeled Crawl Wall Area         | 380.00 ft <sup>2</sup>   | N/A                 |
| Crawlspace Rim Joist Length     | 126.67 ft                | N/A                 |
| Crawlspace Rim Joist Treatment  | Same as Crawl Wall       | Same as Crawl Wall  |
| Crawlspace Rim Joist Insulation | 0 R Value                | 0 R Value           |
| Modeled Crawl Floor Area        | 1,000.00 ft <sup>2</sup> | N/A                 |
| Crawl Cavity Insulation         | 0 R Value                | 19.00 R Value       |
| Crawlspace Type                 | Vented - Year Round      | Vented - Year Round |
| Crawl Wall Insulation           | 0 R Value                | 0 R Value           |

# Upgrade Lighting

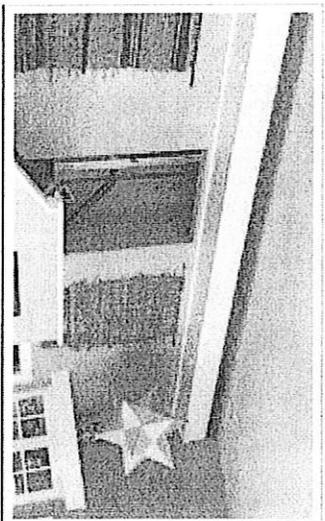
## LIGHTING

**Estimated Cost**  
\$ 200

**Energy Savings**  
Approx. \$ 176

### Why it matters

Compact Florescent lightbulbs (CFLs) use 1/4 of the energy of regular incandescent light bulbs and last 8 to 15 times as long. Light Emitting Diode (LED) bulbs use 12% of the energy of regular incandescent light bulbs and last up to 50 times as long. Replacing incandescent bulbs with CFLs or LEDs will save significant energy and replacement costs over time.



You have many installed lights. They appear to mostly be halogen which are typically low wattage but not considered high efficacy or efficient since they put out a lot of heat. It also appears that you probably don't use all lighting at the same time.

## Notes to Homeowners

It is smart practice to replace incandescent lighting with high-efficacy type when the incandescents start burning out. With other aspects of energy use becoming more efficient, lighting begins to be a big part of the pie.

## Now & Goal

| Details             | Now | Goal |
|---------------------|-----|------|
| # of Incandescents  | 57  | 7    |
| # of CFLs installed | N/A | N/A  |
| # of CFLs or LEDs   | 9   | 59   |
| # of LEDs           | 0   | 0    |



# Heating Ducts

## DUCTS

### Estimated Cost

\$ 0

### Energy Savings

Approx. \$ 16

### Why it matters

If you have a forced air system for heating or cooling, sealing the connections and penetrations with mastic will ensure that all of the air makes it to where it was designed to go. This increases the efficiency of your heating and cooling system and improves comfort.



Your ducts are not overly leaky at this time.

## Notes to Homeowners

While your ducts are not overly leaky, they are showing signs that leakage will increase. Duct tape used to hold the connections is beginning to dry and fall off. Also note that significant evidence of rodents was found. It is not uncommon for these pests to chew through the ducts in search of warmth.

## Now & Goal

| Details               | Now                        | Goal                       |
|-----------------------|----------------------------|----------------------------|
| Duct Insulation Value | N/A                        | 0 R Value                  |
| Duct Location         | Crawlspace (unconditioned) | Crawlspace (unconditioned) |
| Duct Insulation       | Fiberglass 2"              |                            |
| Duct Leakage Value    | 162.00 CFM25               | 100.00 CFM25               |
| Duct Leakage          | 15% - Somewhat leaky       | Seal to 6% Leakage         |
| Duct Efficiency       | 89.7910743114413 %         | 90.8011778919542 %         |

# Heating System

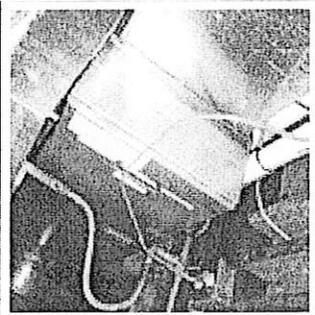
## HEATING SYSTEM

**Estimated Cost**  
\$ 0

**Energy Savings**  
Approx. \$ 20

### Why it matters

Install a more efficient furnace, boiler or heat pump. Depending on the age of the unit, substantial savings may be gained by replacing it with an Energy Star rated appliance. If you're heating with gas, look for a sealed combustion unit. They're much safer since the exhaust pathway from the unit is sealed and goes directly outside. If it doesn't quite make sense to replace your heating system now, be prepared to replace it with a high efficiency Energy Star unit when it finally wears out.



## Notes to Homeowners

Your furnace is an Energy Star rated high-efficiency sealed combustion model (>90%) and runs on propane.

## Now & Goal

| Details                     | Now          | Goal         |
|-----------------------------|--------------|--------------|
| Heat Pump Inverter          | No           | No           |
| Heating Equipment           | Furnace      | Furnace      |
| Heating Energy Source       | Propane      | Propane      |
| % of Total Heating Load     | 100 %        | 100 %        |
| Heating Capacity            | 55,000 BTU/h | 55,000 BTU/h |
| Heating System Efficiency   | 92.0 AFUE    | 96.0 AFUE    |
| Heating System Manufacturer | Bryant       | Unknown      |
| Heating System Model Year   | 2003         | 2016         |
| Heating System Model        | 345mav024060 |              |



# Your Water Heater

WATER HEATER

**Estimated Cost**

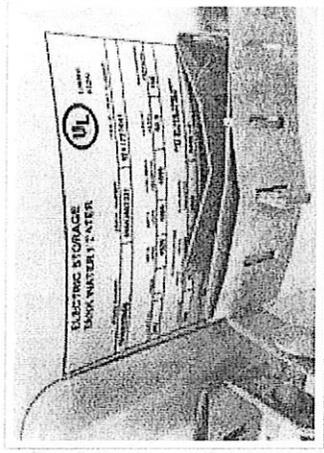
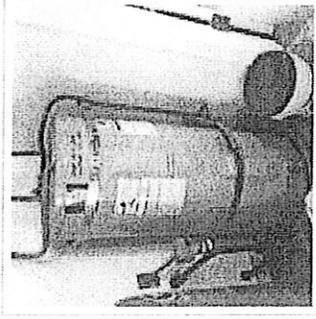
\$ 0

**Energy Savings**

Approx. \$ 9

**Why it matters**

You could replace your water heater with a tankless model or a heat pump water heater to save energy.



**Notes to Homeowners**  
Your water heater is relatively new and efficient.

## Now & Goal

| Details           | Now                           | Goal        |
|-------------------|-------------------------------|-------------|
| DHW Fuel          | Electricity                   | Electricity |
| DHW Fuel2         | Electricity                   | Electricity |
| DHW Type          | Standard tank                 |             |
| DHW Age           | 6-10                          |             |
| DHW Location      | Garage or Unconditioned Space |             |
| DHW % Load        | 100 %                         | 100 %       |
| DHW Manufacturer  | State Industries              | Unknown     |
| DHW Model Year    | 2009                          | 2016        |
| DHW Energy Factor | 88 EF                         | 90 EF       |
| DHW Energy Star   | No                            | No          |



# Walls

WALLS

Notes to Homeowners

Your walls are insulated to R-15. This is higher than current standards of R-13.

Estimated Cost \$ 0

Energy Savings

Approx. \$ 31

Now & Goal

Details

Now

Goal

Why it matters

Insulating your walls can lead to a significant reduction in utility bills. The is done by drilling small holes in the wall cavities either from the inside or outside and filling the space with cellulose, fiberglass, or even foam insulation. If it's time to replace your exterior siding, then be sure to ask your contractor about adding a layer of rigid foam underneath the new sheathing of 1" or more.

| Details                    | Now                      | Goal                     |
|----------------------------|--------------------------|--------------------------|
| Exterior Wall Siding       | Wood/Fiber Cement siding |                          |
| Exterior Wall Construction | Frame                    |                          |
| Wall Cavity Insulation     | 11.00 R Value            | 13.00 R Value            |
| Wall Continuous Insulation | 0 R Value                | 0 R Value                |
| Modeled Wall Area          | 1,870.00 ft <sup>2</sup> | 1,870.00 ft <sup>2</sup> |



# Windows

## WINDOWS

### Estimated Cost

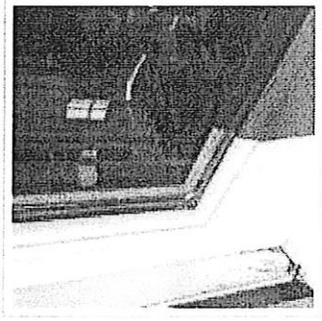
\$ 0

### Energy Savings

Approx. \$ . NA

### Why it matters

Windows are the "weak link" in the building envelope. Dual (or even triple) panes increases R-value, along with the construction material.



## Notes to Homeowners

Your windows are fairly energy efficient. They are dual-paned tightly constructed with high R-value material (wood).

## Now & Goal

| Details                     | Now                    | Goal                   |
|-----------------------------|------------------------|------------------------|
| Exterior Treatment: North   | No Treatment           | No Improvement         |
| Exterior Treatment: East    | No Treatment           | No Improvement         |
| Exterior Treatment: South   | No Treatment           | No Improvement         |
| Exterior Treatment: West    | No Treatment           | No Improvement         |
| Window Area: West           | 63.75 ft <sup>2</sup>  | 63.75 ft <sup>2</sup>  |
| Window Area: North          | 153.00 ft <sup>2</sup> | 153.00 ft <sup>2</sup> |
| Solar Heat Gain Coefficient | 0.56 SHGC              | 0.35 SHGC              |
| Window Area: East           | 127.50 ft <sup>2</sup> | 127.50 ft <sup>2</sup> |
| Window Area: South          | 127.50 ft <sup>2</sup> | 127.50 ft <sup>2</sup> |
| Window Energy Star          | No                     | No                     |
| Efficiency                  | 0.51 U value           | 0.35 U value           |



# Vaulted Ceiling

VAULTED CEILING

Estimated Cost

\$ 0

Energy Savings

Approx. \$ 35

Why it matters

Vaulted ceilings are commonly poorly insulated. If your roof is in need of replacement, it's a perfect time to also insulate the area between the interior drywall and the roof deck. Dense packing this cavity with blown fiberglass or cellulose will help prevent significant heat loss.

Notes to Homeowners

Your vaulted ceilings are insulated to R-30. This is higher than the standard of R-19 at the time your home was remodeled. The current standard is R-30.

Now & Goal

| Details                     | Now                      | Goal                     |
|-----------------------------|--------------------------|--------------------------|
| Modeled Vault Area          | 1,000.00 ft <sup>2</sup> | 1,000.00 ft <sup>2</sup> |
| Vault Cavity Insulation     | 30.00 R Value            | 38.00 R Value            |
| Vault Continuous Insulation | 0 R Value                | 0 R Value                |



# Refrigerator

## REFRIGERATOR

**Estimated Cost**

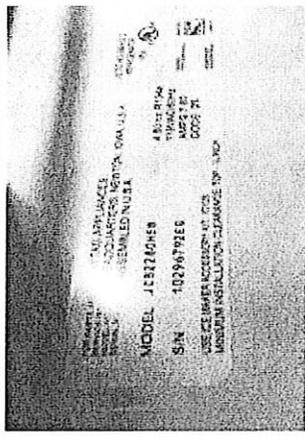
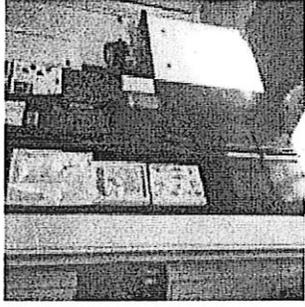
\$ 0

**Energy Savings**

Approx. \$ 15

### Why it matters

Old refrigerators can often cost twice as much to operate as a new refrigerator. Replace your old refrigerator with a new Energy Star model and be sure to recycle the old one (keeping it running in your garage or basement will use even more energy).



Your refrigerator

## Notes to Homeowners

I could not locate your refrigerator in the appliance efficiency data base. It appears to be older and possibly consuming more than the software has assumed (617 kWh/yr). Refrigerators, which are among the highest energy-using appliances, have become much more efficient in recent years.

## Now & Goal

| Details                   | Now           | Goal          |
|---------------------------|---------------|---------------|
| Refrigerator Energy Star  | No            | No            |
| Refrigerator Model Year   | 2000          | 2016          |
| Refrigerator Manufacturer | Maytag        | Unknown       |
| Refrigerator Usage        | 617.22 kWh/yr | 427.00 kWh/yr |

# Dishwasher

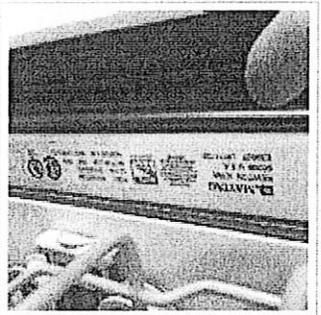
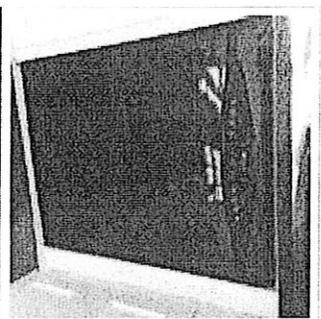
DISHWASHER

**Estimated Cost**  
\$ 0

**Energy Savings**  
Approx. \$ 12

**Why it matters**

Old dishwashers can be energy and water hogs. When your current dishwasher breaks or otherwise needs to be replaced, be sure to choose an Energy Star model with the highest Energy Factor (EF) that's within your budget. More information is available at <http://www.energystar.gov>.



Your dishwasher

## Notes to Homeowners

I also can not find your dishwasher in the appliance efficiency data base. Efficiency metrics are based on an assumed age of 12 years old.

## Now & Goal

| Details                  | Now     | Goal    |
|--------------------------|---------|---------|
| Dishwasher Energy Factor | 0.50 EF | 0.70 EF |
| Dishwasher Energy Star   | No      | No      |
| Dishwasher Model         | N/A     | N/A     |
| Dishwasher Installed?    | Yes     | Yes     |
| Dishwasher Manufacturer  | Maytag  | N/A     |
| Dishwasher Model Year    | 2004    | 2016    |



# Clothes washer-Dryer

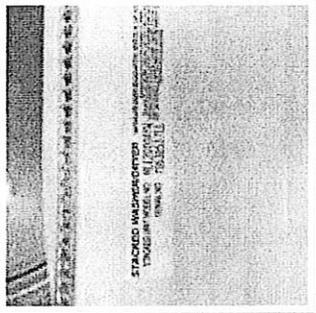
CLOTHESWASHER

**Estimated Cost**  
\$ 0

**Energy Savings**  
Approx. \$ 3

## Why it matters

Old clothes washers can be energy and water hogs. When your current clothes washer breaks or otherwise needs to be replaced, be sure to choose a front loading Energy Star model with the highest Modified Energy Factor (MEF) that's within your budget. More information is available at <http://www.energystar.gov>.



Your washer-dryer

**Notes to Homeowners**  
Your washer-dryer combo is fairly efficient and not recommended for upgrade at this time.

## Now & Goal

| Details                     | Now        | Goal           |
|-----------------------------|------------|----------------|
| Clothes Washer Manufacturer | Maytag     | N/A            |
| Clothes Washer Model        | MLE2000AYW | N/A            |
| Clothes Washer Type         | Front Load | No Improvement |
| Clothes Washer Model Year   | 1990       | N/A            |
| Clothes Washer MEF          | 1.69 MEF   | 1.80 MEF       |
| Clothes Washer Energy Star  | No         | No             |



# Summary

## ADDITIONAL NOTES

### About this section

Additional notes are miscellaneous items that deserve a mention in your home's report.

These mentioned items are not included in the cost or savings of your project.

## Notes to Homeowners

Since your home was extensively remodeled in 2004, it is very energy efficient when compared to houses built previously, in many cases much earlier, before any energy standards existed.

1. Your house (the building envelope) is well sealed and insulated. Windows are efficient, dual-pane and tight fitting. Adding insulation under your floor would provide additional benefit.
2. High-efficacy lighting should be installed as current incandescent lighting burns out.
3. Your appliances are approximately mid/late-life and should be upgraded upon end-of-life.
4. Your (electric) water heater is newer and higher efficiency.



# Recommendation To Add PV Solar

## ADDITIONAL NOTES

### About this section

Additional notes are miscellaneous items that deserve a mention in your home's report.

These mentioned items are not included in the cost or savings of your project.

Solar Proposal for Michael St. John

### SUNPOWER®

#### SUNPOWER® PROPOSAL SUMMARY

**System Details**  
 Year 1 Estimated Production: 8,281 kWh  
 5.89 kW (DC), 3.20 kW (AC) SunPower System  
 18 x SunPower E60321 Solar Panel  
 Solar Mounting System  
 1 x SUNNY BOY (S001L-US-22 - 247V, SP-19-60321)



| Proposal Economics                               |                     |
|--|---------------------|
| System Cost                                      | \$27,690            |
| Estimated Rebate                                 | \$0                 |
| Estimated Federal Tax Credit                     | \$8,307             |
| Estimated Net System Cost                        | \$19,383            |
| Estimated SunPower Cost per kWh <sup>1</sup>     | \$0.11              |
| Estimated Year 1 Return <sup>2</sup>             | 8.50%               |
| Estimated Net Savings Over 20 Years <sup>3</sup> | \$12,910 - \$41,435 |

A proposal for PV solar for your home

## Notes to Homeowners

Since your home is fairly efficient, and you have a good amount of SouthWest facing roof space, your home is a perfect candidate for renewable energy generation through PV solar.

Having an energy efficient home enables a smaller solar system to be installed and saves money. Conversely, it is not so smart to install solar to "cover up" wasted energy.



# Metrics

## About the metrics

These metrics are for the whole house in a pre and post-retrofit state.

The 'Baseline' savings numbers will likely not be the same as the actual energy consumption of the home. These numbers are weather normalized and then projected based on the Typical Meteorological Year for the past 30 years (TMY30). In other words, this is the energy consumption of the home for a typical year, not the year that the utility bills were from.

| Metric   | Baseline | Improved | Saved |
|--|----------|----------|-------|
| Fuel Energy Usage <small>(therms/year)</small>       | 299      | 254      | 45    |
| Electric Energy Usage <small>(kWh/year)</small>      | 7,809    | 5,445    | 2,364 |
| Electric Energy Demand <small>(kW)</small>           | 0.72     | 0.58     | 0.13  |
| Total Energy Usage <small>(MMBtu/year)</small>       | 57       | 44       | 13    |
| Fuel Energy Cost <small>\$/year</small>              | 660      | 538      | 122   |
| Electric Energy Cost <small>\$/year</small>          | 1,154    | 805      | 349   |
| Total Energy Cost <small>\$/year</small>             | 1,814    | 1,343    | 471   |
| CO2 Production <small>(Tons/year)</small>            | 6.5      | 4.8      | 1.7   |
| Payback <small>(years)</small>                       |          |          | 4     |
| Total Energy Savings                                 |          |          | 22%   |
| Total Carbon Savings                                 |          |          | 26%   |
| Net Savings to Investment Ratio <small>(SIR)</small> |          |          | 3.2   |
| Net Annualized Return <small>(NARR)</small>          |          |          | 11.0% |

## Heating & Cooling Load Calculations

|  |                            |                                |
|--|----------------------------|--------------------------------|
| Heating Load <small>Btu/hr</small>           | 28,215 <small>Base</small> | 21,194 <small>Improved</small> |
| Cooling Load: Sensible <small>Btu/hr</small> | N/A <small>Base</small>    | N/A <small>Improved</small>    |
| Cooling Load: Latent <small>Btu/hr</small>   | N/A <small>Base</small>    | N/A <small>Improved</small>    |
| Winter Design Temperature                    | 34° <small>Outdoor</small> | 70° <small>Indoor</small>      |
| Summer Design Temperature                    | 67° <small>Outdoor</small> | 75° <small>Indoor</small>      |



# Tech Specs

## Property Details

Year Built: 2004  
 Conditioned Area: 1,565.00 ft<sup>2</sup>  
 Includes Basement: No  
 Average Wall Height: 8.00 ft  
 House Length: 25.0 ft  
 House Width: 30.0 ft  
 Floors Above Grade: 2.00  
 Number of Occupants: 2.0  
 Number of Bedrooms: 3.0  
 Type of Home: Single Family Detached  
 Front of Building Orientation: South East  
 Shielding: Exposed  
 Tuck Under Garage: No

## Refrigerators 1

Refrigerator Age: 2004  
 Refrigerator Size: 1,565.00 ft<sup>2</sup>  
 Refrigerator Energy Star: No  
 Refrigerator Manufacturer: Maytag  
 Refrigerator Model Year: 2000

## Windows 1

Window Type: Double pane  
 Window Frame: Wood or metal clad  
 Window: North Area Percent: 30 %  
 Window: East Area Percent: 30 %  
 Window: South Area Percent: 25 %  
 Window: West Area Percent: 15 %  
 North Overhang Depth: 0 ft  
 East Overhang Depth: 0 ft  
 South Overhang Depth: 0 ft  
 West Overhang Depth: 0 ft

## Lighting

% CFLs or LEDs: 1-25%  
 Total # of Light Bulbs: 66

## Walls 1

Walls Insulated?: Well  
 Exterior Wall Siding: Wood/Fiber Cement siding  
 Exterior Wall Construction: Frame

## Appliances

Dishwasher Energy Factor: 0.50 EF  
 Dishwasher Energy Star: No  
 Clothes Washer Model: MLE2000AYW  
 Dishwasher Manufacturer: Maytag  
 Dishwasher Model Year: 2004  
 Clothes Washer Model Year: 1990  
 Clothes Washer MEF: 1.69 MEF  
 Range Fuel Type: Natural Gas  
 Dryer Fuel Type: Electricity  
 Clothes Washer Type: Front Load  
 Clothes Washer Energy Star: No  
 Clothes Washer Manufacturer: Maytag  
 Dishwasher Installed?: Yes

## Foundation

Crawlspace Rim Joist Treatment: Same as Crawl Wall  
 Crawlspace Rim Joist Insulation: 0 R Value  
 Crawlspace Type: Vented - Year Round  
 Crawlspace Insulation: Crawlspace is uninsulated  
 Foundation: Crawlspace: 100 %  
 Foundation Above Grade Height: 4.0 ft

## Skylights

Skylight Area: 0 ft<sup>2</sup>

## Air Leakage

Blower Door Reading: 1,730.00 CFM50



# Tech Specs

## Heating & Cooling 1

System Name: Central Heating System  
 System 1 Type: Heating  
 Heating Equipment: Furnace  
 Heating Energy Source: Propane  
 Age of Heating Equipment: 6-15  
 % of Total Heating Load: 100 %  
 Heating Capacity: 55,000 BTU/h  
 Heating System Efficiency: 92.0 AFUE  
 Heating System Manufacturer: Bryant  
 Heating System Model Year: 2003  
 Heating System Model: 345mav024060  
 Duct Location: Crawlspace (unconditioned)  
 Duct Insulation: Fiberglass 2"  
 Duct Leakage Value: 162.00 CFM25  
 Duct Leakage: 15% - Somewhat leaky

## Pool & Hot Tub

Pool: No  
 Hot Tub: No

## Electricity

Provider: PG&E  
 Mar 01, 2015: 704 kWh  
 Apr 02, 2015: 532 kWh  
 May 03, 2015: 614 kWh  
 Jun 02, 2015: 576 kWh  
 Jul 01, 2015: 500 kWh  
 Jul 30, 2015: 604 kWh  
 Aug 31, 2015: 623 kWh  
 Sep 30, 2015: 616 kWh  
 Nov 02, 2015: 738 kWh  
 Dec 02, 2015: 616 kWh  
 Jan 03, 2016: 964 kWh  
 Feb 01, 2016: 624 kWh

## Thermostat

Programmable Thermostat Installed: Yes  
 Heating Setpoint High: 68 °F  
 Heating Setpoint Low: 60 °F

## Primary Fuel: Propane

Feb 01, 2016: 300 Gallons

## Water Heating 1

DHW Fuel: Electricity  
 DHW Type: Standard tank  
 DHW Age: 6-10  
 DHW % Load: 100 %  
 DHW Location: Garage or Unconditioned Space  
 DHW Manufacturer: State Industries  
 DHW Model Year: 2009  
 DHW Energy Star: No

## Contractor Contact Information

John Kemp  
 Simple Home Energy  
 BPI, HERS Alterations and New Construction,  
 Energy Star  
 PO Box 456  
 Los Gatos, CA 95031  
 john@simplehomeenergy.com

## About This Report

Report Date: February 6, 2016  
 Job ID: 55837

**Annual Fuel Utilization Efficiency (AFUE)** The measure of seasonal or annual efficiency of a residential heating furnace or boiler. It takes into account the cyclic on/off operation and associated energy losses of the heating unit as it responds to changes in the load, which in turn is affected by changes in weather and occupant controls.

**Annualized Return** The return an investment provides over a period of time, expressed as a time-weighted annual percentage. This is the equivalent annual interest rate you would get if you put the same amount of money spent on the energy upgrade into a savings account.

**Asbestos** Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials for insulation and as a fire-retardant, but is no longer used in homes. When asbestos-containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems.

**British Thermal Unit (Btu)** The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit; equal to 252 calories.

**Carbon Monoxide (CO)** A colorless, odorless but poisonous combustible gas with the formula CO. Carbon monoxide is produced in the incomplete combustion of carbon and carbon compounds such as fossil fuels (i.e. coal, petroleum) and their products (e.g. liquefied petroleum gas, gasoline), and biomass.

**Cashflow** When financing energy efficiency improvements, cashflow is the difference between the average monthly energy savings and the monthly loan payment.

**Combustion Appliance Zone (CAZ)** A contiguous air volume within a building that contains a combustion appliance such as furnaces, boilers, and water heaters; the zone may include, but is not limited to, a mechanical closet, mechanical room, or the main body of a house, as applicable.

**Compact Fluorescent Light bulb (CFL)** A smaller version of standard fluorescent lamps which can directly replace standard incandescent lights. These highly efficient lights consist of a gas filled tube, and a magnetic or electronic ballast.

**Cubic Feet per Minute (CFM)** A measurement of airflow that indicates how many cubic feet of air pass by a stationary point in one minute.

**Carbon Dioxide (CO<sub>2</sub>)** A colorless, odorless noncombustible gas that is present in the atmosphere. It is formed by the combustion of carbon and carbon compounds (such as fossil fuels and biomass). It acts as a greenhouse gas which plays a major role in global warming and climate change.

**Energy Efficiency Ratio (EER)** The measure of the energy efficiency of room air conditioners: cooling capacity in Btu/hr divided by the watts consumed at a specific outdoor temperature.

**Energy Factor (EF)** The measure of efficiency for a variety of appliances. For water heaters, the energy factor is based on three factors: 1) the recovery efficiency, or how efficiently the heat from the energy source is transferred to the water; 2) stand-by losses, or the percentage of heat lost per hour from the stored water compared to the content of the water; and 3) cycling losses. For dishwashers, the energy factor is the number of cycles per kWh of input power. For clothes washers, the energy factor is the cubic foot capacity per kWh of input power per cycle. For clothes dryers, the energy factor is the number of pounds of clothes dried per kWh of power consumed.

**Heating Seasonal Performance Factor (HSPF)** The measure of seasonal efficiency of a heat pump operating in the heating mode. It takes into account the variations in temperature that can occur within a season and is the average number of Btu of heat delivered for every watt-hour of electricity used.

**Heat Recovery Ventilator (HRV) / Energy Recovery Ventilator (ERV)**

A device that captures the heat or energy from the exhaust air from a building and transfers it to the supply/fresh air entering the building to preheat the air and increase overall heating efficiency while providing consistent fresh air.

**Light Emitting Diode (LED) Lighting** An extremely efficient semiconductor light source. LEDs present many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved physical robustness, and smaller size.

**Modified Internal Rate of Return (MIRR)** This is your return on investment. Roughly speaking, if you invested the same amount of money for this project (listed on this report as the total cost) into a bank account, your equivalent interest rate from all of the energy savings would be the MIRR.

**N-Factor** A factor of how susceptible your house is to wind, influenced by weather patterns, location, and the number of floors in the home. Used in the calculation of NACH.

**Natural Air Changes per Hour (NACH)** The number of times in one hour the entire volume of air inside the building leaks to the outside naturally.

**Payback Period** The amount of time required before the savings resulting from your system equal the system cost.

**R-Value** A measure of the capacity of a material to resist heat transfer. The R-Value is the reciprocal of the conductivity of a material (U-Value). The larger the R-Value of a material, the greater its insulating properties.

**Radon** A naturally occurring radioactive gas found in the U.S. in nearly all types of soil, rock, and water. It can migrate into most buildings. Studies have linked high concentrations of radon to lung cancer.

**Rim Joist** In the framing of a deck or building, a rim joist is the final joist that caps the end of the row of joists that support a floor or ceiling. A rim joist makes up the end of the box that comprises the floor system.

**Seasonal Energy Efficiency Ratio (SEER)** A measure of seasonal or annual efficiency of a central air conditioner or air conditioning heat pump. It takes into account the variations in temperature that can occur within a season and is the average number of Btu of cooling delivered for every watt-hour of electricity used by the heat pump over a cooling season.

**Savings to Investment Ratio (SIR)** A ratio used to determine whether a project that aims to save money in the future is worth doing. The ratio compares the investment that is put in now with the amount of savings from the project.

Page \_\_\_\_ of \_\_\_\_ \*Resource Name or #: (Assigned by recorder) \_\_\_\_\_

P1. Other Identifier: \_\_\_\_\_

\*P2. Location:  Not for Publication  Unrestricted

\*a. County Mendocino and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad SE/4 Fort Bragg Date 1960/1978 T 17N ; R 17W ;  of por.  of

Sec 30 ; B.M.

c. Address 45351 Calpella Street City Mendocino Zip 95460

d. UTM: (Give more than one for large and/or linear resources) Zone \_\_, \_\_ mE/ \_\_ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)  
 PN: 119-214-06

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)  
 The property contains four structures: 1) the house, 2) the garage, 3) a small barn, and 4) a guest cottage (the building relevant to this application). The house, originally built in the late 1890s, was categorized as "Category III" when the historic district was formed because of non-historic shed roof additions to the south and a non-historic entry to the north. The house was thoroughly remodeled with MHRB approval in 2004-5. The remodeled house retained the footprint and the saltbox shape of the original structure. The garage was rebuilt at that time to its original size and shape. The barn was remodeled by the owner in 2010 to retain the original materials, size, shape, and roof pitch, a project intended to comply with historic standards of restoration. Little is known about the occupants of the property. It was purchased by the current owners from the Stockwell family in 2003. (See continuation sheet)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

PHOTOS OF EXISTING CONDITIONS, WITH CAPTIONS



1. Existing North elevation of the guest cottage, showing the aluminum sliding window, and the shallow roof pitch draining East onto the neighbor's property.



4. The East side of the guest cottage is shown here; visible are: worn and missing siding, exposed studs, lack of any real foundation, too-high ground level, and a ground slope which drains water right under the building. All these defects will be made good by this project.



3. The top of the non-code steps. In addition to being non-code, they are weakened by decay.

\*P3b. Resource Attributes: (List attributes and codes) HP2-Single Family

\*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5b. Description of Photo: (view, date, accession#) N. face guest cottage

\*P6. Date Constructed/Age and Source:  Historic  Prehistoric  Both

Unknown - late 19<sup>th</sup> century

\*P7. Owner and Address:

M. St. John & M. T. Alvarez,  
45351 Calpella Street  
Mendocino, CA 95460

\*P8. Recorded by: (Name, affiliation, and address)  
Michael St. John, Owner

\*P9. Date Recorded: 5/1/15

\*P10. Survey Type: (Describe)  
informal

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

none

\*Attachments:  NONE  Location Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Feature Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List): \_\_\_\_\_

## CONTINUATION SHEET

Property Name: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

The Stockwell family had owned it for many years, but had lived elsewhere for many years - somewhere in the mid-west, as I recall. The house was tenant-occupied at the time of purchase in 2003 by a person (now deceased) who had lived there for many years. The guest cottage, vacant at time of purchase, had been occupied by various occupants over the years. We were told on purchase that one of the Stockwell sisters lived there at one time.

The house is called the "Lazarus House", a name also applying to another property – 45300 Ukiah Street. The Calpella Street property was purchased by Charles F. Lazarus in 1893 and 1894, being at that time two 40' x 80' parcels. It seems probable that the house was built thereafter because the house straddles the line between the two lots, but there is no record of the construction date. Nor is it known when the garage or the barn were built. The barn appears to be "historic", having redwood framing, siding, and roof shingles. The house and the barn do show on the Sanborn map for 1898, so they must have been built between 1894 and 1898.

The guest cottage, said to have been remodeled from a chicken coop and a woodshed, doesn't look historic. Its siding is of a design common from the 1950s. The guest cottage doesn't appear on the Sanborn Maps dated 1898 and 1909, although the house, barn, and garage do show on those maps. The roof is 2.5 in 12, a slope too low for wood shingles. One window is an aluminum slider. There are no records indicating when the coop was remodeled into a cottage, but the conversion most likely happened in the 1950s or 1960s. The Sears Roebuck Company compact kitchen unit (sink, refrigerator, and stove top) is of post-war design.

See also Applicants Statement for additional information.

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FORT BRAGG CA

State of California  Natural Resources Agency Resource Name or # (Assigned by recorder)  
\*Recorded by: \_\_\_\_\_ \*Date \_\_\_\_\_  Continuation  
 Update



House, 45351 Calpella Street,  
Mendocino California 95460



Garage, 45351 Calpella Street,  
Mendocino California 95460

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PLANNING & BUILDING SERV  
FORT BRAGG CA

State of California  Natural Resources Agency Resource Name or # (Assigned by recorder)  
\*Recorded by: \_\_\_\_\_ \*Date \_\_\_\_\_  Continuation  
 Update



Barn, 45351 Calpella Street,  
Mendocino California 95460

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PLANNING & BUILDING SERV  
FORT BRAGG CA

State of California - The Resources Agency Primary #  
 DEPARTMENT OF PARKS AND RECREATION HRI#  
**BUILDING, STRUCTURE, AND OBJECT RECORD**

\*Resource Name or # (Assigned by recorder) \_\_\_\_\_ \*NRHP Status Code \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_

B1. Historic Name: Lazarus House  
 B2. Common Name: none  
 B3. Original Use: Residence B4. Present Use: Residence

\*B5. Architectural Style: House: Historic, Saltbox Guest Cottage: nondescript, non-historic  
 \*B6. Construction History: (Construction date, alterations, and date of alterations)

Original construction of house late 1800s. House received various non-historic additions over the years and was substantially rebuilt/remodeled 2004-5. Guest Cottage was originally constructed as a chicken coop, then converted to guest cottage in the 1950s(?) House has historic features: roof slope, historic siding, etc. Guest cottage has non-historic features: sliding aluminum window, 2.5 in 12 roof slope, non-historic roof covering, non-historic siding, etc.

\*B7. Moved?  No  Yes  Unknown Date: \_\_\_\_\_ Original Location: \_\_\_\_\_

\*B8. Related Features:  
 Barn is of historic design and materials. Garage retains historic shape, roof pitch, and siding.

B9a. Architect: unknown b. Builder: unknown  
 \*B10. Significance: Theme Historic Town Area Town of Mendocino, "Portuguese Flat"  
 Period of Significance 1800s-1900s Property Type Residence Applicable Criteria \_\_\_\_\_  
 (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The property is one of many in the town of Mendocino with historic significance. There are no precise records, but the house was probably built between 1894 and 1898. The house having been substantially changed over the years by various non-historic additions, the property was called a Category III when the historic district was formed, but the barn at the SW corner of the property appears to be original. The barn was substantially renovated to historic standards in 2010. The guest cottage, in contrast, while it had historic origins, is not "historic". Neighbors say that it was originally built as a chicken coop. The removal of siding on the East side has revealed that the building was originally 10' x 20', becoming 10' x 30' at a later date, possibly with the addition of a woodshed. In the 1950s or thereabouts the building was made into a guest cottage by the addition of windows, doors, and non-historic siding.

B11. Additional Resource Attributes: (List attributes and codes) (HP2)-Single Family Property

\*B12. References: no relevant references found in Kelley House Research Office.

B13. Remarks:  
 A visit to Kelley House Research Office revealed no documents or photos of the property.

\*B14. Evaluator: Michael St. John (owner)  
 \*Date of Evaluation: 5/1/15

(This space reserved for official comments.)  
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