

ORDINANCE NO. _____

An ordinance amending Chapter 59, "Dallas Energy Conservation Code," of the Dallas City Code, as amended; adopting with certain changes the 2015 Edition of International Energy Conservation Code of the International Code Council, Inc.; providing standards and requirements for the design and construction of energy-efficient buildings and spaces within the city; providing a penalty not to exceed \$2,000; providing a saving clause; providing a severability clause; and providing an effective date.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF DALLAS:

SECTION 1. That Chapter 59, "Dallas Energy Conservation Code," of the Dallas City Code, as amended, is amended by adopting the 2015 Edition of the International Energy Conservation Code of the International Code Council, Inc. (which is attached as Exhibit A and made a part of this ordinance), with the following amendments:

1. Page xi, "Legislation," is deleted.
2. Subsection C101.1, "Title," of Section C101, "Scope and General Requirements," of Part 1, "Scope and Application," of Chapter 1 [CE], "Scope and Administration," of the Commercial Provisions of the 2015 International Energy Conservation Code is amended to read as follows:

"C101.1 Title. This code shall be known as the *Dallas* [~~*International*~~] *Energy Conservation Code* [of [~~NAME OF JURISDICTION~~]], and shall be cited as such. It is referred to herein as 'this code.'

C101.1.1 Additional administrative provisions. Except as otherwise specified in this chapter, all provisions of Chapter 52, 'Administrative Procedures for the Construction Codes of the City of Dallas' apply to this code."

3. Subsection C102.1, "General," of Section C102, "Alternate Materials- Method of Construction, Design or Insulating Systems," of Part 1, "Scope and Application," of Chapter 1 [CE], "Scope and Administration," of the Commercial Provisions of the 2015 International Energy Conservation Code is amended by adding a new Paragraph C102.1.2, "Alternative Compliance," to read as follows:

"C102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the code official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance."

4. Section C109, "Board of Appeals," of Part 2, "Administration and Enforcement," of Chapter 1 [CE], "Scope and Administration," of the Commercial Provisions of the 2015 International Energy Conservation Code is deleted.

5. Section C202, "General Definitions," of Chapter 2 [CE], "Definitions," of the Commercial Provisions of the 2015 International Energy Conservation Code is amended by adding in alphabetical order a new defined term, "Projection Factor," to read as follows:

"PROJECTION FACTOR. The ratio of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device."

6. Subsection C402.2, "Specific Building Thermal Envelope Insulation Requirements (Prescriptive)," of Section C402, "Building Envelope Requirements," of Chapter 4 [CE], "Commercial Energy Efficiency," of the Commercial Provisions of the 2015 International

Energy Conservation Code is amended by adding a new paragraph C402.2.7 “Insulation Installed in Walls,” to read as follows:

“C402.2.7 Insulation installed in walls. To insure that insulation remains in place, insulation installed in walls shall be totally enclosed on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing, netting or other equivalent material approved by the building official.”

7. Subsection R101.1, “Title,” of Section R101, “Scope and General Requirements,” of Part 1, “Scope and Application,” of Chapter 1 [RE], “Scope and Administration,” of the Residential Provisions of the 2015 International Energy Conservation Code is amended to read as follows:

“R101.1 Title. This code shall be known as the *Dallas [International] Energy Conservation Code* [~~of [NAME OF JURISDICTION]~~], and shall be cited as such. It is referred to herein as ‘this code.’

R101.1.1 Additional administrative provisions. Except as otherwise specified in this chapter, all provisions of Chapter 52, ‘Administrative Procedures for the Construction Codes of the City of Dallas’ apply to this code.”

8. Subsection R102.1, “General,” of Section R102, “Alternate Materials, Design and Methods of Construction and Equipment,” of Part 1, “Scope and Application,” of Chapter 1 [RE], “Scope and Administration,” of the Residential Provisions of the 2015 International Energy Conservation Code is amended by adding new Paragraph R102.1.2, “Alternative Compliance,” to read as follows:

“R102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the code official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance.”

9. Section R109, “Board of Appeals,” of Part 2, “Administration and Enforcement,” of Chapter 1 [RE], “Scope and Administration,” of the Residential Provisions of the 2015 International Energy Conservation Code is deleted.

10. Section R202, "General Definitions," of Chapter 2 [RE], "Definitions," of the Residential Provisions of the 2015 International Energy Conservation Code is amended by adding in alphabetical order new defined terms, “Dynamic Glazing,” and "Projection Factor," to read as follows:

“**DYNAMIC GLAZING.** Any fenestration product that has the fully reversible ability to change its performance properties, including *U*-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT).

PROJECTION FACTOR. The ratio of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device.”

11. Subsection R402.2, “Specific Insulation Requirements (Prescriptive),” of Section R402, “Building Thermal Envelope,” of Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is amended by adding Paragraph R402.2.14 “Insulation Installed in Walls,” to read as follows:

“**R402.2.14 Insulation installed in walls.** To insure that insulation remains in place, insulation installed in walls shall be totally enclosed on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing, netting or other equivalent material approved by the building official.”

12. Paragraph R402.3.2, “Glazed Fenestration SHGC,” of Subsection R402.3, “Fenestration (Prescriptive),” of Section R402, “Building Thermal Envelope,” of the Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is amended to read as follows:

“**R402.3.2 Glazed fenestration SHGC.** An area-weighted average of fenestration products more that 50-percent glazed shall be permitted to satisfy the SHGC requirements.

Dynamic glazing shall be permitted to satisfy the SHGC requirements of Table R402.1.2 provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4, and the *dynamic glazing* is automatically controlled to modulate the amount of solar gain into the space in multiple steps. *Dynamic glazing* shall be considered separately from other fenestration, and area-weighted averaging with other fenestration that is not dynamic glazing shall not be permitted.

Exception: *Dynamic glazing* is not required to comply with this section when both the lower and higher labeled SHGC already comply with the requirements of Table R402.1.2.

Where vertical fenestration is shaded by an overhang, eave or permanently attached shading device, the SHGC required in Table R402.1.2 shall be reduced by using the multipliers in Table R402.3.2 SHGC Multipliers for Permanent Projections.

Table R402.3.2 SHGC Multipliers for Permanent Projections^a

<u>Projection Factor</u>	<u>SHGC Multiplier (all Other Orientation)</u>	<u>SHGC Multiplier (North Oriented)</u>
<u>0 - 0.10</u>	<u>1.00</u>	<u>1.00</u>
<u>>0.10 – 0.20</u>	<u>0.91</u>	<u>0.95</u>
<u>>0.20 – 0.30</u>	<u>0.82</u>	<u>0.91</u>
<u>>0.30 – 0.40</u>	<u>0.74</u>	<u>0.87</u>
<u>>0.40 – 0.50</u>	<u>0.67</u>	<u>0.84</u>
<u>>0.50 – 0.60</u>	<u>0.61</u>	<u>0.81</u>
<u>>0.60 – 0.70</u>	<u>0.56</u>	<u>0.78</u>
<u>>0.70 – 0.80</u>	<u>0.51</u>	<u>0.76</u>
<u>>0.80 – 0.90</u>	<u>0.47</u>	<u>0.75</u>
<u>>0.90 – 1.00</u>	<u>0.44</u>	<u>0.73</u>

^aNorth oriented means within 45 degrees of true north.”

13. Subparagraph R402.4.1.2, “Testing,” of Paragraph R402.4.1, “Building Thermal Envelope,” of Subsection R402.4, “Air Leakage (Mandatory),” of Section R402, “Building Thermal Envelope,” of Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is 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 ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inches 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, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Mandatory testing shall only be performed by individuals that are certified to perform air infiltration testing certified by national or state organizations as approved by the *building official*. The certified individuals must be an independent third-party entity, and may not be employed by, or have any financial interest in the company that constructs the structure.”

14. Paragraph R403.3.3 “Duct Testing (Mandatory),” of Subsection R403.3, “Ducts,” of Section R403, “Systems,” of Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is 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.

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

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

Mandatory testing shall only be performed by individuals that are certified to perform duct testing leakage testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed by, or have any financial interest in the company that constructs the structure.

15. Paragraph R405.6.2 “Specific Approval,” of Subsection R405.6, “Calculation Software Tools,” of Section R405, “Simulated Performance Alternative (Performance),” of Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is amended to read as follows;

“R405.6.2 Specific approval. Performance analysis tools meeting the applicable provisions of Section R405 shall be permitted to be *approved*. Tools are permitted to be *approved* based on meeting a specified threshold for a jurisdiction. The *code official* shall be permitted to approve tools for a specified application or limited scope.

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™, Energy Gauge and IC3. Other performance software programs accredited by RESNET BESTEST and having the ability to provide a report as outlined in R405.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

16. Table R406.4 “Maximum Energy Rating Index,” of Section R406, “Energy Rating Index Compliance Alternative,” of Chapter 4 [RE], “Residential Energy Efficiency,” of the Residential Provisions of the 2015 International Energy Conservation Code is deleted and replaced with the following:

**“TABLE R406.4¹
MAXIMUM ENERGY RATING INDEX**

CLIMATE ZONE	ENERGY RATING INDEX
3	65

¹ This table is effective until August 31, 2019.

TABLE R406.4²
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	63

² The table is effective from September 1, 2019 to August 31, 2022.

TABLE R406.4³
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	59

³ This table is effective on or after September 1, 2022.”

17. All chapters of the 2015 International Energy Conservation Code adopted by this ordinance are subchapters of Chapter 59 of the Dallas City Code, as amended.

18. All references in the 2015 International Energy Conservation Code to the fire code, building code, plumbing code, mechanical code, electrical code, residential code, existing building code, fuel gas code, and green construction code refer, respectively, to Chapters 16, 53, 54, 55, 56, 57, 58, 60, and 61 of the Dallas City Code.

SECTION 2. That a person violating a provision of this ordinance, upon conviction, is punishable by a fine not to exceed \$2,000. No offense committed and no liability, penalty, or forfeiture, either civil or criminal, incurred prior to the effective date of this ordinance will be discharged or affected by this ordinance. Prosecutions and suits for such offenses, liabilities, penalties, and forfeitures may be instituted, and causes of action pending on the effective date of this ordinance may proceed, as if the former laws applicable at the time the offense, liability, penalty, or forfeiture was committed or incurred had not been amended, repealed, reenacted, or superseded, and all former laws will continue in effect for these purposes.

SECTION 3. That Chapter 59 of the Dallas City Code, as amended, will remain in full force and effect, save and except as amended by this ordinance. If any provision contained in Chapters 16, 52, 53, 54, 55, 56, 57, 58, 60, or 61 relating to energy conservation work in the city is in conflict with any provision of Chapter 59, as adopted by this ordinance, the provisions of Chapter 59 will prevail, except that any existing structure, system, development project, or registration that is not required to come into compliance with a requirement of this ordinance will be governed by the requirement as it existed in the former law last applicable to the structure, system, development project, or registration, and all former laws will continue in effect for this purpose.

SECTION 4. That the terms and provisions of this ordinance are severable and are governed by Section 1-4 of Chapter 1 of the Dallas City Code, as amended.

SECTION 5. That this ordinance will take effect on March 1, 2017, and it is accordingly so ordained.

APPROVED AS TO FORM:

LARRY E. CASTO, City Attorney

By _____
Assistant City Attorney

Passed _____