

10.1.6. High Performance Building Standards

A. Single-Family and Two-Family Residential Standards

1. Applicability.

The following standards apply to:

- a. Any newly constructed building containing attached or detached single-family dwelling units, two-family dwelling units, live-work, or an accessory dwelling units; and
- b. Any substantial improvement to an existing building containing attached or detached single-family dwelling units, two-family dwelling units, live-work or an accessory dwelling units.

2. High Performance Building Certification

All buildings subject to this paragraph must comply with one of the following:

- a. Silver Certification using the current version of the National Green Building Standard-ICC 700-2012; or
- b. Any level of certification using the current version of LEED for Homes; or
- c. Any level of certification using the current version of the EarthCraft House or the EarthCraft Sustainable Preservation program.

3. General Requirements

The following apply to all buildings subject to this paragraph a.:

- a. All dwelling units must receive envelope and duct tightness verification in accordance with the current Georgia Residential Energy Code. Visual inspection may not be used in lieu of testing. The building thermal envelope for newly constructed buildings must

test at less than 5 Air Changes per Hour when tested at 50 Pascals (< 5 ACH50) or, as an alternative, must demonstrate an Envelope Leakage Ratio of less than 0.33 CFM50 / Square Foot of Building Envelope (< 0.33 ELR50) for dwelling units 1,500 square feet or less in floor area. Substantial improvement projects are exempt from this requirement and must comply with thresholds as outlined in the Georgia Residential Energy Code (7 ACH50 as of 2014).

- b. No alterations will be mandated to systems that are not being modified as part of the planned construction process, unless otherwise required by state or local rules and regulations.
- c. All dwelling units must be provided with a whole house ventilation system that complies with ASHRAE 62.2-2010 table 4.1a, or equation 4.1a, and may not rely on exhaust as the sole whole house ventilation strategy. The system must be designed and verified in accordance with ASHRAE 62.2-2010.

ASHRAE 62.2-2010 Equation 4.1a

$$CFM = 0.01 \times \text{Floor Area} + 7.5 \times (\text{bedrooms} + 1)$$

ASHRAE 62.2-2010 Table 4.1a

Continuous Whole-House Mechanical; Ventilation System Airflow Rate Requirements					
Dwell- ing Unit Floor Area (square feet)	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
Airflow in CFM					
<1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
>7,501	105	120	135	150	165

For SI: 1 sq. ft. = 0.0929 m², 1 cubic foot per minute = 0.0004719 m³/S.

- d. The ventilation system airflow must be verified via airflow testing to be capable of providing quantities of outside air (in cubic feet per minute, CFM) that satisfy ASHRAE 62.2-2010, but may operate by default at a lower ventilation rate. The method of verification must be a volumetric air flow measuring device or measurement of the velocity of the air in the duct and calculating the CFM. Ventilation controls must be labeled and easily accessible for occupants, and are encouraged to offer occupant variability such as a temporary override switch that resets itself. The occupant must not be able to reduce the outside air to below 10% of the required outside air. All kitchen and bath exhaust devices must satisfy ASHRAE 62.2-2010 CFM efficiency and some requirements and must terminate to the exterior.
- e. Outside air must be ducted from a manufactured outside air intake device that is protected from animals and large debris and is at least 10 feet from pollutant sources. Unless a filter is otherwise installed in the outside air duct, the outside air must be connected to the return air plenum upstream of the main system filter.

4. Exemptions

- a. The UDO Administrator may issue an exemption from any of these requirements when circumstances particular to the building under review render full compliance with such requirements infeasible. The burden shall be on the applicant to demonstrate that one of the following criteria has been met rendering full compliance with the requirements infeasible:
 - i. The least expensive allowed project certification and verification fees exceed 10% of the construction costs (not including construction costs incurred

to comply with the high performance building requirements); or

- ii. The building is a designated historic building or a contributing building within a designated historic district and the Historic Preservation Commission has denied a certificate of appropriateness necessary for compliance with these requirements due to the negative impact such compliance would have on the historic qualities of the building.
 - iii. The building is a historic structure or eligible for listing on the National Register of Historic Places, and when compliance with these requirements would cause the building to cease to be a historic structure or make the structure ineligible for inclusion on the National Register of Historic Places.
- b. All decisions granting or denying such infeasibility exemptions shall be made by the UDO Administrator in writing within 20 days of the filing of a request by the applicant that contains all information demonstrating compliance with the required criteria for exemption. The applicant shall be notified when a final decision is made and shall be provided a copy of the written decision. Appeals by any party aggrieved by the decision shall be made in accordance with Sec. 11.2.9.

B. Multiple-Family Residential Standards

1. Applicability

The following standards apply to:

- a. Any newly constructed building containing multiple-family dwelling units; and
- b. Any substantial improvement to an existing building containing multiple-family dwelling units.

2. Low-Rise High Performance Building Certification

All buildings subject to this paragraph B. that are up to 3 stories in height must comply with one of the following:

- a. Silver Certification using the current version of the National Green Building Standard-ICC 700-2012; or
- b. Any level of certification using the current version of LEED for Homes; or
- c. Any level of certification using the current version of any applicable EarthCraft program, including but not limited to the EarthCraft House or the EarthCraft Sustainable Preservation program.

3. Mid-Rise and High-Rise High Performance Building Certification

All buildings subject to this paragraph B. that are 4 or more stories in height must comply with one of the following:

- a. Silver Certification using the current version of the National Green Building Standard-ICC 700-2012; or
- b. Any level of certification using the active version of LEED for Homes or LEED Building Design and Construction; or
- c. Any level of certification using the current version of any applicable EarthCraft program, including but not limited to Earthcraft Multifamily, Earthcraft Light Commercial, or the EarthCraft Sustainable Preservation program.
- d. Three globes certification using the current version of the Green Globes program.

4. General Requirements

The following requirements apply to all buildings subject to this paragraph B.:

- a. Dwelling units must test at less than 5 Air Changes per Hour when tested at 50 Pascals (< 5 ACH50) or, as an alternative, must demonstrate an Envelope Leakage Ratio of less than 0.33 CFM50 / Square Foot of Building Envelope (< 0.33 ELR50) for dwelling units 1,500 square feet or less in floor area.
- b. Low, mid, and high rise multiple family dwelling buildings must be tested in accordance with the Georgia State Supplements and Amendments to the 2009 International Energy Conservation Code, Chapter 4, Section 402.4.2.2. Applicants using Protocol 1 may sample of one every four adjacent units (per floor) for blower door testing. If the sampled unit in each set of four passes the other three units in the same floor sample are deemed to comply. If the sampled unit fails, it must be further air sealed and re-tested until it passes and all remaining units in the four-unit sample must also be tested and pass. Protocol 2 (RESNET sampling protocol) may be employed in lieu of 1 in 4 sampling option, provided a certified Home Energy Ratings professional is conducting the test. Blower door testing may be performed as unguarded (single fan) or guarded (via pressurizing/depressurizing adjacent units) as allowed by the certifying program.
- c. Duct systems must be leak tested in compliance with the 2011 Georgia Energy Code for residential homes. Compliance testing is not required for any duct system if 100% of the duct system and air handler is located within the building's thermal envelope.

- d. All dwelling units must comply with ASHRAE 62.2-2010 with or without Amendment J.
- e. No alterations will be mandated to systems that are not being modified as part of the planned construction process, unless otherwise required by state or local rules and regulations.

C. Commercial Use and Public Use Standards

1. Applicability

The following standards apply to:

- a. Any newly constructed building greater than 3,000 square feet in floor area that contains a commercial use or a public use; and
- b. Any substantial improvement to an existing building that contains a commercial use or a public use and is greater than 3,000 square feet in floor area, or where the building is larger than 3,000 square feet and the gross floor area of the renovation project exceeds 10% of the total building gross floor area. The area that is substantially-improved must comply with these high performance building standards.

2. High Performance Building Certification

All buildings subject to paragraph C. must comply with one of the following:

- a. Any level of certification using the current version of LEED Building Design and Construction; or
- b. Any level of certification using the current version of the applicable EarthCraft Light Commercial or the EarthCraft Sustainable Preservation program; or
- c. Three globes certification using the current version of the Green Globes program.

3. General Requirements

No alterations to any building subject to this paragraph C. will be mandated to systems that are not being modified as part of the planned construction process, unless otherwise required by state or local rules and regulations.