FORM R405-2017

20

# *RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST*

## *Florida Department of Business and Professional Regulation*
## *Simulated Performance Alternative (Performance) Method*

***Applications for compliance with the 2017 Florida Building Code, Energy Conservation via the residential Simulated Performance Method shall include:***

- ☑ *This checklist*
- ☑ *A Form R405 report that documents that the Proposed Design complies with Section R405.3 of the Florida Energy Code. This form shall include a summary page indicating home address, e-ratio and the pass or fail status along with summary areas and types of components, whether the home was simulated as a worst-case orientation, name and version of the compliance software tool, name of individual completing the compliance report (one page) and an input summary checklist that can be used for field verification (usually four pages/may be greater).*
- ☑ *Energy Performance Level (EPL) Display Card (one page)*
- ☑ *HVAC system sizing and selection based on ACCA Manual S or per exceptions provided in Section R403.7*
- ☑ *Mandatory Requirements (five pages)*

***Required prior to CO for the Performance Method:***

- ☑ *Air Barrier and Insulation Inspection Component Criteria checklist (Table R402.4.1.1 - one page)*
- ☑ *A completed Envelope Leakage Test Report (usually one page)*
- ☐ *If Form R405 duct leakage type indicates anything other than "default leakage", then a completed Form R405 Duct Leakage Test Report (usually one page)*

COLUMBIA COUNTY BUILDING DEPARTMENT
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Code Compliance
PLANS EXAMINER

FORM R405-2017

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

| | | | |
|---|---|---|---|
| Project Name: | Lot 2 Cannon Creek Place | Builder Name: | Trent Giebeig |
| Street: | | Permit Office: | Columbia County |
| City, State, Zip: | Lake City , FL , 32025 | Permit Number: | |
| Owner: | Trent Giebeig | Jurisdiction: | |
| Design Location: | FL, Gainesville | 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 | 3 |
| 5. Is this a worst case? | No |
| 6. Conditioned floor area above grade (ft²) | 1600 |
| Conditioned floor area below grade (ft²) | 0 |

| 7. Windows (158.0 sqft.) | Description | Area |
|---|---|---|
| a. U-Factor: | Dbl, U=0.40 | 158.00 ft² |
| SHGC: | SHGC=0.25 | |
| 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: | | 4.032 ft. |
| Area Weighted Average SHGC: | | 0.250 |

| 8. Floor Types (1600.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Slab-On-Grade Edge Insulation | R=0.0 | 1600.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 9. Wall Types (1417.2 sqft.) | Insulation | Area |
|---|---|---|
| a. Face Brick - Wood, Exterior | R=13.0 | 835.89 ft² |
| b. Frame - Wood, Exterior | R=13.0 | 421.33 ft² |
| c. Frame - Wood, Adjacent | R=13.0 | 160.00 ft² |
| d. N/A | R= | ft² |

| 10. Ceiling Types (1600.0 sqft.) | Insulation | Area |
|---|---|---|
| a. Under Attic (Vented) | R=30.0 | 1600.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

| 11. Ducts | R | ft² |
|---|---|---|
| a. Sup: Attic, Ret: Attic, AH: Main | 6 | 320 |

| 12. Cooling systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Central Unit | 20.9 | SEER:16.00 |

| 13. Heating systems | kBtu/hr | Efficiency |
|---|---|---|
| a. Electric Heat Pump | 24.9 | HSPF:8.90 |

| 14. Hot water systems | |
|---|---|
| a. Electric | Cap: 50 gallons |
| | EF: 0.920 |
| b. Conservation features | |
| None | |
| 15. Credits | Pstat |

Glass/Floor Area: 0.099

Total Proposed Modified Loads: 43.37

Total Baseline Loads: 43.37

**PASS**

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

PREPARED BY: William H. Green

DATE: 7/13/20

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).**

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# INPUT SUMMARY CHECKLIST REPORT

## PROJECT

| | | | | | |
|---|---|---|---|---|---|
| Title: | Lot 2 Cannon Creek Place | Bedrooms: | 3 | Address Type: | Lot Information |
| Building Type: | User | Conditioned Area: | 1600 | Lot # | 2 |
| Owner Name: | Trent Giebeig | Total Stories: | 1 | Block/Subdivision: | Cannon Creek Pl |
| # of Units: | 1 | Worst Case: | No | PlatBook: | |
| Builder Name: | Trent Giebeig | Rotate Angle: | 90 | Street: | |
| Permit Office: | Columbia County | Cross Ventilation: | | County: | Columbia |
| Jurisdiction: | | Whole House Fan: | | City, State, Zip: | Lake City , FL , 32025 |
| 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, Gainesville | FL_GAINESVILLE_REGI | 32 | 92 | 70 | 75 | 1305.5 | 51 | Medium |

## BLOCKS

| Number | Name | Area | Volume |
|---|---|---|---|
| 1 | Block1 | 1600 | 12800 |

## SPACES

| Number | Name | Area | Volume | Kitchen | Occupants | Bedrooms | Infil ID | Finished | Cooled | Heated |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Main | 1600 | 12800 | Yes | 3 | 3 | 1 | Yes | Yes | Yes |

## FLOORS

| √ | # | Floor Type | Space | Perimeter | R-Value | Area | | Tile | Wood | Carpet |
|---|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Slab-On-Grade Edge Insulatio | Main | 165.5 ft | 0 | 1600 ft² | ---- | 0.25 | 0.25 | 0.5 |

## ROOF

| √ | # | Type | Materials | Roof Area | Gable Area | Roof Color | Solar Absor. | SA Tested | Emitt | Emitt Tested | Deck Insul. | Pitch (deg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Hip | Composition shingles | 1789 ft² | 0 ft² | Light | 0.96 | No | 0.9 | No | 0 | 26.6 |

## ATTIC

| √ | # | Type | Ventilation | Vent Ratio (1 in) | Area | RBS | IRCC |
|---|---|---|---|---|---|---|---|
| ____ | 1 | Full attic | Vented | 300 | 1600 ft² | N | N |

## CEILING

| √ | # | Ceiling Type | Space | R-Value | Ins Type | Area | Framing Frac | Truss Type |
|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Under Attic (Vented) | Main | 30 | Blown | 1600 ft² | 0.11 | Wood |

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# 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=>E | Exterior | Frame - Wood | Main | 13 | 14 | | 8 | | 112.0 ft² | | 0.23 | 0.75 | 0 |
| ____ | 2 | N=>E | Exterior | Frame - Wood | Main | 13 | 14 | | 8 | | 112.0 ft² | | 0.23 | 0.75 | 0 |
| ____ | 3 | N=>E | Exterior | Frame - Wood | Main | 13 | 24 | 8 | 8 | | 197.3 ft² | | 0.23 | 0.75 | 0 |
| ____ | 4 | E=>S | Exterior | Face Brick - Wood | Main | 13 | 30 | 1 | 8 | | 240.7 ft² | | 0.23 | 0.75 | 0 |
| ____ | 5 | S=>W | Garage | Frame - Wood | Main | 13 | 20 | | 8 | | 160.0 ft² | | 0.23 | 0.75 | 0 |
| ____ | 6 | S=>W | Exterior | Face Brick - Wood | Main | 13 | 11 | 8 | 9 | 4 | 108.9 ft² | | 0.23 | 0.75 | 0 |
| ____ | 7 | W=>N | Exterior | Face Brick - Wood | Main | 13 | 4 | | 9 | 4 | 37.3 ft² | | 0.23 | 0.75 | 0 |
| ____ | 8 | S=>W | Exterior | Face Brick - Wood | Main | 13 | 7 | 9 | 9 | 4 | 72.3 ft² | | 0.23 | 0.75 | 0 |
| ____ | 9 | E=>S | Exterior | Face Brick - Wood | Main | 13 | 4 | | 8 | | 32.0 ft² | | 0.23 | 0.75 | 0 |
| ____ | 10 | S=>W | Exterior | Face Brick - Wood | Main | 13 | 13 | | 8 | | 104.0 ft² | | 0.23 | 0.75 | 0 |
| ____ | 11 | W=>N | Exterior | Face Brick - Wood | Main | 13 | 30 | 1 | 8 | | 240.7 ft² | 0 | 0.23 | 0.75 | 0 |

## DOORS

| √ | # | Ornt | Door Type | Space | Storms | U-Value | Width Ft | Width In | Height Ft | Height In | Area |
|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | S=>W | Insulated | Main | None | .4 | 3 | | 6 | 8 | 20 ft² |
| _____ | 2 | S=>W | Insulated | Main | None | .4 | 2 | 8 | 6 | 8 | 17.8 ft² |

## WINDOWS

Orientation shown is the entered orientation (=>) changed to As Built (rotated 90 degrees).

| √ | # | Ornt | Wall ID | Frame | Panes | NFRC | U-Factor | SHGC | Imp | Area | Overhang Depth | Overhang Separation | Int Shade | Screening |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | N=>E | 1 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 15.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 2 | N=>E | 2 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 40.0 ft² | 11 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 3 | N=>E | 3 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 20.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 4 | N=>E | 3 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 30.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 5 | E=>S | 4 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 8.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 6 | S=>W | 6 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 30.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |
| _____ | 7 | S=>W | 6 | Vinyl | Double (Tinted) | Yes | 0.4 | 0.25 | N | 15.0 ft² | 1 ft 6 in | 1 ft 0 in | Roller shade | Exterior 1 |

## GARAGE

| √ | # | Floor Area | Ceiling Area | Exposed Wall Perimeter | Avg. Wall Height | Exposed Wall Insulation |
|---|---|---|---|---|---|---|
| _____ | 1 | 400 ft² | 400 ft² | 60 ft | 8 ft | 1 |

## INFILTRATION

| # | Scope | Method | SLA | CFM 50 | ELA | EqLA | ACH | ACH 50 |
|---|---|---|---|---|---|---|---|---|
| 1 | Wholehouse | Proposed ACH(50) | .000356 | 1493.3 | 81.98 | 154.18 | .2719 | 7 |

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# INPUT SUMMARY CHECKLIST REPORT

## HEATING SYSTEM

| √ | # | System Type | Subtype | Efficiency | Capacity | Block | Ducts |
|---|---|---|---|---|---|---|---|
| ____ | 1 | Electric Heat Pump/ | Split | HSPF:8.9 | 24.87 kBtu/hr | 1 | sys#1 |

## COOLING SYSTEM

| √ | # | System Type | Subtype | Efficiency | Capacity | Air Flow | SHR | Block | Ducts |
|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Central Unit/ | Split | SEER: 16 | 20.91 kBtu/hr | 630 cfm | 0.75 | 1 | sys#1 |

## HOT WATER SYSTEM

| √ | # | System Type | SubType | Location | EF | Cap | Use | SetPnt | Conservation |
|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Electric | None | Garage | 0.92 | 50 gal | 60 gal | 120 deg | None |

## SOLAR HOT WATER SYSTEM

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

## DUCTS

| √ | # | ---- Supply ---- Location | R-Value | Area | ---- Return ---- Location | Area | Leakage Type | Air Handler | CFM 25 TOT | CFM25 OUT | QN | RLF | HVAC # Heat | HVAC # Cool |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ____ | 1 | Attic | 6 | 320 ft² | Attic | 80 ft² | Default Leakage | Main | (Default) | (Default) | | | 1 | 1 |

## TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

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

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 | Main |

**Name: William H. Freeman**

**Signature:** William H. Freer

**Rating Compant: William H. Freema**

**Date:** 7/13/20

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

## ESTIMATED ENERGY PERFORMANCE INDEX* = 100

**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. 3 |
| 5. Is this a worst case? (yes/no) | 5. No |
| 6. Conditioned floor area (sq. ft.) | 6. 1600 |
| 7. Windows, type and area | |
| a) U-factor:(weighted average) | 7a. 0.400 |
| b) Solar Heat Gain Coefficient (SHGC) | 7b. 0.250 |
| c) Area | 7c. 158.0 |
| 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. 0.0 |
| b) Wood, raised (R-value) | 9b. |
| 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. 13.0 |
| 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 6.0 |
| b) Return ducts | R 6.0 |
| c) AHU location | Attic/Attic |
| 13. Cooling system: | Capacity 20.9 |
| a) Split system | SEER 16.0 |
| b) Single package | SEER |
| c) Ground/water source | SEER/COP |
| d) Room unit/PTAC | EER |
| e) Other | |
| 14. Heating system: | Capacity 24.9 |
| a) Split system heat pump | HSPF 8.9 |
| b) Single package heat pump | HSPF |
| c) Electric resistance | COP |
| d) Gas furnace, natural gas | AFUE |
| e) Gas furnace, LPG | AFUE |
| f) Other | |
| 15. Water heating system | |
| a) Electric resistance | EF 0.92 |
| 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: _____ City/FL Zip: Lake City, FL 32025