ORDINANCE NO. 9632

AN ORDINANCE OF THE CITY OF LAWRENCE, KANSAS, REPEALING EXISTING CHAPTER V, ARTICLE 8 OF THE CODE OF THE CITY OF LAWRENCE, 2018 EDITION, AND AMENDMENTS THERETO, AND ENACTING, IN ITS PLACE, CHAPTER V, ARTICLE 8 OF THE CODE OF THE CITY OF LAWRENCE, KANSAS, 2018 EDITION, AND AMENDMENTS THERETO, WHICH ADOPTS AND INCORPORATES BY REFERENCE THE *2018 INTERNATIONAL ENERGY CONSERVATION CODE,* REGULATING BUILDING AND CONSTRUCTION WITHIN THE CITY OF LAWRENCE, KANSAS.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LAWRENCE, KANSAS:

SECTION 1. Existing Chapter 5, Article 8, of the Code of the City of Lawrence, Kansas, 2018 Edition, and amendments thereto, is hereby repealed in its entirety, it being the intent of the Governing Body that Section 2 of this Ordinance supersede it.

SECTION 2. The Code of the City of Lawrence, Kansas, 2018 Edition, and amendments thereto, is hereby amended by enacting Chapter 5, Article 8, which reads as follows:

ARTICLE 8. ENERGY CONSERVATION CODE

5-801 **ENERGY CONSERVATION CODE ADOPTED AND INCORPORATED.**
The *2018 International Energy Conservation Code*, published by the International Code Council, Inc., other than those portions hereinafter specifically deleted, modified, or amended, is hereby adopted as the City's Energy Conservation Code and is incorporated herein by reference as if set forth in full.

5-802 **OFFICIAL COPY.**
Not less than one (1) copy of the *2018 International Energy Conservation Code* shall be marked or stamped "OFFICIAL COPY AS INCORPORATED BY ORDINANCE No. 9632," with all sections or portions deleted, modified, or amended clearly marked as such, and to which one (1) copy of this ordinance shall be affixed, shall be filed with the City Clerk, shall be open to inspection, and shall be available to the public during reasonable business hours. Additional official copies shall, at the cost of the City, be supplied to those officials and agencies charged with enforcement of the City's Energy Conservation Code.

5-803 **AMENDMENTS TO THE *2018 INTERNATIONAL ENERGY CONSERVATION CODE.***
The *2018 International Energy Conservation Code* is amended as set forth in the succeeding sections of this Article. These amendments shall not serve to delete, modify, or amend any discretely numbered section or subsection of the *2018 International Energy Conservation Code*, unless the section or subsection is specifically identified as being deleted, modified, or amended.

5-804 **The *2018 International Energy Conservation Code*** is hereby amended by deleting CHAPTER 1, "SCOPE AND ADMINISTRATION."

5-805 **Section R401.3 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R401.3 Certificate (Mandatory). A permanent certificate shall be completed by the builder or other approved party and posted on ~~a wall in the space where the furnace is located, a utility room or an approved location inside the building~~ the electrical panel. ~~Where located on an electrical panel, t~~The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceilings, roofs, walls, foundation components such as slabs, basement walls, crawl space walls and floors and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing performed on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall indicate the types and efficiencies of heating, cooling. and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall indicate "gas-fired unvented room heater," "electric furnace," or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces, or electric baseboard heaters.

5-806 **Table R402.1.1 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

TABLE R402.1.2
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION U-FACTOR[b]	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION SHGC[b, e]	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE[i]	FLOOR R-VALUE	BASEMENT[c] WALL R-VALUE	SLAB[d] R-VALUE & DEPTH	CRAW SPACE[c] WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13 + 5[h]	8/13	19	5/13[f]	0	5/13
4 except Marine	0.35	0.55	0.40	49	~~20~~19 or 13+2[h]	8/13	19	10/13	10, 2 ft[j]	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13 + 5[h]	13/17	30[g]	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20+5 or 13+10[h]	15/20	30[g]	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20+5 or 13+10[h]	15/20	38[g]	15/19	10, 4 ft	15/19

NR = Not Required.
For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights will be permitted to be excluded from glazed fenestration SHGC requirements, provided that the SHGC for such skylights does not exceed 0.30.

c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. Alternatively, "15/19" shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

d. R-5 shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation *R*-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

g. Alternatively, insulation sufficient to fill the framing cavity and providing not less than an *R*-value of R-19.

h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "13+5" means R-13 cavity insulation plus R-5 continuous insulation.

i. Mass walls shall be in accordance with Section R402.2.5. The second *R*-value applies where more than half of the insulation is on the interior mass of the wall.

5-807 **Section R402.2.9 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R402.2.9 Basement walls. Walls associated with conditioned basements shall be insulated from the top of the basement wall down to 10 feet (3048 mm) below grade or to the basement floor, whichever is less. Walls associated with unconditioned basements shall comply with this requirement except where the floor overhead is insulated in accordance with Section R402.1.2 and R402.2.8.

Exception: Basement walls that are otherwise exposed shall be insulated from the top of the basement wall down to 3 feet (914mm) below grade or the basement floor, whichever is less.

5-808 **Section R402.4.1.2 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding five air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E779 or ASTM E1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the code official, testing shall be conducted by 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, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.

3. Interior doors, where installed at the time of the test, shall be open.

4. Exterior or interior terminations for continuous ventilation systems shall be sealed.

5. Heating and cooling systems, where installed at the time of the test, shall be turned off.

6. Supply and return registers, where installed at the time of the test, shall be fully open.

Exception: When all reasonable efforts by an approved third party cannot verify an air leakage rate not exceeding three air changes per hour in Climate Zone 4, a written report of the efforts and results shall be made and signed by the party conducting the test and shall be provided to the code official. The code official is authorized to approve administratively a building or structure having a maximum of three and one-half air changes per hour.

5-809 **Section 403.3.3 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R403.3.3 Duct Testing (Mandatory). Ducts shall be pressure tested to determine air leakage by one of the following methods:

1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.

2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

Exceptions:

1. A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

2. A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.

3. A duct air-leakage test shall not be required where a whole house air-leakage test is performed.

A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

5-810 **R403.5.1.1 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R403.5.1.1 Circulation systems. Heated water circulation systems ~~shall~~ may be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. ~~Gravity and thermo-syphon circulation systems shall be prohibited.~~ Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water.

5-811 **Section R403.5.3 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

R403.5.3 Hot water pipe insulation (Prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of ~~not less than~~ R-3 shall be applied to the following:

~~1.~~ ~~Piping 3/4-inch (19 mm) and larger in nominal diameter.~~

~~2.~~ ~~Piping serving more than one dwelling unit.~~

~~3.~~1. Piping located outside the conditioned space.

~~4.~~2. Piping from the water heater to a distribution manifold.

~~5.~~3. Piping located under a floor slab.

~~6.~~4. Buried in piping.

~~7.~~5. Supply and return piping in recirculation systems other than demand recirculation systems.

5-812 **Table R406.4 of the *2018 International Energy Conservation Code*** is hereby amended to read as follows:

TABLE N1106.4 (R406.4)
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
1	52
2	52
3	51
4	~~62~~ 70
5	55
6	54
7	53
8	53

SECTION 3. If any section, sentence, clause, or phrase of this ordinance is found to be unconstitutional or is otherwise held invalid by any court of competent jurisdiction, it shall not affect the validity of any remaining parts of this ordinance.

SECTION 4. After passage and publication as provided by law, this ordinance shall be in full force and effect commencing July 1, 2019.

PASSED by the Governing Body of the City of Lawrence, Kansas, this ____ day of _____, 2019.

APPROVED:

_____
Lisa Larsen
Mayor

ATTEST:

_____
Sherri Riedemann
City Clerk

APPROVED AS TO FORM:

_____
Toni R. Wheeler
City Attorney