

ORDINANCE NO. 032, 2011,  
OF THE COUNCIL OF THE CITY OF FORT COLLINS  
AMENDING CHAPTER 5, ARTICLE II, DIVISION 2, OF THE CODE  
OF THE CITY OF FORT COLLINS FOR THE PURPOSE OF  
AMENDING THE 2009 INTERNATIONAL RESIDENTIAL CODE AS ADOPTED

WHEREAS, the City Council has determined that it is in the best interests of the health, safety and welfare of the City and its citizens to better align Fort Collins' built environment with community goals of improved indoor environmental quality, protection of the natural environment, reduced carbon emissions, reduced energy use and reduced water use, and;

WHEREAS, City staff has conducted a significant public outreach program, working with three advisory committees comprised of representatives from the residential and commercial construction industries, housing industry, real estate and appraisal industries, construction recycling industry, specialized-trade contractors, and regional code officials; and

WHEREAS, on February 2, 2011, the substance of the amendments was presented to the Electric Board, and the Electric Board recommended approval of the amendments; and

WHEREAS, on February 3, 2011, the substance of the amendments was presented to the Affordable Housing Board, and the Affordable Housing Board recommended against approval of the amendments; and

WHEREAS, on February 9, 2011, the substance of the amendments was presented to the Landmark Preservation Commission, and the Landmark Preservation Commission recommended approval of the amendments; and

WHEREAS, on February 16, 2011, the substance of the amendments was presented to the Economic Advisory Commission, and the Economic Advisory Commission recommended approval of the amendments; and

WHEREAS, on February 16, 2011, the substance of the amendments was presented to the Natural Resources Advisory Board, and the Natural Resources Advisory Board recommended approval of the amendments; and

WHEREAS, on February 17, 2011, the substance of the amendments was presented to the Water Board, and the Water Board considered water related elements and recommended approval of those amendments; and

WHEREAS, on February 24, 2011, the substance of the amendments was presented to the Building Review Board, and the Building Review Board recommended against approval of these amendments; and

WHEREAS, on February 28, 2011, the substance of the amendments was presented to the Air Quality Advisory Board, and the Air Quality Advisory Board recommended approval of these amendments; and

WHEREAS, based on the input obtained through this outreach process, together with City Council and advisory board review and comment, staff has developed proposed amendments to the 2009 International Residential Code ("IRC") as set forth in this Ordinance; and

WHEREAS, the City Council has determined that it is in the best interests of the health, safety and welfare of the City and its citizens that the IRC as adopted be amended.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the opening paragraph of Section 5-30 of the Code of the City of Fort Collins is hereby amended to read as follows:

**Sec. 5-30 Amendments and deletions to code.**

The *2009 International Residential Code* adopted in § 5-26 is hereby amended in the following respects:

Section 2. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section R303.3** is hereby amended in its entirety to read as follows:

**"R303.3 General.** Mechanical *ventilation* systems shall be required as specified hereunder.

**R303.3.1. Bathroom *ventilation*.** Mechanical *ventilation* of bathrooms shall be provided in accordance with Section M1507.3. *Ventilation* air from the space shall be exhausted directly to the outside.

**R303.3.2. Kitchen *ventilation*.** Mechanical *ventilation* of kitchens shall be provided in accordance with Section M1503 and Section M1507.3.

**R303.3.3. Whole-dwelling unit *ventilation*.** Mechanical *ventilation* of the whole-dwelling unit shall be provided in accordance with Section M1507.4."

Section 3. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

A new section is hereby added to read as follows:

**“SECTION R324**

**RESOURCE EFFICIENCY**

**R324.1 Construction waste management.** For new *buildings*, a construction waste management plan acceptable to the Building Official that includes recycling of concrete, wood, metals and cardboard, is required at time of application for a building permit. The construction waste management plan shall be implemented and conspicuously posted on the construction site. Substantive changes to the plan shall be subject to prior approval by the Building Official.

**R324.3 Certified tropical hardwood.** All tropical hardwoods used in new construction, additions and alterations requiring a building permit, shall be certified by the Forest Stewardship Council or other *approved agency*. Certification demonstrating compliance shall be required with delivery of such materials and shall be available for inspection.”

Section 4. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

A new section is hereby added to read to read as follows:

**“SECTION R325**

**INDOOR ENVIRONMENTAL QUALITY (IEQ)**

**R325.1 Low-volatile organic compound (VOC) materials.** Construction materials, floor coverings and site-applied finishes, including sealants and adhesives, resilient flooring, carpeting and pad, site-applied paints, stains and varnishes, structural wood panels, hardwood veneer plywood, particle board and fiber board *building* products, and insulation shall meet specified *volatile organic compound (VOC)* emissions limits in accordance with California Department of Public Health (CDPH) 01350; GREENGUARD Environmental Institute GGPS.001 standard for *building* materials and finishes; and Green Seal® standards. Documentation demonstrating compliance be required with delivery of such materials and shall be available for inspection.”

**Exception:** For *alterations* to *existing buildings*, carpeting and pad, structural wood panels, hardwood, veneer plywood, particle board and fiber board *building* products and insulation are not subject to this requirement.

Section 5. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

A new section is hereby added to read as follows:

**“SECTION R326  
OUTDOOR ENVIRONMENTAL QUALITY (OEQ)”**

**R326.1 Exterior lighting.** For new buildings, all exterior lighting fixtures shall have the “Fixture Seal of Approval” from the International Dark-Sky Association or meet equivalent criteria approved by the Building Official.”

Section 6. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

A new section is hereby added to read as follows:

**“SECTION R327  
OPERATIONS AND MAINTENANCE AND *BUILDING* OWNER EDUCATION”**

**R327.1 Operations and maintenance manual.** A *building* operation and maintenance manual, in a form satisfactory to the Building Official, shall be provided for the *building* owner and/ or occupant at time of or prior to approval.”

Section 7. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section R703.8.1** is hereby added to read as follows:

**“R703.8.1 Fenestration installation.** For all new construction, all *fenestration* installations shall be in accordance with American Architectural Manufacturers Association (AAMA) Standards/ Specifications for Windows, Doors and Skylights and shall be supervised and inspected by an individual certified as an Installation Master by Architectural Testing, Inc. (ATI), or other *approved agency*. (Also see Section R612). ”

Section 8. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section N1102, TABLE N1102.1** is hereby amended in its entirety to read as follows:

**“TABLE N1102.1  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>”**

HEATING SYSTEM TYPE	FENESTRATION U-FACTOR <sup>b</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL <sup>c</sup> R-VALUE	MASS WALL R- VALUE <sup>e</sup>	FLOOR R- VALUE <sup>c</sup>	BASEMENT <sup>e</sup> WALL R-VALUE	SLAB <sup>d</sup> R- VALUE & DEPTH	CRAWL <sup>f</sup> SPACE WALL R- VALUE
<i>Non- electric heat</i>	0.35	0.60	NR	38	20 or 13+5 <sup>f</sup>	13/17	30	10/13	10, 2 ft	10/13
<i>Electric heat</i>	0.30	0.60	NR	49	20+5 <sup>f</sup>	15/19	30	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8mm

- a. *R*-values are minimums. *U*-factors SHGC are maximums. R-19 batts compressed into a nominal 2x6 framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.
- b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. "15/19" means R-15 continuous insulation on the interior or exterior of the foundation wall or R-19 cavity insulation at the interior of the foundation wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the foundation wall plus R-5 continuous insulation on the interior or exterior of the foundation wall. "10/13" means R-10 continuous insulation on the interior or exterior of the foundation wall or R-13 cavity insulation at the interior of the foundation wall.
- d. R-5 shall be added to the required slab edge *R*-values for heated slabs.
- e. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- f. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of the exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- g. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

Section 9. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

*Section N1102, TABLE N1102.1.2* is hereby amended in its entirety to read as follows:

**"TABLE N1102.1.2  
EQUIVALENT *U*-FACTORS"**<sup>a</sup>

HEATING SYSTEM TYPE	FENESTRATION <i>U</i> -FACTOR	SKYLIGHT <i>U</i> -FACTOR	CEILING <i>R</i> -VALUE	FRAME WALL <i>U</i> - FACTOR	MASS WALL <i>U</i> - FACTOR <sup>b</sup>	FLOOR <i>U</i> - FACTOR	BASEMENT WALL <i>U</i> -FACTOR	CRAWL SPACE WALL <i>U</i> - FACTOR
<i>Non-electric heat</i>	0.35	0.60	0.030	0.057	0.082	0.033	0.059	0.065
<i>Electric heat</i>	0.30	0.60	0.026	0.043	0.060	0.033	0.050	0.055

- a. Non-fenestration *U*-factors shall be obtained from measurement, calculation or an *approved* source.
- b. When more than half the insulation is on the interior, the mass wall *U*-factor shall be the same as the frame wall *U*-factor."

Section 10. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

*Section N1102.2.12* is hereby added to read as follows:

**"N1102.2.12 Specific insulation requirements.** All insulation shall be installed to meet Residential Energy Services Network (RESNET) Grade I standard.

**Exceptions:** RESNET Grade II is acceptable for:

1. cavity insulation in exterior walls that include continuous rigid insulating sheathing and/or insulated siding with a minimum R-5 value; and
2. rim joists"

Section 11. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

*Section N1102.4.2* is hereby amended to read as follows:

**"N1102.4.2 Air sealing verification.** *Building thermal envelope* air tightness shall be demonstrated to comply with either Section N1102.4.2.1 (new construction) or Section

N1102.4.2.2 (existing *buildings*):

**N1102.4.2.1 Performance testing.** In new construction, air sealing compliance shall be demonstrated through performance testing by an *approved agency* in accordance with the methods and standards of this Section. Documentation of satisfactory testing results shall be submitted to the Building Official prior to approval. When tested with a blower door at a pressure of fifty (50) pascals (33.5 psf), the maximum whole-*building* air leakage rate shall not exceed:

1. three air changes per hour (ACH) in *buildings* with *electric heat*; or
2. four air changes per hour (ACH) in *buildings* with *non-electric heat*.

Isolation of attached garages from adjoining *conditioned areas* shall be verified with an *approved* differential pressure test.

Testing shall occur after *rough-in* and after installation of penetrations of the *building thermal envelope*, including but not limited to penetrations for utilities, plumbing, electrical, *ventilation* and combustion appliances.

During testing:

1. exterior windows and doors, *fireplace* and stove doors shall be closed, but not sealed;
2. *dampers* shall be closed, but not sealed, including exhaust, intake, makeup air, backdraft, and flue dampers;
3. interior doors shall be open;
4. exterior openings for continuous *ventilation* systems and heat recovery ventilators shall be closed and sealed;
5. heating and cooling system(s) shall be turned off;
6. heating, ventilating and air conditioning *ducts* shall not be sealed; and
7. *supply* and *return air* registers shall not be sealed.
8. *combustion air* inlets shall not be closed or otherwise obstructed.
9. garage doors to the exterior shall be closed.

**N1102.4.2.2 Visual inspection.** In additions or alterations to existing *buildings*, air sealing compliance shall be considered acceptable when the items listed in Table N1102.4.2, applicable to the method of construction, are field-verified."

Section 12. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section N1102.5** is hereby added to read as follows:

**"N1102.5 Maximum fenestration U-factor and SHGC.** For new construction and additions that require a building permit, the area-weighted average maximum *fenestration U-factor* permitted using trade-offs from Section N1102.1.3 or N1102.4.4 shall be 0.40 for *vertical fenestration*, and 0.75 for *skylights*."

Section 13. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section N1103.6** is hereby amended as follows:

**“N1103.6 Heating and cooling systems.** For new construction and additions that require a building permit, heating and cooling systems shall be designed in accordance with Section M1401.3 and performance shall be verified in accordance with Section M1309.”

Section 14. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section M1309** is hereby added to read as follows:

**“M1309 Testing and verification.** Installed heating, cooling and *ventilation* systems shall be performance-tested by an *approved agency* and adjusted to operate within design specifications, in accordance with ANSI/ACCA QI 5-2007 *HVAC Quality Installation Specification*. Documentation of results shall be submitted to the Building Official prior to approval.”

Section 15. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section M1401.3** is hereby amended in its entirety to read as follows:

**“M1401.3 Heating and cooling system design.** The design of heating and cooling systems shall meet the requirements of this Section. Design documents shall be submitted to the Building Official at the time of application for a building permit.

**M1401.3.1 Equipment sizing.** Heating and cooling equipment shall be sized in accordance with ACCA Manual S, based on design *building* loads calculated in accordance with ACCA Manual J, or other equivalent methodology approved by the Building Official, using thermal design parameters in Table N1101.1 as amended. The total equipment output capacity shall be between the following limits, as applicable for the equipment type:

1. 95% and 115% of calculated system cooling load, for air conditioners and heat pumps;
2. 95% and 125% of calculated system cooling load, for heat pumps with winter heating dominated requirements;
3. 100% and 140% of calculated system heating load, for warm air systems, unless dictated by the cooling equipment selection; and
4. 100% and 115% of calculated system heating load, for heating boilers.

Where no available equipment is within the applicable capacity limits, the next largest nominal piece of equipment that is available may be used.

**M1401.3.2 Room loads.** Room-by-room design heating and cooling loads shall be calculated.

**Exception:** Equipment replacement in an existing *building*.

**M1401.3.3 Matched components.** Air-conditioning, Heating and Refrigeration Institute (AHRI) matched evaporators, condensing units and air handlers shall be required."

**Exception:** Equipment replacement in an existing *building*.

Section 16. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section M1503.1** is hereby amended to read as follows:

**"M1503.1 Exception:** Excluding range hoods serving gas ovens as required by Section G2447.6, *listed* and *labeled* ductless range hoods shall not be required to discharge to the outdoors for which mechanical or natural *ventilation* is otherwise provided."

Section 17. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section M1507.3** is hereby amended to read as follows, **TABLE M1507.3** remains unchanged:

**"M1507.3 Exhaust ventilation.** Kitchen exhaust systems that are vented to the outside and bathroom mechanical exhaust systems shall be designed to have the capacity to exhaust the minimum air flow rate determined in accordance with Table M1507.3. Exhausts shall have gravity dampers that close when the *ventilation* system is not operating. Design documents shall be submitted to the Building Official at the time of application for a building permit. Performance of installed mechanical *ventilation* systems shall be verified in accordance with Section M1309."

Section 18. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section M1507.4** is hereby added as a new section to read as follows:

**"M1507.4 Whole dwelling unit ventilation.** For new *buildings*, a mechanical exhaust system, supply system, or combination thereof shall be installed for each *dwelling unit* to provide whole-dwelling unit *ventilation*. Such system shall comply with Sections M1507.4.1 through M1507.4.4.

**M1507.4.1 Whole-dwelling unit ventilation rate.** The mechanical *ventilation* system shall provide outdoor air at no less than the rate specified in Table M1507.4.1.1



**TABLE M1507.4.1.1**  
**DWELLING UNIT VENTILATION AIR REQUIREMENTS, CFM<sup>1</sup>**

CONDITIONED FLOOR AREA (square feet)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	> 7
< 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
> 7,500	105	120	135	150	165

1. Equation M1507.4.1 can be used as an alternative to Table M1507.4.1.1

**Equation M1507.4.1:**  $Q_{\text{fan}} = 0.01A_{\text{floor}} + 7.5(N_{\text{br}} + 1)$

Where:

$Q_{\text{fan}}$  = fan flow rate in cubic feet per minute (cfm).

$A_{\text{floor}}$  = conditioned floor area in square feet (ft<sup>2</sup>).

$N_{\text{br}}$  = number of bedrooms; not to be less than one.

**M1507.4.2 System design.** The design of the required whole-dwelling unit ventilation system shall comply with the requirements of this Section. System design documents shall be submitted to the Building Official at the time of application for a building permit.

**M1507.4.2.1 System type.** The system shall consist of one or more supply or exhaust fans, or a combination thereof, and associated ducts and controls. Exhaust fans shall be permitted to be part of a mechanical exhaust system. Outdoor air ducts connected to the return duct of a forced air furnace shall be sized to provide adequate mechanical ventilation in accordance with ASHRAE 62.2 and shall meet the manufacturer's requirements for minimum return air temperature to the furnace heat exchanger.

**M1507.4.2.2 Outdoor air intakes.** Outdoor air intakes shall have automatic dampers that close when the ventilation system is not operating.

**M1507.4.2.3. Exhausts.** Exhausts shall have gravity dampers that close when the ventilation system is not operating.

**M1507.4.2.4. Air circulation fan motors.** Motors for air circulation fans used in the ventilation system, rated at one-quarter horsepower or greater, shall meet at least one of the following criteria:

1. Where the furnace serves as an air handler for the ventilation system, the furnace shall be certified as an "electrically Efficient Furnace" by the Air-conditioning, Heating and Refrigeration

- Institute (AHRI).
2. The blower motor shall be specified as a “Brushless DC” (BL or BLDC) motor by the manufacturer.
  3. The blower motor shall be specified as “Brushless Permanent Magnet” (BPM) motor.
  4. The blower motor shall be specified as “Electronically Commutated Motor” (ECM)”.
  5. The blower shall meet equivalent criteria acceptable to the Building Official.

**M1507.4.2.5. System controls.** The mechanical *ventilation* system shall be provided with readily accessible and labeled controls that enable occupant override.

**M1507.4.2.6. Sound ratings for fans.** Whole-*dwelling unit ventilation* fans shall be rated for sound at a maximum of 1.0 sones, in accordance with the procedures of the Home Ventilating Institute (*HVI 915, Procedure for Loudness Rating of Residential Fan Products*).

**Exception:** Heating, ventilating and air conditioning air handlers and remote-mounted fans need not meet sound requirements. To be considered for this exception, a remote-mounted fan must be mounted outside the habitable spaces, bathrooms, toilets and hallways, and there must be a least 4 ft (1 m) of ductwork between the fan and the intake grille.

**M1507.4.3 System installation.** The installation of the whole-*dwelling unit ventilation* system and equipment shall be carried out in accordance with the manufacturers’ design requirements and installation instructions.

**M1507.4.4 Performance verification.** Performance of installed mechanical *ventilation* systems shall be verified in accordance with Section M1309.”

Section 19. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section G2406.2** is hereby amended to read as follows:

**“G2406.2 Prohibited locations.** For new *buildings* and new appliances within additions, *natural draft appliances* shall not be located within the *building thermal envelope* or be located in a space where the only access to that space is from sleeping rooms, bathrooms, toilet rooms, or storage closets.

**Exceptions:**

6. Where *natural draft appliances* are located in an enclosed mechanical room and sealed to air flow from adjoining conditioned area and the following conditions are met:

- a. The access to the mechanical room is through a self-closing, gasketed door;
- b. No other exhaust appliances are located within the mechanical room;
- c. The mechanical room is provided with outside combustion air as specified in this code;
- d. The isolation of the mechanical room from adjoining conditioned areas is verified with a differential-pressure test performed by an *approved agency*;
- e. Such *natural draft appliances* pass a combustion safety test under worst-case depressurization conditions conducted by an *approved agency*, in accordance with Building Performance Institute (BPI) Technical Standards for the Heating Professional; and
- f. Documentation of satisfactory testing results are submitted to the Building Official prior to approval.

7. *Natural draft* fireplaces that pass a combustion safety test, under worst-case depressurization conditions, conducted by an *approved agency*, in accordance with the Building Performance Institute (BPI) Technical Standards for the Heating Professional, prior to approval.”

Section 20. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section G2408.1** is hereby amended by deleting the second paragraph and replacing it to read as follows:

“Where *natural draft appliances* are replaced in existing *buildings*, all appliances with a *draft hood* shall pass a combustion safety test under natural conditions, conducted by an *approved agency* in accordance with the Building Performance Institute (BPI) Technical Standards for the Heating Professional. Such appliances shall also be combustion safety tested under worst-case depressurization conditions, by an *approved agency* in accordance with Building Performance Institute (BPI) Technical Standards for the Heating Professional. Should an appliance not pass such test, a disclosure form reporting the test results shall be provided to the homeowner. A copy of such disclosure form, signed by the homeowner, shall be submitted to the Building Official prior approval.”

Section 21. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section P2903.2** is hereby amended to read as follows:

**“P2903.2 Maximum flow and water consumption.** The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table P2903.2 and such fixtures shall be Environmental Protection Agency (EPA) WaterSense® labeled fixtures or such fixtures and fittings that provide the equivalent maximum flow rates.”

Section 22. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Section P2903.2 TABLE P2903.2** is hereby amended to read as follows:

**“TABLE P2903.2**

**MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING  
FIXTURES AND FIXTURE FITTINGS<sup>b</sup>**

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATES
Lavatory faucet	1.5 gpm at 60 psi
Shower head <sup>a</sup>	2.0 gpm at 80 psi
Sink faucet	1.8 gpm at 60 psi
Water closet	1.28 gallons per flushing cycle, with minimum MaP threshold of 350 grams

For SI: 1 gallon per minute (gpm) = 3.785 L/m.

1 pound per square inch (psi) = 6.895 kPa

a. A handheld shower spray is also a shower head

b. Consumption tolerances shall be determined from referenced standards.”

Section 23. That Section 5-30 of the Code of the City of Fort Collins is hereby amended by the addition of a new subparagraph which reads in its entirety as follows:

**Chapter 44 REFERENCED STANDARDS** is hereby amended by adding the following additional referenced standards in alphabetical sequence:

“Add the following referenced title standard to **ACCA**;

*ANSI/ACCA QI 5-2007 HVAC Quality Installation Specification.*

Referenced in Amended 09 IRC Section **M1309 Performance verification**

“**ATI** Architectural Testing, Inc.  
130 Derry Court  
York, PA 17406

Installation Masters™ Testing and Certification Program

Referenced in Amended 09 IRC Section **R703.8.1 Fenestration installation**

“**CDPH** California Department of Public Health  
1615 Capitol Avenue  
Sacramento, CA 95814

CDPH 01350 Standard Method for Testing VOC emissions from indoor sources

Referenced in Amended 09 IRC Section **R325.1 Low-volatile organic compound (VOC) materials.**”

**“FSC** Forest Stewardship Council U.S. (FSC-US)  
212 Third Avenue North, Suite 504  
Minneapolis, MN 55401”

**“GEI** GREENGUARD Environmental Institute  
2211 Newmarket Parkway, Suite 110  
Marietta, GA 30067

GGPS.001.GREENGUARD IAQ Standard for *Building* Materials, Finishes and Furnishings

Referenced in Amended 09 IRC Section R325.1 **Low-volatile organic compound (VOC) materials.**”

**“Green Seal®** 1001 Connecticut Avenue, NW  
Suite 827  
Washington, DC 20036-5525

GS-11 Paintings and Coatings

GS-43 Recycled Content Latex Paints

Referenced in Amended 09 IRC Section R325.1 **Low-volatile organic compound (VOC) materials.**”

**“HVI** Home Ventilating Institute  
1000 N Rand Rd, Ste 214  
Wauconda, IL 60084 USA

HVI referenced standard HVI 915, Procedure for Loudness Rating of Residential Fan Products

Referenced in Amended 09 IRC Section **M1507.4.2.6. Sound ratings for fans.**”

**“IDA** International Dark-Sky Association  
3225 N. First Avenue  
Tucson, Arizona 85719

IDA fixture seal of approval (FSA) third-party certification for luminaires that minimize glare, reduce light trespass, and don’t pollute the night sky.

Referenced in Amended 09 IRC Section **R326.1 Exterior Lighting.**”

**“RESNET® Mortgage Industry National Home Energy Rating Systems Standards**  
Residential Energy Services Network, Inc.  
P.O. Box 4561  
Oceanside, CA 92052-4561  
<http://resnet.us>

**RESNET®** reference standard Grade I and Grade II Insulation

Referenced in Amended 09 IRC Section **N1102.2 Specific insulation requirements.**”

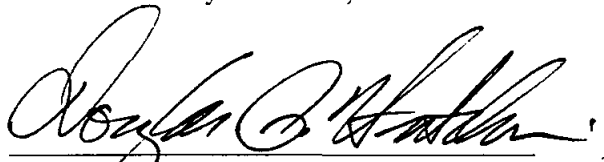
Section 24. That subparagraph (61) of Section 5-31 of the Code of the City of Fort Collins is hereby deleted in its entirety.

Section 25. That all subsections in Section 5-31 of the Code of the City of Fort Collins are hereby renumbered in sequential order as they appear in the IRC.

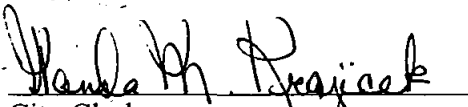
Section 26. That the requirements of Sections 8 and 9 of this Ordinance will be effective as to all applications for building permits filed on or after the effective date of this Ordinance.

Section 27. That the requirements of Sections 2 through 7 inclusive and 10 through 24 inclusive of this Ordinance will be effective as to all applications for building permits filed on or after January 1, 2012.

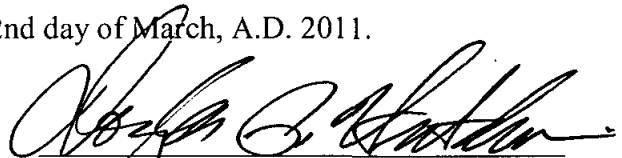
Introduced, considered favorably on first reading, and ordered published this 1st day of March, A.D. 2011, and to be presented for final passage on the 22nd day of March, A.D. 2011.

  
Mayor

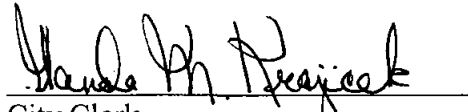
ATTEST:

  
City Clerk

Passed and adopted on final reading on the 22nd day of March, A.D. 2011.

  
Mayor

ATTEST:

  
City Clerk