AGENDA
REGULAR MEETING
LENEXA BUILDING CODE BOARD OF APPEALS

LENEXA CITY HALL BUILDING
FEBRUARY 15, 2023 @ 4:00 PM
17101 W. 87TH STREET PARKWAY
LENEXA, KS 66219 **PRAIRIE STAR CONFERENCE ROOM**

CALL TO ORDER

ROLL CALL

APPROVE MINUTES May 6, 2022, Building Code Board of Appeals meeting minutes (located in the Appendix).

NEW BUSINESS:

1. Election of Officers for 2023-2024 – Chairperson and Vice-Chairperson
2. Consider revisions to the Building and Safety Code in Chapter 4-8 of the Lenexa City Code related to stair fire protection and storm protection areas.

ADJOURN

APPENDIX

1. May 6, 2022, Building Code Board of Appeals meeting minutes

BUILDING CODE BOARD OF APPEALS - DRAFT
LENEXA, KANSAS
FRIDAY, MAY 6, 2022 – 10:00AM

Chairman Ron King called the regular meeting of the Lenexa Uniform Board of Code Appeals to order at 10:01 AM on Friday, May 6, 2022. The meeting was held in the Prairie Star Conference Room at Lenexa City Hall at 17101 W. 87th Street Parkway, Lenexa, Kansas.

Roll call was taken with the following Board Members present:

Board Member Craig Rogge
Board Member Chris Culp
Chairman Ron King

The following Board Members were absent:

Board Member Mike Jansen
Vice-Chairman Greg Mealy

Staff members attending were:

Scott McCullough, Community Development Director
Amy Barenklau, Licensing and Permit Supervisor
Steven Shrout, Assistant City Attorney
Matt Souders, Building Codes Administrator
Andrew Diekemper, Battalion Fire Chief
Colter Stevenson, Management Analyst

May 6, 2022

Chairman King asked if there were any corrections or additions to the draft minutes from the November 13, 2018, meeting. Board Member Culp moved to accept the minutes as submitted; seconded by Board Member Rogge and carried by a majority voice vote.

There were no changes to the Agenda.

OLD BUSINESS:

1. No Old Business

NEW BUSINESS:

1. Election of Officers for 2022/2023

MOTION:

Chairman King entertained a motion for the nomination of Chris Culp for Chairman. Moved by Board Member Culp, seconded by Board Member Rogge and carried by a unanimous voice vote.

Former Chairman King passed the meeting to new Chairman Culp.

2. Consider revisions to the Board's By-Laws.

STAFF PRESENTATION:

City Assistant Attorney Shrout presented the reason for the updates to the by-laws. The by-laws were last revised in 2005 and staff felt it was necessary to update and modernize the document. The changes also align the by-laws more closely with those of the other City boards and commissions. He gave a quick review of the changes to the affected sections.

BOARD DISCUSSION:

Members felt that the proposed changes were in line with staff's recommendations.

MOTION:

Board Member Rogge moved to approve the changes to the Building Code Board of Appeals By-Laws; seconded by Board Member King and carried by a unanimous voice vote.

3. Consider staff-initiated revisions to the current set of adopted 2018 ICC building and safety codes.

STAFF PRESENTATION:

Codes Administrator Souders presented amendments to the currently adopted building codes. He gave a brief overview of why amendments were required and asked if Board Members had any questions about specific proposed amendments.

BOARD DISCUSSION:

Member Rogge inquired about the intent of the changes to Section 4-8-B-13; Fire Protection and Life Safety System, 903.2.13 related to the redevelopment of multi-level single family residences into other occupancy classifications without the requirement of sprinklers.

Chief Diekemper explained that staff is receiving more requests for these types of occupancies, especially in older neighborhoods. He explained that each of the requests would still be considered on a case-by-case basis and that if other code requirements applied, those would still be applicable.

Director McCullough added that zoning plays into many of these requests as well.

Chair Culp had some questions about costs associated with these types of requests and Chief Diekemper answered those. Members felt their questions were addressed and were comfortable with the proposed amendment.

Member Rogge inquired about Section 4-8-A-7, Certificate of Occupancy, which clarifies that before a final Certificate of Occupancy is issued there must be no violations of any city code. He asked if permit holders were savvy enough to understand what code items needed to be completed. Director McCullough explained that through staff's standard operating procedures contractors would know the code deficiencies at the time the seek the certificate of occupancy.

Chairman Culp inquired if the amendment should be re-written to state 'substantial compliance'.

Attorney Shrout indicated that the summary of changes could be clarified before taking to the Council so there was no misunderstanding as to the intent of the revision.

Member Rogge asked to have the amendment read 'ensure no outstanding noted city violations', or something similar. Members asked staff to potentially re-word so that the permit holder did not get blind-sided and understood any outstanding compliance items.

Member King inquired about Section 4-8-A-4; Permits, 105.5 Expiration, that adds a new exception that permits for single family dwellings, duplexes, and townhouses expire 2 years after permit issuance. Member King asked why staff would want to wait two (2) years for permits to expire.

Codes Administrator Souders explained that the requirement is intended to encourage residential contractors to complete the project in a timely manner. This would require a project to be completed per code when the code does not currently require such.

Chairman Culp asked if there would be any unintended consequences from this requirement.

Members Rogge and King asked for more clarification on how it would be enforced.

Codes Administrator Souders explained that this revision creates an incentive for contractors to complete the work, as the consequence for not completing the house and closing the permit is the need to pay for a new permit and face potential court proceedings which could mean fines. These costs could be substantial.

Chairman Culp asked whether the amendment would apply only to projects submitted after adoption, not retroactive. Staff confirmed that it would apply only to permits issued after the effective date of the revision.

Chairman Culp asked if staff had a code footprint example for design professionals to reference in regard to Section 4-8-A-5 Construction Documents. He indicated that the 'code footprint' is unique to Kansas.

Chief Diekemper stated the sample document already exists and is posted on the City's website.

Chairman Culp inquired about adopting NFPA-1, Chapter 50 in regard to 4-8-B-9 Mobile Food Preparation Vehicles, 319.1.

Chief Diekemper explained that the International Fire Code (IFC) was general about ‘food trucks’ and they found the NFPA-1 to be very specific and gives the Fire Department authority to inspect.

Attorney Shrout stated he would check to see if the City needed to adopt the code, or if it would suffice to reference the section.

Chairman Culp wanted to be sure the City is consistent in how requirements are adopted.

Member Rogge asked if the Fire Department reached out to mobile food vendors who participate in special events sponsored by the City to ensure they meet the standard.

Chief Diekemper indicated that it is common practice to do so.

Chairman Culp inquired how many businesses would be affected by adoption of Section 4-8-B-15; Sprinkler Systems, 1103.5.1, Group A-2, which clarifies that an automatic sprinkler system must be installed in certain A-2 occupancies that currently do not have sprinklers prior to 4/1/2028.

Chief Diekemper stated there was only one business effected and that City staff has already been in contact with that business and working with them closely in regard to holding any high-occupancy events. The business is aware of the sunset clause and the FD will continue to work with them.

Chairman Culp asked about a definition for ‘unsanitary’ in Section 4-8-D-7; Unsafe Structures.

Attorney Shrout stated words that are not defined by the code are interpreted using their ordinary meaning. ‘Unsanitary’ is used in the Property Maintenance Code but it is not defined.

Chairman Culp asked for clarification in Section 4-8-D-14 for temporary dumpsters and how long was temporary for permitted projects.

Staff indicated thirty (30) days was standard.

Chairman Culp asked for clarification regarding the requirement for locating key boxes near elevators in commercial buildings in Section 4-8-B-11.

Chief Diekemper explained the revision is intended to clarify the location and to present a standard similar to knox boxes so Fire Department staff can easily locate elevator keys.

Chairman Culp felt it should be clarified to state ‘shall be visible from front of elevator doors.’

There was discussion regarding the intent to compromise with building owners about placing the key box within a known distance of the elevator for Fire Department staff’s use and still allowing the boxes to be designed in an appropriate manner within the elevator lobby.

Chairman Culp asked about the reduction in fire flow requirements for buildings in a part of the code not proposed to be revised.

Staff discussed with Culp and clarified that they would potentially accept alternate methods if the intent of the code was met.

Chairman Culp asked Board Members if there were any other questions regarding the proposed amendments.

Members King and Rogge indicated they were satisfied.

MOTION:

Board Member King moved to recommend to the Governing Body that they accept the proposed changes to the 2018 ICC Codes. Seconded by Board Member Rogge and carried by a unanimous voice vote.

Adjournment

MOTION:

Seeing no further items for action, Board Member King moved to adjourn the meeting of the Building Code Board of Appeals. Seconded by Board Member Rogge and carried by a unanimous voice vote.

The meeting adjourned at 11:14 AM.

Amy Barenklau, Recording Secretary

BUILDING CODE BOARD OF APPEALS
MEMORANDUM

ITEM 2

SUBJECT:	Proposed Revisions to the Building and Safety Code in Chapter 4-8 of the Lenexa City Code related to stair fire protection and storm protection areas
CONTACT:	Matt Souders, Building Codes Administrator Andrew Diekemper, Division Chief: Fire Prevention Steven Shrout, Assistant City Attorney
DATE:	February 15, 2023

PROJECT BACKGROUND/DESCRIPTION:

Staff from the Community Development, Fire, and Legal Departments have been working since December 2022 to prepare amendments to the building and safety codes in Chapter 4-8 of the Lenexa City Code related to protection for stairs traversed by occupants and fire personnel and for storm shelter standards in one- and two-family structures (single-family and duplex).

Historically, the City has adopted by reference various building and safety codes for the purpose of maintaining a reasonable standard for building construction and greater public safety through uniform building laws and code enforcement. The building and safety codes adopted by the City are a set of books published by the International Code Council ("ICC"). The International Codes® ("I-Codes"), provide a standard level of safeguards, function, and sustainability for newly constructed buildings, remodels, and maintenance of existing buildings. They are the most commonly used building codes across the United States. Lenexa is currently enforcing the following I-Codes as adopted and amended in Chapter 4-8 of the Lenexa City Code ("Building and Safety Codes"):

- 2018 International Building Code;
- 2018 International Fire Code;
- 2018 International Residential Code;
- 2018 International Plumbing Code;
- 2018 International Mechanical Code;
- 2018 International Fuel Gas Code;
- 2018 International Existing Building Code;
- 2018 International Property Maintenance Code;
- 2018 International Swimming Pool and Spa Code;
- 2017 National Electrical Code (NEC); and
- 2012 International Energy Conservation Code.

The adopted Building and Safety Codes are periodically reviewed by staff to determine if any revisions are necessary and appropriate to meet the needs of the City. Based upon staff discussions, staff believes revisions to Chapter 4-8 are now necessary to address fire safety and storm shelters in new residential buildings.

Stairs - Fire Safety

On July 5th, 2022, there was a house fire at 4610 Silverheel Street in Shawnee, Kansas. The Lenexa Fire Department responded to the fire through our automatic aid agreement. During this fire, the stairs to the basement collapsed injuring several fire fighters. In the months after the fire and stair collapse, local building codes staff and fire staff met to discuss changes to the building codes to help prevent a similar collapse in the future within their jurisdictions. Currently Shawnee, Olathe and Leawood have made a similar amendment to the adopted code to protect the occupants and emergency responders. One of the main purposes of the building codes is to provide safety for emergency personnel.

Sheetrock is used in many places in the building codes to slow the spread of fire. The proposed amendment requires adding a layer of ½" sheetrock to the bottom side of any stairs to slow a fire in the area of a staircase from reaching structural components of the stairs for an additional 20 minutes. This amendment would apply to all stairs unless the stairs meet one of the exceptions listed in the amendment which include stairs on the exterior of the house, stairs made of non-combustible materials, when the total number of stairs is less than 4 steps or when an open staircase has an under-staircase area that is visible from the stairs while on the steps.

These code revisions, if approved by the Governing Body, will be applied to new building permit applications and not retroactively to projects currently under construction.

Making changes to the I-Codes is not something that is frequently done mid-cycle, but we believe it is justified in this case to prevent a tragic event like occurred in Shawnee from happening in Lenexa. Further, we believe this provision will be part of the code in the future editions of the ICC code.

Stakeholder Comments

The jurisdictions noted above have all set up meetings with the Kansas City Home Builders Association (KCHBA) and home builders currently building homes in their communities to discuss the proposed plan of adding sheetrock to the underside of the stair framing. The majority of these builders are the same builders who build in Lenexa. This change was well received by both the KCHBA and home builders that attended the meeting. The KCHBA was provided Lenexa's proposed ordinance on February 2nd and notice of the Building Code Board of Appeals meeting. The KCHBA responded that they do not oppose this amendment.

Storm Shelter for Single-family and Duplex Housing Units

Code Discussion

Lenexa lies in an area of the nation categorized by the IBC as having the highest wind speeds due to tornadoes (250 mph). Because of this, the code requires storm protection areas for certain occupancy groups. Lenexa has required storm shelters in single-family and duplex structures since 2005.

Storm shelters can be constructed inside the building it serves or outside of the building it serves and can be large or small depending on the number of people served (school vs. single-family home). Most single-family and duplex structures have basements which serve as storm protection areas. Single-family structures without basements typically install pre-fabricated storm shelters or build out a code-compliant shelter in the structure. Most apartment complexes use community shelters that meet a certain distance requirement that serve all dwelling units in the complex. Staff knows of no instance in Lenexa where a community shelter serves a single-family or duplex owner-occupied neighborhood.

Currently, the Lenexa code allows community storm shelters to serve all housing types so long as the shelter is located within 1,000 ft. of the housing unit or building (for multi-family units) it serves. The proposed amendment changes the requirement for single-family and duplex structures from the 1,000

ft. standard to being located/installed in the building it serves (no allowance for community shelters). The 1,000 ft. standard for multi-family units (tri-plex and greater) would remain as currently established.

The current standard of 1,000 ft. for single-family and duplex structures is an outcome of the City's local amendment to the 2018 IRC during its adoption. Most single-family and duplex structures are designed and constructed using the IRC. As published in the unaltered 2018 IRC, the IRC does not *require* a storm shelter, but if one is proposed it must meet ICC-500 standards. The City amended the 2018 IRC at time of adoption to *require* storm shelters for one and two family units and referenced the IBC in so doing. The ICC-500 standards state:

> "Residential tornado shelters shall be located within the residence that the shelter is intended to serve, or shall be located on the site such that the maximum travel distance of at least one travel path from an access opening on the shelter to an exterior door of any residences that the shelter is intended to serve does not exceed 150 feet."

From the ICC-500 commentary:

> "The intent of Section 403.1 is to limit the travel distance for residential storm shelter occupants in order to ensure the construction of storm shelters that occupants can access quickly. A residential shelter with its closest access opening more than 150 feet from all exterior doors of a residence it serves is deemed too far by ICC 500."

Multi-family is constructed under the IBC. Those standards allow a shelter to be 1,000 ft. from the exterior door of the multi-family building. Again, the City amended the 2018 IRC to *require* storm shelters for one and two family units and referenced the IBC in so doing but did not alter the 1,000 ft. standard in the IBC at that time for single-family and duplex structures. This may or may not have been an oversight, but now that it is playing out in a large single-family subdivision, as noted below, staff has concerns that the code does not adequately address storm protection standards for single-family and duplex structures.

From the IBC commentary related to the 1,000' standard:

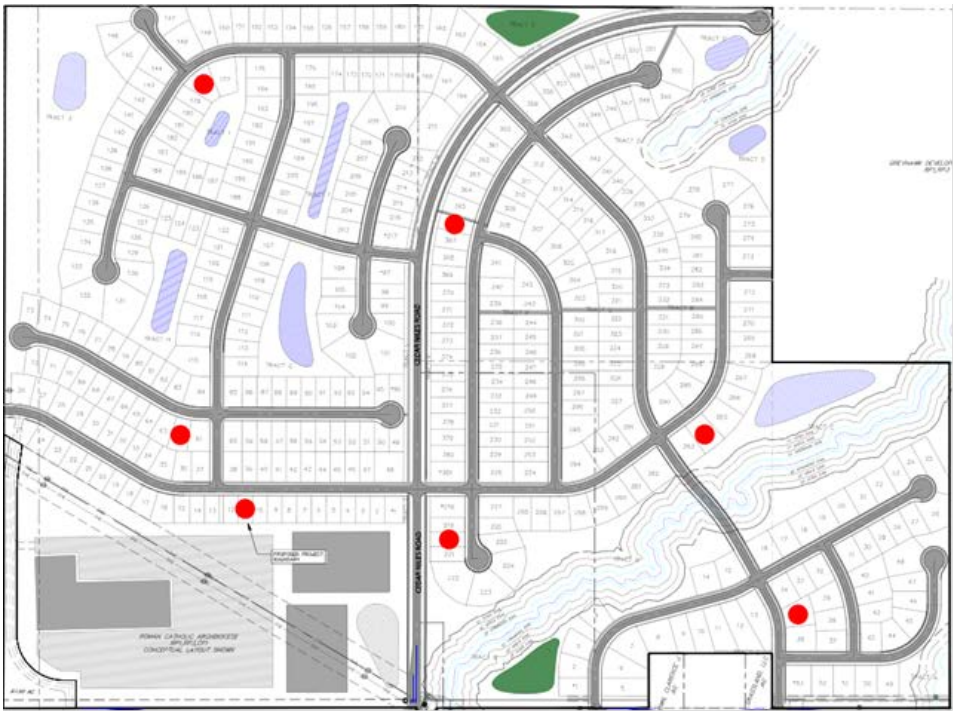
> "This section requires the shelter to be within a building or within a distance of travel of 1,000 feet or less. Where the shelter is remote, this would be approximately a 4-minute walk at 3 mph, which is an average speed that humans tend to walk. Added to the estimated walk time is an assumed few hundred feet of travel distance to first reach the exit of the building served. Combined, the total travel time is 5 minutes. This is consistent with current FEMA guidance for a maximum 5-minute walk time to reach the storm shelter."

The code commentary does not address the apparent contradiction between the 150 ft. and 1,000 ft. standards. Both standards begin with locating shelters within the building it serves but then provides opportunity to provide shelters outside the building. For reasons noted below, staff believes requiring storm shelters to be located inside of single-family and duplex structures provides the greatest benefit to occupants of those structures given that Lenexa is in the highest category of wind speed.

<u>Reason for proposed amendment</u>
Staff is proposing this amendment due to recent platting approval for Arise Homes of a single-family, patio-home (no basement) subdivision that has planned to utilize community storm shelters in lieu of shelters constructed inside the single-family dwelling. Because the code currently allows this, the subdivision was approved and lots were identified as potential community storm shelter locations.

The lots were designed to accommodate either a storm shelter or a single-family dwelling so if the code is revised, the lots will still be viable for single-family development.

Arise Homes is in the process of planning a larger subdivision that would have seven sites potentially used for community storm shelters as noted in the graphic below.



Because staff viewed the code to be deficient in how it addresses storm protection areas, staff advised Arise Homes during the processing of the first subdivision, and then again with the second, that reasonable alternatives to using community shelters exist for patio homes and that staff would review the code and potentially propose to remove this allowance as several unintended consequences, as discussed below, were determined to be present if this plan was implemented. To date, no permits for a single-family dwelling have been issued in the subject developments and the subdivision infrastructure has not yet been installed. Staff desires to process this amendment ahead of the next full code cycle review and prior to the subdivisions being constructed and building permits being issued for new homes.

Shelters in single-family and duplex structures can be installed as built-ins or with prefabricated units. Staff has not computed the cost to build and maintain community shelters for a neighborhood. Staff's research yields that a storm shelter can be installed in a single-family residence for between $6,000 and $10,000. This would be a one-time cost for the home buyer compared to ongoing costs for owners in a neighborhood to contribute to homeowner association dues to construct and maintain the property and community storm shelter structure. Staff believes the upfront cost of installing the shelter in the home is less, over time, than perpetual costs of maintaining community shelters.

<u>Stakeholder Comments</u>

Arise Homes and the Kansas City Home Builders Association were provided the proposed ordinance and notice of the Building Code Board of Appeals meeting. The KCHBA responded that they do not have concerns regarding this amendment.

Arise Homes and staff met on February 7th to discuss the amendment and Arise Homes noted that they prefer the code remain as currently written. They believe buyers should have a storm shelter available that meets the current code as written, and buyers should then have the option of an in-home shelter if a buyer should so choose. Arise believes that building to the International Code as

currently adopted should be the standard and then allowing other options would simply be an upgrade. Arise understands and is willing to comply with the code that Lenexa adopts and will work under the proposed code if it is approved.

Potential consequences of current code

The potential consequences associated with constructing and using one or more community shelters in single-family and duplex developments include:

1. A community shelter, unlike a basement or shelter installed inside a private dwelling unit, is managed by a Homeowners Association that may not keep the structure well maintained or that may be used for uses it is not designed for such as a community event space or equipment storage.
2. While employing community shelters can be a cost savings to the home builder and home buyer for individual homes, it shifts future costs and maintenance responsibilities to the HOA, which may or may not have the resources to maintain the shelter to appropriate standards.
3. Community storm shelters are not common in single-family and duplex subdivisions and a non-occupied structure/lot may create issues for neighbors if it is not maintained or if it is used for non-shelter purposes.
4. Shelters would need to include a certain number of commercial type parking spaces, signage and enough distinction to be able to identify it as a shelter, which could interrupt the aesthetic of a neighborhood.
5. When community shelters exist within apartment complexes, signs guide travelers and part of the journey is often within a building or near other buildings open to them should they need to take immediate cover. One thousand feet is a long way to travel outside in the dark of the night during a storm. The shelter could be difficult to find or distinguish from an adjacent house and nearby homes/buildings would not be open to someone in need of immediate shelter.
6. One of the subdivisions proposed would require seven (7) shelters to accommodate the homes. This could cause confusion for residents during a storm and could lead to overcrowding in one shelter if more residents than planned for were to go to a shelter not meant for them.
7. Unlike their use in multi-family developments, where it is impractical to locate a storm shelter in each unit, there does not seem to be any redeeming value to using community shelters in single-family and duplex developments.

Survey of local cities' storm shelter standards

Following are results from a survey of local code officials from December 2021:

Lenexa, Wyandotte County, Kansas City, Kansas, and Olathe require either a basement or a storm shelter for new homes/duplexes/townhomes. A community shelter complies with the requirement.

Leawood requires a basement for buildings constructed under the IRC. Leawood would not accept a neighborhood community shelter to satisfy the requirement.

Shawnee does not require a basement or a storm shelter for a single-family home or a duplex. Anything with three or more units requires a basement or a storm shelter. A community storm shelter at the club house of a community is acceptable.

Kansas City, Missouri, Overland Park, Johnson County, Lee's Summit, Mission Hills, Prairie Village, Douglas County, Westwood, Westwood Hills, Mission Woods do not require storm protection for single-family homes, duplexes, and townhomes.

Staff Recommendation

Staff is seeking discussion and feedback from the Building Code Board of Appeals regarding the proposed amendments to the Building and Safety Codes in Chapter 4-8 of the Lenexa City Code.

Staff recommends approval of the proposed ordinance and a motion from the Building Code Board of Appeals to recommend the ordinance to the Governing Body. Upon recommendation of the Board, this item will be submitted to the Governing Body for a decision.

ATTACHMENTS

1. Redlined Ordinance

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE LENEXA CITY CODE REGARDING BUILDING AND CONSTRUCTION STANDARDS.

WHEREAS, the City has historically adopted by reference standard building and safety codes for the purpose of ensuring better building construction and greater public safety through uniformity in building laws and code enforcement; and

WHEREAS, to ensure the highest level of safety and the greatest degree of uniformity and that the code adopted by the City sufficiently meet its needs, it is necessary to periodically review and amend the City's adopted building and safety codes; and

WHEREAS, City staff has reviewed the existing codes pertaining to stairway fire protection and storm shelter regulations and determined amendments and updates to the City's currently adopted building and safety codes are necessary.

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LENEXA:

Section One: Section 4-8-A-12 hereby amended to read as follows:

Section 4-8-A-12 STORM PROTECTION AREA REQUIRED FOR RESIDENTIAL AND INSTITUTIONAL OCCUPANCIES.

Section 423.5 of the International Building Code is hereby added to read as follows:

423.5 Groups R-1, R-2, R-3, R-4, Townhomes, I-1, and I-2 occupancies. All Group R-1 R-2, R-3, R-4, Townhomes, I-1, and I-2 of any occupant load shall have a storm protection area constructed in accordance with ICC 500 or a basement. Sub-surface areas located beneath concrete stoops with or without doors are considered equivalent to a basement. Such areas shall be provided with ventilation in accordance with applicable code requirements.

423.5.1 Required occupant capacity. The required occupant capacity of the storm protection area in all Group R-1, R-2, R-3, R-4, I-1, and I-2 occupancies shall be calculated as private dwellings per Table 403.3.1.1 per the International Mechanical Code as adopted and amended. Where approved by the code official, the required occupant capacity of the storm protection area shall be permitted to be reduced by the occupant capacity of any existing storm protection area on the site.

423.5.2 Location. Storm protection areas shall be sited as follows:

1. One and two family dwellings: The storm protection area shall be ~~-~~located within the building ~~they~~ it serves. ~~or shall be located so that the maximum distance of travel from the storm protection area to at least one exterior door of each building the storm shelter serves does not exceed 1,000 feet.~~
2. Group R-1, R-2, R-3, R-4, Townhomes, I-1, and I-2 occupancies: The storm protection area shall be located within the building it serves or shall be located

so that the maximum distance of travel from the storm protection area to at least one exterior door of each building the storm shelter serves does not exceed 1000 feet; provided, however, buildings constructed as one or two family dwellings or units shall comply with the siting requirements of 423.5.2 (1).

Section 403 of ICC 500 is hereby repealed in its entirety.

Section Two: Article 4-8-C is hereby amended to read as follows:

Article 4-8-C INTERNATIONAL RESIDENTIAL CODE
Section 4-8-C-1 INTERNATIONAL RESIDENTIAL CODE ADOPTED.

The International Residential Code, 2018 Edition, (fourth printing), including Appendixes C, G, H, K, P and Q as published by the International Code Council, Inc., and the International Code Council, Inc., 4051 West Flossmoor, Country Club Hills, IL 60478-5975, hereafter referred to as the Residential Code, is hereby adopted by reference and made a part of this Chapter and Article save and except such parts or portions thereof as are specifically deleted, added, or changed in this Article.
At least than one (1) copy of said International Residential Code will be kept on file in the office of the City Clerk, marked or stamped "Official Copy as Incorporated by Ordinance No. 5696," with all sections or portions thereof intended to be deleted or changed clearly marked to show any deletions, additions, or changes.

Section 4-8-C-2 SCOPE AND ADMINISTRATION.
Section R101.1 of the International Residential Code is hereby amended to read as follows:

R101.1 Title. These regulations shall be known as the Residential Code for One- and Two-family Dwellings of the City of Lenexa, Kansas, hereinafter referred to as "this code." administration of permits shall be governed by the provisions contained in the International Building Code as adopted by the City of Lenexa.

Section R101.2 of the International Residential Code is hereby amended to read as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two- family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with a fire sprinkler system in accordance with the International Building Code as adopted and amended by the City of Lenexa:

1. Live/work units located in townhouses and complying with the requirements of Section 419 of the International Building Code.
2. Owner-occupied lodging houses with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a dwelling unit.
4. A care facility with five or fewer persons receiving medical care within a dwelling unit.
5. A care facility for five or fewer persons receiving care that are within a single-family dwelling.

R101.2.1 Child Daycare Homes. The provisions of this code shall apply to the use and occupancy of child daycare homes, not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height, that are an accessory use of the dwelling unit in compliance with all of the following:

1. Child daycare operations are in compliance with applicable State licensing programs;
2. Approved fire extinguishers provided;
3. Approved flashlights provided;
4. approved secondary means of egress doors including with landings and stairs from any story used for care;
5. The smoke alarm and CO detection systems comply with requirements for new construction; and
6. The dwelling unit principal residents are the primary care providers.

Section R105 of the International Residential Code is hereby repealed and a new R105 is added to read as follows:

R105.1 Permits. The administration of permits shall be governed by the provisions contained in the International Building Code as adopted and amended by the City of Lenexa in Section 4-8-A-4 of the Lenexa City Code.

Section R110 of the International Residential Code is hereby repealed and a new Section R110 added to read as follows:

R110.1 Certificate of Occupancy. The administration of Certificates of Occupancy shall be governed by the provisions contained in the International Building Code as adopted and amended by the City of Lenexa in Section 4-8-A-6 of the Lenexa City Code.

Section R112 of the International Residential Code is hereby repealed and a new Section R112 added to read as follows:

R112.1 Board of Appeals. Appeals to orders, decisions, or determinations by the building official relative to the application and interpretation of this code shall be governed by the provisions contained in Section 4-8-A-7 of the Lenexa City Code.

Section R113 of the International Residential Code is hereby repealed and a new Section R113 added to read as follows:

R113.1 Violations. When it is determined by the code official that there has been a violation of this code or the code official has probable cause to believe that a violation has occurred, the process and administration of violations shall be governed by the provisions contained in Section 4-8-A-8 of the Lenexa City Code.

Section R115 of the International Residential Code is hereby added to read as follows:

R115.1 Unsafe structures, installations and equipment. Whenever the code official declares a structure, equipment, building system, or appurtenance as unsafe the process and administration for addressing the condition shall be governed by the provisions contained in in the International Property Maintenance Code as adopted and amended by the City of Lenexa.

Section 4-8-C-3 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Table No. R301.2(1) of Section R301.2.1 of the International Residential Code is hereby repealed and a new Table No. R301.2(1) is added to read as follows:

Table R301.2.(1) CLIMATE AND GEOGRAPHIC DESIGN CRITERIA

Ground Snow Load[o]	Wind Design				Seismic Design Category[f]	
	Speed[d] (mph)	Topographic Effects[k]	Special Wind Region[l]	Windborne Debris Zone[m]		
20	115	No	No	No	A	

Subject to Damage From			Winter Design Temp[e]	Ice Barrier Underlayment Required[h]	Flood Hazards[g]	Air Freezing Index[i]	Mean annual Temp[j]	
Weathering[a]	Frost Line Depth[b]	Termite[c]						
Severe	36”	Yes	6°F	Yes	--	1000	55°F	

a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
b. Where the frost line depth requires deeper footings than indicated in Figure R403.l(1), the frost line depth required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 ½-percent values for winter from Appendix D of the 2018 International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local weather experience as determined by the Building Official. [Also see Figure R301.2.(1)]
f. The jurisdiction shall fill in this part of the table with the Seismic Design Category determined from Section R301.2.2.1.
g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs, or other flood hazard map adopted by the authority having jurisdiction, as may be amended.
h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the

table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. >The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32° Fahrenheit)" at https://www.ncdc.noaa.gov/sites/default/files/attachments/Air-Freezing-Index-Return-Periods-and-Associated-Probabilities.pdf
j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32° Fahrenheit)" at https://www.ncdc.noaa.gov/sites/default/files/attachments/Air-Freezing-Index-Return-Periods-and-Associated-Probabilities.pdf
k. In accordance with Section R301.2.1.5, where there is a local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “YES”. Otherwise, the jurisdiction shall indicate “NO” in this part of the table.
l. In accordance with Figure R301.2.(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with “YES” and identify any specific Requirements. Otherwise, the jurisdiction shall indicate “NO” in this part of the table.
m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone (s). Otherwise, the jurisdiction shall indicate “NO” in this part of the table.
n. The jurisdiction shall fill in this section of table using the Ground Snow Loads in Figure R301.2 (6).

Section 4-8-C-4 TWO-FAMILY DWELLING SEPARATION

Section R302.3 of the International Residential Code is hereby repealed and a new section R302.3 added to read as follows:

R302.3 Two-family dwellings. Dwelling units in two-family dwellings shall be separated in accordance with the requirements of townhouses as set forth in this code.

Section 4-8-C-5 STAIR FIRE PROTECTION

Section R302.7 of the International Residential Code is hereby repealed and a new section R302.7 added to read as follows:

R302.7 Stair Fire Protection. Under-stair surfaces shall be protected with ½-inch gypsum board.

Exception:

1. Exterior stairways.
2. Stairways constructed of noncombustible materials.
3. Interior and garage combustible stairways where there are less than 4 risers total.
4. Stairways constructed with partially open risers.

Section 4-8-C-~~5~~6 MECHANICAL VENTILATION

Section R303.4 of the International Residential Code is hereby repealed and a new section R303.4 added to read as follows:

R303.4 Mechanical Ventilation. Where the air infiltration rate of a dwelling unit is less than three (3) air changes per hour when tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole-house ventilation in accordance with Section M1505.4.

Section 4-8-C-7~~6~~ TEMPORARY TOILET FACILITIES

Section R306.5 of the International Residential Code is hereby added to read as follows:

R306.5 Temporary toilet facilities at new single-family dwellings. Temporary toilet facilities shall be provided within 500 feet (measured from the property line adjacent to the street for platted subdivisions along the public way) for all new single-family dwellings starting from the time of the first footing inspection until facilities are available in the dwelling. If the facilities are not located on the job site, the location of the required facilities shall be posted on the job site or other certification provided to the Building Official to verify the availability of toilet facilities. The temporary toilet facilities on the site shall be removed prior to issuance of a Temporary Certificate of Occupancy.

Section 4-8-C-8~~7~~ RESIDENTIAL DRIVEWAYS

Section R309.6 of the International Residential Code is hereby added to read as follows:

R309.6 Residential driveways. Residential concrete and asphalt driveway slabs shall be a minimum of 4-inches nominal thickness. The driveway shall have a constant slope so as to avoid ponding of water. The slope shall be away from the house or building or drain by means approved by the Building Official.

Section 4-8-C-9~~8~~ TOWNHOUSE AUTOMATIC FIRE SPRINKLER SYSTEMS.

Section R313 of the International Residential Code is hereby amended to read as follows:

R313.1 Townhouse Automatic Fire Sprinkler Systems: An approved automatic fire sprinkler system in accordance with the International Building Code as adopted and amended by the City of Lenexa shall be installed in new townhouses consisting of three or more connected dwellings.
Exception: An automatic fire sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

Section 4-8-C-10~~9~~ EXISTING BUILDINGS, SMOKE ALARMS REQUIRED.

Section R314.2.3 of the International Residential Code is hereby amended to read as follows:

R314.2.3 Existing Buildings. All one- and two-family dwellings and townhouses which are licensed pursuant to the Residential Rental Licensing provisions set forth in Chapter 2-16 of the Lenexa City Code shall be equipped with smoke alarms as required by this code for new construction.

Section 4-8-C-11~~0~~ EXISTING BUILDINGS, CARBON MONOXIDE ALARMS REQUIRED.

Section R315.2.3 of the International Residential Code is hereby amended to read as follows:

R315.2.3 Existing Buildings. All one- and two-family dwellings and townhouses which are licensed pursuant to the Residential Rental Licensing provisions set forth in Chapter 2-16 of the Lenexa City Code shall be equipped with carbon monoxide alarms as required by this code for new construction.

Section 4-8-C-12~~1~~ BUILDING ADDRESSES.

Section R314.2.3 of the International Residential Code is hereby amended to read as follows:

R314.2.3 Existing Buildings. All one- and two-family dwellings and townhouses which are licensed pursuant to the Residential Rental Licensing provisions set forth in Chapter 2-16 of the Lenexa City Code shall be equipped with smoke alarms as required by this code for new construction.

Section 4-8-C-13~~2~~ STORM PROTECTION AREA REQUIRED.

Section R323 of the International Residential Code is hereby repealed and a new section R323 is hereby added to read as follows:

R323.1 Storm protection area required. All new one- and two-family dwellings and townhouses shall contain a storm protection area meeting the standards set forth for Group R occupancies in accordance with the International Building Code as adopted and amended.

Section 4-8-C-14~~3~~ PHYSICAL SECURITY

Section R328 of the International Residential Code is hereby repealed and a new Section R328 added to read as follows:

R328.1 Purpose. The purpose of this Section is to establish minimum standards that incorporate physical security to make dwelling units resistant to unlawful entry.
R328.1.1 Scope. The provisions of this Section shall apply to all new structures and to alterations, additions, and repairs as stipulated in the International Existing Building Code.
R328.2 Doors. Except for vehicular access doors, all exterior swinging doors of residential buildings and attached garages, including the doors leading from the garage area into the dwelling unit, shall comply with Sections R328.2.1 through R328.2.5 for the type of door installed.
R328.2.1 Wood doors. Where installed, exterior wood doors shall be of solid core construction such as high-density particleboard, solid wood, or wood block core with a minimum thickness of one and three-fourths inches (1 3/4") at any point. Doors with panel inserts shall be solid wood. The panels shall be a minimum of one inch (1") thick. The tapered portion of the panel that inserts into the groove of the door shall be a minimum of one-quarter inch (1/4") thick. The groove shall be a dado groove or applied molding construction. The groove shall be a minimum of one-half inch (1/2") in depth.
R328.2.2 Steel doors. Where installed, exterior steel doors shall be a minimum thickness of 24 gauge.

R328.2.3 Fiberglass doors. Fiberglass doors shall have a minimum skin thickness of one-sixteenth inch (1/16") and have reinforcement material at the location of the deadbolt.

R328.2.4 Double doors. Where installed, exterior sliding doors shall comply with all of the following requirements:

1. Sliding door assemblies shall be installed to prevent the removal of the panels and the glazing from the exterior with the installation of shims or screws in the upper track.
2. All sliding glass doors shall be equipped with a secondary locking device consisting of a metal pin or a surface mounted bolt assembly.
3. Metal pins shall be installed at the intersection of the inner and outer panels of the inside door and shall not penetrate the frames exterior surface.
4. The surface mounted bolt assembly shall be installed at the base of the door.

R328.3 Door frames. The exterior door frames shall be installed prior to a rough-in inspection. Door frames shall comply with Sections R328.3.1 through R328.3.3 for the type of assembly installed.

R328.3.1 Wood frames. Wood door frames shall comply with all of the following requirements:

1. All exterior door frames shall be set in frame openings constructed of double studding or equivalent construction, including garage doors, but excluding overhead doors.
2. Door frames, including those with sidelights shall be reinforced in accordance with ASTM F476-84 Grade 40.
3. In wood framing, horizontal blocking shall be placed between studs at the door lock height for three (3) stud spaces or equivalent bracing on each side of the door opening.

R328.3.2 Steel frames. All exterior door frames shall be constructed of 18 gauge or heavier steel, and reinforced at the hinges and strikes. All steel frames shall be anchored to the wall in accordance with manufacturer specifications. Supporting wall structures shall consist of double studding or framing of equivalent strength. Frames shall be installed to eliminate tolerances inside the rough opening.

R328.3.3 Door jambs. Door jambs shall be installed with solid backing in a manner so no void exists between the strike side of the jamb and the frame opening for a vertical distance of twelve inches (12") each side of the strike. Filler material shall consist of a solid wood block.

Door stops on wooden jambs for in-swinging doors shall be of one-piece construction. Jambs for all doors shall be constructed or protected so as to prevent violation of the strike.

R328.4 Door hardware. Exterior door hardware shall comply with Sections R328.4.1 through R328.4.5.

R328.4.1 Hinges. Hinges for exterior swinging doors shall comply with the following:

1. At least two (2) screws, three inches (3") in length, penetrating at least one inch (1") into wall structure shall be used.

2. Solid wood fillers or shims shall be used to eliminate any space between the wall structure and door frame behind each hinge.
3. Hinges for out-swinging doors shall be equipped with mechanical interlock to preclude the removal of the door from the exterior.

R328.4.2 Strike plates. Exterior door strike plates shall be a minimum of 18 gauge metal with four offset screw holes. Strike plates shall be attached to wood with not less than three inch (3") screws, which shall have a minimum of one inch (1") penetration into the nearest stud. Note: For side lighted units, refer to Section R328.4.5.

R328.4.3 Locks. Exterior doors shall be provided with a locking device complying with all of the following:

1. Single Cylinder Deadbolt shall have a minimum projection of one inch (1").
2. The deadbolt shall penetrate at least three-fourths inch (3/4") into the strike receiving the projected bolt.
3. The cylinder shall have a twist-resistant, tapered hardened steel cylinder guard.
4. Bolt assembly (bolt housing) unit shall be of single piece construction.

R328.4.4 Entry vision and glazing. All main or front entry doors to dwelling units shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. The view may be provided by a door viewer having a field of view of not less than 180 degrees through windows or through view ports.

R328.4.5 Side lighted entry doors. Side light door units shall have framing of double stud construction or equivalent construction complying with Section R328.3.1, R328.3.2 and R328.3.3. The doorframe that separates the door opening from the side light, whether on the latch side or the hinge side, shall be double stud construction or equivalent construction complying with Sections R328.3.1 and R328.3.2. Double stud construction or construction of equivalent strength shall exist between the glazing unit of the side light and wall structure of the dwelling.

R328.5 Street numbers. Street numbers shall comply with Section R321.

R328.6 Exterior Lighting. Exterior lighting shall comply with Sections R328.6.1 through R328.6.2.

R328.6.1 Front and street side exterior lighting. All front and street side door entrances shall be protected with a minimum of one light outlet having a minimum of sixty (60) watts of lighting (energy efficient equivalent).

R328.6.2 Rear exterior lighting. Homes with windows or doors near ground level between eight fee (8') on the rear side of the house shall be equipped with a minimum of one light outlets having 100 watt (or energy efficient equivalent).

R328.7 Alternate materials and methods of construction. The provisions of this Section are not intended to prevent the use of any material or method of construction not specifically prescribed by this Section, provided any such alternate has been approved by the enforcing authority, nor is it the intention of this Section to exclude any sound method of structural design or analysis not specifically provided for in this

Section. The materials, methods of construction, and structural design limitations provided for in this Section shall be used, unless the enforcing authority grants an exception. The enforcing authority is authorized to approve any such alternate provided they find the proposed design, materials, and methods of work to be at least equivalent to those prescribed in this Section in quality, strength, effectiveness, burglary resistance, durability, and safety.

Section 4-8-C-154 CONTINUOUS FOOTING REINFORCEMENT

Section R403.1.1.1 of the International Residential Code is hereby added to read as follows:

R403.1.1.1 Continuous footing reinforcement. Continuous footings for basement foundation walls shall have minimum reinforcement consisting of not less than two no. 4 bars, uniformly spaced, located a minimum of 3 inches clear from the bottom of the footing.

Section 4-8-C-165 COLUMN PADS

Section R403.1.1.2 of the International Residential Code is hereby added to read as follows:

R403.1.1.2 Column pads. Column pads shall be designed to support the imposed design load based on the allowable soil bearing capacity. Column pads shall be a minimum of 24 inches by 24 inches and 8 inches deep. Reinforcement shall consist of a minimum of three No. 4 bars each way, uniformly spaced.

Section 4-8-C-176 FOUNDATION ANCHORAGE

Section R403.1.6.2 of the International Residential Code is hereby added to read as follows:

R403.1.6.2 Anchor bolt spacing. The spacing of anchor bolts shall be a maximum of 3’-0 on center. Where a foundation design is utilized in accordance with section R404.1.1 of this code the location of the anchor bolts shall be specified.

Section 4-8-C-187 FOUNDATION DESIGN REQUIRED

Section R404.1.1 of the International Residential Code is hereby amended to read as follows:

R404.1.1 Design required. A design in accordance with accepted engineering practice shall be provided for concrete or masonry foundations when any of the conditions listed below exist. Where applicable, a standard design approved by the building official may be used in lieu of a design from the design professional. For new buildings and additions where standard designs approved by the City are used, the design professional sealing the plans shall specify the use of those designs on the approved plans or through a separate report.

1. Walls are subject to hydrostatic pressure from ground water.
2. Walls supporting more than 48 inches of unbalanced backfill that do not have permanent lateral support at the top and bottom.
3. Sites containing CH, MH, OL, or OH soils as identified in Table R405.1.
4. Foundation walls exceeding ten feet (10') in height, measured from the top of the wall to the bottom of the slab.
5. Lots identified on the subdivision grading plan as having more than six feet (6') of fill or having a finished slope steeper than 4 horizontal to 1 vertical before grading.
6. Footings and foundations with existing fill soils below the footing level.
7. Sloping lots steeper than 4 to 1 before grading.
8. Lots where some footings will bear on soil and others will bear on rock.
9. Areas where problems have historically occurred.
10. Stepped footing and foundation walls.

Section 4-8-C-1~~9~~8 RETAINING WALLS

Section R404.4 of the International Residential Code is hereby amended to read as follows:

R404.4 Retaining walls. Retaining walls that are not laterally supported at the top and that retain in excess of 48 inches of unbalanced fill shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 against later sliding and overturning.

Section 4-8-C-20~~1~~9 WATER DISCHARGE

Section R405.1.2 of the International Residential Code is hereby added to read as follows:

R405.1.2 Water discharge. Roof water and water from intermittent sources such as discharges from sump pumps, foundation drains, gutters, downspouts, and similar sources shall not discharge closer than four (4) feet from any adjoining property line.

Section 4-8-C-210 CONCRETE FLOORS - DESIGN REQUIRED

Section 506.2.5 of the International Residential Code is hereby added to read as follows:

R506.2.5 Design required. A design in accordance with accepted engineering practice shall be provided for concrete floors when the limitations for fill material set forth in Section R506.2.1 are exceeded. Where applicable, a standard design approved by the City may be used in lieu of a design from the design professional.

Section 4-8-C-221 CONCRETE FLOORS - SLAB ISOLATION

Section R506.2.6 of the International Residential Code is hereby added to read as follows:

R506.2.6 Basement floor slab isolation. Basement floor slabs shall be isolated from column pads, interior columns and interior bearing walls to facilitate differential movement. Nonbearing walls supported on basement floor slabs shall be provided with a minimum one inch (1") expansion joint to facilitate differential movement between the floor slab and the floor framing above. Isolation and/or an expansion joints are not required within six inches (6") of the exterior walls.

Section 4-8-C-232 DRILLING AND NOTCHING OF TOP PLATE

Section R602.6.1 of the International Residential Code is hereby amended to read as follows:

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than fifty percent (50%) of its width, a galvanized metal tie not less than 0.054 inch thick (16 ga) and one and one-half inches (1½") wide shall be fastened across and to the plate at each side of the opening with not less than four 10d (0.148 inch diameter) nails having a minimum length of one and one-half inches (1½") at each side or equivalent. The metal tie must extend a minimum of six inches (6") past the opening. See Figure R602.6.1.
Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

Section 4-8-C-243 COMPLIANCE

Section N1101.13 the International Residential Code is hereby repealed and a new Section N1101.13 is hereby added to read as follows:

N1101.13 Compliance. Projects shall comply with one of the following:

1. Sections N1101.14 through N1104.
2. Section N1105 and the provisions of Sections N1101.14 through N1104 indicated as “mandatory.”
3. The energy rating index (ERI) approach in Section N1106.

N1101.13.1 Home energy rating system. The permit applicant of record shall elect which compliance path will be followed at the time permit application is made. The ERI Index rating option can be met by constructing a residence that scores 80 or less on the HERS Index. All HERS ratings shall be performed by a rater accredited by the Residential Energy Services Network (RESNET/ICC). The final HERS Certificate which indicates that the dwelling unit achieved a compliant HERS Index score must be submitted to the City before issuance of a Certificate of Occupancy. The final HERS certificate shall identify the project address, and include the HERS raters name and contact information.

Exception: Equivalent ERI ratings as approved by the Code Official.

Section 4-8-C-254 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

Table N1102.1.2 of the International Residential Code is hereby amended to read as follows:

Table N1102.1.2 (R402.1.2)
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

Climate zone	Fenestration U-factor[b]	Skylight U-factor[b]	Glazed Fenestration SHGC[b]	Ceiling[g] R-value	Wood Frame Wall R-value	Mass Wall R-Value[f]	Floor R-Value	Basement Wall R-value[c]	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
4	0.32	0.55	0.40	49	13	8/13	19	10/13	NR	10/13

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 that the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
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 walls.
d. R-5 shall be added to the required slab edge R-values for heated slabs.
e. The second R-value applies when more than half the insulation is on the interior of the mass wall.
f. Loose-fill insulation shall be installed at the rate recommended by the manufacturer’s statement “so many bags per 1000 sq ft.” Where the pitch of the roof restricts the “minimum thickness” at the exterior wall line, the insulation shall be blown into the cavity so as to achieve a greater compacted density to a point where the “minimum thickness” can be achieved. An alternative is to install high-density batts around the perimeter edge per N1102.2.

Section 4-8-C-26~~5~~ TESTING (MANDATORY)

Section N1102.4.1.2 of the International Residential Code is hereby amended to read as follows:

N1102.4.1.2 Testing. Where required by the code official, the building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding 5 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). 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 weather-stripping 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; and
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Section 4-8-C-2~~6~~7 ROOM CONTAINING FUEL BURNING APPLIANCES (MANDATORY)

Section N1102.4.4 of the International Residential Code is hereby amended to read as follows:

N1102.4.4 Rooms containing fuel-burning appliances. Where open combustion air ducts provide combustion air from the exterior or unconditioned spaces to open combustion fuel-burning appliances, the appliances and combustion air opening shall be located outside the building thermal envelope or enclosed in a room that is isolated from inside the thermal envelope. Such rooms shall be sealed and insulated in accordance with the envelope requirements of Table N1102.1.2, where the walls, floors and ceilings shall meet a minimum of the basement wall R-value requirement. The door into the room shall be fully gasketed and any water lines and ducts in the room insulated in accordance with Section N1103. The combustion air duct shall be insulated where it passes through conditioned space to an R-value of not less than R-8. For the purpose of this section, unfinished basements included in a whole-house ERI compliance analysis are considered conditioned space.

Section 4-8-C-2~~8~~7 SYSTEMS

Section N1103.3.3 of the International Residential Code is hereby amended to read as follows:

N1103.3.3 Duct testing. Where required by the Code Official, duct tightness shall be verified by either of the following:

1. Postconstruction test: Total leakage shall be less than or equal to 4 cfm per 100 square feet of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
2. Rough-in test: Total leakage shall be less than or equal to 4 cfm per 100 square feet of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm per 100 square feet of conditioned floor area.

Exceptions:

1. The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.

2. On the postconstruction test, it is permissible to test for “leakage to the outdoors” versus a “total leakage.” Leakage to the outdoors shall be less than or equal to 8 cfm per 100 square feet of conditioned floor area.

Section N1103.3.5 of the International Residential Code is hereby amended to read as follows:

N1103.3.5 Building cavities (mandatory). Building framing cavities shall be permitted to be used as return air ducts or plenums.

Section N1103.5.1.1 of the International Residential Code is hereby amended to read as follows:

N1103.5.1.1 Circulation Systems. Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosyphon 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.
Exception: Where approved by the code official alternate methods for hot water circulation can be accepted.

Section 4-8-C-2~~8~~9 ELECTRIC POWER AND LIGHTING SYSTEMS

Section N1104 of the International Residential Code is hereby deleted.

Section 4-8-C-30~~2~~9 ERI-BASED COMPLIANCE

Section N1106.4 of the International Residential Code is hereby amended to read as follows:

N1106.4 ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to the appropriate value of 80 when compared to the ERI reference design. Where on-site renewable energy is included for compliance using the ERI analysis of Section N1106.4, the building shall meet the mandatory requirements of Section N1106.2, and the building thermal envelope shall be greater than or equal to the levels of efficiency and SHGC in Table N1102.1.2 or Table N1102.1.4.

Section 4-8-C-31~~0~~ TESTING RESPONSIBILITY OF PERMITTEE

Section P2503.3 of the International Residential Code is hereby amended to read as follows:

P2503.3 Responsibility of permittee. The permit holder shall make the applicable test prescribed in Section 2503.5 through Section 2503.8 to determine compliance with the provisions of this Code.

Section 4-8-C-321 ~~1~~ SEWER INSTALLATION

Section P2603.5.1 of the International Residential Code is hereby amended to read as follows:

P2603.5.1 Building sewers. Building sewers shall be installed as required by the appropriate authority having jurisdiction.

Section 4-8-C-332 ~~2~~ OUTDOOR OUTLETS

Section E3901.7 of the International Residential Code is hereby amended to read as follows:

E3901.7 Outdoor outlets. Not less than one receptacle outlet that is readily accessible from grade level and located not more than six feet, six inches (6'6") above grade, shall be installed outdoors at the front and back of each dwelling unit having direct access to grade level. Balconies, decks, and porches that are accessible from inside of the dwelling unit shall have at least one receptacle outlet installed within the perimeter of the balcony, deck, or porch. The receptacle shall be located not more than six feet, six inches (6'6") above the balcony, deck, or porch surface.
Exception: Balconies, decks, and porches with a floor area of less than nine square feet.

Section 4-8-C-343 ~~3~~ GARAGE, BASEMENT, AND ACCESSORY STRUCTURE RECEPTACLES

Section E3902.2 of the International Residential Code is hereby amended to read as follows:

E3902.2 Garage, unfinished basement, and unfinished accessory building receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in garages, basements, and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protection for personnel.

Exception:

1. A dedicated receptacle supplying a permanently installed fire alarm or security alarm system.
2. A dedicated receptacle supplying a sump pump.
3. A dedicated receptacle supplying a refrigerator or freezer.
4. A dedicated receptacle supplying a garage door opener.

Section 4-8-C-354 UNFINISHED BASEMENT RECEPTACLES

Section E3902.5 of the International Residential Code is hereby deleted.

Section Three: Penalty: Any violation of the above provisions shall be punishable in accordance with Section 1-1-C-3, unless otherwise specifically set out.

Section Four: Interpretation: This Ordinance shall be construed as follows:

A. Liberal Construction: The provisions of this Ordinance shall be liberally construed to effectively carry out its purposes which are hereby found and declared to be in furtherance of the public health, safety, welfare, and convenience.

B. Savings Clause: The repeal of any Ordinance or Code Section, as provided herein, shall not revive an Ordinance previously repealed, nor shall the repeal affect any right which accrued, any duty imposed, any penalty incurred or any proceeding commenced, under or by virtue of the Ordinance repealed. Said Ordinance or Code repealed continues in force and effect after the passage, approval, and publication of this Ordinance for the purpose of pursuing such rights, duties, penalties, or proceedings.

C. Invalidity: If for any reason any chapter, article, section, subsection, sentence, portion or part of this Ordinance, or the application thereof to any person or circumstance, is declared to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance, City Code or other ordinances.

Section Five: Repeal: The existing Section 4-8-A-12 and Article 4-8-C are hereby repealed.

Section Four: Effective Date: This Ordinance shall become effective on _____, after passage and publication of the ordinance summary in the official City newspaper as provided by State law.

PASSED BY the City Council on June 21, 2022.

SIGNED BY the Mayor on June 21, 2022.

CITY OF LENEXA, KANSAS

Michael A. Boehm, Mayor

ATTEST:

Jennifer Martin, City Clerk

APPROVED AS TO FORM:

Steven D. Shrout, Assistant City Attorney