FORM R405-2017

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

| | | | |
|---|---|---|---|
| Project Name: | Deese tiny home | Builder Name: | |
| Street: | 382 SW Polaris terrace | Permit Office: | |
| City, State, Zip: | Fort White , FL , | Permit Number: | |
| Owner: | Shannon Deese | Jurisdiction: | |
| Design Location: | FL, Jacksonville | County: | columbia (Florida Climate Zone 2 ) |

| | |
|---|---|
| 1. New construction or existing | New (From Plans) |
| 2. Single family or multiple family | Single-family |
| 3. Number of units, if multiple family | 1 |
| 4. Number of Bedrooms | 1 |
| 5. Is this a worst case? | No |
| 6. Conditioned floor area above grade (ft²) | 1312 |
| Conditioned floor area below grade (ft²) | 0 |

| 7. Windows(124.0 sqft.) | Description | Area |
|---|---|---|
| a. U-Factor: | Dbl, U=0.56 | 124.00 ft² |
| SHGC: | SHGC=0.30 | |
| b. U-Factor: | N/A | ft² |
| SHGC: | | |
| c. U-Factor: | N/A | ft² |
| SHGC: | | |
| d. U-Factor: | N/A | ft² |
| SHGC: | | |
| Area Weighted Average Overhang Depth: | | 1.043 ft. |
| Area Weighted Average SHGC: | | 0.300 |

| 8. Floor Types (1312.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Crawlspace | R=13.0 | 1312.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 9. Wall Types (1568.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Frame - Wood, Exterior | R=13.0 | 1568.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |
| d. N/A | R= | ft² |

| 10. Ceiling Types (1312.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Under Attic (Vented) | R=30.0 | 1312.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 11. Ducts | | R ft² |
|---|---|---|

| 12. Cooling systems | kBtu/hr | Efficiency |
|---|---|---|
| a. PTAC and Room Unit | 29.0 | EER:14.00 |

| 13. Heating systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Electric Strip Heat | 8.0 | COP:1.00 |

| 14. Hot water systems | | |
|---|---|---|
| a. Electric | Tankless | Cap: 1 gallons |
| | | EF: 0.990 |
| b. Conservation features | | |
| None | | |

| 15. Credits | Pstat |
|---|---|

Glass/Floor Area: 0.095

Total Proposed Modified Loads: 41.05

Total Baseline Loads: 42.70

**PASS**

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 7-01-20

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

**- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.**

**- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 7.00 ACH50 (R402.4.1.2).**

FORM R405-2017

# INPUT SUMMARY CHECKLIST REPORT

## PROJECT

| | | | | | |
|---|---|---|---|---|---|
| Title: | Deese tiny home | Bedrooms: | 1 | Address Type: | Street Address |
| Building Type: | User | Conditioned Area: | 1312 | Lot # | |
| Owner Name: | Shannon Deese | Total Stories: | 1 | Block/Subdivision: | |
| # of Units: | 1 | Worst Case: | No | PlatBook: | |
| Builder Name: | | Rotate Angle: | 0 | Street: | 382 SW Polaris terrace |
| Permit Office: | | Cross Ventilation: | | County: | columbia |
| Jurisdiction: | | Whole House Fan: | | City, State, Zip: | Fort White , FL , |
| Family Type: | Single-family | | | | |
| New/Existing: | New (From Plans) | | | | |
| Comment: | | | | | |

## CLIMATE

| √ | Design Location | TMY Site | Design Temp 97.5 % | Design Temp 2.5 % | Int Design Temp Winter | Int Design Temp Summer | Heating Degree Days | Design Moisture | Daily Temp Range |
|---|---|---|---|---|---|---|---|---|---|
| _____ | FL, Jacksonville | FL_JACKSONVILLE_INT | 32 | 93 | 70 | 75 | 1281 | 49 | Medium |

## BLOCKS

| Number | Name | Area | Volume |
|---|---|---|---|
| 1 | Block1 | 1312 | 10496 |

## SPACES

| Number | Name | Area | Volume | Kitchen | Occupants | Bedrooms | Infil ID | Finished | Cooled | Heated |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Main | 1312 | 10496 | Yes | 2 | 1 | 1 | Yes | Yes | Yes |

## FLOORS

| √ | # | Floor Type | Space | Exposed Perim | Wall Ins. R-Value | Area | Floor Joist R-Value | Tile | Wood | Carpet |
|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Crawlspace | Main | 196 ft | 13 | 1312 ft² | 13 | 0 | 0 | 1 |

## ROOF

| √ | # | Type | Materials | Roof Area | Gable Area | Roof Color | Rad Barr | Solar Absor. | SA Tested | Emitt | Emitt Tested | Deck Insul. | Pitch (deg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Gable or shed | Metal | 1383 ft² | 218 ft² | Light | N | 0.6 | No | 0.9 | No | 30 | 18.4 |

## ATTIC

| √ | # | Type | Ventilation | Vent Ratio (1 in) | Area | RBS | IRCC |
|---|---|---|---|---|---|---|---|
| _____ | 1 | Full attic | Vented | 150 | 1312 ft² | N | N |

## CEILING

| √ | # | Ceiling Type | Space | R-Value | Ins Type | Area | Framing Frac | Truss Type |
|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Under Attic (Vented) | Main | 30 | Blown | 1312 ft² | 0.11 | Wood |

FORM R405-2017

# INPUT SUMMARY CHECKLIST REPORT

## WALLS

| √ | # | Ornt | Adjacent To | Wall Type | Space | Cavity R-Value | Width Ft | Width In | Height Ft | Height In | Area | Sheathing R-Value | Framing Fraction | Solar Absor. | Below Grade% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | N | Exterior | Frame - Wood | Main | 13 | 48 | | 8 | 0 | 384.0 ft² | | 0.23 | 0.600000 | 0 |
| ____ | 2 | E | Exterior | Frame - Wood | Main | 13 | 50 | | 8 | 0 | 400.0 ft² | | 0.23 | 0.600000 | 0 |
| ____ | 3 | S | Exterior | Frame - Wood | Main | 13 | 48 | | 8 | 0 | 384.0 ft² | | 0.23 | 0.600000 | 0 |
| ____ | 4 | W | Exterior | Frame - Wood | Main | 13 | 50 | | 8 | 0 | 400.0 ft² | | 0.23 | 0.600000 | 0 |

## DOORS

| √ | # | Ornt | Door Type | Space | Storms | U-Value | Width Ft | Width In | Height Ft | Height In | Area |
|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | N | Insulated | Main | None | .4 | 1 | | 6 | 8 | 6.7 ft² |
| _____ | 2 | N | Insulated | Main | None | .4 | 1 | | 6 | 8 | 6.7 ft² |
| _____ | 3 | E | Insulated | Main | None | .4 | 1 | | 6 | 8 | 6.7 ft² |
| _____ | 4 | E | Insulated | Main | None | .4 | 1 | | 6 | 8 | 6.7 ft² |
| _____ | 5 | E | Insulated | Main | None | .4 | 1 | | 6 | 8 | 6.7 ft² |

## WINDOWS

Orientation shown is the entered, Proposed orientation.

| √ | # | Ornt | Wall ID | Frame | Panes | NFRC | U-Factor | SHGC | Imp | Area | Overhang Depth | Overhang Separation | Int Shade | Screening |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | N | 1 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 24.0 ft² | 4 ft 0 in | 1 ft 0 in | None | None |
| _____ | 2 | N | 1 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 8.0 ft² | 0 ft 4 in | 1 ft 3 in | None | None |
| _____ | 3 | E | 2 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 36.0 ft² | 0 ft 4 in | 1 ft 3 in | None | None |
| _____ | 4 | E | 2 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 16.0 ft² | 0 ft 4 in | 1 ft 3 in | None | None |
| _____ | 5 | S | 3 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 24.0 ft² | 0 ft 4 in | 1 ft 3 in | None | None |
| _____ | 6 | W | 4 | Metal | Double (Clear) | Yes | 0.56 | 0.3 | N | 16.0 ft² | 0 ft 4 in | 1 ft 3 in | None | None |

## INFILTRATION

| # | Scope | Method | SLA | CFM 50 | ELA | EqLA | ACH | ACH 50 |
|---|---|---|---|---|---|---|---|---|
| 1 | Wholehouse | Proposed ACH(50) | .000356 | 1224.5 | 67.23 | 126.43 | .1339 | 7 |

## HEATING SYSTEM

| √ | # | System Type | Subtype | Speed | Efficiency | Capacity | Block | Ducts |
|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Electric Strip Heat/ | None | | COP:1 | 8 kBtu/hr | 1 | Ductless |

## HOT WATER SYSTEM

| √ | # | System Type | SubType | Location | EF | Cap | Use | SetPnt | Conservation |
|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Electric | Tankless | Main | 0.99 | 1 gal | 40 gal | 120 deg | None |

# INPUT SUMMARY CHECKLIST REPORT

## SOLAR HOT WATER SYSTEM

| √ | FSEC Cert # | Company Name | System Model # | Collector Model # | Collector Area | Storage Volume | FEF |
|---|---|---|---|---|---|---|---|
| _____ | None | None | | | ft² | | |

## TEMPERATURES

Programable Thermostat: Y  Ceiling Fans:

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cooling | [ ] Jan | [ ] Feb | [ ] Mar | [ ] Apr | [ ] May | [X] Jun | [X] Jul | [X] Aug | [X] Sep | [ ] Oct | [ ] Nov | [ ] Dec |
| Heating | [X] Jan | [X] Feb | [X] Mar | [ ] Apr | [ ] May | [ ] Jun | [ ] Jul | [ ] Aug | [ ] Sep | [ ] Oct | [X] Nov | [X] Dec |
| Venting | [ ] Jan | [ ] Feb | [X] Mar | [X] Apr | [ ] May | [ ] Jun | [ ] Jul | [ ] Aug | [ ] Sep | [X] Oct | [X] Nov | [ ] Dec |

Thermostat Schedule: HERS 2006 Reference

| Schedule Type | | Hours 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cooling (WD) | AM | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 80 | 80 | 80 | 80 |
| | PM | 80 | 80 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Cooling (WEH) | AM | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| | PM | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Heating (WD) | AM | 66 | 66 | 66 | 66 | 66 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 66 | 66 |
| Heating (WEH) | AM | 66 | 66 | 66 | 66 | 66 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 66 | 66 |

## MASS

| Mass Type | Area | Thickness | Furniture Fraction | Space |
|---|---|---|---|---|
| Default(8 lbs/sq.ft. | 0 ft² | 0 ft | 0.3 | cabana |

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

## ESTIMATED ENERGY PERFORMANCE INDEX* = 96

**The lower the Energy Performance Index, the more efficient the home.**

| | |
|---|---|
| 1. New home or, addition | 1. New (From Plans) |
| 2. Single-family or multiple-family | 2. Single-family |
| 3. No. of units (if multiple-family) | 3. 1 |
| 4. Number of bedrooms | 4. 1 |
| 5. Is this a worst case? (yes/no) | 5. No |
| 6. Conditioned floor area (sq. ft.) | 6. 1312 |
| 7. Windows, type and area | |
| a) U-factor:(weighted average) | 7a. 0.560 |
| b) Solar Heat Gain Coefficient (SHGC) | 7b. 0.300 |
| c) Area | 7c. 124.0 |
| 8. Skylights | |
| a) U-factor:(weighted average) | 8a. NA |
| b) Solar Heat Gain Coefficient (SHGC) | 8b. NA |
| 9. Floor type, insulation level: | |
| a) Slab-on-grade (R-value) | 9a. |
| b) Wood, raised (R-value) | 9b. 13.0 |
| c) Concrete, raised (R-value) | 9c. |
| 10. Wall type and insulation: | |
| A. Exterior: | |
| 1. Wood frame (Insulation R-value) | 10A1. 13.0 |
| 2. Masonry (Insulation R-value) | 10A2. |
| B. Adjacent: | |
| 1. Wood frame (Insulation R-value) | 10B1. |
| 2. Masonry (Insulation R-value) | 10B2. |
| 11. Ceiling type and insulation level | |
| a) Under attic | 11a. 30.0 |
| b) Single assembly | 11b. |
| c) Knee walls/skylight walls | 11c. |
| d) Radiant barrier installed | 11d. No |

| | |
|---|---|
| 12. Ducts, location & insulation level | |
| a) Supply ducts | R |
| b) Return ducts | R |
| c) AHU location | |
| 13. Cooling system: | Capacity 29.0 |
| a) Split system | SEER |
| b) Single package | SEER |
| c) Ground/water source | SEER/COP |
| d) Room unit/PTAC | EER 14.0 |
| e) Other | |
| 14. Heating system: | Capacity 8.0 |
| a) Split system heat pump | HSPF |
| b) Single package heat pump | HSPF |
| c) Electric resistance | COP 1.0 |
| d) Gas furnace, natural gas | AFUE |
| e) Gas furnace, LPG | AFUE |
| f) Other | |
| 15. Water heating system | |
| a) Electric resistance | EF 0.99 |
| b) Gas fired, natural gas | EF |
| c) Gas fired, LPG | EF |
| d) Solar system with tank | EF |
| e) Dedicated heat pump with tank | EF |
| f) Heat recovery unit | HeatRec% |
| g) Other | |
| 16. HVAC credits claimed (Performance Method) | |
| a) Ceiling fans | |
| b) Cross ventilation | No |
| c) Whole house fan | No |
| d) Multizone cooling credit | |
| e) Multizone heating credit | |
| f) Programmable thermostat | Yes |

*Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

I certify that this home has complied with the Florida Building Code, Energy Conservation, through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL display card will be completed based on installed code compliant features.

Builder Signature:_____ Date:_____

Address of New Home: 382 SW Polaris terrace City/FL Zip: Fort White, FL

## 2017 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

### TABLE 402.4.1.1
### AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

| | | | | |
|---|---|---|---|---|
| Project Name: | Deese tiny home | Builder Name: | | CHECK |
| Street: | 382 SW Polaris terrace | Permit Office: | | |
| City, State, Zip: | Fort White , FL , | Permit Number: | | |
| Owner: | Shannon Deese | Jurisdiction: | | |
| Design Location: | FL, Jacksonville | | | |

| COMPONENT | AIR BARRIER CRITERIA | INSULATION INSTALLATION CRITERIA | |
|---|---|---|---|
| General requirements | A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed. | Air-permeable insulation shall not be used as a sealing material. | |
| Ceiling/attic | The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed. | The insulation in any dropped ceiling/soffit shall be aligned with the air barrier. | |
| Walls | The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed. | Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier. | |
| Windows, skylights and doors | The space between window/door jambs and framing, and skylights and framing shall be sealed. | | |
| Rim joists | Rim joists shall include the air barrier. | Rim joists shall be insulated. | |
| Floors (including above-garage and cantilevered floors) | The air barrier shall be installed at any exposed edge of insulation. | Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members. | |
| Crawl space walls | Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped. | Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace | |
| Shafts, penetrations | Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed. | | |
| Narrow cavities | | Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces. | |
| Garage separation | Air sealing shall be provided between the garage and conditioned spaces. | | |
| Recessed lighting | Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall. | Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated. | |
| Plumbing and wiring | | Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring. | |
| Shower/tub on exterior wall | The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs. | Exterior walls adjacent to showers and tubs shall be insulated. | |
| Electrical/phone box on exterior walls | The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed. | | |
| HVAC register boots | HVAC register boots that penetrate building thermal envelope shall be sealed to the sub-floor or drywall. | | |
| Concealed sprinklers | When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings. | | |

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

# Envelope Leakage Test Report (Blower Door Test)

Residential Prescriptive, Performance or ERI Method Compliance
2017 Florida Building Code, Energy Conservation, 6th Edition

| Jurisdiction: | Permit #: |
|---|---|

**Job Information**

Builder: Community: Lot: NA

Address: 382 SW Polaris terrace

City: Fort White State: FL Zip:

## Air Leakage Test Results

*Passing results must meet either the Performance, Prescriptive, or ERI Method*

◯ **PRESCRIPTIVE METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

◯ **PERFORMANCE or ERI METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2017 (Performance) or R406-2017 (ERI), section labeled as infiltration, sub-section ACH50.

*ACH(50) specified on Form R405-2017-Energy Calc (Performance) or R406-2017 (ERI):* 7.000

_____ x 60 ÷ 10496 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

◯ Retrieved from architectural plans

● Code software calculated

◯ Field measured and calculated

**R402.4.1.2 Testing.** Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statues.*or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the*code official.* Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope.*

During testing:
1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2017 6th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

# Manual S Compliance Report

*(Rest of House)*

**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

## Cooling Equipment

### Design Conditions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outdoor design DB: | 92.8°F | Sensible gain: | 18699 | Btuh | Entering coil DB: | 76.3°F |
| Outdoor design WB: | 77.0°F | Latent gain: | 1737 | Btuh | Entering coil WB: | 63.1°F |
| Indoor design DB: | 75.0°F | Total gain: | 20436 | Btuh | | |
| Indoor RH: | 50% | Estimated airflow: | 767 | cfm | | |

### Manufacturer's Performance Data at Actual Design Conditions

| | | | | | |
|---|---|---|---|---|---|
| Equipment type: | Pkg AC | | | | |
| Manufacturer: | N/A | | Model: | | |
| Actual airflow: | 767 | cfm | | | |
| Sensible capacity: | 17250 | Btuh | 92% of load | | |
| Latent capacity: | 5750 | Btuh | 331% of load | | |
| Total capacity: | 23000 | Btuh | 113% of load | SHR: | 75% |

## Heating Equipment

### Design Conditions

| | | | | | | |
|---|---|---|---|---|---|---|
| Outdoor design DB: | 32.5°F | Heat loss: | 17319 | Btuh | Entering coil DB: | 69.3°F |
| Indoor design DB: | 70.0°F | | | | | |

### Manufacturer's Performance Data at Actual Design Conditions

| | | | | | |
|---|---|---|---|---|---|
| Equipment type: | Elec strip | | | | |
| Manufacturer: | | | Model: | | |
| Actual airflow: | 767 | cfm | | | |
| Output capacity: | 5.8 | kW | 114% of load | Temp. rise: | 23 °F |

Meets all requirements of ACCA Manual S.

# Manual S Compliance Report

*Ac for bed*

**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

## Cooling Equipment

### Design Conditions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Outdoor design DB: | 92.8°F | Sensible gain: | 3892 | Btuh | Entering coil DB: | 76.1°F |
| Outdoor design WB: | 77.0°F | Latent gain: | 633 | Btuh | Entering coil WB: | 63.0°F |
| Indoor design DB: | 75.0°F | Total gain: | 4524 | Btuh | | |
| Indoor RH: | 50% | Estimated airflow: | 300 | cfm | | |

### Manufacturer's Performance Data at Actual Design Conditions

| | | | | | |
|---|---|---|---|---|---|
| Equipment type: | Split AC | | | | |
| Manufacturer: | N/A | | Model: N/A | | |
| Actual airflow: | 300 | cfm | | | |
| Sensible capacity: | 3500 | Btuh | 90% of load | | |
| Latent capacity: | 1500 | Btuh | 237% of load | | |
| Total capacity: | 5000 | Btuh | 111% of load | SHR: | 70% |

## Heating Equipment

### Design Conditions

| | | | | | | |
|---|---|---|---|---|---|---|
| Outdoor design DB: | 32.5°F | Heat loss: | 4397 | Btuh | Entering coil DB: | 69.5°F |
| Indoor design DB: | 70.0°F | | | | | |

### Manufacturer's Performance Data at Actual Design Conditions

| | | | | | |
|---|---|---|---|---|---|
| Equipment type: | Gas furnace | | | | |
| Manufacturer: | | | Model: | | |
| Actual airflow: | 300 | cfm | | | |
| Output capacity: | 4121 | Btuh | 94% of load | Temp. rise: | 50 °F |

Meets all requirements of ACCA Manual S.

# Load Short Form
*(Rest of House)*

**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

## Design Information

| | Htg | Clg |
|---|---|---|
| Outside db (°F) | 33 | 93 |
| Inside db (°F) | 70 | 75 |
| Design TD (°F) | 38 | 18 |
| Daily range | - | M |
| Inside humidity (%) | 50 | 50 |
| Moisture difference (gr/lb) | 33 | 50 |

**Infiltration**

| | |
|---|---|
| Method | Simplified |
| Construction quality | Semi-tight |
| Fireplaces | 0 |

### HEATING EQUIPMENT

| | | |
|---|---|---|
| Make | | |
| Trade | | |
| Model | | |
| AHRI ref | | |
| Efficiency | 100 EFF | |
| Heating input | 5.8 | kW |
| Heating output | 19746 | Btuh |
| Temperature rise | 23 | °F |
| Actual air flow | 767 | cfm |
| Air flow factor | 0.044 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Space thermostat | | |

### COOLING EQUIPMENT

| | | |
|---|---|---|
| Make | N/A | |
| Trade | N/A | |
| Cond | | |
| Coil | | |
| AHRI ref | | |
| Efficiency | 11.5 EER, 14 SEER | |
| Sensible cooling | 17250 | Btuh |
| Latent cooling | 5750 | Btuh |
| Total cooling | 23000 | Btuh |
| Actual air flow | 767 | cfm |
| Air flow factor | 0.041 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Load sensible heat ratio | 0.92 | |

| ROOM NAME | Area (ft²) | Htg load (Btuh) | Clg load (Btuh) | Htg AVF (cfm) | Clg AVF (cfm) |
|---|---|---|---|---|---|
| office | 160 | 0 | 0 | 0 | 0 |
| utility | 352 | 17319 | 18699 | 767 | 767 |
| kitchen/living | 495 | 0 | 0 | 0 | 0 |
| bath | 65 | 0 | 0 | 0 | 0 |
| (Rest of House) d | 1072 | 17319 | 18699 | 767 | 767 |
| Other equip loads | | 0 | 0 | | |
| Equip. @ 0.98 RSM | | | 18288 | | |
| Latent cooling | | | 1737 | | |
| TOTALS | 1072 | 17319 | 20025 | 767 | 767 |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

# Load Short Form
*Ac for bed*
**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

## Design Information

| | Htg | Clg |
|---|---|---|
| Outside db (°F) | 33 | 93 |
| Inside db (°F) | 70 | 75 |
| Design TD (°F) | 38 | 18 |
| Daily range | - | M |
| Inside humidity (%) | 50 | 50 |
| Moisture difference (gr/lb) | 33 | 50 |

**Infiltration**

| | |
|---|---|
| Method | Simplified |
| Construction quality | Semi-tight |
| Fireplaces | 0 |

### HEATING EQUIPMENT

| | | |
|---|---|---|
| Make | | |
| Trade | | |
| Model | | |
| AHRI ref | | |
| Efficiency | 100 AFUE | |
| Heating input | 4121 | Btuh |
| Heating output | 4121 | Btuh |
| Temperature rise | 13 | °F |
| Actual air flow | 300 | cfm |
| Air flow factor | 0.068 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Space thermostat | | |

### COOLING EQUIPMENT

| | | |
|---|---|---|
| Make | N/A | |
| Trade | N/A | |
| Cond | N/A | |
| Coil | | |
| AHRI ref | | |
| Efficiency | 10.0 EER, 14 SEER | |
| Sensible cooling | 3500 | Btuh |
| Latent cooling | 1500 | Btuh |
| Total cooling | 5000 | Btuh |
| Actual air flow | 300 | cfm |
| Air flow factor | 0.077 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Load sensible heat ratio | 0.86 | |

| ROOM NAME | Area (ft²) | Htg load (Btuh) | Clg load (Btuh) | Htg AVF (cfm) | Clg AVF (cfm) |
|---|---|---|---|---|---|
| bed | 240 | 4397 | 3892 | 300 | 300 |
| Ac for bed d | 240 | 4397 | 3892 | 300 | 300 |
| Other equip loads | | 0 | 0 | | |
| Equip. @ 0.98 RSM | | | 3806 | | |
| Latent cooling | | | 633 | | |
| TOTALS | 240 | 4397 | 4439 | 300 | 300 |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

# Project Summary
*(Rest of House)*
**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

Notes:

## Design Information

Weather: Jacksonville/Intnl., FL, US

### Winter Design Conditions

| | | |
|---|---|---|
| Outside db | 33 | °F |
| Inside db | 70 | °F |
| Design TD | 38 | °F |

### Summer Design Conditions

| | | |
|---|---|---|
| Outside db | 93 | °F |
| Inside db | 75 | °F |
| Design TD | 18 | °F |
| Daily range | M | |
| Relative humidity | 50 | % |
| Moisture difference | 50 | gr/lb |

### Heating Summary

| | | |
|---|---|---|
| Structure | 14352 | Btuh |
| Ducts | 2967 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Humidification | 0 | Btuh |
| Piping | 0 | Btuh |
| Equipment load | 17319 | Btuh |

### Sensible Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 15000 | Btuh |
| Ducts | 3700 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Blower | 0 | Btuh |
| Use manufacturer's data | n | |
| Rate/swing multiplier | 0.98 | |
| Equipment sensible load | 18288 | Btuh |

### Infiltration

| | |
|---|---|
| Method | Simplified |
| Construction quality | Semi-tight |
| Fireplaces | 0 |

| | Heating | Cooling |
|---|---|---|
| Area (ft²) | 1072 | 1072 |
| Volume (ft³) | 10613 | 10613 |
| Air changes/hour | 0.29 | 0.15 |
| Equiv. AVF (cfm) | 51 | 27 |

### Latent Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 1106 | Btuh |
| Ducts | 631 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Equipment latent load | 1737 | Btuh |
| **Equipment Total Load (Sen+Lat)** | 20025 | Btuh |
| Req. total capacity at 0.75 SHR | 2.0 | ton |

### Heating Equipment Summary

| | | |
|---|---|---|
| Make | | |
| Trade | | |
| Model | | |
| AHRI ref | | |
| Efficiency | 100 | EFF |
| Heating input | 5.8 | kW |
| Heating output | 19746 | Btuh |
| Temperature rise | 23 | °F |
| Actual air flow | 767 | cfm |
| Air flow factor | 0.044 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Space thermostat | | |

### Cooling Equipment Summary

| | | |
|---|---|---|
| Make | N/A | |
| Trade | N/A | |
| Cond | | |
| Coil | | |
| AHRI ref | | |
| Efficiency | 11.5 EER, 14 SEER | |
| Sensible cooling | 17250 | Btuh |
| Latent cooling | 5750 | Btuh |
| Total cooling | 23000 | Btuh |
| Actual air flow | 767 | cfm |
| Air flow factor | 0.041 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Load sensible heat ratio | 0.92 | |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

# Project Summary
*Ac for bed*
**Sunshine State Energy calcs & design LLC**

**Job:**
**Date:**
**By:**

License: L18000238954

## Project Information

For: Shannon Deese
382 SW Polaris terrace, Fort white, FL

Notes:

## Design Information

Weather: Jacksonville/Intnl., FL, US

### Winter Design Conditions

| | | |
|---|---|---|
| Outside db | 33 | °F |
| Inside db | 70 | °F |
| Design TD | 38 | °F |

### Summer Design Conditions

| | | |
|---|---|---|
| Outside db | 93 | °F |
| Inside db | 75 | °F |
| Design TD | 18 | °F |
| Daily range | M | |
| Relative humidity | 50 | % |
| Moisture difference | 50 | gr/lb |

### Heating Summary

| | | |
|---|---|---|
| Structure | 3692 | Btuh |
| Ducts | 705 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Humidification | 0 | Btuh |
| Piping | 0 | Btuh |
| Equipment load | 4397 | Btuh |

### Sensible Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 2965 | Btuh |
| Ducts | 927 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Blower | 0 | Btuh |
| Use manufacturer's data | n | |
| Rate/swing multiplier | 0.98 | |
| Equipment sensible load | 3806 | Btuh |

### Infiltration

| | |
|---|---|
| Method | Simplified |
| Construction quality | Semi-tight |
| Fireplaces | 0 |

| | Heating | Cooling |
|---|---|---|
| Area (ft²) | 240 | 240 |
| Volume (ft³) | 2376 | 2376 |
| Air changes/hour | 0.40 | 0.21 |
| Equiv. AVF (cfm) | 16 | 8 |

### Latent Cooling Equipment Load Sizing

| | | |
|---|---|---|
| Structure | 478 | Btuh |
| Ducts | 155 | Btuh |
| Central vent (0 cfm) (none) | 0 | Btuh |
| Equipment latent load | 633 | Btuh |
| **Equipment Total Load (Sen+Lat)** | 4439 | Btuh |
| Req. total capacity at 0.70 SHR | 0.5 | ton |

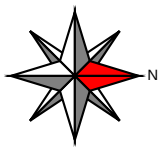
### Heating Equipment Summary

| | | |
|---|---|---|
| Make | | |
| Trade | | |
| Model | | |
| AHRI ref | | |
| Efficiency | 100 | AFUE |
| Heating input | 4121 | Btuh |
| Heating output | 4121 | Btuh |
| Temperature rise | 13 | °F |
| Actual air flow | 300 | cfm |
| Air flow factor | 0.068 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Space thermostat | | |

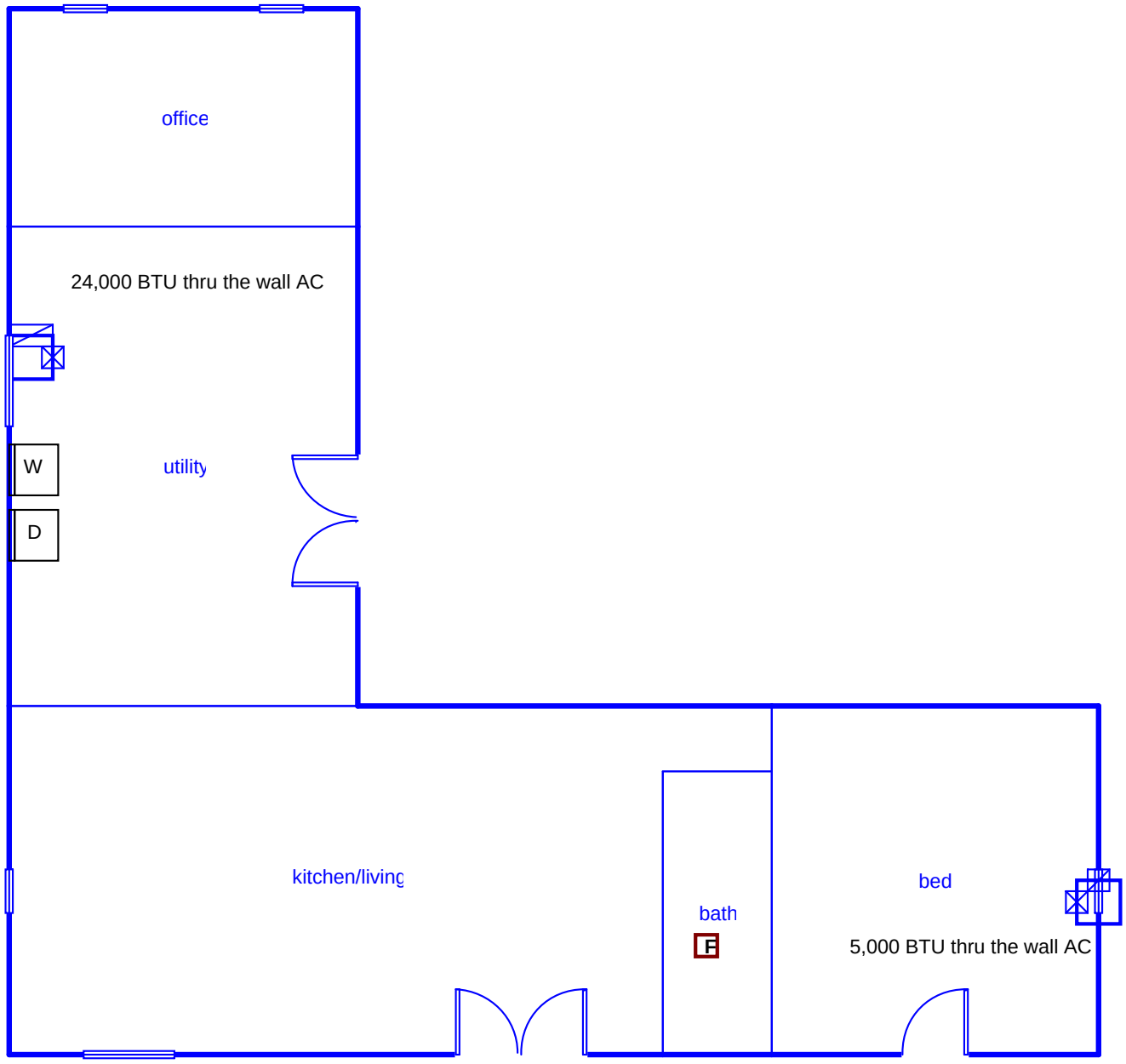
### Cooling Equipment Summary

| | | |
|---|---|---|
| Make | N/A | |
| Trade | N/A | |
| Cond | N/A | |
| Coil | | |
| AHRI ref | | |
| Efficiency | 10.0 EER, 14 SEER | |
| Sensible cooling | 3500 | Btuh |
| Latent cooling | 1500 | Btuh |
| Total cooling | 5000 | Btuh |
| Actual air flow | 300 | cfm |
| Air flow factor | 0.077 | cfm/Btuh |
| Static pressure | 0 | in H2O |
| Load sensible heat ratio | 0.86 | |

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.




## Level 1




**Job #:**
**Performed for:**
Shannon Deese
382 SW Polaris terrace
Fort white, FL

**Sunshine State Energy calcs & desig**

Scale: 1 : 90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