

BORA Residential Energy Guidelines

Broward County Board of Rules and Appeals

Energy Conservation Seventh Edition (2020)



FBC Seventh Edition (2020)
Effective August 12, 2021

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Overview

To obtain uniform energy code enforcement in residential buildings in Broward County, the Energy Conservation Committee has developed guidelines to aid jurisdictions in determining which discipline specific code official enforces certain sections of the 2020 Florida Building Code Energy Conservation.

The following code sections regarding enforcement duties are as stated:

R103.3 & C103.3 Examination of documents.

The code official shall examine or cause to be examined the accompanying construction documents and shall ascertain whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

R103.3.1 & C103.3.1 Approval of construction documents.

When the code official issues a permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "Reviewed for Code Compliance."

R104.1 & C104.1 General

Construction or work for which a permit is required shall be subject to inspection by the code official or his or her designated agent, and such construction or work shall remain accessible and exposed for inspection purposes until approved.

Basis for the Guidelines:

The Florida Building Code Seventh Edition (2020) Energy Conservation for new and existing buildings has designated that the code official is responsible for both the construction document approval and construction inspection approval.

Unfortunately, the Florida Building Code Energy Conservation administrative chapters do not designate which discipline-specific code official will review compliance documents and building plans and inspect specific items for code compliance found in the Energy Conservation Code.

The "building official" or "code official" for energy code purposes shall be defined as: *"The officer or other designated authority having jurisdiction charged with the administration and enforcement of this standard or a duly authorized representative."*

Broward County is unique in that we have individual certified plan review and inspection personnel for each discipline and that a multi-discipline code official is not the norm. Subsequently, uniformity has been lacking in the enforcement of the energy code which created confusion by code officials over which specific disciplines will enforce certain provisions of the code.

This guide can be used as a tool for the Building Official to determine which discipline-specific code official will review and inspect specific sections of the Energy Code for code compliance to address those issues. This guide shall not prevent any certified code official from issuing a correction notice for any Energy Code deficiency found in another discipline if they notify the Chief inspector of that discipline of the correction notice.

***This is a minimum checklist. The local AHJ may have additional checklist items. ***

BORA ENERGY GUIDELINES
Building Code Administrators Checklist

Plan Review

1. The building official shall appoint a code official to verify that all disciplines have reviewed the plans and the code compliance report for energy code compliance. This code official shall sign the code compliance report stating that the plans have been reviewed by all disciplines and the plans will be inspected according to the FECC. The building department may use Appendix C as a compliance tool.

Code Section

R103.3
R103.3.1
FS. 553.908

Certificate of Occupancy

1. The building official shall require that an energy performance level (EPL) display card be completed and signed by the building qualifier that it is accurate and correct before final approval for the building for occupancy. Florida law (Section 553.9085, Florida Statutes) requires the EPL display card to be included as an addendum to each sales contract for both presold and non-presold residential buildings.

Code Section

R401.3
R405.4.3 #1

Reporting Schedule

1. A reporting form shall be submitted to the local building department by the owner or owner's agent with the submittal certifying compliance with this code. Reporting forms shall be a copy of the front page of the compliance form applicable for the code chapter under which compliance is demonstrated (R405-2020). It shall be the responsibility of the local building official to forward the reporting section of the proper form to the entity representing the Florida Building Commission on a quarterly basis by regular mail or email attachment to raymond-issa@ufl.edu Copies shall not exceed 300dpi.

Code Section

R103.1.1.2.1
R103.1.1.2.1.1

Send reporting form to:

M. E. Rinker, Sr. School of Construction Management
University of Florida
Attn: R. Raymond Issa
PO Box 115703
304 Rinker, Third Floor
Gainesville, FL 32611-5703 USA
raymond-issa@ufl.edu

BORA ENERGY GUIDELINES

BORA Structural Checklist

Plan Review

Code Section

1. Energy Compliance Report shall match the plans and shall comply with the following:

R405.4.2

- A.** The compliance report code version and date.
- B.** Reports shall include the building street address, and climate zone #1a shall be selected for Broward County from Table R301.1
- C.** The name of the person who prepared the report, and a signature is required certifying that the proposed design complies with the energy code.
- D.** The number of bedrooms shall be shown. (Item #4)
- E.** The conditioned floor area shall be shown on the architectural plans. (Item #6)
- F.** R-values of exterior and adjacent walls and ceiling insulation shall be shown. (Item#10 &11)
- G.** The building’s owner, or architect, or “owner/agent”, shall certify compliance with the Florida Energy Conservation Code by signing the prepared compliance report. R103.1.1.2
- H.** Buildings defined as residential which are three stories and less in height shall comply with the residential energy code. Mixed-use buildings shall submit separate compliance reports. R101.5.1.2
R101.4.1
- I.** Reports which claim a cool roof option shall provide documentation of testing. (Notes) R405.7.2

Plans

- 2.** The building thermal envelope shall be shown. R103.2.1
- 3.** Air Barrier sealing details and materials used shall be shown. R103.2 #8
- 4.** Window schedules shall include the “NFRC tested” U-factors and SHGC values and shall be shown. Submittals may use Appendix A, “Residential Fenestration Submittal Form”. **(S-1)** R103.2 #2
R405.4.3 #2
- 5.** Wall sections shall show the ceiling and wall insulation and shall show design R-values. R103.2 #1

Rough Inspection

Code Section

- 1.** A continuous air barrier shall be installed in the exterior building’s thermal envelope. R402.4.1.1
- 2.** Window/door jambs, framing, and skylights shall be sealed on the exterior frame. Table R402.4.1.1
- 3.** Ceiling and wall insulation R-Values shall match the plans. Manufacturer’s instructions shall be followed, and attic vents shall not be blocked. **(S-2)** R104.2.2
R303.2
- 4.** A label shall be affixed to the window showing the tested U-Value and SHGC. These values shall match the values shown on plans. **(S-1)** R303.1.3
R104.2.2

Final Inspection

Code Section

- 1.** All installed attic insulation shall have an insulation certificate posted at or near the opening of the attic and an insulation certificate shall be submitted to the AHJ. R303.1.1.1
R303.1.1.2
- 2.** Blown or sprayed insulation shall be installed per inch according to plans. Blown insulation thickness shall be verified with markers installed every 300 sq. ft. Attic vents shall not be blocked. R303.1.1.2.1
R402.2.3
- 3.** Access-openings, drop-down stairs, or knee wall doors to unconditioned attic spaces shall be sealed and baffled to maintain blown insulation. The attic hatch shall be insulated. R402.2.4
R402.4
- 4.** Air sealing shall be provided for the interior garage door and the walls that separate conditioned spaces from the garage area. R402.4.1.1
Table R402.4.1.1
- 5.** Any changes which affect the energy efficiency of the building shall require revised plans and a revised energy compliance report. R103.4

BORA ENERGY GUIDELINES
BORA Mechanical Checklist

<u>Plan Review</u>	<u>Code Section</u>
1. Energy Compliance Report shall match the plans and shall comply with the following:	R405.4.2
<input type="checkbox"/> A. The site plan showing actual home orientation shall be shown. Worst case orientations shall be accepted. HVAC load calculations shall be site-specific. (Item #5)	
<input type="checkbox"/> B. The conditioned floor area shall be shown. (Item #6) (M-1)	
<input type="checkbox"/> C. Window areas shall be shown. Sliding glass doors and opaque doors with glazing equal to or over 30% of total area shall be included in the windows section. (Item #7)	R405.5.3
<input type="checkbox"/> D. Overhang effect shall be shown. (Item #7) (M-2)	R405.5.3.2
<input type="checkbox"/> E. Floor areas over garages and outside entry areas shall be shown separately. (Item#9)	R405.4.2
<input type="checkbox"/> F. Ceiling areas and insulation values shall be shown. Knee walls shall be shown separately as ceiling area. (M-1)	
<input type="checkbox"/> G. The R-Value of ducts, surface area, and the location of the ductwork shall be shown. Ductwork that is classified as "leak-free" requires a duct leakage test report and shall be a requirement for the final inspection. (Item#12)	R405.2 R405.2.3
<input type="checkbox"/> H. The number of A/C systems, the efficiency rating of each system, and the size of the equipment shall be shown. (Item#13)	R103.2 #5
<input type="checkbox"/> I. The heater type, size, and fuel source shall be shown. (Item#14)	
<input type="checkbox"/> J. Energy credits shall be shown. (Item#16) (M-3)	R405.7
<u>Plans</u>	
<input type="checkbox"/> 2. The cooling and heating load calculations shall be submitted with the mechanical plans. The cooling equipment selected shall not be more than 1.15 times greater than the total calculated load. Strip heaters shall be sized within 4 kW of the design requirements.	R403.7 R403.7.1.1 R403.7.1.2.2
<input type="checkbox"/> 3. Mechanical design criteria and controls (T-stat) shall be shown.	R103.2 #4
<input type="checkbox"/> 4. Duct sealing methods, duct and pipe insulation values, and duct locations shall be shown.	R103.2 #7
<input type="checkbox"/> 5. Outdoor air intakes and exhausts shall have automatic or gravity dampers and shall be shown.	R403.6
<input type="checkbox"/> 6. Replacement outdoor combustion air and tight-fitting flue dampers or tight-fitting doors for wood-burning fireplaces shall be shown.	R402.4.2

<u>Rough Inspection</u>	<u>Code Section</u>
<input type="checkbox"/> 1. Building framing cavities shall not be used as ducts or plenums.	R403.3.5
<input type="checkbox"/> 2. Air-handling units may only be installed in the attic if all code exceptions are met. a) The service panel of the equipment shall be located within 6 feet of an attic access.	R403.3.6
<input type="checkbox"/> 3. All supply and return ducts not completely inside the <i>building thermal envelope</i> shall be insulated to a minimum of R-6. Suction line refrigerant piping shall be a minimum of R-3.	R405.2 R403.4
<input type="checkbox"/> 4. All ducts shall be mechanically attached and sealed. The reinforced lining shall be sealed and the duct collar flange shall be sealed to the duct board using tape, mastic, or gasket. The reinforced core shall be mechanically attached to the duct fitting by a draw-band. The outer jacket of the flexible duct shall be sealed to prevent condensation. (M-4)	R403.3.2 C403.2.9.2
<input type="checkbox"/> 5. Sufficient space shall be given to install the required ceiling and wall insulation	R402.4.1.1
<input type="checkbox"/> 6. Combustion air ducts shall be installed for wood-burning fireplaces.	R402.4.2

BORA ENERGY GUIDELINES
BORA Mechanical Checklist

<u>Final Inspection</u>	<u>Code Section</u>
<input type="checkbox"/> 1. The envelope leakage test report shall be provided to the code official and approved.	R402.4.1.2
<input type="checkbox"/> 2. HVAC register boots that penetrate the thermal envelope shall be sealed to the drywall. Penetrations shall be caulked, gasketed or otherwise sealed in a manner compatible with the construction materials and location.	R402.4.1.1
<input type="checkbox"/> 3. Sufficient space (about 4 inches) shall be provided adjacent to all mechanical components of the air distribution system to assure room for inspection, seal, and maintenance	R403.3.2 C403.2.9.3.3
<input type="checkbox"/> 4. The efficiency rating of each system shall be verified by providing the (AHRI) certificate showing the corresponding model numbers shown on the plans. (M-5)	R405.4.3 #2 R303.1.2
<input type="checkbox"/> 5. Mechanical closets and enclosed support platforms shall be sealed to prevent leakage.	R403.3.2
<input type="checkbox"/> 6. Piping insulation exposed to weather shall be protected from damage.	R403.4.1
<input type="checkbox"/> 7. Tight-fitting flue dampers or tight-fitting doors shall be installed for wood-burning fireplaces.	R402.4.2
<input type="checkbox"/> 8. A duct leakage test report shall be submitted when “leak-free” ducts are selected using performance method R405. A test can be performed at rough or post-construction.	R405.2.3 R403.3.3
<input type="checkbox"/> 9. An envelope leakage test report shall be approved before a final inspection is approved.	R402.4.1.2
<input type="checkbox"/> 10. Any changes which affect the energy efficiency of the building shall require revised plans and a revised energy compliance report.	R103.4

BORA Envelope Leakage Test Report Checklist

<u>Report Review</u>	<u>Code Section</u>
<input type="checkbox"/> 1. The envelope leakage test shall be completed prior to the final inspection.	R402.4.1.2
<input type="checkbox"/> 2. The envelope leakage test report form from the approved software, which was submitted at application for permit, shall be used to show compliance with the code. (TR-1)	R101.5.1
<input type="checkbox"/> 3. The envelope leakage test report shall have the address and permit number on the report and shall be completed and signed by a qualified tester.	R101.5.1 R402.4.1.2
<input type="checkbox"/> 4. The method of compliance shall be indicated on the form and shall match the method selected when the building permit was issued. (TR-2)	R405.2.2 R401.2
<input type="checkbox"/> 5. The air change design rate shall be indicated in the box provided on the test report when using the performance method. (TR-3)	R405.2.2 R405.4.2
<input type="checkbox"/> 6. Leakage rates that exceeding seven (7) ACH shall indicate “Fail”.	R402.4.1.2
<input type="checkbox"/> 7. Leakage rates exceeding the design rate from the compliance report shall not “Pass” even though it is under (7) air changes per hr.	R405.2.2 R402.4.1.2
<input type="checkbox"/> 8. Buildings with (ACH) rates less than three (3) shall have whole-house mechanical ventilation added to the building and shall be indicated on the test report. (TR-4)	R403.6 RBC R303.4
<input type="checkbox"/> 9. Buildings where whole-house mechanical ventilation is required, shall not pass the final inspection. A revised mechanical plan showing compliance with the residential building code shall be provided when whole-house ventilation is required.	R103.4 RBC R303.4

BORA ENERGY GUIDELINES

BORA Plumbing Checklist

Plan Review

Code Section

1. **Energy Compliance Report** shall match the plans and shall comply with the following:

R405.4.2

- A. Service water heating appliance size and efficiency shall be shown. (Item#15)

R103.2 #5

Plans

2. Provide AHRI efficiency documentation for water heaters. Water-heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2. ***(P-1)***

R405.4.3 #2

R403.5.6.2

3. Gas and oil-fired pool and spa heaters shall have a tested minimum thermal efficiency of 82 percent in accordance with ANSI Z 21.56. Documentation shall be provided.

R103.2 #5

R403.10.4

4. Heat pump pool heaters shall have a minimum COP of 4.0 when tested by an independent laboratory in accordance with AHRI 1160. Documentation shall be provided.

R103.2 #5

R403.10.5

5. If a heated water circulation system is installed, it shall be provided with a circulation pump that will start on-demand. The system return pipe shall be a dedicated return pipe or a cold-water supply pipe. Controls shall stop the pump when the desired temperature is reached and there is no longer any demand for hot water.

R403.5.1

6. Residential pools shall meet the requirements of APSP-15 (Standard for Energy Efficiency for Residential Inground Swimming Pools & Spa's).

R403.12

Rough Inspection

Code Section

1. Sufficient space shall be left for insulation on exterior walls adjacent to showers and tubs.

R402.4.1.1

2. If a heated water circulation system is installed, it shall be provided with an accessible circulation pump. The automatic controls, temperature sensors, and the manual controls shall be readily accessible for operation.

R403.5.1

Final Inspection

Code Section

1. Storage water heating model numbers and equipment efficiencies shall be verified and match the plumbing plans. ***(P-1)***

R403.5.6.2

2. Electric, gas, and oil type pool and spa heating equipment efficiencies shall be verified and match the plans.

R403.10

3. Gas and oil type water heaters for permanent pools and spas shall be equipped with a vapor retardant cover on or at the water surface. A liquid cover or other means proven to reduce heat loss may be used and shall be on the job for the final inspection. Heat pump and solar-type heaters are excluded from this requirement.

R403.10.3

4. Any changes which affect the energy efficiency of the building shall require revised plans and a revised energy compliance report.

R103.4

BORA ENERGY GUIDELINES
BORA Electrical Checklist

Plan Review

Code Section

1. Energy Compliance Report shall match the plans and shall comply with the following:

R405.4.2

- A.** Comfort heating and service water heating appliances using electricity shall be shown. (Item#14 &15)
- B.** When a ceiling fan energy credit is indicated, ceiling fans and fan blade sizes are to be shown. (Item#16) **(E-1)**

R405.7.6

Table R405.7.6

Plans

- 2.** When a ceiling fan energy credit is indicated on the energy compliance report. The required fans and blade sizes shall be shown.
- 3.** The electrical floor plans shall clearly identify all recessed luminaires that are installed in the building thermal envelope and shall show sealing details.
- 4.** Recessed lighting shall be IC-rated and *labeled* as having an air leakage rate not more than 2.0 cfm when tested in accordance with ASTM E283
- 5.** The Luminaire Schedule shall clearly identify the “high efficacy lamps”. Not less than 90 percent of the lamps in permanently installed luminaires shall have an efficacy of at least 45 lumens-per-watt or shall utilize lamps with an efficacy of not less than 65 lumens-per-watt.

R405.7.6

Table R405.7.6

R402.4.5

R103.2 #8

R402.4.5

R404.1

Rough Inspection

Code Section

- 1.** An air barrier shall be installed behind electrical or communication boxes or air sealed boxes shall be installed when these boxes are in the exterior thermal envelope.
- 2.** Thermal envelope penetrations by electrical conduits and cables in the wall top plate shall be sealed.

R402.4.1.1

Table R402.4.1.1

R402.4.1.1

Table R402.4.1.1

Final Inspection

Code Section

- 1.** Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.
- 2.** Ceiling fans shall be installed per the electrical drawings.
- 3.** Any changes which affect the energy efficiency of the building shall require revised plans and a revised energy compliance report.

R402.4.5

R405.7.6

R103.4

Appendix A

Residential Fenestration Product Rating Submittal Form

In accordance with R405.4.3 #2 of the Florida Energy Conservation Code, this form is a tool for the submittal process to document the proposed energy product rating for windows, doors, and skylights.

Recommended for Review:

- Copy of the approved energy compliance report “window checklist” showing each fenestration design rating (U-value and SHGC) for all fenestration in the entire building.
- A list of the NFRC “Certified Product Directory” number of each window showing the U-Value and SHGC on the attached form. These numbers can be found on the NFRC site: <https://search.nfrc.org/search/searchDefault.aspx>

Notes:

- *Products not listed in the NFRC directory shall be tested by an accredited, independent laboratory in accordance with FECC R303.1.3. Products not tested and lacking certification and labeling shall be assigned a default rating from the energy tables.*
- *Products submitted that do not match the approved energy window checklist shall require a revised energy compliance report or window submittal per FECC R103.4*

#	<u>NFRC Directory Number</u>	<u>Description</u>	<u>U-Value</u>	<u>SHGC</u>
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

<u>Window #</u>	<u>NFRC Directory Number</u>	<u>Description</u>	<u>U-Value</u>	<u>SHGC</u>
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
31				
33				
34				
35				
36				
37				
38				

TABLE R303.1.3(1)

DEFAULT GLAZED FENESTRATION U-FACTORS

FRAME TYPE	SINGLE PANE	DOUBLE PANE	SKYLIGHT	
			SINGLE	DOUBLE
<u>Metal</u>	<u>1.20</u>	<u>0.80</u>	<u>2.00</u>	<u>1.30</u>
<u>Metal with Thermal Break</u>	<u>1.10</u>	<u>0.65</u>	<u>1.90</u>	<u>1.10</u>
<u>Nonmetal or Metal Clad</u>	<u>0.95</u>	<u>0.55</u>	<u>1.75</u>	<u>1.05</u>
<u>Glazed Block</u>	<u>0.60</u>			

TABLE R303.1.3.(2)

DEFAULT OPAQUE DOOR U-FACTORS

DOOR TYPE	U-FACTOR
<u>Uninsulated Metal</u>	<u>1.20</u>
<u>Insulated Metal</u>	<u>0.60</u>
<u>Wood</u>	<u>0.50</u>
<u>Insulated, nonmetal edge, max 45% glazing. Any glazing double pane</u>	<u>0.35</u>

Example


Compliance Report Checklist

WINDOWS														
Orientation shown is the entered, Proposed orientation.														
✓	#	Wall			Panels	NFRC	U-Factor	SHGC	Imp	Area	Overhang		Int Shade	Screening
		Ornt	ID	Frame							Depth	Separation		
_____	1	W	2	Vinyl	Low-E Double	Yes	0.4	0.25	N	80.0 ft²	0 ft 0 in	0 ft 0 in	IECC 2012	None
_____	2	S	3	Vinyl	Low-E Double	Yes	0.4	0.25	N	80.0 ft²	0 ft 0 in	0 ft 0 in	IECC 2012	None
_____	3	E	4	Vinyl	Low-E Double	Yes	0.4	0.25	N	80.0 ft²	0 ft 0 in	0 ft 0 in	IECC 2012	None
_____	4	N	5	Vinyl	Low-E Double	Yes	0.4	0.25	N	80.0 ft²	0 ft 0 in	0 ft 0 in	IECC 2012	None

Appendix B

STRUCTURAL NOTES

S-1 Windows are required to be tested for energy efficiency. U-factors shall be determined in accordance with NFRC 100. The VT (Visual Transmittance) and the SHGC (Solar Heat Gain Coefficient) shall be determined in accordance with NFRC 200. Testing is required to be done by an accredited independent laboratory and then labeled and certified by the manufacturer. The code does require certification by an independent agency. The code also does not require certification by NFRC. Some manufactures have chosen to “Self-Certify” their product after testing by an accredited independent laboratory. These products are not certified by NFRC and will not be listed in the NFRC’s “Certified Products Directory.” Products not certified by NFRC will need to provide a “Thermal Simulation Report” from an accredited independent laboratory. Testing values from the “Simulated Data” shall match the label on the product in accordance with FECC R303.1.3.

 <small>National Fenestration Rating Council®</small> CERTIFIED	World's Best Window Co. Series "2000" Casement Vinyl Clad Wood Frame Double Glazing • Argon Fill • Low E XYZ-X-1-00001-00001
ENERGY PERFORMANCE RATINGS	
U-Factor (U.S. / I-P) 0.35	Solar Heat Gain Coefficient 0.32
ADDITIONAL PERFORMANCE RATINGS	
Visible Transmittance 0.51	Air Leakage (U.S. / I-P) ≤ 0.3
Condensation Resistance 51	—
<small>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>	

S-2 The plans shall be specific as to what that type and R-value of insulation is to be installed. It is unacceptable to have comments on the plan details that indicate: “see energy calculations”. Baffles are required for blown-in insulation to keep the vents from becoming blocked upon installation and drift.

MECHANICAL NOTES

M-1 The conditioned floor area is found on the architectural plans. The ceiling areas shall match the conditioned floor area on single-story homes with a flat ceiling height throughout the home. On a two-story home, the second-floor conditioned floor area shall match this ceiling area plus any area that is only one story. “Knee walls” occur when ceiling heights change from a vaulted ceiling to a lower ceiling height. Knee walls adjacent to the attic area shall be listed separately as ceiling area on the compliance report. Knee walls shall not be shown as exterior wall area. (See figure A)

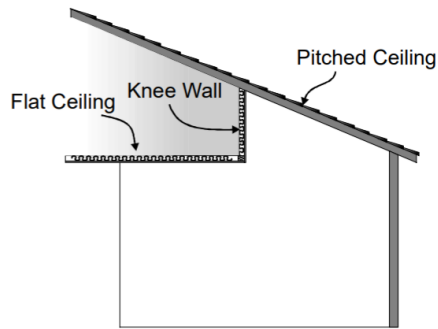


Figure A

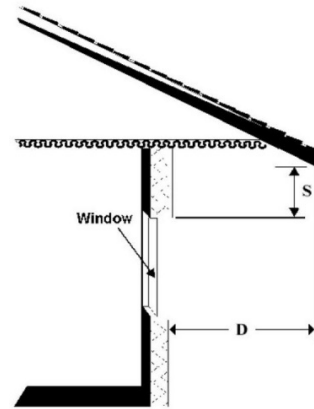


Figure B

M-2 Overhang measurements shall match what is listed on the compliance report. Overhangs are measured in terms of “Depth” and “Separation”. The “Depth” is the horizontal measure protruding from the building. The “Separation” is the vertical distance from the overhang to the top of the window. (See Figure B)

M-3 Energy credits shall be verified. The credits are indicated by abbreviations on the compliance report or by statement notes on the bottom of the compliance report.

Examples: **PSTAT**- Programmable Thermostat, **RB**- Radiant Barrier, **CV**- Cross Ventilation, **WHF**- Whole House Fan, **CF**- Ceiling Fans, **HRU**- Heat Recovery Unit, **HP**- Heat Pump.

Tested “Cool Roof” roof absorption and emittance test values, and a “Duct Leakage Test Report” lower than 8% default leakage are possible credits shown in the notes.

M-4 The mechanical attachment and sealing of the flexible ductwork’s collar and inner core are hidden to the inspector by the insulation and vapor barrier during assembly. The tabs shall be bent over, and a draw-band shall be installed for a proper mechanical attachment. The collar flange and the inner core shall also be sealed airtight. The draw-band is not a code-approved seal for flexible duct. Flexible duct joints shall be spot-checked for compliance with this section by having the contractor open the duct joint for visual inspection.

M-5 Certificates can be obtained by going to the AHRI Certification Directory to verify equipment is designed to be operated together. Water heater efficiencies found in the directory are shown in UEF and shall be converted to EF to match the compliance report. A conversion calculator is found on the Resnet website.

ENVELOPE LEAKAGE TEST REPORT NOTES

TR-1 The FBC-approved software will generate an approved “Envelope Leakage Test Report” form and fill in important information such as the volume and the required air change rate specified by the designer.

TR-2 The designer of record chooses which method of energy code compliance whether performance or prescriptive. Designers using compliance report R405-2020 shall select performance on the blower door test report. The testing agent shall not select prescriptive when the designer chooses the performance method of compliance.

TR-3 The design air change rate (ACH), chosen by the designer of record, shall be indicated in the box provided when using the performance R405-2020 compliance report.

TR-4 It is the code official’s responsibility to make sure this box is checked when the air change rate (ACH) is less than 3(ACH). This selection shall trigger the mechanical designer of record to determine which method they shall use to provide additional ventilation and then submit a revised plan.

PLUMBING NOTES

P-1 The efficiency of the water heaters shown on the compliance report is shown in “EF” and the AHRI efficiency is now shown with a new standard referred to as “UEF”. A conversion is required to verify.

ELECTRICAL NOTES

E-1 When a ceiling fan credit is taken, the ceiling fans shall be indicated on the electrical drawings. Future fans shall not be indicated when this credit is taken. The fans shall be installed per the plans at the electrical final inspection according to Table R405.7.6. Ceiling fans shall be installed in each of the bedrooms and a minimum of one living area in order to receive credit.

**TABLE R405.7.6
FAN SIZING TABLE**

LONGEST WALL LENGTH (feet)	MINIMUM FAN SIZE (inches)
= 12	36
>12-16	48
>16-17.5	52
>17.5-25	56
>25	2 fans (Minimum of 48 inches each)



Appendix C

RESIDENTIAL ENERGY CODE COMPLIANCE REVIEW FORM

PERMIT # _____ ADDRESS _____

METHOD OF COMPLIANCE per R401.2

- R402-Prescriptive #1 R406-ERI #3
 R405-Performance #2

A review of the plans and specifications covered by this compliance report indicates compliance with the _____ Florida Energy Conservation Code.

<u>DISCIPLINE</u>	<u>NAME</u>	<u>SIGNATURE</u>	<u>DATE</u>
STRUCTURAL			
MECHANICAL			
PLUMBING			
ELECTRICAL			