City of Louisville
COLORADO • SINCE 1878

City Council
Economic Vitality Committee
Meeting Agenda

Thursday, September 25, 2025
City Hall
749 Main Street
3:00 P.M.

Members of the public are welcome to attend and give comments remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- *You can call in to +1 346 248 7799 or 833 548 0282 (toll free) Webinar ID #838 1396 0621*
- *You can log in via your computer. Please visit the City's website here to link to the meeting: www.louisvilleco.gov/council.*

The Board will accommodate public comments during the meeting. Anyone may also email comments to the Board prior to the meeting at VZarate@LouisvilleCO.gov.

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Approval of August 14, 2025 Meeting Minutes
5. Public Comments on Items Not on the Agenda
6. Business Matters
    a. 2024 International Code Series Adoption – Economic Vitality Committee Review
    b. Staff Updates
    c. Development Updates

Persons planning to attend the meeting who need sign language interpretation, translation services, assisted listening systems, Braille, taped material, or special transportation, should contact the City Clerk's Office at 303 335-4536 or MeredythM@LouisvilleCO.gov. A forty-eight-hour notice is requested.

Si requiere una copia en español de esta publicación o necesita un intérprete durante la reunión, por favor llame a la Ciudad al 303.335.4536 o 303.335.4574.

7. Committee Member Comments
8. Potential Future Agenda Items
    a. Main Street Designation
    b. Sundance Update
    c. Business Satisfaction Survey Results
9. Adjourn

City Council Economic Vitality Committee

Minutes

August 14, 2025
Regular Meeting
3:00 PM

Call to Order – Mayor Leh called the meeting to order at 3:03 p.m.

Roll Call was taken and the following members were present:

Committee Members:	***Mayor Chris Leh - Chair***
	Councilmember Deb Fahey
Staff Present:	***Diana Langley, City Manager***
	Vanessa Zarate, Economic Vitality Manager
	Austin Brown, Economic Vitality Specialist
Others Present:	***Five members of the public***

APPROVAL OF AGENDA

Mayor Leh called for changes to the agenda and hearing none asked for a motion. **Motion:** Councilmember Fahey moved to approve the agenda. The motion was seconded by Mayor Leh. **Vote:** All in favor.

APPROVAL OF MINUTES

Mayor Leh called for changes to the July 24, 2025 meeting minutes and hearing none asked for a motion. **Motion:** Mayor Leh moved to approve the minutes. The motion was seconded by Councilmember Fahey. **Vote:** All in favor.

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

Public comment from Barb Kish: Ms. Kish spoke in opposition of the proposed 155 Pine Street rezoning.

Public comment from Eric Maes: Mr. Maes spoke regarding the proposed 1155 Pine Street rezoning. Mr. Maes commented that he had concerns with the proposal and noted that the planned development may have negative impacts to the whole block.

Public comment from Mike Kranzdorf: Mr. Kranzdorf stated that he was pleasantly surprised to hear from the Pine Street residents and echoed their concerns relating to the Pine Street rezoning.

Public comment from Samuel Durand: Mr. Durand stated that he was generally opposed to rezoning the Pine Street area and stated that the proposed Railyard at Louisville would greatly impact the surrounding residential properties.

RESCHEDULE SEPTEMBER 11 MEETING

Manager Zarate proposed that the regular September meeting of the EVC be moved from September 11 to September 25, citing staff scheduling conflicts. Mayor Leh made a motion to reschedule the September 2025 EVC meeting from September 11 to September 25 at 3:00 p.m. Councilmember Fahey seconded. Motion passed.

ECONOMIC VITALITY DAY

Manager Zarate gave an overview of the 2025 Economic Vitality Day planned for Monday, November 10 and asked for Committee feedback and questions. Councilmember Fahey commented that she is in support of the proposed Economic Vitality Day, but noted that there is also a Council meeting scheduled for November 10. She asked if EV Day would end before the planned Council meeting. Manager Zarate confirmed that EV Day would likely take place from 9 a.m.–3 p.m. in Louisville.

Mayor Leh stated that he thought last year's event was a success, citing the ability for the participating organizations to meet each other as a big takeaway. He commented that this year's event sounds like it will be more advanced, with the planned panels and numerous participants that are now familiar with one another. He thanked Manager Zarate for her hard work on Economic Vitality Day.

Mayor Leh asked whether the event would be noticed as a public meeting. Manager Zarate confirmed that the meeting will be noticed because both City Council and the LRC will be in attendance. She also confirmed that last year's event was noticed and that non-invitees will again be allowed to attend and listen without participating.

Manager Zarate asked if there was anything specific that the EVC would like to learn or hear about during EV Day. Councilmember Fahey commented that she looks forward to the participants' feedback on the Business Satisfaction Survey. Mayor Leh agreed, and noted that he hoped the EVC could review the survey results prior to EV Day. Mayor Leh also added that he would appreciate hearing comments on Louisville's Comp Plan.

STAFF UPDATES

Manager Zarate gave an overview on staff updates and asked for questions. She noted that Louisville submitted its Enterprise Zone application to the Colorado Office of Economic Development and International Trade. Mayor Leh asked Manager Zarate if she could elaborate on the benefits that the Enterprise Zone would have. Manager Zarate responded that the Enterprise Zone will make state tax credits available to businesses located within Enterprise Zone boundaries that undergo qualifying activities.

DEVELOPMENT UPDATES

Manager Zarate gave an overview on the development updates and asked for questions. Mayor Leh suggested that staff consider redlining relevant updates at each meeting.

Mayor Leh asked if Birdie Bar was open yet. Manager Zarate responded that the building is complete and that they should be opening soon.

Mayor Leh asked if Manager Zarate had a sense of how long it might take for Delo Boom to start construction. Manager Zarate responded that she did not have a timeline, but noted that she met with the group earlier today to discuss the requested tax increment-financing rebate. The amount of tax increment available for rebate will likely determine when and how the project moves forward.

Mayor Leh asked if King Soopers original 2025 planned construction date was still accurate. Manager Zarate confirmed that the project will be breaking ground on September 12.

Councilmember Fahey asked if Ironton has moved forward with their plans for construction. Manager Zarate responded that staff has had conversations with Ironton and that the site is no longer listed for sale. Conversations have included urban renewal assistance and Planning/Building processes, but there has not been a timeline identified at this point.

COMMITTEE MEMBER COMMENTS

Councilmember Fahey had no comments.

Mayor Leh recognized that the Street Faire had its last event of the summer and noted that it seemed to be quite a successful season. He also commented that he had been in contact with the Governor's point person on the Front Range Rail project and noted that the train that is being discussed now shows Louisville, Broomfield and Westminster on the route. He added that the rail service should begin in 2029 and is not expected to require a vote or any federal funding.

POTENTIAL FUTURE AGENDA ITEMS

Mayor Leh mentioned that he spoke with Director of Community Development Rob Zuccaro about the EVC being able to review the proposed 2024 I-Codes. Staff confirmed that this item will come to the EVC in September.

Mayor Leh requested that Main Street Designation be removed from the future items list unless staff recommends moving forward with it.

Mayor Leh asked whether the Business Satisfaction Survey results could be presented to the EVC in October. Manager Zarate responded that the October meeting packet would be due before the survey is planned to conclude. Mayor Leh mentioned that the survey results could be presented in November following Economic Vitality Day.

Manager Zarate agreed and commented that receiving additional feedback from the EV Day participants may be helpful for both EVC and Council discussion. Mayor Leh confirmed that the survey results will be discussed in November.

ADJOURN

Members adjourned at 3:49 p.m.

_____
Mayor Chris Leh

_____
Austin Brown, Economic Vitality Specialist

City of Louisville
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ECONOMIC VITALITY COMMITTEE

SUBJECT: **2024 INTERNATIONAL CODE SERIES ADOPTION – ECONOMIC VITALITY COMMITTEE REVIEW**

DATE: **SEPTEMBER 25, 2025**

PREPARED BY: **ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR**
CHAD ROOT, CHIEF BUILDING OFFICIAL

PRESENTED BY: **ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR**

SUMMARY:
The City Council Economic Vitality Committee (EVC) has requested review of the city's draft building codes that will be presented for adoption later in 2025. This review will provide the business community and other interested parties with an additional opportunity to provide feedback on the code adoption package.

City staff are preparing an adoption package to update the City's building codes from the 2018 International Code Series and 2021 International Energy Code, with amendments, to the 2024 International Code Series (I-Codes), with amendments. The following are the code versions being considered:

- 2024 International Building Code
- 2024 International Residential Code
- 2024 International Mechanical Code
- 2024 International Fuel Gas Gode
- 2024 International Plumbing Code
- 2024 International Fire Code
- 2024 International Energy Conservation Code
- 2024 International Property Maintenance Code
- 2024 International Existing Building Code
- 2024 International Swimming Pool and Spa Code
- 1997 Uniform Housing Code (adds to the City's authority if needed to abate dangerous buildings).

The City would adopt each of these codes by reference and specify any desired amendments to these codes within the Municipal Code, Title 15, Building and Construction. Staff have worked with the Building Code Board of Appeals (BCBOA), which serves as the designated advisory board to City Council on building code adoptions, to developed initial drafts that outline potential amendments:

- Attachment No. 1: Draft ordinance adopting all codes except the International Energy Conservation Code, with amendments.
- Attachment No. 2: Draft ordinance adopting the International Energy Conservation Code, with amendments.

Staff anticipates combining the two drafts for final adoption, which is being scheduled for public hearing later this year.

The I-Code series is updated every three years. The City has typically skipped an adoption cycle, and thus, adopted new codes every six years. It is common for municipalities not to adopt new codes during each three-year code cycle. This is a way to provide more predictability for businesses and the development community so that they are not having to adapt to new code requirements as frequently.

BACKGROUND / PRIOR DISCUSSIONS:
City Council reviewed the proposed code adoption package during a Discussion/Direction session at its August 26, 2025 meeting.

Link: August 26, 2025 City Council Memo.

At this meeting, City Council provided staff direction on key policy items, including which version of the International Energy Conservation Code version was desired to be included for consideration in the final adoption draft. The two primary options included:

1. Adoption of the 2024 International Energy Conservation Code with minimal local amendments, supported by the City's BCBOA (Attachment No. 2).
2. Adoption of the 2024 International Energy Conservation Code with amendments developed by a regional code Cohort that includes more stringent energy conservation standards and favors all-electric space and water heating systems (Attachment Nos. 3 and 4).

Council directed staff to include the first option, the 2024 International Energy Conservation Code supported by the City's BCBOA, in the adoption draft.

The other primary policy question discussed was whether to maintain the residential fire sprinkler requirements included in the 2024 International Residential Code. The Louisville Fire Protection District has recommended that the City adopt these standards (Attachment No. 5). Council directed staff to include these standards in the adoption draft.

ANALYSIS:
A more in-depth analysis of the code options is available at the previous link to the August 26, 2025 City Council Memo. The following is an abbreviated analysis for the EVC.

2024 I-Code Series
The International Code Council updates the I-Codes on a three-year cycle to improve safety, address changes in building science and technology, resolve feasibility issues, ensure legal compliance of the codes, and reflect best practices in the building industry. The codes are meant to set a minimum standard to protect health, safety, and the environment. Development of the codes each cycle includes input and consensus from across the country and many industries. Each local jurisdiction may adopt the codes with

local amendments. These amendments can address local preferences, ensure compliance with state-level regulations, and must comply with other legal standards and federal regulations. There are numerous changes between the City-adopted 2018 I-Codes and the 2024 I-Codes. Attachment No. 6 is a summary of some of the major changes between these code versions.

International Energy Conservation Code Options

The BCBOA recommendation is to adopt the 2024 International Energy Conservation Code with minimal amendments. The code would allow Prescriptive Compliance or Simulated Building Performance paths for commercial development and Prescriptive Compliance, Simulated Building Performance, or Energy Rating Index pathways for residential development. There are mandatory minimum performance standards for the thermal envelope of the building regardless of the pathway used, which are not included in the Cohort code version. This version of the code would not include mandatory all-electric heat pump space and water heating for commercial development or include mandatory energy modeling standards as exist in the City's current version of the 2021 International Energy Conservation Code.

Adoption of this code version would be more straightforward to administer and could be considered more business-friendly and easier to use and implement for design professionals and builders working in Louisville. The base code has been vetted nationally and would still provide improved building efficiency and carbon reduction compared to previous base code versions.

The Cohort code version is developed with an electric-preferred approach but does not mandate all-electric buildings. The amendments are designed to provide an efficiency baseline using compliance modeling and minimum targets that measure energy use of the building, recognizing efficiencies and carbon reduction gained by all-electric construction. The code also addresses the federal preemptions on fuel-fired appliances through electric-preferred approach. Overall, the Cohort code represents more aggressive standards for building efficiency and carbon reduction.

The Cohort code is currently being promoted by the Denver Regional Council of Governments (DRCOG) for adoption by the 59 member jurisdictions. Potential benefits of regional cooperation on uniform code adoption include ensuring a level playing field and costs for development under the code within the Denver Metro area. The code would also promote the health and environmental benefits of energy efficiency and all-electric buildings regionally.

Residential Sprinkler Requirements

Residential fire sprinkler requirements differ from commercial fire sprinklers in that they are designed to control the fire long enough for occupants to escape whereas a commercial system is also designed to control and extinguish a fire to minimize damage

to property. The limited scope of the system allows it to be more cost-effective than commercial systems and causes less property damage when they are triggered.
According to a 2024 publication from the National Fire Protection Association that studied residential fires from 2017 to 2021, residential fire sprinklers were shown to have the following benefits:

- They were effective in controlling the fire 98% of the time that they were activated, with a 95% activation rate when fires were large enough to trigger the sprinklers.
- Only one sprinkler activated in 85% of fires, limiting water damage from the activation.
- Civilian deaths and injuries were 89% and 31% lower than in homes without sprinklers.
- Property loss per fire was 55% lower than in homes without sprinklers.
- Firefighter injury rate was 48% lower than in homes without sprinklers.

Based on staff outreach to a sprinkler contractor and cross-referencing available information from the NFPA, staff believes the average cost to install a new residential fire sprinkler system would be around $1.65 per square foot. Based on a 2,500 sq. ft. home, the cost would be $4,125. If the home costs $250 per square foot to build, the sprinklers would equate to about 0.7% of the construction cost of the home.

2025 COUNCIL WORK PLAN:
This item is not on the 2025 City Council Workplan but has been an anticipated project this year.

FISCAL IMPACT:
Budgeted?: **No**
Staff does not anticipate that the amendment package recommended by the BCBOA will have a fiscal impact on the City.

ALTERNATIVE(S):
Since City Council already provided direction on the code draft at their August 26, 2025 meeting, alternatives are not being provided to EVC. This EVC review session will provide an additional opportunity for questions and public input on the draft code adoption package that will be considered by City Council at a public hearing later this year.

RECOMMENDATION:
Staff does not have a recommendation related to the EVC review.

ATTACHMENT(S):

1. Draft Ordinance Adopting 2024 I-Code Series and 1997 Uniform Housing Code
2. Draft Ordinance Adopting the 2024 International Energy Conservation Code
3. Regional Cohort Residential Code Amendments to the 2024 International Energy Conservation Code

4. Regional Cohort Commercial Code Amendments to the 2024 International Energy Conservation Code
5. LFPD Letter Regarding Residential Fire Sprinkler Adoption
6. 2018 and 2024 I-Code Comparison Summary
7. Presentation Slides

ORDINANCE NO. _____

AN ORDINANCE ADOPTING BY REFERENCE THE 2024 INTERNATIONAL BUILDING CODE, 2024 INTERNATIONAL RESIDENTIAL CODE, 2024 INTERNATIONAL MECHANICAL CODE, 2024 INTERNATIONAL FUEL GAS CODE, 2024 INTERNATIONAL FIRE CODE, 2024 INTERNATIONAL EXISTING BUILDING CODE, 2024 INTERNATIONAL PLUMBING CODE, 2024 INTERNATIONAL PROPERTY MAINTENANCE CODE, 2024 INTERNATIONAL SWIMMING POOL AND SPA CODE, AND THE 1997 UNIFORM HOUSING CODE

WHEREAS, the City Council has adopted from time to time certain building and construction standards; and

WHEREAS, it is deemed to be in the interest of the public health, safety and general welfare to adopt by reference thereto the updated editions of the above-referenced codes; and

WHEREAS, the City Council, after proper notice as required by law, has held a public hearing on this ordinance providing for the adoption of said codes; and

WHEREAS, the updated editions of the above-referenced codes have been submitted to the City Council in writing and the City Council has determined that such codes should be adopted as herein set forth.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. Chapter 15.04 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.04

INTERNATIONAL BUILDING CODE

Sec. 15.04.010.- Adoption.

The International Building Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The purpose and subject matter of the International Building Code include regulating construction aspects of building through comprehensive provisions and standards regulating the erection, construction, enlargement, alteration, equipping, use, height, area, and maintenance of buildings and structures and providing greater safety to the public by uniformity in building laws. Except as otherwise provided in this chapter, the International Building Code, 2024 Edition, is adopted in full, including the table of contents, index, and appendices. Any reference to the International Building Code within this chapter shall be to the 2024 Edition of such code.

Sec. 15.04.020. – Amendments to the 2024 International Building Code.

The following amendments set forth in sections 15.04.040 through 15.04.140 are made to the 2024 International Building Code.

Sec. 15.04.030. - Appendices adopted.

The following appendices of the 2024 International Building Code are hereby specifically adopted; any appendices not listed are not adopted:

Appendix C, Group U – Agricultural Buildings; Appendix F, Rodent proofing; Appendix I, Patio Covers; Appendix J, Grading; Appendix K, Administrative Provisions; Appendix N, Replicable Buildings and Appendix P, Sleeping Lofts

Sec. 15.04.040. - Section [A]101.1 amended—Title.

Section [A]101.1 of the International Building Code is amended to insert "the City of Louisville" so the section will read:

[A]101.1 Title. These regulations shall be known as the Building Code of the City of Louisville, hereinafter referred to as "this code."

Sec.15.40.050.- Section [A]104.1 amended—General.

Section [A]104.1 of the International Building Code is amended to read as follows:

[A]104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and other International Code Council codes and has the ability to adopt policies and procedures in order to clarify the application of their provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code but should give latitude for good science and engineering practices. Buildings shall meet the City of Louisville Fire Hardening Code.

Sec. 15.04.060. - Section [A]105.5 amended—Permit expiration.

The first paragraph of *Section [A]105.5* of the International Building Code is hereby amended to read as follows:

[A]105.5 Expiration. Except for permits for alterations involving only one discipline, every permit issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Every permit for alterations involving only one discipline which is issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 90 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 90 days. Before such work can be recommenced, a new permit shall be first obtained. If a new Code has been

adopted the new permit will incorporate all new codes and fees. Permits are automatically extended 180 days from a passed Foundation Inspection and a Passed Framing Inspection.

Sec. 15.04.070.- Section 1010.2.4 Amended—Locks and latches.

Section 1010.2.4 of the International Building Code is amended to read as follows:

1010.2.4. Locks and Latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist. Except for Group A Occupancies shall only have Panic hardware no deadbolts or other locks are allowed on any doors in group A occupancies.

1.Places of detention or restraint.

2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keying to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.

3. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23m^2) or less, serving a private office space.

4. In buildings in Occupancy Groups B, F, M and S, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

4.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.

4.2. The locking device is readily distinguishable as locked.

4.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters one inch (25 mm) high on a contrasting background.

4.4. The use of the key-operated locking device is revocable by the Fire Code Official for due cause.

5. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4,

provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

6. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual dwelling or sleeping units of Group R occupancies and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.

7. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

8. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.

9. Other than egress courts, where occupants must egress from an exterior space through the building for means of egress, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:

9.1. The maximum occupant load shall be posed where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.

9.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.

9.3. The egress door locking device is readily distinguishable as locked and shall be key operated locking device.

9.4. A clear window or glazed door opening, not less than 5 square feet (0.46m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outside area.

9.5. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters one inch (25 mm) high on a contrasting background.

9.6. The occupant load of the occupied exterior area shall not exceed 49 occupants in accordance with Section 1004.

10. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.

Sec.15.04.080.- Section 1031.1 Amended—General emergency escape and rescue.

Section 1030.1 of the International Building Code is amended to read as follows:

1030.1 General. In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one exit or access to only one exit as permitted by Tables 1006.3.4(1) and 1006.3.4(2).

2. Group R-3 and R-4 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but also be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

3. Exceptions: Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way. Basements without habitable spaces and having not more than 200 square feet (18.6 m2) in floor area shall not be required to have emergency escape and rescue openings.

Sec.15.04.090.- Section 1604.8.3 amended—Decks.

Section 1604.8.3 of the International Building Code is amended to read as follows:

1604.8.3 Decks. Decks that are structurally supported from an existing structure shall be engineered by a structural engineer that is

licensed with the State of Colorado and designed to meet the Louisville Fire Hardening Code. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. This section shall govern over the IECC to ensure proper connection of deck top structure. Connections of decks with cantilevered framing members to exterior walls or other framing members shall be designed for both of the following:

1. The reactions resulting from the dead load and live load specified in Table 1607.1, or the snow load specified in Section 1608, in accordance with Section 1605, acting on all portions of the deck.

2. The reactions resulting from the dead load and live load specified in Table 1607.1, or the snow load specified in Section 1608, in accordance with Section 1605, acting on the cantilevered portion of the deck, and no live load or snow load on the remaining portion of the deck.

Sec. 15.04.100. - Section 1609.3.2 added—Wind loads.

The following *Section 1609.3.2* is added to the 2024 International Building Code:

1609.3.2. Wind Speeds. The minimum basic wind speed for determining wind pressure shall be in accordance with this Section 1609 and the Colorado Front Range Gust Map Study ASCE 7-10. Will be determined by the ASCE hazard tool at https://ascehazardtool.org/

Sec. 15.04.110. - Section 1608.2 amended—Ground snow loads.

Section 1608.2 of the International Building Code is amended by the addition of the following sentence inserted at the end of the section:

The ground and roof snow load shall be determined by the ASCE hazard tool at https://ascehazardtool.org/

Sec. 15.04.120. - Section 1809.5 amended—Frost protection.

Item 1 of *Section 1809.5* of the International Building Code shall be amended to read as follows:

Extending 36 inches below finished grade;

Sec. 15.04.130.- Section 2704 added- Energy Storage Systems ESS

Chapter 27 of the International Building Code is amended by the addition of a new *Section 2704* to reads as follows:

2704. Lithium Energy Storage Systems (ESS).

2704.1 Lithium Energy Storage Systems (ESS). Energy storage systems shall not be installed inside the thermal building envelope of a commercial structure, primary residence, or Accessory Dwelling Unit (ADU). The ESS shall be installed on the outside of the thermal envelope or in an exterior insulated shed attached or detached to the building envelope to protect from extreme heat and cold . The ESS shall have electrical disconnects within 3 to 6 ft of the ESS. Installation of an ESS in garages that are attached to a residence or ADU must have One Hour Fire rated walls and ceiling and or an approved Fire Suppression system in the garage. The ESS shall be installed on the wall farthest away from the residence inside the garage the ESS shall have a Heat Detector that is tied into the Smoke Detectors and shall have a flashing light on the battery with the fault.

EXCEPTION:

1. Commercial Buildings with a 1 hour rated room where mechanical ventilation is separate from the rest of the building and shall have a Heat Detector at each battery with a flashing light on the battery with the fault.

Sec.15.04.140.- Section 3001.1 amended—Scope.

Section 3001.1 of the International Building Code is amended to read as follows:

3001.1 Scope. This chapter governs the design, construction, installation, alteration and repair of elevators and conveying systems and their components. All elevators that serve accessible residential units shall have secondary means of power such as a generator to maintain operation while primary power is down.

15.04.150. - Copies available.

At least one copy of the 2024 International Building Code and one copy of each secondary code pertaining thereto, as amended herein,

certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.04.160. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Sec. 15.04.170. - Fireplace installation.

A. Any new or remodeled fireplace to be installed or constructed in any dwelling in the city shall be one of the following:

1. A gas appliance;

2. An electric device; or

3. A fireplace or fireplace insert that meets the most stringent emissions standards for wood stoves established by C.R.S. Title 25, Article 7 and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations.

B. It is unlawful for any person to install or construct any new or remodeled fireplace which does not comply with this section. Any person convicted of a violation of this section shall be subject to the penalty provided in section 1.28.010.

Sec. 15.04.180. - Design Handbook for Downtown Louisville to apply.

Any addition, remodeling, relocation, construction, or other improvement within Downtown Louisville and requiring a building permit,

sign permit, or any other permit from the city shall comply with all requirements of the Design Handbook for Downtown Louisville, as adopted and amended from time to time.

Sec. 15.04.190. - Industrial and Commercial Development Design Standards and Guidelines to apply.

Any addition, remodeling, relocation, construction, or other improvement to an industrial property or project within the city and requiring a building permit, sign permit, or any other permit from the city shall comply with the requirements of City of Louisville Industrial Development Design Standards and Guidelines (IDDSG) and the Commercial Development Design Standards and Guidelines (CDDSG) as adopted and amended from time to time.

Section 2. Chapter 15.05 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.05

INTERNATIONAL RESIDENTIAL CODE

Sec. 15.05.010. - Adoption.

The International Residential Code for One-and-Two Family Dwellings, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The subject matter of the International Residential Code is to regulate and govern the construction, alteration, movement, enlargement, replacement, repair, equipment, location, removal and demolition of detached one- and two-family dwellings and multiple single family dwellings (townhouses) not more than three stories in height with separate means of egress in the City of Louisville, and providing for the issuance of permits and collection of fees therefor. Except as otherwise provided in this chapter, the International Residential Code, 2024 Edition, is adopted in full, including the table of contents, index, and appendices. Any reference to the International Residential Code within this chapter shall be to the 2024 Edition of such code. Structures shall meet the City of Louisville's Fire Hardening Code.

Sec. 15.05.020.- Appendices adopted.

The following appendices of the International Residential Code are hereby specifically adopted; any appendices not listed are not adopted: BB Tiny Houses, BC-Accessory Dwelling Units, BE-Radon Control Methods, BG-Sound Transmission, BI-Light Straw-Clay Construction, BJ-Strawbale Construction, BK- Cob Construction (Monolithic Adobe), BL-Hemp-Lime Construction (Hempcrete), BM-3D-Printed Building Construction, BN-Extended Plate wall Construction, CC-Recommendation Procedure for Safety Inspections of an Existing Appliance Installation.

Sec. 15.05.030. - Amendments to the International Residential Code.

The following amendments set forth in sections 15.05.040 through 15.05.280 are made to the International Residential Code.

Sec. 15.05.040. - Section R101.1 amended—Title.

Section R101.1 of the International Residential Code is amended to insert "the City of Louisville" so the section will read:

R101.1 Title. These provisions shall be known as the Residential Code for One- and Two-Family Dwellings of the City of Louisville and shall be cited as such and will be referred to herein as this code.

Sec. 15.05.050.- Section R105.2 amended—Work exempt from permit.

The following paragraphs are added to the Building portion of *Section R105.2* of the International Residential Code:

11. PERMIT NOT REQUIRED. A Building Permit will NOT be required for the renovation, remodel and/or repair of an existing single-family residence only where:

a) The work is to be done by the owner or occupant, and

b) The size of the structure will not be increased, and

c) The structural members (design) i.e., foundations, underpinning, bearing, or framing, will not be altered or changed, and

d) The scope of the work will exclude any electrical, plumbing or heating, and

e) The TOTAL COST of labor and materials will not exceed $2,500.00, and

f) All codes as adopted by the City of Louisville and the State of Colorado shall be adhered to. Failure to do so will result in a double fee required permit.

12. Windows that are being replaced in a <u>like-for-like</u> situation with no structural changes to the building do not need a building permit. This is for only those structures that fall under the International Residential Code and are owner occupied.

Sec. 15.05.060.- Section R105.2.1 amended—Emergency repairs.

Section R105.2.1 of the International Residential Code is hereby amended to read as follows:

R105.2.1 Emergency repairs. Where repairs to a structure, equipment replacements and other repairs must be performed in an emergency situation, a permit application shall be submitted within the next working business day to the building official. During a large-scale event such as a hail or wind storm event or tornado, requirements for roofing permits maybe deferred or suspended until such time as provided by the building official.

Sec. 15.05.070.- Section R108.2 amended—Schedule of permit fees.

Section R108.2 of the International Residential Code is amended to read as follows:

R108.2 Schedule of permit fees. For buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid in accordance with a fee schedule adopted by resolution of the City Council from time to time.

Sec. 15.05.080.- Section 108.3 amended—Building permit valuations.

Section 108.3 of the International Residential Code is amended to read as follows:

108.3 Building permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.

Sec. 15.05.90.- Section R110.1 amended—Use and occupancy.

Section R110.1 of the International Residential Code is amended to read as follows:

R110.1 Use and occupancy.

A. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy therefore as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other city ordinances. Certificates purporting to give authority to violate or cancel the provisions of this code or other city ordinances shall not be valid.

B. Exceptions:

1. Certificates of occupancy are not required for work exempt from permits under Section R105.2.

2. Cabins, agricultural and accessory buildings and miscellaneous permits shall not receive certificates of occupancy; a letter of completion will be given upon request.

Sec. 15.05.100. - Section R110.4 amended—Temporary certificate of occupancy.

Section R110.4 of the 2024 International Residential Code is amended to read as follows:

R110.4 Temporary Certificate of Occupancy. There will be a $600 fee for a temporary certificate of occupancy if approved by the Chief Building Official. A Temporary Certificate of Occupancy shall be valid for 180 days. If a permanent Certificate of Occupancy is issued within the first 30 days, all but $40 will be refunded. If a permanent Certificate of Occupancy is issued after the first 30 days but prior to the 180-day expiration, $100 shall be refunded for each full 30-day period remaining out of the original 180-day validity period of the Temporary Certificate of Occupancy.

Sec. 15.05.110.- Table R301.2(1) revised - Climate and Geography Design Table

Table R301.2(1) of the 2024 International Residential Code is filled in as follows:

Based on ASCE Hazard Tool Website https://ascehazardtool.org/

TABLE R301.2 (1)
CLIMATE AND GEOGRAPHIC DESIGN CRITERIA for Wind Speed and Snow Load use ASCE Hazard Tool. http://ascehazardtool.org/

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP	ICE BARRIER UNDERLAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	Speed (mph)	Topographic effects	Special wind region	Windborne debris zone		Weathering	Frost line depth	Termite					
ASCE Hazard	ASCE Hazard	Yes	YES	"C" Unless Proven	B	Severe -5B	36	Slight	1 Degree	Yes	2012	1000-2000	47 Degrees

MANUAL J DESIGN CRITERIA

Elevation	Latitude	Winter heating	Summer Cooling	Altitude correction factor	Indoor design temp.	Design temp. cooling	Heating temperature difference
5385	40 North	0	91	0.84	70	75	69
Cooling temperature difference	**Wind velocity heating**	**Wind velocity cooling**	**Coincident wet bulb**	**Daily range**	**Winter humidity**	**Summer humidity**	
16	15 MPH	7.5 MPH	59	High	50%	30%	

Sec.15.05.120. Section R309.2 amended- One and Two Family Dwelling Automatic Sprinkler Systems

Section R309.2 of the International Residential Code is amended to read as follows:

R309.2 One- and two-family dwellings automatic sprinkler systems.
An automatic sprinkler system shall be installed in one- and two-family *dwellings*.

Exceptions:

1. An automatic sprinkler system shall not be required for *additions* or *alterations* to *existing buildings* that are not already provided with a sprinkler system.

2. An automatic fire sprinkler system shall not be required when the dwelling is greater than 25 feet from the property line.

Sec. 15.05.130. Section 404.1.6 amended- Height above finished grade

Section 404.1.6 of the International Residential Code is hereby amended to read as follows:

R404.1.6 Height above finished grade.
Concrete and masonry foundation walls shall extend above the non-combustible finished *grade* adjacent to the foundation at all points not less than 4 inches (102 mm) where *masonry veneer* is used and not less than 6 inches (152 mm) elsewhere.

Sec.15.05.140.- Section R507.1 amended—Decks.

Section R507.1 of the International Residential Code is amended to read as follows:

R507.1 Decks. Wood-framed decks shall comply with the standards set forth in this section. All decks that are structurally supported from an existing residential home shall be engineered by a structural engineer that is licensed with the State of Colorado unless the deck is 30" or less above grade**.**

Sec. 15.05.150 Section R703.1 amended-Exterior Wall Covering

Section R703.1 of the International Residential Code is amended to read as follows:

R703.1 General. Exterior walls shall provide the *building* with a weather-resistant exterior wall envelope. Exterior siding shall meet the Fire Home Hardening Code.

Exception:
1.Log walls designed and constructed in accordance with the provisions of ICC 400.
2. Historic Structures

Sec.15.05.160 section R806 amended- Roof Ventilation

Section R806 of the International Residential Code is amended to read as follows:

R806.1 Ventilation required. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross *ventilation* for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of inch (1.6 mm) minimum and $^1/_4$ inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than $^1/_4$ inch (6.4 mm) shall be provided with corrosion-resistant wire mesh with openings having a least dimension of $^1/_{16}$ inch (1.6 mm) minimum and $^1/_8$ inch maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures.

Sec.15.05.170. Section R902.1 amended- Roofing Material

Section R902.1 of the International Residential Code is amended to read as follows:

R902.1 Roof Assemblies. Roof decks shall be covered with materials as set forth in Section R904 or with roof coverings as set forth in Section R905. Class A roof coverings shall be installed and shall be tested in accordance with ASTM E108 or UL 790. The roof assembly shall be listed and identified as to class by an approved testing agency.

Exceptions:

1. Class A *roof assemblies* include those with coverings of brick, masonry and exposed concrete *roof deck*.
2. Class A *roof assemblies* include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible roof decks.
3. Class A *roof assemblies* include minimum 16 ounces per square foot (4.882 kg/m^2) copper sheets installed over combustible roof decks.
4. Class A *roof assemblies* include slate installed over *underlayment* over combustible roof decks.

Sec. 15.05.180. section R903.4 amended-Roof Drainage

Section R903.4 of the International Residential Code is amended to read as follows:

R903.4 Roof drainage. Unless roofs are sloped to drain over roof edges, roof drains shall be installed at each low point of the roof. Gutters shall be metal and shall have gutter guards installed on all new and replaced gutters.

Sec. 15.05.190.- Section N1101 deleted--Energy Efficiency

Section N1101 of the International Residential Code is deleted and the City's Adopted Energy Code will be used for the Energy Efficiency for this section.

Sec. 15.05.200.- Section M1503.3 amended — Exhaust Discharge

Chapter 15 of the International Residential Code is amended by amending *Section M1503.3* to read as follows:

M1503.3 Exhaust discharge. Domestic cooking exhaust *equipment* shall discharge to the outdoors through a duct. The duct shall have a smooth interior surface, shall be airtight, shall be equipped with a backdraft damper and shall be independent of all other exhaust systems. Ducts serving domestic cooking exhaust *equipment* shall not terminate in an *attic* or *crawl space* or areas inside the *building*. Make up air is required for all domestic cooking exhaust equipment.

Sec. 15.05.210.-Section G2427.4.1 amended – Plastic Piping.

Section G2427.4.1 of the International Residential Code is amended to read as follows:

G2427.4.1 Plastic piping. Where plastic piping is used to vent an appliance, the appliance shall be listed for use with such venting materials, and the appliance manufacturer's installation instructions shall identify the specific plastic piping material. The plastic pipe venting materials shall be labeled in accordance with the product standards specific by the appliance manufacturer or shall be listed in accordance with UL 1738.
All exhaust plastic vent applications and applications that use positive pressure to push exhaust gasses through any type of a PVC, Plastic Pipe assembly shall be pressure tested at appliance and the termination on the roof to ensure the exhaust system does not leak using either of the following methods:

1. 10 ft water column above last glued fitting
2. 5 psi of air and must be inspected to ensure it holds the pressure for 15 minutes
3. -5 psi Vacuum test shall be evacuated of air by a vacuum-type pump to achieve a uniform gauge pressure of -5 pounds

per square inch of negative pressure and must hold a -5 psi for 15 minutes

Sec 15.05.220.- Section M1905 added – Energy Storage Systems

Chapter 15 of the International Residential Code is amended by adding a new *Section M1905* to read as follows:

M1905 Lithium Energy Storage Systems (ESS). Energy storage systems shall not be installed inside the thermal building envelope of a commercial structure, primary residence, or Accessory Dwelling Unit (ADU). The ESS shall be installed on the outside of the thermal envelope or in an exterior insulated shed attached or detached to the building envelope to protect from extreme heat and cold . The ESS shall have electrical disconnects within 3 to 6 ft of the ESS. Installation of an ESS in garages that are attached to a residence or ADU must have One Hour Fire rated walls and ceiling and or an approved Fire Suppression system in the garage. The ESS shall be installed on the wall farthest away from the residence inside the garage the ESS shall have a Heat Detector that is tied into the Smoke Detectors and shall have a flashing light on the battery with the fault.

Sec. 15.05.230.- Reserved

Sec. 15.05.240.- Section P2503.5.1 amended—Rough plumbing.

Section P2503.3.1 of the International Residential Code is amended to read as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or by five pounds per square inch (psi) of air, or a negative of a 5 psi vacuum and shall show no evidence of leakage for a minimum of 15 minutes.

Sec. 15.05.250.- Section P2603.6.1 amended—Sewer depth.

The number "36" is inserted in two locations of *Section P2603.6.1* of the International Residential Code so that the section will read as follows:

P2603.6.1. Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 36 inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 36 inches below grade.

Sec. 15.05.260.- Section P3103.1 amended—Roof extension.

The number "12" is inserted in two locations of *Section P3103.1* of the International Residential Code so that the section will read as follows:

P3103.1. Roof extension. All open vent pipes which extend through a roof shall be terminated at least 12 inches above the roof or 12 inches above the anticipated snow accumulation, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

Sec. 15.05.270.- Fireplace installation.

A. Any new or remodeled fireplace to be installed or constructed in any dwelling in the city shall be one of the following:

1. A gas appliance.

2. An electric device; or

3. A fireplace or fireplace insert that meets the most stringent emissions standards for wood stoves established by C.R.S. Title 25, Article 7 and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations.

B. It is unlawful for any person to install or construct any new or remodeled fireplace which does not comply with this section. Any person convicted of a violation of this section shall be subject to the penalty provided in section 1.28.010.

Sec. 15.05.280.- Chapters 34-43 deleted.

Chapters 34 through 43 of the International Residential Code are hereby deleted in their entirety, and replaced with the National Electrical Code, as adopted by the city.

Sec. 15.05.290.- Copies available.

At least one copy of the International Residential Code, 2024 edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the

hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall always maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.05.300.- Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 3. Chapter 15.08 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.08

2024 INTERNATIONAL MECHANICAL CODE

Sec. 15.08.010. - Adoption.

The International Mechanical Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The purpose and subject matter of the International Mechanical Code include minimum standards relating to the mechanical installations in or in connection with the construction, alteration and repair of new and existing structures including design, construction, installation, quality of materials, locations, operation, and maintenance or use of heating, ventilation, cooling

refrigeration systems, incinerators and other miscellaneous heat-producing appliances. The International Mechanical Code, 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.08.020. - Amendments to the 2024 International Mechanical Code.

The following amendments set forth in sections 15.08.030 through 15.08.060 are made to the 2024 International Mechanical Code.

Sec. 15.08.030. - Section 101.1 amended—Title.

Section 101.1 of the International Mechanical Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Mechanical Code of the City of Louisville, hereinafter referred to as this code.

Sec. 15.08.040.- Section 505.4 amended- Make up air required

Section 504.4 of the International Mechanical Code is amended to read as follows:

Section 505.4. Exhaust hoods capable of exhausting air to the exterior of the building need make up air.

Sec. 15.08.050. - Section 804.1.1 added- Vent Pipe Testing

Section 804.1.1 of the International Mechanical Code is amended to read as follows:

Section 804.1.1 All exhaust plastic vent applications and applications that use positive pressure to push exhaust gasses thru any type of a PVC, Plastic Pipe assembly shall be pressure tested at appliance and the termination on the roof to ensure the exhaust system does not leak using either of the following:

4. 10 ft water column above last glued fitting
5. 5 psi of air and must be inspected to ensure it holds the pressure for 15 minutes
6. -5 psi of negative pressure and must hold a -5 psi for 15 minutes

Sec. 15.08.060. - Section 901 amended—Solid fuel-burning equipment.

Section 901 of the International Mechanical Code is amended to add the following new subsection:

Section 901.5. Solid Fuel-Burning Equipment. No permit shall be issued for the installation of a solid-fuel-burning fireplace stove, fireplace insert or wood stove appliance unless the appliance fully conforms with the requirements for emission testing, certification and labeling promulgated pursuant to C.R.S. Title 25, Article 7 and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations. All such appliances to be installed must be certified by the Air Quality Control Commission to meet the emissions standards set forth in Section IV of Regulation No. 4 of Volume 1 of the state air quality control commission as EPA Phase II or Colorado Phase III solid-fuel-burning devices.

Sec. 15.08.070. - Copies available.

At least one copy of the International Mechanical Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.08.080. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 4. Chapter 15.10 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.10

2024 INTERNATIONAL FUEL GAS CODE

Sec. 15.10.010. Adoption.
Sec. 15.10.020. Amendments to the 2024 International Fuel Gas Code.
Sec. 15.10.030. Section 101.1 amended—Title.
Sec. 15.10.040. Copies available.
Sec. 15.10.050. Violations and penalties.

Sec. 15.10.010. - Adoption.

The International Fuel Gas Code, 2024 edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The purpose and subject matter of the International Fuel Gas Code include minimum standards relating to the mechanical installations in or in connection with the construction, alteration and repair of new and existing structures including design, construction, installation, quality of materials, locations, operation, and maintenance or use of fuel-gas piping systems, fuel-gas utilization equipment and related accessories. The International Fuel Gas Code, 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.10.020. - Amendments to the 2024 International Fuel Gas Code.

The following amendments set forth in section 15.10.030 are made to the 2024 International Fuel Gas Code.

Sec. 15.10.030. - Section 101.1 amended—Title.

Section 101.1 of the International Fuel Gas Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Fuel Gas Code of the City of Louisville, hereinafter referred to as this code.

Sec. 15.10.040. - Copies available.

At least one copy of the International Fuel Gas Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a

moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.10.050. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 5. Chapter 15.12 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.12

INTERNATIONAL FIRE CODE

Sec. 15.12.010. - Adoption.

The International Fire Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of this Code. The purpose and subject matter of the International Fire Code include minimum standards relating to the storage, handling, and use of hazardous substances, materials and devices, and providing greater safety and protection to the public from conditions hazardous to life or property in the occupancy of buildings or premises.

Sec. 15.12.020.- Appendices adopted.

The following appendices of the 2024 International Fire Code are hereby specifically adopted; any appendices not listed are not adopted: Appendix B, Fire-Flow Requirements for Buildings; Appendix C, Fire Hydrant Locations and Distribution; Appendix D, Fire Apparatus Access Roads; Appendix E, Hazard Categories; Appendix I, Noncompliant Conditions; Appendix O Valet Trash and Recycling Collection in R-2 Occupancies.

Sec. 15.12.030. - Amendments to the 2024 International Fire Code.

The following amendments set forth in sections 15.12.040 through 15.12.270 are made to the 2024 International Fire Code.

Sec. 15.12.040. - Section 101.1 amended—Title.

Section 101.1 of the International Fire Code is amended to insert "the City of Louisville" so that the section will read:

101.1 Title. These regulations shall be known as the Fire Code of the City of Louisville, hereinafter referred to as this code.

Sec.15.12.050.-Section 103.1 amended- Creation of Agency.

Section 103.1 of the International Fire Code is amended to read as follows:

103.1 Creation of Agency. The Louisville Fire Protection District, Fire Prevention Division and the official in charge thereof shall be known as the *fire code official*. A function of this division shall be the implementation, administration and enforcement of the provisions of the code on behalf of the City of Louisville.

Sec. 15.12.060. - Section 104.1 amended—General.

Section 104.1 of the International Fire Code is amended to read as follows:

104.1 General. The Fire Marshal and Chief Building Official are hereby authorized to enforce the provisions of this code. The Fire Marshal and Chief Building Official shall each have the authority to render interpretations of this code as the Fire Code Official and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code, and shall not have the effect of waiving requirements specifically provided for in this code. Structures shall meet the requirements of the City of Louisville Fire Hardening Code.

Sec. 15.12.070.- Section 105.5.58 added—Valet Trash.

Section105.5.58 of the International Fire Code is added and reads as follows:

105.5.58 Valet Trash. An operational permit is required for the operation of a valet trash service in all buildings within the City of Louisville.

Sec.15.12.080.- Section 105.6.26 added—Access Control or Delayed Systems.

Section 105.6.26 Access Control or Delayed Systems of the International Fire Code is added and reads as follows:

105.6.26 Access Control or Delayed Systems. A construction permit is required to install or modify access control or delayed egress systems.

Sec. 15.12.090. - Section 113.4 amended— Violation Penalties.

Section 113.4 of the International Fire Code is deleted in its entirety and replaced with the following:

113.4 Violations Penalties. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Sec.15 12.100.- Section 304.1.1 amended -Valet Trash.

Section 304.1.1 of the International Fire Code is amended to read as follows:

304.1.1- Valet Trash. Valet trash collection shall be permitted only in buildings equipped with automatic sprinkler systems where approved. The owner and valet trash collection service provider shall comply with the rules and limitations established by the jurisdiction.

Sec. 15.12.110.- Section 308.1.6.7 amended—Sky lanterns.

Section 308.1.6.7 of the International Fire Code is amended to read as follows:

308.1.6.7 Sky lanterns. Sky lanterns are prohibited because of climatic conditions.

Sec. 15.12.120. - Section 315.3.1 amended—Ceiling clearance.

Section 315.3.1 of the International Fire Code is amended to read as follows:

315.3.1 Ceiling clearance. Storage shall be maintained two feet (610 mm) or more below the ceiling in non-sprinklered areas of buildings or not less than 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings. In areas with storage there shall be a red line added at 18 inches or 24 inches below the ceiling with language above the red line stating, “NO STORAGE ABOVE THIS LINE.”

Sec.15.12.130.- Section 401.3.2 amended-Alarm Activations.

Section 401.3.2 of the International Fire Code is amended to read as follows:

401.3.2. Alarm activations. Upon activation of a fire alarm signal, employees or staff shall immediately notify the fire department. In settings other than prescribed maintenance, fire notification systems are not permitted to be silenced or reset by occupants prior to fire department arrival.

Sec. 15.12.140. - Section 503.2.3 amended—Surface.

Section 503.2.3 of the International Fire Code is amended to read as follows:

Section 503.2.3. Surface. Fire apparatus access roads shall be designed and constructed of hard surface, i.e. asphalt or concrete, to withstand the weight of fire apparatus and such surfaces must be able to support the weight of the heaviest fire apparatus of the fire district serving the property. The grade of a fire apparatus access road shall not exceed seven percent. A property owner or contractor may obtain a temporary waiver of the requirement to construct a hard surface fire apparatus access road during the construction of a land use development from the Fire Marshal. The waiver shall include an engineered plan for the alternative construction method of the access road and a plan for the continued maintenance of the access road during the period of project construction. Upon completion of the project and prior to the issuance of a certificate of occupancy, any fire apparatus access road shall be constructed of permanent hard surface.

Sec.15.12.150.- Section 506.1 amended—Key Boxes required.

Section 506.1 of the International Fire Code is amended to read as follows:

506.1. Key Boxes Required. All new commercial construction requires a key box to be installed. Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed in accordance with UL 1037, and shall contain keys to gain necessary access as required by the Fire Code Official.

Sec.15.12.160.- Section 510.4.2.5.1 deleted- Single Supervisory Input

Section 510.4.2.5.1- of the International Fire Code is deleted in its entirety

Sec. 15.12.170.- Section 510.5.1 amended – Mounting of the doner antenna(s)

Section 510.5.1 of the International Fire Code is amended to read as follows:

510.5.1. Mounting of doner antenna(s). To maintain proper alignment with the system design donor site, donor antennas shall be permanently affixed on the building. The antenna installation shall be in accordance with the applicable requirements in the *International Building Code* for weather protection of the building envelope.

Sec.15.12.180.- Section 807.5.2.2 amended – Artwork in Corridors.

Section 807.5.2.2 of the International Fire Code is amended to read as follows:

807.5.2.2. Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Three-dimensional artwork made of combustible materials and hanging decorations that impact the fire sprinkler system or create a hazard for first responders are prohibited.

Sec.15.12.190. – Section 807.5.2.3 amended—Artwork in Classrooms.

Section 807.5.2.3 of the International Fire Code is amended to read as follows:

807.5.2.3. Artwork and teaching materials shall be limited on the walls of classrooms to not more than 50 percent of the wall area. Three-dimensional artwork made of combustible materials and hanging decorations that impact the fire sprinkler system or create a hazard for first responders are prohibited.

Sec.15.12.200.-Section 807.5.5.2 amended-Art in Corridors

Section 807.5.5.3 of the International Fire Code is amended to read as follows:

807.5.5.3. Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. Three-dimensional artwork made of combustible materials and hanging decorations that impact the fire sprinkler system or create a hazard for first responders are prohibited

Sec.15.12.210.- Section 807.5.5.3 amended- Artwork in Classrooms

Section 807.5.5.3 of the International Fire Code is amended to read as follows:

807.5.5.3. Art work in Classrooms. Artwork and teaching materials shall be limited on the walls of classrooms to not more than 50 percent of the wall area. Three-dimensional artwork made of combustible materials and hanging decorations that impact the fire sprinkler system or create a hazard for first responders are prohibited

Sec. 15.12.220. – Section 903.2.1 amended—Automatic fire sprinklers.

Section 903.2.1 of the International Fire Code is amended as follows:

A. Each new commercial and residential structure is required to have a fire suppression system designed for the Occupancy Group of that structure, unless the requirement is waived by both the Chief Building Official and Fire Marshal.

B. Exceptions: U Occupancies are not required to have fire suppression systems unless they exceed 5,000 square feet.

C. This section 903.2.1 shall only apply to new construction.

Sec. 15.12.230.- Section 903.3.8 deleted-Limited area sprinkler systems.

Section 903.3.8 of the International Fire Code is deleted in its entirety

Sec.15.12.240.- Section 903.4.3 amended-Alarms

Section 903.4.3 of the International Fire Code is amended to read as follows:

903.4.3. Alarms. Approved audible/visible notification appliances shall be provided for every building or structure with an automatic sprinkler system. Waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a waterflow switch is required by Section 903.4.1 to be electrically supervised, such sprinkler waterflow alarm devices shall be powered by a fire alarm control unit or, where provided, a fire alarm system. Alarm devices shall be provided in the interior of the building in accordance with NFPA 72 and on the exterior of the building in an approved location. Actuation of the automatic sprinkler system shall actuate occupant notification devices.

Exception: Automatic sprinkler systems protecting one-and two-family dwellings.

Sec.15.12.250.- section 907.7.4 added- Graphic Map

Section 907.7.4 of the International Fire Code is added to read as follows:

907.7.4. Graphic Map. A graphic map showing the locations of initiating devices with corresponding device identification information shall be provided at the fire alarm panel and annunciator panels. Modifications to system impacting the graphic map will require updating at final inspection.

Sec. 15.12.260. - Section 1010.1.9.4 amended—Locks and latches.

Section 1010.1.9.4 of the International Fire Code is amended to read as follows:

1010.1.9.4. Locks and latches shall be permitted to prevent operation of doors where any of the following exist. Except for Group A Occupancies that shall only have Panic hardware no deadbolts or other locks are allowed on any doors in group A occupancies.

1.Places of detention or restraint.

2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keying to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.

3. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23m^2) or less, serving a private office space.

4. In buildings in Occupancy Groups B, F, M and S, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

4.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.

4.2. The locking device is readily distinguishable as locked.

4.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters one inch (25 mm) high on a contrasting background.

4.4. The use of the key-operated locking device is revocable by the Fire Code Official for due cause.

5. Manual bolts, automatic flush bolts and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

6. Single exit doors complying with Section 1006.2.1 or 1006.3.4 from individual dwelling or sleeping units of Group R occupancies and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided that such devices are openable from the inside without the use of a key or tool.

7. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

8. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof.

9. Other than egress courts, where occupants must egress from an exterior space through the building for means of egress, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following

9.1. The maximum occupant load shall be posed where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.

9.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than none required exit access door on the exterior side.

9.3. The egress door locking device is readily distinguishable as locked and shall be key operated locking device.

9.4. A clear window or glazed door opening, not less than 5 square feet ($0.46m^2$) in area, shall be provided at each exit access door to determine if there are occupants using the outside area.

9.5. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters one inch (25 mm) high on a contrasting background.

9.6. The occupant load of the occupied exterior area shall not exceed 49 occupants in accordance with Section 1004.

10. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.

Sec. 15.12.270.- Section 1207.1.3 added – Lithium Electrical Energy Storage Systems (ESS)

Section 1207.1.3 of the International Fire Code is added to read as follows:

Section 1207.1.3.- Lithium Energy Storage Systems (ESS). Energy storage systems shall not be installed inside the thermal building envelope of a commercial structure, primary residence, or Accessory Dwelling Unit (ADU). The ESS shall be installed on the outside of the thermal envelope or in an exterior insulated shed attached or detached to the building envelope to protect from extreme heat and cold . The ESS shall have electrical disconnects within 3 to 6 ft of the ESS. Installation of an ESS in garages that are attached to a residence or ADU must have One Hour Fire rated walls and ceiling and or an approved Fire Suppression system in the garage. The ESS shall be installed on the wall farthest away from the residence inside the garage the ESS shall have a Heat Detector that is tied into the Smoke Detectors and shall have a flashing light on the battery with the fault.

EXCEPTION:

1. Commercial Buildings with a 1 hour rated room where mechanical ventilation is separate from the rest of the building and shall have a heat detector at each battery with a flashing light on the battery with the fault.

Sec. 15.12.280. - Fire lane requirements.

A. Fire lanes are required in accordance with Appendix D of the 2024 International Fire Code.

B. In addition to the requirements of Appendix D, no platted street in a multifamily, industrial, business or commercial development ending in a cul-de-sac or some other design shall exceed 300 feet in length without providing secondary fire lane access.

C. In addition to the requirements of Appendix D, no platted street in a single-family area ending in a cul-de-sac or some other design shall exceed 500 feet in length without providing secondary fire lane access.

D. In addition to the requirements of Appendix D, single-family residences which are located more than 150 feet from the closest public street right-of-way shall provide a fire lane from the street to the residence.

Sec. 15.12.290. - Fire lane specifications.

Fire lanes shall comply with the specifications in Appendix D of the International Fire Code. In addition to the requirements of Appendix D, an emergency access fire lane which is required to be installed in an area as secondary access must be as remote as possible from the main access and provide access to all parts of the development. No emergency access fire lane shall exceed 300 feet in length.

Sec. 15.12.300. - Placement of fire hydrants.

A. Fire hydrants shall be placed at each street intersection and on each side of any divided highway, roadway or street, wherever possible.

B. In a residential area, there shall be no more than 500 feet of vehicle travel distance between hydrants. No residential unit shall be more than 250 feet of vehicle travel distance from the nearest hydrant.

C. In multifamily, industrial, business or commercial areas, there shall be no more than 300 feet of vehicle travel distance between hydrants. No building shall be more than 150 feet of travel distance from the nearest hydrant.

D. All water mains serving two or more fire hydrants or two or more fire service water lines shall have a looped water distribution system with approved sectional valves being provided.

E. The barrel of a fire hydrant shall be set perpendicular to the ground or the designed final grade with the lowest discharge outlet 18 inches above grade.

F. A minimum of three feet of clearance space shall be maintained around the circumference of a fire hydrant except as otherwise required or approved by the city.

G. The minimum required residual pressure for a water supply to any given area shall be 20 pounds per square inch (psi). In the event that a minimum water pressure of 20 psi cannot be obtained in any given area, large water mains shall be installed with closer than the required minimum spacing of fire hydrants to increase flow.

Sec. 15.12.310. - Standards of reference.

Standards of reference for the International Fire Code are:

The 2024 Edition of the International Wild Land-Urban Interface Code.

The most current edition of the NFPA Life Safety Code.

The most current edition of the NFPA Codes and Standards.

Sec. 15.12.320. - Copies available.

At least one copy of the International Fire Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall always maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.12.330. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 6. Chapter 15.14 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.14

INTERNATIONAL EXISTING BUILDING CODE

Sec. 15.14.010. - Adoption.

The International Existing Building Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The subject matter of the International Existing Building Code is to regulate and govern existing buildings and installation of electrical, plumbing, mechanical, lighting, energy conservation systems and power systems in the City of Louisville and providing for the issuance of permits and collection of fees therefor. The International Existing Building Code, 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.14.020. - Section 101.1 amended—Title.

Section 101.1 of the 2024 International Existing Building Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the 2024 Existing Building Code of the City of Louisville, hereinafter referred to as "this code."

Sec. 15.14.030. - Copies available.

At least one copy of the International Existing Building Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall always maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.14.040. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 7. Chapter 15.16 of the Louisville Municipal Code hereby repealed and reenacted to read as follows:

Chapter 15.16

2024 INTERNATIONAL PLUMBING CODE

Sec. 15.16.010. - Adoption.

The International Plumbing Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is adopted by reference thereto and incorporated into and made part of the Louisville Municipal Code. The purpose and subject matter of the International Plumbing Code include regulation of plumbing installations in or in connection with new and existing structures and provision of international plumbing standards for the purpose of protecting the public health, safety and general welfare. The International Plumbing Code, 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.16.020. - Amendments to the 2024 International Plumbing Code.

The following amendments set forth in sections 15.16.030 through 15.16.120 are made to the 2024 International Plumbing Code.

Sec. 15.16.030. - Section 101.1 amended—Title.

Section 101.1 of the 2024 International Plumbing Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the Plumbing Code of the City of Louisville, hereinafter referred to as "this code."

Sec. 15.16.060. - Section 114.4 amended—Violations.

Section 114.4 of the International Plumbing Code is deleted in its entirety and replaced with the following:

114.4 Violations. It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Sec. 15.16.070. - Section 115.5 added—Stop work orders.

Section 115.5 of the International Plumbing Code is added to read as follows:

Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalty provided in section 1.28.010.

Sec. 15.16.080. - Section 305.4.1 amended—Sewer depth.

The number "36" is inserted in two locations so that *Section 305.4.1* of the 2024 International Plumbing Code will read as follows:

305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 36 inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 36 inches below grade.

Sec.15.16.090.- Section 312.3 amended—Drainage and vent air test.

Section 312.3 of the International Plumbing Code is amended to read as follows:

312.3 Drainage and vent air test. Plastic piping can be tested only to five pounds per square inch (psi) for DWV plastic piping if air testing in Liew of 10 foot water test above last glued fitting.

Sec. 15.16.100. – Section 608.14.10 added—Testing backflow prevention assemblies.

A new *Section 608.14.10* is added to the 2024 International Plumbing Code, to read as follows:

608.14.10 Testing backflow Prevention Assemblies. The premises owner or responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation, repair, or relocation.

Sec. 15.16.110. - Section 903.1.1 amended—Roof extension.

Section 903.1.1 of the International Plumbing Code is amended to read as follows:

903.1.1 Roof Extension. All open vent pipes that extend through a roof shall be terminated at least 12 inches above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof. The anticipated snow depth is 6 inches.

Sec. 15.16.120. – Section 1003.3.2 amended—Food waste grinders.

Section 1003.3.2 of the International Plumbing Code is amended to read as follows:

1003.3.2 Food Waste Grinders.

A. Unless specifically required or permitted by the code official, no food waste grinder or dishwasher shall be connected to or discharge into any grease trap. Where food waste grinders connect to grease interceptors, the grease interceptor shall be sized and rated for the discharge of the food waste grinder.

B. Exception: Special regulations by the Public Works Department may supersede this requirement.

Sec. 15.16.130. - Copies available.

At least one copy of the 2024 International Plumbing Code, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.16.140. - Violations and penalties.

It is unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any plumbing or cause or permit such work to be done, in violation of the provisions of this chapter or the terms of the code adopted and incorporated in this chapter, or to otherwise violate or fail to comply with this chapter or such code. Any person convicted of a violation of any provision of this chapter or of the provisions of the code adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 8. Chapter 15.17 of the Louisville Municipal Code is hereby added and enacted to read as follows:

Chapter 15.17

INTERNATIONAL SWIMMING POOLAND SPA CODE (ISPSC)

Sec. 15.17.010. - Adoption.

The International Swimming Pool and Spa Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The subject matter of the International Swimming Pool and Spa Code is to regulate and govern the requirements for the design, construction, alteration, repair and maintenance of swimming pools, spas, hot tubs and aquatic facilities. This includes public swimming pools, public spas, public exercise spas, aquatic recreation facilities, on ground storable residential pools, permanent inground residential pools, permanent residential spas.

Permanent residential exercise spas, portable residential spas and portable residential exercise spas in the City of Louisville and providing for the issuance of permits and collection of fees therefor. The International Swimming Pool and Spa Code 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.17.020. - Section 101.1 amended—Title.

Section 101.1 of the 2024 International Swimming Pool and Spa Code is amended to insert "the City of Louisville" so the section will read:

101.1 Title. These regulations shall be known as the 2024 International Swimming Pool and Spa Code of the City of Louisville, hereinafter referred to as "this code."

Sec. 15.17.030. - Copies available.

At least one copy of the International Existing Building Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall always maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.17.040. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 9. Chapter 15.21 of the Louisville Municipal Code hereby repealed and reenacted to read as follows:

Chapter 15.21

INTERNATIONAL PROPERTY MAINTENANCE CODE

Sec. 15.21.010. - Adoption.

The International Property Maintenance Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478-5795, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The subject matter of the International Existing Building Code is regulate and govern existing buildings and installation of electrical, plumbing, mechanical, lighting, energy conservation systems and power systems in the City of Louisville, and providing for the issuance of permits and collection of fees therefor. The International Property Maintenance Code, 2024 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.21.020. - Section 101.1 amended—Title.

Section 101.1 of the 2024 International Property Maintenance Code is amended to insert "the City of Louisville" so that the section will read:

101.1 Title. These regulations shall be known as the 2024 Property Maintenance Code of the City of Louisville, hereinafter referred to as "this code."

Sec. 15.21.030. - Copies available.

At least one copy of the International Property Maintenance Code, 2024 Edition, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall always maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.21.040. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 10. Chapter 15.23 of the Louisville Municipal Code is hereby added and enacted to read as follows:

Chapter 15.23

1997 UNIFORM HOUSING CODE

Sec. 15.23.010.- Adoption.

The 1997 Uniform Housing Code, 1997 Edition, published by the International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, D.C. 20001, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The subject matter of the 1997 Uniform Housing Code is to provide the building official with proper legal steps to provide minimum standards to safe-guard life limb, health, property and public welfare by regulating and controlling the use and occupancy, location, and maintenance of all residential buildings and structures within the City of Louisville, and to provide for the issuance of permits and collection of fees therefor. The 1997 Uniform Housing Code, 1997 Edition, is adopted in full, including the outline table of contents and index; but no appendices to such code are adopted.

Sec. 15.23.020.- Section 101 amended—Title.

Section 101 of the 1997 Uniform Housing Code is amended to read as follows:

101 Title. These regulations shall be known and may be cited as the 1997 Uniform Housing Code for the City of Louisville. The Code Official will be considered the health officer.

Sec. 15.23.030. - Copies available.

At least one copy of the 1997 Uniform Housing Code as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., days when the office is open to the public, holidays excepted. The Building Official shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price.

Sec. 15.23.040. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 11. If any article, section, paragraph, sentence, clause, or phrase of this ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part or parts hereof irrespective of the fact that any one part or parts be declared unconstitutional or invalid.

Section 12. The repeal or modification of any provision of any prior ordinance by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 13. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING, AND ORDERED PUBLISHED this _____ day of _____, 2025.

_____
Chris Leh, Mayor

ATTEST:

_____
Meredyth Muth, City Clerk

APPROVED AS TO FORM:

_____
Kelly PC, City Attorney

PASSED AND ADOPTED ON SECOND AND FINAL READING, this _____ day of _____, 2025.

_____
Chris Leh, , Mayor

ATTEST:

_____
Meredyth Muth, City Clerk

ORDINANCE NO. _____

AN ORDINANCE ADOPTING BY REFERENCE THE 2024 INTERNATIONAL ENERGY CONSERVATION CODE.

WHEREAS, the City Council has adopted from time-to-time certain building and construction standards; and

WHEREAS, it is deemed to be in the interest of the public health, safety and general welfare to adopt by reference thereto the updated editions of the above-referenced codes; and

WHEREAS, the City Council, after proper notice as required by law, has held a public hearing on this ordinance providing for the adoption of said codes; and

WHEREAS, the updated editions of the above-referenced codes have been submitted to the City Council in writing and the City Council has determined that such codes should be adopted as herein set forth.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. Chapter 15.18 of the Louisville Municipal Code is hereby repealed and reenacted to read as follows:

Chapter 15.18

2024 INTERNATIONAL ENERGY CONSERVATION CODE

Sec. 15.18.010.- Adoption.

The International Energy Conservation Code, 2024 Edition, published by the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois, 60478, is hereby adopted by reference thereto and incorporated into and made a part of the Louisville Municipal Code. The purpose and subject matter of the International Energy Code include regulating construction aspects of building through comprehensive provisions and standards regulating the erection, construction, enlargement, alteration, equipping, use, area, and maintenance of buildings and structures and providing minimum efficiency requirements for buildings that result in the maximum level of energy efficiency that is safe, technologically feasible, and life cycle cost effective, considering economic feasibility, including potential cost and savings for consumers and building owners with a return on investment. Optional requirements that lead to achievement of zero energy buildings, presently, and through glidepaths that achieve zero energy buildings by 2030 and achievements of additional policy goals as identified by the Energy and Carbon Advisory Council. Requirements contained in this code will include but not limited to, the minimum prescriptive insulation and U value requirements as adopted by the city as a foundation to the performance-based pathways. This code will include adopted appendices and non-adopted appendices incorporating additional energy efficiency and greenhouse gas reduction resources developed by the ICC and others. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this intent. The State of Colorado's Model Electric Ready Code, Solar Ready Code and Carbon Code will be adopted as adopted by the State of Colorado with the adoption of this Energy Code.

Sec. 15.18.020. – Amendments to the 2024 International Energy Conservation Code.

The following amendments set forth in sections 15.18.040 through 15.18.190 are made to the 2024 International Energy Code.

Sec. 15.18.030. - Appendices adopted.

The following appendices of the 2024 International Energy Conservation Code are hereby specifically adopted; any appendices not listed are not adopted:

Sec. 15.18.040. – C101.1 & R101.1 amended—Title.

Section C101.1 and R101.1 of the International Energy Conservation Code is amended to insert "the City of Louisville" so the section will read:

C101.1 and R101.1 Title. These regulations shall be known as the Building Code of the City of Louisville, hereinafter referred to as "this code."

Sec. 15.18.050. - Section C106.7 and R106.7 added—Permit expiration.

The last paragraph of *Section C106.7* and R106.7 of the International Energy Conservation Code is hereby added to read as follows:

C106.7 and R106.7 Expiration. Except for permits for alterations involving only one discipline, every permit issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Every permit for alterations involving only one discipline which is issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 90 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the

work is commenced for a period of 90 days. Before such work can be recommenced, a new permit shall be first obtained. If a new Code has been adopted the new permit will incorporate all new codes and fees.

Sec. 15.18.060.- Section C401.2.1 Amended— International Energy Conservation Code.

Section C401.2.1 of the International Energy Conservation Code is amended to read as follows:

C401.2.1 International Energy Conservation Code. Commercial Buildings shall comply with the prescriptive compliance path for insulation and U values as listed in table C401.4, C402.1.3, C402.5 as a minimum for any simulated building performance options. **Simulated Building Performance.** The Simulated Building Performance option must incorporate the minimum prescriptive R Values and U-Factors before using the simulated building performance option that requires compliance with section C407.

Sec. 15.18.070.- Section C401.4 Added- Mandatory Requirements

Section C401.4 of the International Energy Conservation Code is added to read as follows:

C401.4 Mandatory Requirements for Commercial Buildings. Commercial buildings must comply with Table C401.4.

Table C401.4 (Mandatory)
Requirements for Commercial Buildings

Title	IECC Section
Air leakage	C402.6
Calculation of heating and cooling loads	C403.1.1
Data centers	C403.1.2
System Design	C403.2
Heating and cooling equipment efficiency	C403.3
Heating and cooling system controls	C403.4, except C403.4.3, C403.4.4, C403.4.5
Economizer fault detection and diagnostics	C403.5.5

Ventilation and exhaust systems	C403.7, except C403.7.4.1
Fan and fan controls	C403.8, except C403.8.6
Large diameter ceiling fans	C403.9
Refrigeration equipment performance	C403.12
Construction of HVAC system elements	C403.13
Mechanical systems located outside of the building thermal envelope	C403.14
Service water heating	C404
Electrical power and lighting systems	C405, except C405.3
Maintenance information and system commissioning	C408

Table C402.1.3 Opaque Thermal Envelope Insulation Component Minimum Requirements, R-Value Method, is hereby deleted and replaced with the following:

Table C402.1.3 (Mandatory)
Opaque Thermal Envelope Insulation Component of an Average Minimum Requirements, *R*-Value Method in following locations:

Roof C402.2.3	
Insulation entirely above roof deck	R-49/ R-49 ci
Metal buildings	R-21 + R-11 LS
Attic and other	R-49
Walls. Above grade C402.2.2	
Mass	R-21/ R-21 ci
Metal buildings	R-21 + R-10ci
Metal framed	R-21+ R-10ci
Wood framed and other	R-27/ R-20 + R-5 ci
Walls, Below grade C402.2.5	
Below-grade wall[b]	R-10 ci
Floors C402.2.3	
Mass	R-21
Joist/framing	R-38
Slab-on-grade floors C402.2.4	
Unheated	R-20 for 24" below
Heated	R-15 for 36" below + R-5 full slab

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 4.88 kg/m^2, 1 pound per cubic foot = 16 kg/m^3.
NR = No Requirement, LS = Liner System.

a.Where using *R*-value compliance method, a thermal spacer block shall be provided,
b.Where heated slabs are below grade, below-grade walls shall comply with the exterior insulation requirements for heated slabs.

Sec. 15.18.080.- Section C402.1.4 Deleted-. Component performance method

Section C402.1.4 Component performance method, is hereby deleted in its entirety.

Sec. 15.18.90.- Table C402.5 Deleted and Replaced-

Table C402.5 Building Envelope Fenestration Maximum U-Factor and SHGC Requirements, is hereby deleted and replaced with the following:

Table C402.5
Building Thermal Envelope Fenestration Maximum

Vertical Fenestration	
Maximum U-Factor Fixed/Operable	0.34/0.45
Maximum SHGC	0.33
Entrance Doors	0.63
Maximum air leakage rate for curtain walls and storefront glazing	.06 cfm/ft2
Skylights	
Maximum U-Factor	0.50
Maximum SHGC	0.40
Maximum Air leakage rate	.20 cfm/ft2

Sec. 15.18.100.- Section C405.1.2 added- Energy Storage Systems ESS

Section C405.1.2 of the International Energy Conservation Code is amended by the addition of a new *Section C405.1.2* to reads as follows:

C405.1.2. Lithium Energy Storage Systems (ESS).

C405.1.2 Lithium Energy Storage Systems (ESS). Energy storage systems shall not be installed inside the thermal building envelope

of a commercial structure, primary residence, or Accessory Dwelling Unit (ADU). The ESS shall be installed on the outside of the thermal envelope or in an exterior insulated shed attached or detached to the building envelope to protect from extreme heat and cold. The ESS shall have electrical disconnects within 3 to 6 ft of the ESS. The installation of an ESS in garages that are attached to a residence or ADU must have One Hour Fire rated walls and ceiling and or an approved Fire Suppression system in the garage. The ESS shall be installed on the wall farthest away from the residence inside the garage the ESS shall have a Heat Detector that is tied into the Smoke Detectors and shall have a flashing light on the battery with the fault.

EXCEPTION:

1. Commercial Buildings with a 1 hour rated room where mechanical ventilation is separated from the rest of the building and shall have a Heat Detector at each battery with a flashing light on the battery with the fault.

Sec.15.18.110.- Section R401.4 Added- Mandatory Requirements for Residential Buildings

Section R401.4 of the International Energy Conservation Code is added to read as follows:

R401.4 Mandatory requirements for residential buildings. Residential building must comply with the following sections from the 2024 International Energy Conservation Code found in Table R401.4 and Section R401.2.

Table R401.4
Mandatory requirements for residential buildings

Title	IECC Section
Vapor retarder	R402.1.1
Eave baffle	R402.2.4
Access hatches and doors	R402.2.5
Maximum fenestration U-factor and SHGC	R402.5
Mechanical Controls	R403.1
Ducts	R403.3 except R403.3.2, R403.3.3, and R403.6

Mechanical system piping insulation	R403.4
Heated water circulation and temperature maintenance systems	R403.5.1
Drain Water heat recovery units	R403.5.3
Mechanical ventilation	R403.6 including E403.6.1
Equipment sizing and efficiency rating	R403.7
Systems serving multiple dwelling units	R403.8
Mechanical system located outside thermal envelope	R403.9
Energy consumption of pools and spas	R403.10
Portable spas	R403.11
Residential pools and permanent residential spas	R403.12
Lighting equipment	R404.1
Interior lighting controls	R404.2

Sec.15.18.120.- Section R402.1 Amended- General

Section R402.1 General, is hereby amended to read as follows:

R402.1 General. The minimum building thermal envelope standards shall comply with the requirements of Section R402.1.1 and Table R402.1.2 including when using the Energy Rating Index.

Sec.15.18.130.- Section R402.1 Deleted and Replaced- Insulation and Fenestration

Section R402.1.2 Insulation and fenestration, is hereby deleted and replaced with the following*:*

R402.1.2 Insulation and fenestration. New and replacement assemblies shall have R-values and U-factors of insulation materials equal to or greater than that specified in Table R402.1.2 including if using an alternative path is specified such as a ANSI/RESNET/ICC 301 or HERS energy rating index of 50 or less.

Table R402.1.2
Mandatory Requirements
Minimum Insulation and Max Fenestration Requirements by Component

Roof	R-60
Above grade walls	R-30 or R-20 &R-5 ci
Below grade walls	R-21/ R-19 ci
Floors	R-38

Non heated slab on grade	R-10 for 4ft
Heated slab on grade	R-15 for 4 ft + R-5 under full slab
Fenestration U-Factor	.30
Fenestration SHGC	.33
Skylight U-Factor	.50
Skylight SHGC	.40
Hot Water Pipes	R-3
Warm Air Ducts	R-8

Sec.15.18.140.- Section R402.1.5 Deleted- Component performance alternative

Section R402.1.5 Total UA alternative, is hereby deleted in its entirety.

Sec.15.18.150.- Section R402.5.1. Deleted and Replaced- Building thermal envelope

Section R402.5.1. Testing, is hereby deleted and replaced to read as follows:

Section R402.5.1 Building thermal envelope All new buildings or dwelling units that are heated or cooled, and additions over 500 square feet shall be tested for air leakage. The building thermal envelope shall comply with section R402.5.1.1 through R402.5.1.3. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

Sec.15.18.160.- Section R406.3 Deleted and Replaced- Thermal Envelope

Section R406.3 Building Thermal envelope, is hereby deleted and replaced to read as follows:

R406.3 Building thermal envelope. The building thermal envelope shall be greater or equal to the standards in Table R406.3.

Exception: The Building Official may grant an exception to the minimum standards of this table for remodels if demonstrated by the applicant that there are practical difficulties that cannot be reasonably overcome to meet the standards and that the highest standard possible is achieved.

Table R406.3

Mandatory Requirements
Minimum Insulation and Maximum Fenestration Requirements by Component

Roof	R-60
Above grade walls	R-30 or R-20 &R-5 ci
Below grade walls	R-21/ R-19 ci
Floors	R-38
Non heated slab on grade	R-10 for 4ft
Heated slab on grade	R-15 for 4 ft + R-5 under full slab
Fenestration U-Factor	.30
Fenestration SHGC	.33
Skylight U-Factor	.50
Skylight SHGC	.40
Heated Water Pipes	R-3
Heated air Ducts	R-8

Sec.15.18.170.- Section R406.5 Deleted and Replaced- ERI based compliance

Section R406.5 ERI- based compliance, is hereby deleted and replaced to read as follows:

R406.5 ERI-based compliance. Compliance based on the ERI analysis shall have a score of 50 or less without including OPP. ERI based compliance shall meet all of the minimum standards of table R406.3

Sec.15.18.180.- Section R502.1 Amended- General

Section R502.1. General, is hereby amended to read as follows:

Additions to an existing building, building system or portion thereof shall conform to the provisions of table R402.1.2 as those provisions relate to new construction without requiring the unaltered portion of the existing building or building system to comply with this code. Additions shall not create unsafe or hazardous conditions or overload existing building systems. An addition shall be deemed to comply with this code where the addition alone complies, where the existing building and addition comply with this code as a single building, or where the building with the addition does not use more energy than the existing building. Additions shall be in accordance with Section R502.2 or R502.3.

15.18.190. - Copies available.

At least one copy of the 2024 International Energy Conservation Code and one copy of each secondary code pertaining thereto, as amended herein, certified to be true and accurate, shall be available for public inspection at the office of the Building Safety Division, between the hours of 9:00 a.m. and 4 p.m., Monday through Friday, except holidays and days City is closed. The city clerk shall at all times maintain a reasonable supply of copies of the code available for purchase by the public at a moderate price. Electronic copies are available, without amendment, at https://codes.iccsafe.org/public/collections/I-Codes.

Sec. 15.18.200. - Violations and penalties.

It shall be unlawful for any person, firm, or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the work to be done, in violation of the provisions of this chapter or the terms of the code or standards adopted and incorporated in this chapter. Any person convicted of a violation of any provision of this chapter or of the provisions of the code or standards adopted and incorporated in this chapter shall be subject to the penalty provided in section 1.28.010.

Section 11. If any article, section, paragraph, sentence, clause, or phrase of this ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part or parts hereof irrespective of the fact that any one part or parts be declared unconstitutional or invalid.

Section 12. The repeal or modification of any provision of any prior ordinance by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 13. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING, AND ORDERED PUBLISHED this _____ day of _____, 2025.

_____
Chris Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

APPROVED AS TO FORM:

_____
Kelly PC, City Attorney

PASSED AND ADOPTED ON SECOND AND FINAL READING, this _____ day of _____, 2025.

_____
Chris Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

DRAFT RESIDENTIAL AMENDMENTS FOR 2024 IECC ADOPTION

Version: Explanatory Version 1.2 DRAFT
Version Date: April 17, 2025

About This File: This document contains the regionally-aligned amendments to the 2024 International Energy Conservation Code – Residential Chapter. This is the "Explanatory" version which includes short notes and tags about each amendment as well as tracked changes (strikeouts and underlines) showing what changed from the base code.

Cohort Background and Goals: The 2024-2025 Metro Regional Building Policy Cohort (the "code cohort") is an extension and expansion of a previous successful cohort effort. Goals of the cohort are to collaboratively review and adopt the most recent energy code – the 2024 International Energy Conservation Code (IECC) – along with regionally-aligned and consistent supporting amendments. Primary outcomes include reducing energy use and climate emissions in the built environment while balancing affordability and equity; improving region-wide consistency for builders, developers, and contractors; emphasizing flexibility without sacrificing performance; streamlining workload for budget-constrained building departments; and allowing for adjustments in each community while maintaining overall general alignment. Primary participating communities include Boulder County, City of Boulder, Brighton, Broomfield, Berthoud, Edgewater, Erie, Golden, Lafayette, Longmont, Louisville, Northglenn, Superior, Thornton, and Westminster. The code cohort is expanding to the remainder of the Denver metro area communities in 2025. The code cohort is jointly led and supported by participating local governments, with facilitation and code expertise from Lotus Engineering and Sustainability, the Southwest Energy Efficiency Project (with support from the U.S. Department of Energy), and Shums Coda (with support from Xcel Energy). Funding is provided by participating local governments and by the federal government through a Climate Pollution Reduction Grant (CPRG) to the Denver Regional Council of Governments (DRCOG) for the Decarbonize DRCOG project.

Source Materials and Terminology: These amendments are for the 2024 International Energy Conservation Code, first printing, as published by the International Code Council. Most of the amendments are from the Low Energy and Carbon Code developed by the Colorado Energy Code Board (in draft form as of April 2025, and unofficially denoted here as "LECC"), unless otherwise noted. It also incorporates agreed-upon principles and frameworks from each of the participating cohort communities (denoted here as "Cohort"), and pulls several additional amendments from the previous 2021 IECC code cohort. Minor amendments are from the Model Green Code developed by the Colorado Energy Office (in draft form as of Feb 2025, and denoted here as "Green"). Other resources consulted and considered include amendment packages from other states, other local governments in Colorado, and national stakeholder groups.

ADOPTING LANGUAGE

Section xx. The International Energy Conservation Code, 2024 Edition, (the "IECC"), as published by the International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001, a copy of which is on file and open for inspection in the office of the [city/town/county] clerk, is hereby adopted by reference subject to the additions, amendments, and appendices set forth herein. The subject matter of the

IECC includes the design of energy-efficient and high-performance buildings and related energy uses including mechanical, lighting, power systems, and electric vehicle infrastructure for the purpose of protecting the public health, safety, and welfare. The IECC-Residential includes appendices RB, RE, RJ, and RK as amended. The 2024 IECC, as amended in this Article, shall apply to all property within the [Community]. The IECC is amended as follows.

RESIDENTIAL AMENDMENTS

This adopts the solar-ready, EV-ready, and electric-ready appendices required by current state law. It also adds demand response control capability for water heaters, required by state law. (LECC)
[Simplification from LECC] [Required by law]

1. **Section R101.2.1 Appendices** is amended as follows:
   R101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted. Appendices RB, RE, RJ, and RK as amended are hereby adopted.

This adds definitions necessary for the amendments below. (All-electric building, combustion equipment, future electric equipment, mixed fuel buildings, and off-grid homes are from Cohort; emergency power system and standby power system are from 2024 IBC)
[Clarification]

2. **Section R202 GENERAL DEFINITIONS** is amended to add the following definitions in alphabetical order:

   ALL-ELECTRIC BUILDING. A new *building* that contains no permanently-installed *combustion equipment* or plumbing for *combustion equipment*, or an *existing building* that contains no permanently-installed *combustion equipment.*

   COMBUSTION EQUIPMENT. Equipment or appliances that use *fuel gas*, *fuel oil*, or any other hydrocarbon-derived fuel or fuel blend to perform functions such as space heating, space cooling, *service water heating* (including pools and spas), cooking, clothes drying, humidification, or lighting. The scope of this definition may be limited to combustion-based space and water heating equipment where specifically indicated. Combustion equipment does not include *emergency power systems* or *standby power systems*.

   EMERGENCY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection, and ventilation systems in the event of a failure of the primary power. Emergency power systems are those required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

   FUTURE ELECTRIC EQUIPMENT. Electrically-powered equipment that could be installed in the future to replace *combustion equipment* to meet a similar end use or load.

   MIXED-FUEL BUILDING. A new *building* that contains *combustion equipment* or piping for *combustion equipment*, or an *existing building* that contains *combustion equipment*, in addition to electric loads.

   OFF-GRID HOME. A *residential building* that does not receive any site energy from a publicly or privately owned utility, including for electricity, *fuel gas*, or *fuel oil*.

STANDBY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required *building* or ventilation systems in the event of a failure of the primary power. Standby power systems are those required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

These changes are part of adding the optional Passive House compliance pathway (Green), removing the Tropical Climate Region Option (LECC), requiring net zero-level efficiency for extra-large homes (modified from LECC), and exempting off-grid homes from demand response capability and EV-ready requirements (Cohort).
[Flexibility] [Simplification from LECC] [Strengthening from base and LECC] [Limited cost reduction]

3. **Section R401.2 Application** is amended as follows:

   R401.2 Application. Residential *buildings* with less than an average of 5,000 square feet (465 m^2) of *conditioned floor area* per *dwelling unit* shall comply with Section R401.2.1, R401.2.2, R401.2.3, ~~or R401.2.4,~~ or R401.2.5, as well as appendices RB, RE, RJ, and RK as amended. Residential *buildings* with an average of 5,000 square feet (465 m^2) or more of *conditioned floor area* per *dwelling unit* shall comply with Section R401.2.3 or R401.2.5 as well as appendices RB, RE, RJ, and RK as amended.

   Exceptions:
   1. *Additions*, *alterations*, *repairs*, and *changes of occupancy* to *existing buildings* complying with Chapter 5.
   2. *Off-grid homes* need not comply with Appendix RE or Appendix RJ.

4. **Section R401.2.4 Tropical Climate Region Option** is deleted in its entirety.

5. **Section R401.2.5 Passive House Option** is added as follows:

   R401.2.5 Passive House Option. The Passive House option requires compliance with Section R409.

This clears up ambiguity by saying Tiny Homes need to meet the IRC appendix that specifically pertains to Tiny Homes, instead of the IECC.
[Clarification]

6. **Section R402.1 General is amended by adding a new exception as follows:**
   3. Tiny homes, as defined in the International Residential Code, designed in accordance with Appendix BB of the International Residential Code.

This amendment allows slab insulation to be omitted in sunrooms and heated garages if full compliance with other insulation requirements are met. In retrofits in particular, slab insulation requirements could necessitate complete demolition of the slab floor.
[Flexibility and cost reduction]

7. **Section R402.5.1.1 Sunroom and heated garage insulation** is amended by adding a new exception as follows:
   3. Slab insulation shall be permitted to be omitted where the minimum ceiling insulation *R-values* and minimum wall insulation *R-values* are installed.

This amendment requires insulation installation to meet a standard for high quality, while exempting performance-based pathways that already account for insulation effectiveness through modeling. (LECC)
[Clarification] [Minor strengthening from base] [Minor simplification from LECC]

8. **Section R402.5.1.1 Installation** is amended to read as follows:

   R402.5.1.1 Installation. The components of the *building thermal envelope* as indicated in Table R402.5.1.1 shall be installed in accordance with the following:
   1. The manufacturer's instructions.
   2. The criteria indicated in Table R402.5.1.1, as applicable to the method of construction.
   3. For *dwelling units* complying with Section R401.2.1, the requirements of a Grade 1 insulation installation in accordance with Appendix A of ANSI/RESNET/ICC 301.

This reduces costs by clarifying this air-sealing detail is only necessary between conditioned and unconditioned space. (LECC)
[Clarification] [Cost reduction]

9. **Table R402.5.1.1 Air Barrier, Air Sealing, and Insulation Installation** is amended by changing the text in the cell of the "Walls" row and the "Air Barrier, Air Sealing Criteria" column as follows:

   The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of *exterior walls* and interior walls that are adjacent to or abut unconditioned space shall be sealed. *Knee walls* shall be sealed.

This offers an alternative metric for measuring air leakage. The original metric, air changes per hour, is easier for large homes to meet and harder for smaller homes to meet. (Note: these rates are applicable to Climate Zone 5; see LECC for rates for other Climate Zones.) (LECC)
[Flexibility] [Cost reduction]

10. **Section R402.5.1.3 Maximum air leakage rate,** item #1, is amended to read as follows, with the rest of the section and exceptions to remain:

    1. Where complying with Section R401.2.1, the *building* or the *dwelling units* or *sleeping units* in the *building* shall have an *air leakage* rate not greater than 3.0 air changes per hour, or 0.17 cubic feet per minute per square foot [0.86 L/(s × m^2)] of the *building thermal envelope area* or the dwelling *testing unit enclosure area.*

The Department of Energy recommends setting the temperature for residential water heaters at 120 degrees, in order to be both low enough to save energy and high enough to kill bacteria and Legionella. The default setting for new residential water heaters is typically 140 degrees. That not only wastes energy but scalds human skin in less than a second, a safety risk especially for children, special needs adults, and seniors with dementia.
[Strengthening]

11. **Section R403.5.5 Water heater default temperature setting** is added as follows:

    R403.5.5 Water heater default temperature setting. Storage water heaters with a rated water storage volume of 40 gallons (150 L) to 120 gallons (450 L) and installed in new detached one- and two-family dwellings and townhouses shall have the default temperature setting set to 120 degrees F.

This clarifies when and how much electric resistance is allowed. (LECC)
[Minor strengthening from base] [Possible cost reductions]

12. **Section R403.7.1 Electric-resistance space heating** is amended to read as follows:

    R403.7.1 Electric-resistance space heating. Detached one- and two-family dwellings and townhouses ~~using~~ shall not use electric resistance space heating. ~~shall limit the total installed~~

~~heating capacity of total electric resistance space heating serving the *dwelling unit* to not more than 2.0 kW or shall install a heat pump in the largest space that is not used as a bedroom.~~

Exceptions:

1. Electric resistance heating used for supplemental heat in accordance with Section R403.1.2.
2. Electric resistance heating used for freeze protection.
3. Electric-resistance heating where the criteria in Section R408.2.2.2 for evaporative cooling are met.

This clarifies that air source heat pumps for new homes need to meet certain cold climate specifications.
[Clarification] [Strengthening from base and LECC]

13. A new **Section R403.7.2 Electric heating cold temperature performance** is added as follows:

Section R403.7.2 Electric heating cold temperature performance. Air source heat pumps installed in new detached one- and two-family dwellings and townhouses shall have a capability of maintaining no less than 70% of their rated heating capacity at 47°F (8.3°C) when tested at an outdoor temperature of 5°F (-15°C) per AHRI 210/240 or an equivalent testing standard, demonstrated by manufacturer documentation or third party certification.

Exception: Air source heat pumps installed as part of an *addition*, *alteration*, or replacement in an *existing residential building*.

These requirements are in state law. Gas fireplaces that do not meet these added requirements are not allowed to be sold or leased in the state. (Cohort)
[Clarification]

14. **Section R403.13. Gas fireplaces** is amended as follows:

Section R403.13. Gas fireplaces. Gas fireplaces must comply with all of the following requirements:

1. Gas fireplace systems shall not be equipped with a *continuous pilot* and shall be equipped with an *on-demand pilot*, *intermittent ignition* or *interrupted ignition*, as defined by ANSI Z21.20.
2. Gas fireplaces must be capable of *automatically* extinguishing any pilot flame when the main gas burner flame is extinguished or must prevent any ignition source for the main gas burner flame from operating continuously for more than seven days from the last use of the main gas burner.
3. Decorative gas fireplaces must have a direct vent or power vent configuration, unless the decorative gas fireplace is marked for replacement use only or outdoor use only or is a gas log set.

Exception: Gas-fired appliances using pilots within a listed combustion safety device.

This gives exterior lighting more flexibility by offering compliance with commercial lighting provisions, useful in particular for multifamily buildings. (LECC)
[Flexibility]

15. **Section R404.1.1 Exterior lighting** is amended by adding a new exception as follows:

7. Exterior lighting that meets the requirements of Section C405 of this code.

This disallows gas-powered lighting. Gas lighting is rarely used anymore, but this adds assurance that it can't be.
[Minor strengthening]

16. **Section R404.1.5 Fuel gas lighting** is amended to read as follows:

    Section R404.1.5. Fuel gas lighting. Fuel gas lighting systems ~~shall not be equipped with a pilot and shall be equipped with an on-demand pilot, intermittent ignition, or interrupted ignition as defined by ANSI Z21.20~~ are prohibited.

This removes the renewable energy certification documentation since these are usually handled by other processes or departments, and since many of the RECs requirements are removed or amended later in this code amendment package. (LECC)
[Simplification]

17. **Section R404.4 Renewable energy certificate (REC) documentation** is deleted in its entirety.

This simplifies the application of the Simulated Building Performance pathway for R-2 buildings by not needing a separate commercial common areas reports from other areas in the building envelope. (LECC)
[Simplification] [Cost reduction]

18. **Section R405.1 Scope** is amended as follows:

    R405.1 Scope. This section establishes criteria for compliance using *Simulated Building Performance* analysis. Such analysis shall include heating, cooling, mechanical *ventilation*, and *servce water heating* energy only. ~~Such analysis shall be limited to *dwelling units*. Spaces other than *dwelling units* in Group R-2, R-3 or R-4 buildings shall comply with Sections R402 through R404.~~

This pathway in the base code allows builders to model and compare the efficiency of their proposed design to a standard reference design. This amendment uses site energy as the modeling metric instead of fuel-specific energy cost (LECC), which shifts the focus to the actual energy demand and consumption instead of highly variable utility costs. Consistent with the other sections, the amendment also adds a differential between mixed fuel homes and all-electric homes, and adds a differential between regular homes and large homes.
[Simplification from base and LECC] [Cost reduction]

19. **Section R405.2 Simulated building performance compliance**, item #3, is replaced as follows:

    3. For each *dwelling unit*, the annual site energy use shall be less than or equal to the applicable percentage of the annual site energy use indicated in Table R405.2(1), as compared to the *standard reference design*.

TABLE R405.2(1) SIMULATED BUILDING PERFORMANCE COMPLIANCE TARGET

BUILDING SIZE	MIXED FUEL	ALL-ELECTRIC
Dwelling units with an average of <3,500 square feet (325 m^2) or less of *conditioned floor area*	80%	85%
Dwelling units with an average of 3,500 square feet (325 m^2) to 4,999 square feet (464 m^2) of *conditioned floor area*	70%	75%

a. Informative note: Site energy use should be expressed in either kBtu/year or kBtu/ft^2/year of *conditioned floor area*.
b. *Dwelling units* with greater than 5,000 square feet (325 m^2) of *conditioned floor area* must comply with the Energy Rating Index pathway in R401.2.3 or the Passive House pathway in R401.2.5.

20. **Table R405.2 Requirements for Simulated Building Performanc**e is renumbered as Table R405.2(2).

For the ERI pathway, this amendment removes the requirement that buildings choosing to install renewable energy must install a certain amount of that renewable energy.
[Simplification from base and LECC] [Cost reduction]

21. **Section R406.5 ERI-based compliance** is amended to read as follows:

R406.5 ERI-based compliance. Compliance based on an *ERI* analysis requires that the rated design and each confirmed as-built *dwelling unit* be shown to have an *ERI* less than or equal to the appropriate value indicated in Table R406.5 as compared to the *ERI reference design* ~~as follows:~~. The values in Table R406.5 shall be achieved prior to accounting for the installation of any on-site power production (OPP).

1. ~~Where on-site renewables are not installed, the values under ENERGY RATING INDEX NOT INCLUDING OPP apply.~~
2. ~~Where on-site renewables are installed, the values under ENERGY RATING INDEX WITH OPP apply.~~

Exception: For *buildings* with 20 or more *dwelling units*, where *approved* by the *code official*, compliance shall be permitted using the Average Dwelling Unit Energy Rating Index, as calculated in accordance with ANSI/RESNET/ICC 301.

1. ~~Where the *ERI* analysis excludes on-site power production (OPP), the values under ENERGY RATING INDEX NOT INCLUDING OPP shall be permitted to be applied.~~
2. ~~Where the *ERI* analysis excludes on-site power production (OPP), the values under ENERGY RATING INDEX NOT INCLUDING OPP shall be permitted to be applied.~~

This table adjusts the 2024 base code's ERI levels for our Climate Zone 5. It makes all-electric homes easier to meet than mixed fuel homes, and it makes regular sized homes easier to meet than large or extra-large homes.
[Simplification from base and LECC] [Strengthening from base and LECC]

22. **Table R406.5 Maximum Energy Rating Index** is replaced as follows:

TABLE R406.5 MAXIMUM ENERGY RATING INDEX

BUILDING SIZE	MIXED FUEL	ALL-ELECTRIC
Dwelling units with an average of <3,500 square feet (325 m^2) or less of *conditioned floor area*	50	54
Dwelling units with an average of 3,500 square feet (325 m^2) to 4,999 square feet (464 m^2) of *conditioned floor area*	46	50
Dwelling units with greater than 5,000 square feet (325 m^2) of *conditioned floor area*	42	46

Consistent with the themes in the other sections, this adds an electric-preferred differential (Cohort) and a home size differential (modified from LECC). It also removes the requirement to get credits for two or more categories if the full credits can be met from either a really good thermal envelope or a ground source heat pump. (LECC)
[Strengthening from base and LECC] [Flexibility]

23. **Section R408.2 Additional energy efficiency credit requirements** is amended to read as follows:

R408.2 Additional energy efficiency credit requirements. *Residential buildings* shall earn not less than ~~10~~ the appropriate number of credits indicated in Table R408.2.1, from not less than two measures specified in Table R408.2.2. ~~Five additional credits shall be earned for *dwelling units* with more than 5,000 square feet (465 m^2) of *living space* located above *grade plane*.~~ To earn credit as specified in Table R408.2.2 for the applicable *climate zone*, each measure selected for compliance shall comply with the applicable subsections of Section R408. Each *dwelling unit* or *sleeping unit* shall comply with the selected measure to earn credit. Interpolation of credits between measures shall not be permitted.

Exception: *Residential buildings* shall not be required to achieve credits from two or more measures in Table R408.2.2 if sufficient credits can be achieved to meet the requirements of this section from one of the following single measures:

1. Achieving a 30% reduction in the total TC in accordance with Section R408.2.1.1.
2. Installation of a ground source heat pump in accordance with Section R408.2.2 item number 1.

TABLE R408.2.1 ADDITIONAL ENERGY EFFICIENCY CREDIT REQUIREMENTS

BUILDING SIZE	MIXED FUEL CREDIT REQUIREMENTS	ALL-ELECTRIC CREDIT REQUIREMENTS
Dwelling units with an average of <3,500 square feet (325 m^2) or less of *conditioned floor area*	15	10
Dwelling units with an average of 3,500 square feet (325 m^2) to 4,999 square feet (464 m^2) of *conditioned floor area*	25	20

a. *Dwelling units* with greater than 5,000 square feet (325 m^2) of *conditioned floor area* must comply with the Energy Rating Index pathway in R401.2.3 or the Passive House pathway in R401.2.5.

This adds new options for credits from better windows, evaporative cooling, multifamily duct testing, ERV or HRV preheating limits, and refrigerants, as well as fuel neutrality credits (LECC). It also adds an electric preferred differential. Note: These credit values are applicable to Climate Zone 5.

[Strengthening from base and LECC] [Flexibility]

24. **Table R408.2 Credits for Additional Energy Efficiency** is renumbered R408.2.2, and the following items and footnotes are amended to read as follows, with the other items and footnotes to remain:

TABLE R408.2.2 CREDITS FOR ADDITIONAL ENERGY EFFICIENCY

MEASURE NUMBER	MEASURE DESCRIPTION	CREDIT VALUE: CZ 5
R408.2.1.2(2)	Improved fenestration	3
R408.2.2(4)	High performance gas furnace (Option 1)	~~6~~ 4

R408.2.2(5)	High performance gas furnace (Option 2)	~~5~~ 3
R408.2.2(11)	High performance gas furnace and cooling (Option 3)	~~6~~ 4
R408.2.2(12)	High performance gas furnace and cooling (Option 4)	~~7~~ 5
R408.2.2(13)	High performance gas furnace and heat pump for combined heating and cooling (Option 2)	~~11~~ 8
R408.2.2(14)	High performance heat pump for combined heating and cooling, with electric resistance backup (Option 2)	12
R408.2.2(15)[b]	Space heating fuel neutrality credit	2
R408.2.2.2[b]	Evaporative cooling	2
R408.2.3(1)(a)[d]	Gas-fired storage water heaters (Option 1)	~~4~~ 2
R408.2.3(1)(b)[d]	Gas-fired storage water heaters (Option 2)	~~5~~ 3
R408.2.3(2)(a)[d]	Gas-fired instantaneous water heaters (Option 1)	~~5~~ 3
R408.2.3(2)(b)[d]	Gas-fired instantaneous water heaters (Option 2)	~~6~~ 4
R408.2.3(9)[d]	Water heating fuel neutrality credit	1
R408.2.4(2)[c]	100% of duct systems in conditioned space	~~9~~ 7
R408.2.4(3)[c]	≥ 80% of ductwork inside conditioned space	~~7~~ 5
R408.2.4.1[c]	Duct leakage testing in all multifamily units	2
R408.2.5.1	ERV or HRV preheating	1
R408.2.7	Onsite renewable energy measures	~~9~~ 3
R408.2.13	Refrigerants	1

This provides details on the new optional credits for better windows. (LECC)
[Simplification from LECC] [Flexibility]

25. **Section R408.2.1.2 Improved fenestration** is amended to read as follows:

R408.2.1.2 Improved fenestration. Improved fenestration shall achieve credits for one of the following:

1. The area weighted average *U-factor* and *SHGC* of all vertical fenestration shall be equal to or less than the values specified in Table R408.2.1.2.
2. The area weighted average *U-factor* and *SHGC* of all vertical fenestration shall be equal to or less than the values for the Northern Climate Zone in the latest version of the ENERGY STAR specification for residential windows, doors and skylights.

This provides details on the new optional credits for space heating fuel neutrality. (LECC)
[Simplification from LECC] [Flexibility]

26. **Section R408.2.2 More efficient HVAC equipment performance options** is amended to add a new item #15 as follows:

    15. Space heating fuel neutrality credit: Heat pump with greater than or equal to the federal minimum efficiency rating for the location where the heat pump is installed, and a capacity ratio ≥ 70 percent of heating capacity at 5°F (-15°C) versus rated heating capacity at 47°F (8.3°C). For new *buildings*, the credit value for this item may be added to the credit value for R408.2.2(14) when the requirements of both measures are met. For *alterations*, the credit value for this item may be added to the credit value for R408.2.2(13) or R408.2.2(14) when the requirements of both measures are met.

This provides details on the new optional credits for evaporative cooling. (LECC)
[Flexibility]

27. A new **Section R408.2.2.2** Evaporative cooling is added as follows:

    R408.2.2.2 Evaporative cooling. Evaporative cooling *equipment* used for space cooling shall achieve the credits allocated in Table R408.2 where it meets all of the following:

    1. Not less than 80 percent of the total HVAC space cooling capacity of the *dwelling unit* is provided by evaporative cooling.
    2. Evaporative cooling equipment is installed in accordance with Section 928.1 of the International Mechanical Code.

This and the next item provide details on the new optional credits for water heating fuel neutrality. (LECC)
[Simplification from LECC] [Strengthening from base] [Flexibility]

28. **Section R408.2.3 Reduced energy use in service water-heating options** is amended to read as follows:

    R408.2.3 Reduced energy use in service water-heating options. For measure numbers R408.2.3(1) through R408.2.3(7) and R408.2.3(9), the installed hot water system shall meet one of the Uniform Energy Factors (UEF) or Solar Uniform Energy Factors (SUEF) in Table R408.2.3. For measure number R408.2.3(8), the hot water distribution system shall comply with Section R408.2.3.1. The credit value for R408.2.3(9) may be added to the credit value for other electric water heater options when the requirements of both measures are met.

29. **Table R408.2.3 Service Water Heating Efficiencies** is amended to add the following row:

TABLE R408.2.3 SERVICE WATER HEATING EFFICIENCIES

MEASURE NUMBER	WATER HEATER	SIZE AND DRAW PATTERN	TYPE	EFFICIENCY
R408.2.3(9)	Federal minimum efficiency HPWH	All storage volumes, all draw patterns	HPWH with or without hybrid electric resistance element	Equal to or greater than federal minimum efficiency standard

This provides details on the new optional credits for duct testing in all multifamily units, instead of just a sampling of them. (LECC)
[Flexibility]

30. A new **Section R408.2.4.1** is added as follows:

R408.2.4.1 Testing duct leakage in all multifamily dwelling units. *Buildings* with eight or more *dwelling units* or *sleeping units* shall test every *dwelling unit* or *sleeping unit* in accordance with the requirements of Section R403.3.7.

This provides details on the new optional credits for ERV and HRV preheating limits. (LECC)
[Flexibility]

31. A new **Section R408.2.5.1** is added as follows:

R408.2.5.1 ERV and HRV preheating limits. All systems that utilize energy recovery ventilation and utilize electric resistance to preheat outdoor air to defrost or temper air entering the energy recovery device shall comply with one of the following:

1. Where the space is mechanically humidified when the outdoor temperature is not greater than 25°F (-4°C) and the system recovers latent energy, the outdoor air shall not be preheated to greater than 25°F (-4°C).
2. For sensible-only heat recovery exchangers, outdoor air shall not be preheated to greater than 25°F (-4°C).
3. For all other systems, outdoor air shall not be preheated to greater than 5°F (-15°C).

This changes the optional credits for efficient appliances from a federal statute reference to the ENERGY STAR specification.
[Clarification]

32. **Table R408.2.6 Minimum Efficiency Requirements: Appliances** is replaced with the following:

TABLE R408.2.3 SERVICE WATER HEATING EFFICIENCIES

APPLIANCE TYPES	EFFICIENCY IMPROVEMENT	TEST PROCEDURE
Refrigerator	Meets the energy performance metrics in the most recent version of the applicable consumer ENERGY STAR specification	Test procedure contained in the most recent version of the applicable consumer ENERGY STAR specification
Dishwasher		
Clothes washer and clothes dryer		

This removes reference to a deleted section.
[Simplification from base]

33. **Section R408.2.7 Renewable energy** is amended as follows:

R408.2.7 Renewable energy. Renewable energy resources shall be permanently installed and have the rated capacity to produce not less than 1.0 watt of on-site renewable energy per square foot of *conditioned floor area*. ~~To qualify for this option, renewable energy certificate (REC) documentation shall meet the requirements of Section R404.4.~~

This removes an efficiency-weakening tradeoff added to the base 2024. (RECA)
[Strengthening from base and LECC]

34. **Section R408.2.9 Opaque walls** is deleted.

This provides details on the new optional credits for low-GWP refrigerants. (LECC)
[Flexibility]

35. A new **Section R408.2.12 Refrigerants** and **Table R408.2.12** Credit Adjustment for Refrigerant GWP Level are added as follows:

R408.2.12 Refrigerants. Projects that select equipment for space heating and *service water heating* that utilize low global warming potential (GWP) or ultra-low GWP refrigerants shall utilize Equation 4-4 to determine available credits:

Equation 4-4

$$EC_{ach} = EC_{base} \times EC_{adj}$$

where:
EC_{ach} = Refrigerant credit achieved for the project.
EC_{base} = Base credit from Table R408.2.
EC_{adj} = Credit adjustment factor from Table R408.2.14.

TABLE R408.2.12 CREDIT ADJUSTMENT FOR REFRIGERANT GWP LEVEL

REFRIGERANT CATEGORY	GWP LIMIT ($KGCO_2E$)	EC_{adj}
Ultra-low GWP	<10	100%
Low GWP	10 to 150	50%
Other	>150	0%

Along with the amendments above in R401, this adds the optional Passive House compliance path.
[Flexibility]

36. **Section R409 Passive House Compliance Option** is added as follows:

R409.1 Scope. This section establishes criteria for new *residential buildings* to comply using Passive House certification.

R409.2 Passive House compliance. Compliance based on the Passive House option requires certification in accordance with Section R409.3 or R409.4.

409.3 Passive House Institute US (PHIUS) certification. Achieve certification with the most recent PHIUS+ Passive Building Standard and provide documentation in accordance with Section 409.3.1.

409.3.1 Documentation. Documentation shall be provided to the *code official* demonstrating the following:

1. Prior to the issuance of a *building* permit, a PHIUS+ Design Certification Letter from PHIUS and a list of compliance features.
2. Prior to the issuance of a certificate of occupancy, a copy of the final certification submitted on a form that is *approved* by PHIUS to document compliance with the most recent PHIUS+ Standard.

409.4 Passive House Institute (PHI) certification. Achieve certification with the PHI Passive House Standard and provide documentation in accordance with Section 409.4.1.

409.4.1 Documentation. Documentation shall be provided to the *code official* demonstrating the following:

1. Prior to the issuance of a *building* permit, a signed Design Stage Conditional Assurance Letter from a PHI-accredited Passive House Certifier of intent to certify the *building* and list of compliance features.
2. Prior to the issuance of a certificate of occupancy, a copy of the final report submitted in a Certifiers Assurance Letter that is *approved* by PHI to document compliance with the Passive House Standard.

RESIDENTIAL EXISTING BUILDINGS

This adds a programmable thermostat anytime an HVAC system is replaced or expanded. (Mountain Cohort)
[Minor strengthening]

37. **Section R501.7 Programmable thermostat** is added as follows:

    Section R501.7 Programmable thermostat. *Alterations*, *additions*, and changes of occupancy that involve replacing or expanding a heating or cooling system shall comply with section R403.1.1 Programmable thermostat.

This amendment allows existing slabs under new additions to remain as-in without insulation if full compliance with other insulation requirements is met. Otherwise, slab insulation requirements could necessitate complete demolition of the slab floor.
[Flexibility] [Cost reductions]

38. **Section R502.2.1 Building thermal envelope** is amended by adding a second exception as follows:

    2. For *additions* where there is an existing slab, slab insulation shall be permitted to be omitted when the minimum ceiling insulation *R-values* and minimum wall insulation *R-values* of Table R402.1.3 are installed.

This exempts small additions from the requirement for efficiency improvements, and on the other hand also adds additional efficiency requirements for very large additions. (LECC)
[Strengthening from base and LECC] [Possible cost reductions]

39. **Section R502.2.5 Additional energy efficiency credit requirements for additions** is amended to read as follows, with exception #1 deleted and the other exceptions to remain:

    R502.2.5 Additional energy efficiency credit requirements for additions. *Additions* that increase the *existing building's* total *conditioned floor area* by 1,000 square feet (93 m^2) to 3,500 square feet (325 m^2) or by more than 25 percent within any three-year period shall comply with sufficient measures from Table R408.2 to achieve not less than 5 credits. *Additions* that increase the *existing building's* total *conditioned floor area* by greater than 3,500 square feet (325 m^2) within any three-year period shall comply with sufficient measures from Table R408.2 to achieve not less than 10 credits. *Alterations* to *existing buildings* that are not part of the *addition* but are permitted with an *addition* shall be permitted to be used to achieve this requirement.

This adds an exception to where improvements to the thermal envelope would otherwise be required. (LECC)
[Flexibility] [Cost reductions]

40. **Section R503.1.1 Building thermal envelope** is amended by adding a new exception as follows:

    5. Existing windows or doors that are removed and filled in with a wall assembly.

This amendment allows existing slabs to remain as in without insulation if full compliance with other insulation requirements is met. Otherwise, slab insulation requirements could necessitate complete demolition of the slab floor.
[Flexibility] [Cost reductions]

41. **Section R503.1.1.2 Roof, ceiling, and attic alterations** is amended by adding a new exception as follows:

    5. For *alterations* where there is an existing slab, slab insulation may be omitted when the minimum ceiling insulation *R-values* and minimum wall insulation *R-values* of Table R402.1.3 are installed.

This clarifies when a "substantial improvement" is substantial enough to warrant additional efficiency, by changing the terminology to "Alterations" and adding a threshold of 50% of the gross floor area affected. (LECC)
[Clarification]

42. **Section R503.1.3 Additional efficiency credit requirements for substantial improvements** is amended to read as follows:

    R503.1.5 Additional efficiency credit requirements for substantial improvements. ~~*Substantial improvements*~~ *Alterations* where the work area is 50 percent or more of the gross floor area of the *dwelling unit* shall comply with sufficient measures from Table R408.2 to achieve not less than three credits.

    Exceptions:
    1. *Alterations* that are permitted with an *addition* complying with Section R502.2.5.
    2. *Alterations* that comply with Section R405 or R406.
    3. ~~*Substantial improvements*~~ *Alterations* that do not include the addition or replacement of equipment covered in either Section R403.5 or R403.7.

RESIDENTIAL APPENDICES

The following provisions add the solar-ready code, required by state law.
[Simplification from LECC]

43. **Appendix RB Solar-Ready Provisions–Detached One- and Two-Family Dwellings and Townhouses** is renamed to **Appendix RB Solar-Ready Provisions–Residential Buildings.**

44. **Section RB103.1 General** is amended as follows:

    RB103.1 General. New ~~detached one- and two-family dwellings and townhouses~~ residential *buildings* with not less than 600 square feet (55.7 m2) of roof area oriented between 110 degrees and 270 degrees of true north or that have a *low-slope* roof shall comply with Sections RB103.2 through RB103.8.

    Exceptions:
    1. New residential *buildings* with a permanently installed on-site renewable energy system that provides electricity to the *dwelling unit's* electrical system.
    2. A *building* where all areas of the roof that would otherwise meet the requirements of RB103 are in full or partial shade for more than 70 percent of daylight hours annually.
    3. Group *R*-2, R-3, or R-4 *buildings* shall meet the requirements of Appendix CB, as amended, instead of this Appendix RB.

45. **Section RB103.2 Construction document requirements for solar-ready zone** is amended as follows:

    RB103.2 Construction document requirements for solar-ready zone.
    Construction documents shall indicate the location and size of the *solar-ready zone*, structural design loads for roof dead load and roof live load, and pathways for routing of conduit from the *solar-ready zone* to the electrical service panel.

The following provisions add the EV-ready code, required by state law.
[Simplification from LECC] [Required by state law]

46. In **Section RE101.1 Definitions**, the following definition is amended:

    ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles and electric motorcycles, primarily powered by an electric motor that draws current from a *building* electrical service, electric vehicle supply equipment (EVSE), a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current. Off-road, self-propelled electric mobile equipment, including but not limited to, industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, and boats are not considered electric vehicles.

47. **Section RE101.2 Electric vehicle power transfer infrastructure** is amended as follows:

    RE101.2 Electric vehicle power transfer infrastructure. New residential *automobile parking spaces* for ~~residential *buildings*~~ new one- and two-family dwellings and townhouses shall be provided with *electric vehicle* power transfer infrastructure in accordance with Sections RE101.2.1 through ~~RE101.2.5~~ RE101.2.6. Group *R*-2, R-3, or R-4 *buildings* shall meet the requirements of Appendix CG instead of this Appendix RE.

48. **Section RE101.2.1 Quantity** is amended as follows, and both exceptions are deleted:

    RE101.2.1 Quantity. New one- and two-family dwellings and townhouses with a designated attached or detached garage or other on-site private parking provided adjacent to the *dwelling unit* shall be provided with one ~~*EV capable*~~, *EV ready* ~~or *EVSE*~~ space per *dwelling unit*. ~~R-2 occupancies or allocated parking for R-2 occupancies in mixed-use *buildings* shall be provided with an *EV capable space*, *EV ready space* or *EVSE* space for 40 percent of the *dwelling units* or *automobile parking spaces*, whichever is less.~~

49. **Section RE101.2.2 EV capable spaces** is deleted.

50. **Section RE101.2.3 EV ready spaces**, item #1, is amended as follows with the other items to remain:

    RE101.2.3 EV ready spaces. Each branch circuit serving *EV ready spaces* shall comply with all of the following:
    1. Termination at an outlet or enclosure located within ~~6 feet (1828 mm)~~ 3 feet of each *EV ready space* it serves and marked “For electric vehicle supply equipment (EVSE).”.
        Exception: An outlet or enclosure shall not be required if a hard-wired *EVSE* is installed.

51. **Section RE101.2.4 EVSE spaces** is deleted.

52. **Section RE101.2.5 Electrical distribution system capacity** is amended as follows, and item #2 is deleted:

    RE101.2.5 Electrical distribution system capacity. The branch circuits and electrical distribution system serving each ~~*EV capable space,*~~ *EV ready space* ~~and *EVSE space*~~ used to comply with Section RE101.2.1 shall ~~comply with one of the following:~~ be sized for a calculated *EV* charging load of not less than ~~6.2~~ 8.3 kVA per ~~*EVSE,*~~ *EV ready~~,~~ space*. Where a circuit is shared or managed, it shall be in accordance with NFPA 70.

53. **Section RE101.2.6 Identification** is added as follows:

    RE101.2.6 Identification. Construction documents shall designate all *EV ready spaces* and indicate the locations of raceway and/or conduit and termination points serving them.

This adds technical clarity to the demand response section. (LECC)
[Clarification] [Simplification from LECC]

54. **Section RJ10.1 Demand responsive water heating**, exception #1, is amended as follows:

    1. Water heaters that are required to provide a constant hot water delivery temperature of 180°F (82°C) or greater.

This adds demand response controls for heating and cooling systems. (Cohort)
[Strengthening]

55. **Section RJ103.1 Demand responsive controls for heating and cooling systems** is added as follows:

    RJ103.1.1 Demand responsive controls for heating and cooling systems. Electric heating and cooling systems for *residential buildings* shall be provided with *demand responsive controls* that meet the requirements of Appendix CI Section 101.

The following appendix is the electric-ready code, required by state law (LECC). Note: the base code electric-ready appendix differs too substantially from the required state code to be referenced and amended. Note also: The addition of the last item is to ensure sufficient physical space and air volume for a future heat pump water heater (Cohort).
[Required by law] [Strengthening] [Electric-preferred]

56. **Appendix RK Electric Readiness** is adopted and replaced with the following:

    RK101.1 General. The provisions of this section shall be applicable for all new *buildings*, and major renovations and *additions*.

    RK102.1 Additional electric infrastructure. *Combustion equipment* in *residential buildings* must meet the requirements of this Appendix RK.

    Exceptions:
    1. Interior fireplaces that do not serve as a primary source of heating.
    2. Exterior fireplaces and firepits.

RK103.1 Combustion equipment. *Combustion equipment* shall be provided with all of the following:

1. A dedicated, appropriately phased branch circuit sized to accommodate *future electric equipment* or appliances to serve a comparable capacity to meet the heating load.
    1.1. The branch circuits serving future electric clothes drying equipment and water heaters shall be sized with a rating not less than 240 volts and not less than 30 amperes.
    Exception: Water heaters serving multiple *dwelling units* in a R-2 occupancy.
    1.2. The branch circuits serving future cooking equipment shall be sized with a rating not less than 240 volts and not less than 40 amperes.
2. An electric receptacle or junction box that meets the requirements of Section RK106.1, and is connected to the electrical panel through the branch circuit. Each electrical receptacle or junction box shall have reasonable access to the *combustion equipment* or dedicated physical space for *future electric equipment* with no obstructions other than the current *combustion equipment*.
3. Where *combustion equipment* is used for space or water heating, dedicated physical space shall be provided for *future electric equipment*, including an electric resistance backup coil for ducted systems, if applicable. Physical space occupied by existing *combustion equipment* or other equipment serving the same load shall be permitted to count towards satisfying the physical space requirement, subject to approval by the *code official*.

RK104.1 Electrical panel space. The electrical panel shall have a reserved space for a minimum two-pole circuit breaker for each branch circuit provided for *future electric equipment* or appliances. The electrical panel shall be sized for the electrical load necessary to meet an equivalent electrical load for any *combustion equipment*. Electrical loads shall be calculated in accordance with the National Electrical Code.

RF105.1 Labeling. The junction box or receptacle and the dedicated circuit breaker space serving *future electric equipment* or appliances in the electrical panel shall be labeled for their intended use.

RK106.1 Adjacency. The electrical receptacle or junction box must be provided within 3 feet of the *combustion equipment* or appliances, or within 3 feet of the dedicated physical space for *future electric equipment* or appliances.

Exception: For *combustion equipment* dedicated to space or water heating, the electrical receptacle or junction box shall be located not more than 6 feet from the *combustion equipment* or the dedicated physical space for *future electric equipment*.

RK107.1 Condensate drain. Where *combustion equipment* for space heating and water heating is installed, a location shall be provided for condensate drainage and shall be noted on the construction drawings.

RK108.1 Water heating equipment space and airflow access requirements. Water heaters with *combustion equipment* shall be located in a space with the following characteristics:

1. Combustion air provided and sized in accordance with Section 2407 of the International Residential Code.
2. Minimum dimensions of 3 feet by 3 feet by 7 feet high.
3. Sufficient airflow access meeting one of the following options:

3.1. Minimum volume of 700 cubic feet (19.8 m^3). Volume may include adjacent spaces if air can freely circulate (e.g. without solid barriers or doors).

3.2. Louvered door(s) with a total minimum net free area of 100 square inches, split between high and low placement.

3.3. Transfer grille(s) or duct(s) to an adjacent space, sized to provide ≥ 100 CFM of airflow. Ducts and grills shall be sized to limit pressure drop and avoid excessive fan cycling.

3.4. Direct ducting to the exterior, sized in accordance with heat pump water heater manufacturers' requirements for intake and exhaust air for a similar-capacity system.

Exception: Water heaters with an input capacity of greater than or equal to 300,000 Btu/h that serve multiple *dwelling units* or *sleeping units.*

DRAFT COMMERCIAL AMENDMENTS FOR 2024 IECC ADOPTION

Version: Explanatory Version 1.2 DRAFT
Version Date: April 27, 2025

About This File: This document contains the regionally-aligned amendments to the 2024 International Energy Conservation Code – Commercial Chapter. This is the "Explanatory" version which includes short notes about each amendment as well as tracked changes (strikeouts and underlines) showing what changed from the base code.

Cohort Background and Goals: The 2024-2025 Metro Regional Building Policy Cohort (the "code cohort") is an extension and expansion of a previous successful cohort effort. Goals of the cohort are to collaboratively review and adopt the most recent energy code – the 2024 International Energy Conservation Code (IECC) – along with regionally-aligned and consistent supporting amendments. Primary outcomes include reducing energy use and climate emissions in the built environment while balancing affordability and equity; improving region-wide consistency for builders, developers, and contractors; emphasizing flexibility without sacrificing performance; streamlining workload for budget-constrained building departments; and allowing for adjustments in each community while maintaining overall general alignment. Primary participating communities include Boulder County, City of Boulder, Brighton, Broomfield, Berthoud, Denver, Edgewater, Erie, Golden, Lafayette, Longmont, Louisville, Northglenn, Superior, Thornton, and Westminster. The code cohort is expanding to the remainder of the Denver metro area communities in 2025. The code cohort is jointly led and supported by participating local governments, with facilitation and code expertise from Lotus Engineering and Sustainability, the Southwest Energy Efficiency Project, and Shums Coda (with support from Xcel Energy). Funding is provided by participating local governments and by the federal government through a Climate Pollution Reduction Grant (CPRG) to the Denver Regional Council of Governments (DRCOG) for the Decarbonize DRCOG project.

Source Materials and Terminology: These amendments are for the 2024 International Energy Conservation Code, first printing, as published by the International Code Council. Most of the amendments are from the Low Energy and Carbon Code developed by the Colorado Energy Code Board (in draft form as of April 2025, and unofficially denoted here as "LECC"). It also incorporates agreed-upon principles and frameworks from each of the participating cohort communities (denoted here as "Cohort"), and pulls several additional amendments from the previous 2021 IECC code cohort. Minor amendments are from the Model Green Code developed by the Colorado Energy Office (in draft form as of April 2025, and denoted here as "Green").

ADOPTING LANGUAGE

Section xx. The International Energy Conservation Code, 2024 Edition, (the "IECC"), as published by the International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001, a copy of which is on file and open for inspection in the office of the [city/town/county] clerk, is hereby adopted by reference subject to the additions, amendments, and appendices set forth herein. The subject matter of the IECC includes the design of energy-efficient and high-performance buildings and related energy uses

including mechanical, lighting, power systems, and electric vehicle infrastructure for the purpose of protecting the public health, safety, and welfare. The IECC-Commercial includes appendices CB, CG, CH, and CI. The 2024 IECC, as amended in this Article, shall apply to all property within the [Community]. The IECC is amended as follows.

COMMERCIAL AMENDMENTS

This adopts the solar-ready, EV-ready, electric-ready, and demand response appendices to align with state law and best practices. (LECC but different format)
[Simplification from LECC] [Minor strengthening]

1. **Section C101.2.1 Appendices** is amended as follows:
   C101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted. Appendices CB, CG, CH, and CI are hereby adopted.

This requires notification of intent to hire third-party air leakage testing agency and confirmation that third party understands the proper inspection sequence. (LECC)
[Better enforcement]

2. **Section C107.2.2 Building thermal envelope is amended to read as follows:**

   C107.2.2 Building thermal envelope. Inspections shall verify the type of insulation, *R-values*, location of insulation, *thermal bridge* mitigation, *fenestration*, *U-factor*, *SHGC* and *VT*, and that *air leakage* controls are installed, as required by the code, *approved* plans and specifications. At the request of the *code official*, a letter or proof of intent to contract with an *approved* third-party testing agency describing the *air barrier* inspection sequencing shall be provided to the *code official* prior to completion of rough framing or insulation inspections, and shall be signed by the *building* owner or the *building* owner's representative.

This adds or modifies definitions necessary for these amendments. (LECC, Cohort)
[Clarification]

3. **Section C202 GENERAL DEFINITIONS** is amended to change or add the following definitions in alphabetical order:

   ALL-ELECTRIC BUILDING. A new *building* that contains no permanently-installed *combustion equipment* or plumbing for *combustion equipment*, or an existing *building* that contains no permanently-installed *combustion equipment.*

   COMBUSTION EQUIPMENT. Equipment or appliances that use *fuel gas*, *fuel oil*, or any other hydrocarbon-derived fuel or fuel blend to perform functions such as space heating, space cooling, *service water heating* (including pools and spas), cooking, clothes drying, humidification, or lighting. The scope of this definition may be limited to combustion-based space and water heating equipment where specifically indicated. Combustion equipment does not include *emergency power systems* or *standby power systems*.

   CORE AND SHELL. The first phase of a commercial project that has the outer *building* envelope constructed and may contain interior lighting and heating and has not received a permanent Certificate of Occupancy.

   EMERGENCY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection, and ventilation systems in the event of a failure of the primary power. Emergency power systems are those required for

electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

ENERGY USE INTENSITY (EUI). The metric indicating the total amount of site energy consumed by a *building* in 1 year divided by the gross floor area of the *building*, and reported in kBtu per square foot.

FIRST TENANT FINISH. The first tenant finish(es) in a new structure or *core and shell building* that is credited towards meeting the requirements of the commercial provisions of the energy code.

FUEL GAS. A natural gas, manufactured gas, liquefied petroleum gas, or mixtures of these gases that is burned to produce heat or energy.

FUEL OIL. Kerosene or any hydrocarbon oil having a flash point of not less than 100°F (38°C).

FUTURE ELECTRIC EQUIPMENT. Electrically-powered equipment that could be installed in the future to replace *combustion equipment* to meet a similar end use or load.

MIXED-FUEL BUILDING. A new *building* that contains *combustion equipment* or piping for *combustion equipment*, or an existing building that contains *combustion equipment*, in addition to electric loads.

STANDBY POWER SYSTEM. A source of automatic electric power of a required capacity and duration to operate required *building*, hazardous materials, or ventilation systems in the event of a failure of the primary power. Standby power systems are those required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

This specifies which appendices apply.
[Simplification from LECC] [Minor strengthening]

4. **Section C401.2 Application** is amended to read as follows:

   C401.2 Application. *Commercial buildings* shall comply with Section C401.2.1 ~~or C401.2.2~~ and Appendix CB, CG, CH, and CI as amended.

This section lists the compliance pathway options. This amendment adds the optional All-Electric and Passive House pathways, and adds an appendix reference. (Cohort)
[Strengthening from base and LECC] [Flexibility]

5. **Section C401.2.1 International Energy Conservation Code** is amended to read as follows, with exception to remain:

   C401.2.1 International Energy Conservation Code. *Commercial buildings* shall comply with one of the following:

   1. **Prescriptive Compliance.** The Prescriptive Compliance option requires compliance with Sections C402 through C406 and Section C408. *Dwelling units* and *sleeping units* in Group R-2 buildings shall be deemed to be in compliance with this chapter, provided they comply with Sections R406 and Appendix RK as amended.
   2. ***Simulated Building Performance.*** The *Simulated Building Performance* option requires compliance with Section C407.
   3. ***All-Electric***. The *All-Electric* option requires compliance with Section C411.

4. **Passive House.** The Passive House option requires compliance with Section C412.

This flags that ASHRAE 90.1 is no longer a standalone pathway in this code, and is instead included within Section C407 with some further modifications there.
[Clarification from LECC]

6. **Section C401.2.2 ASHRAE 90.1** is rewritten to read as follows:

   C401.2.2 ASHRAE 90.1. ANSI/ASHRAE/IES 90.1 shall not be used as a compliance path under this code except where specifically referenced in Section C407 for performance-based compliance. Where referenced in Section C407, the standard shall be applied as modified by that section.

This deletes a redundant provision already covered in the mechanical code. (LECC)
[Clarification]

7. **Section C402.1.2.1.8 Mechanical equipment penetrations** is deleted in its entirety.

This fixes a construction and maintenance challenge for ceilings above semi-heated spaces. (LECC)
[Upfront cost reduction]

8. **Section C402.1.3.3 Suspended ceilings** is amended to add exceptions as follows:

   C402.1.3.3 Suspended ceilings. Insulation installed on suspended ceilings having removable ceiling tiles shall not be considered part of the minimum thermal resistance (R-value) of roof insulation in roof/ceiling construction.

   Exceptions: Suspended ceilings with heated plenums over parking garages where access to mechanical systems is required and that meet the following criteria:
   1. Insulation is a minimum of R-19 and is supported in a permanent manner by a support no greater than 24 inches on center.
   2. The plenum above the parking garage is heated by a heating system whose output capacity does not exceed 12 Btu/H x ft^2.

This expands the cool roof requirement to Climate Zone 5 to mitigate the urban heat island effect. Note: This doesn't impact solar panels, skylights, mechanical equipment, rooftop amenities, vegetative roofs, etc. and it doesn't apply to roof repairs, recovering, or replacement. (Cohort 1)
[Minor strengthening]

9. **Section C402.4 Roof solar reflectance and thermal emittance**, first sentence, is amended as follows, with the exceptions and other parts of the section to remain:

   C402.4 Roof solar reflectance and thermal emittance. Low-slope roofs directly above cooled *conditioned spaces* ~~in Climate Zones 0 through 3~~ shall comply with one or more of the options in Table C402.4.

This clarifies that air barrier details need to be clearly marked on construction drawings for enforceability. (LECC)
[Better enforcement]

10. **Section C402.6.1.1 Air barrier design and documentation requirements** is amended to add a new item #6 to read as follows:

6. The *air barrier* boundary limits and size of the surface area of the *air barrier* (floor, wall, and ceiling or roof), and of the zone or zones to be tested for maximum *building* air infiltration or exfiltration, shall be clearly identified on the *approved construction drawings*.

This fixes a typo in the 2024 IECC. (LECC)
[Clarification]

11. **Section C402.6.1.2 Air barrier construction** item #1 is amended to read as follows:

    1. The *air barrier* shall be continuous for all assemblies that comprise the *building thermal envelope* and across the joints and assemblies.

This makes sure that the results of air barrier testing are delivered to the building owner and the code official at a point when corrections could still be made if necessary. (LECC)
[Better enforcement]

12. **Section C402.6.2.3 Building thermal envelope design and construction verification criteria** item #2 is amended to read as follows:

    2. Inspection of continuous *air barrier* components and assemblies shall be conducted during construction to verify compliance with the requirements of Section C402.6.2.3.1 and C402.6.2.3.2. If conducted by an *approved* third-party, the inspection shall comply with the protocols established in Section C402.6.1.1, and the *air barrier* and air sealing inspection report shall be provided to the *building* owner or owner's authorized agent and the *code official* at the time of rough framing or insulation inspection. The *air barrier* shall be provided with access for inspection and repair.

This clarifies that heat pumps need controls that limit the supplemental heat to just the times and situations when the heat pump can't meet the heating need. (LECC)
[Clarification] [Minor simplification from LECC]

13. **Section C403.4.1.1 Heat pump supplementary heat** is amended as follows:

    C403.4.1.1 Heat pump supplementary heat.
    Heat pumps having supplementary ~~electric resistance~~ heat shall have controls that limit supplemental heat operation to only those times when one of the following applies:
    1. The vapor compression cycle cannot provide the necessary heating energy to satisfy the thermostat setting.
    2. The heat pump is operating in defrost mode.
    3. The vapor compression cycle malfunctions.
    4. The thermostat malfunctions.

This more clearly defines which type of equipment is exempted. (LECC)
[Clarification]

14. **Section C403.5 Economizers** exception #7 is amended to read as follows:

    1. ~~Direct expansion~~ Fan coils or unitary equipment with a capacity less than 54,000 Btu/h (15.8 kW) and ~~multiple stages of compressor capacity~~ installed with a dedicated outdoor air system.

This disallows piping insulation protection that can easily degrade over time. (LECC)
[Technical functionality]

15. **Section C403.13.3.1 Protection of piping insulation** is amended to read as follows:

C403.13.3.1 Protection of piping insulation. Piping insulation exposed to the weather shall be protected from physical damage, including that caused by sunlight, moisture, equipment maintenance, and wind. The protection shall provide shielding from solar radiation that can cause degradation of the material. The protection shall be removable and reusable for not less than 6 inches (150 mm) from the connection to the equipment piping for maintenance. Adhesive tape and paint products applied to HVAC system insulating materials, and similar applications that require maintenance shall not be permitted as a means of insulation protection, although such products and applications may still be used for other purposes where allowed or required by other codes.

This eases the requirements for daylight-responsive lighting controls, reducing upfront costs. (LECC)
[Upfront cost reduction]

16. **Section C405.2.4 Daylight responsive controls** is amended to read as follows, with exceptions to remain:

    C405.2.4 Daylight responsive controls. *Daylight responsive controls* complying with Section C405.2.4.1 shall be provided to control the *general lighting* within *daylight zones* in the following spaces:

    1. Spaces with a total of more than ~~75~~ 150 watts of *general lighting* within primary sidelit *daylight zones* complying with Section C405.2.4.2.
    2. Spaces with a total of more than ~~150~~ 300 watts of *general lighting* within sidelit *daylight zones* complying with Section C405.2.4.2.
    3. Spaces with a total of more than ~~75~~ 150 watts of *general lighting* within toplit *daylight zones* complying with Section C405.2.4.3.

This corrects an oversight by saying demand-responsive lighting controls have to be able to communicate with the utility. (LECC)
[Clarification]

17. **Section C405.2.8.1 Demand responsive lighting controls function** is amended to add a new item #5 as follows:

    5. Receiving and responding to a utility *demand response signal* from the specific utility providing electric power to the *building.*

This disallows gas-powered lighting. Gas lighting is rarely used anymore, but this adds assurance that it can't be. (Cohort 2021)
[Minor strengthening]

18. **Section C405.5.3 Gas lighting** is amended to read as follows:

    C405.5.3. Gas lighting. Gas fired lighting appliances ~~shall not be equipped with continuously burning pilot ignition systems.~~ are prohibited.

This removes the requirement for automatic receptacle controls (e.g. occupancy sensors), since their energy savings aren't high enough to justify their expense and complexity. (LECC)
[Upfront cost reductions]

19. **Sections C405.12 Automatic receptacle control** and **C405.12.1 Automatic receptacle control function** are deleted in their entirety.

This raises the building size threshold for energy monitoring capability from 10,000 to 25,000 sq ft, to reduce costs for new small businesses while improving alignment with benchmarking policies. (LECC)
[Upfront cost reductions]

20. **Section C405.13 Energy monitoring** is amended to read as follows, with the exceptions to remain:

    C405.13 Energy monitoring. New *buildings* with a gross *conditioned floor area* of not less than ~~10,000~~ 25,000 square feet (2,323.6 m²) shall be equipped to measure, monitor, record, and report energy consumption in accordance with Sections C405.13.1 through C405.13.6 for load categories indicated in Table C405.13.2 and Sections C405.13.7 through C405.13.11 for end-use categories indicated in Table C405.13.8.

This specifies separate submetering for EV charging, to help building owners more easily understand building loads and comply with benchmarking policies. (Cohort 2021)
[Technical functionality]

21. **Table C405.13.2 ENERGY USE CATEGORIES** is amended to add a new line at the end:

Electric vehicle charging	*Electric vehicle* charging loads.

This removes mandatory on-site renewable energy requirements which, given our highly renewable grid, are high-cost and low-benefit. It's more appropriate in Colorado to leave solar as an option for meeting the additional credits rather than a straight requirement. (LECC)
[Cost reduction] [Simplification from base]

22. **Section C405.15 Renewable energy systems** and all of **Sections C405.15.1** through **C405.15.4** are deleted in their entirety.

This combines the efficiency, renewable, and load management credits into one "bucket" and adds electric-preferred differentials. (LECC)
[Simplification from base and LECC]

23. **Section C406.1 Compliance** is amended as follows:

    Section C406.1 Compliance. *Buildings* shall comply as follows:

    1. *Buildings* with greater than 2,000 square feet (186 m²) of *conditioned floor area* shall comply with Section C406.1.1.
       ~~*Buildings* with greater than 5,000 square feet (465 m²) of *conditioned floor area* shall comply with Sections C406.1.1 and C406.1.2.~~
    2. Build-out construction greater than 1,000 square feet (93 m²) of *conditioned floor area* that does not have final lighting or final HVAC systems installed under a prior building permit shall comply with Section ~~C406.1.1.2~~ C406.1.1.3.

    Exceptions: Core and shell *buildings* where not less than 20 percent of the net floor area is without final lighting or final HVAC that comply with the following:

    1. *Buildings* with greater than 5,000 square feet (465 m²) of *conditioned floor area* shall comply with Section ~~C406.1.2~~ C406.1.1.
    2. Portions of the *building* where the net floor area is without final lighting or final HVAC shall comply with Section ~~C406.1.1.2~~ C406.1.1.3.
    3. Portions of the *building* where the net floor area has final lighting and final HVAC systems shall comply with Section C406.1.1.

24. **Section C406.1.1 Additional energy efficiency credit requirements** is renamed **Additional energy credit requirements** and replaced as follows:

C406.1.1 Additional energy credit requirements. *Buildings* shall comply with measures from Sections C406.2 and C406.3 to achieve not less than the number of required ~~efficiency~~ energy credits in accordance with Sections C406.1.1.1 or C406.1.1.2 as applicable. Where a project contains multiple occupancies, the total required energy credits from each building occupancy shall be weighted by the gross *conditioned floor area* to determine the weighted-average project energy credits required. Accessory occupancies shall be included with the primary occupancy group for the purposes of Section C406.

Exceptions:

~~1.~~ Portions of *buildings* devoted to manufacturing or industrial use.

~~2. Where a *building* achieves more renewable and load management credits in Section C406.3 than are required in Section C406.1.2, surplus credits shall be permitted to reduce the required energy efficiency credits as follows:~~

~~EEC_{red} = EECtbl -{the lesser of: [$SRLM_{lim}$, $SRLM_{adj}$ x (RLM_{ach} – RLM_{req})]}~~

~~**(Equation 4-12)**~~

~~where:~~

~~EEC_{red} = Reduced required energy efficiency credits.~~

~~EEC_{tbl} = Required energy efficiency credits from Table C406.1.1(1).~~

~~$SRLM_{lim}$ = Surplus renewable and load management credit limit from Table C406.1.1(2).~~

~~$SRLM_{adj}$ = 1.0 for all-electric or all-renewable buildings (excluding emergency generation); 0.7 for buildings with fossil fuel equipment (excluding emergency generation).~~

~~RLM_{ach} = Achieved renewable and load management credits from Section C406.3.~~

~~RLM_{req} = Required renewable and load management credits from Section C406.1.2.~~

C406.1.1.1 Mixed fuel buildings. *Buildings* that use *combustion equipment* for space heating or *service water heating*, other than for supplemental heating in accordance with Section C403.4.1.1, shall achieve the number of required energy credits in Table C406.1.1.1, based on building occupancy group and *conditioned floor area*. Credit ID R01 shall receive no more than the maximum credit value indicated in column #4 of the table.

Exceptions: *Buildings* that meet any of the following criteria shall achieve the number of required energy credits in accordance with Section C406.1.1.2:

1. *Buildings* that use *combustion equipment* only for specialized *service water heating* uses where determined by and approved by the *code official*, including but not limited to water heating for pools or spas.
2. Low-energy *buildings* complying with Section C402.1.1.1.
3. Portions of *buildings* in Group U, Group S, Group F, or Group H occupancies.

TABLE C406.1.1.1 CREDIT REQUIREMENTS FOR MIXED FUEL BUILDINGS

BUILDING OCCUPANCY GROUP	CONDITIONED FLOOR AREA 2,000-4,999 FT^2	CONDITIONED FLOOR AREA ≥ 5,000 FT2	MAXIMUM CREDITS FROM ID R01
R-2, R-4, and I-1	113	146	5
I-2	54	82	26
R-1	108	141	37

B	91	138	35
A-2	90	100	5
M	78	126	5
E	84	132	32
S-1 and S-2	82	172	35
All Other	45	89	6

C406.1.1.2 All other buildings. *Buildings* that do not use *combustion equipment* for space heating or *service water heating*, other than for supplemental heating in accordance with Section C403.4.1.1, shall achieve the number of required energy credits in Table C406.1.1.2, based on building occupancy group and *conditioned floor area*. Credit ID R01 shall receive no more than the maximum credit value indicated in column #4 of the table.

TABLE C406.1.1.2 CREDIT REQUIREMENTS FOR ALL OTHER BUILDINGS

BUILDING OCCUPANCY GROUP	CONDITIONED FLOOR AREA 2,000-4,999 FT^2	CONDITIONED FLOOR AREA ≥ 5,000 FT^2	MAXIMUM CREDITS FROM ID R01
R-2, R-4, and I-1	90	123	5
I-2	43	71	26
R-1	86	119	37
B	73	120	35
A-2	72	82	5
M	62	110	5
E	67	115	32
S-1 and S-2	82	172	35
All Other	36	80	6

25. **Section C406.1.1.2** is renumbered as **Section C406.1.1.3** and items #1 and #3 are amended as follows, with item #2 remaining unchanged:

C406.1.1.3 Building core/shell and build-out construction. Where separate permits are issued for *core and shell buildings* and build-out construction, compliance shall be ~~in accordance with the following requirements~~ as follows and summarized in Table C406.1.1.3:

1. *Core and shell buildings* or portions of *buildings* shall comply with one of the following:
   - 1.1. Where the permit includes a ~~central HVAC system or *service water heating* system with chillers, heat pumps, boilers, service water heating equipment, or loop pumping systems with heat rejection,~~ space heating or *service water heating* system that uses *combustion equipment*, the project shall achieve not less than 50 percent of the energy credits required by Section C406.1.1.1 ~~in accordance with~~ using measure in Sections C406.2 and C406.3.
   - 1.2. Where the permit includes a space heating or *service water heating* system that does not use *combustion equipment*, or meets one of the exceptions in C406.1.1.1, the project shall achieve not less than 50 percent of the energy credits required by Section C406.1.1.2 using measures in Section C406.2 and C406.3.
   - 1.3. ~~Alternatively,~~ Where neither a space heating nor a *service water heating* system is included in the permit, the project shall achieve not less than 33 percent of the energy credits required by Section C406.1.1.1.
2. For *core and shell buildings* or portions of *buildings*, the energy credits achieved shall be subject to the following adjustments:

2.1. Lighting measure credits shall be determined only for areas with final lighting installed.

2.2. Where HVAC or service water heating systems are designed to serve the entire building, full HVAC or service water heating measure credits shall be achieved.

2.3. Where HVAC or service water heating systems are designed to serve individual areas, HVAC or service water heating measure credits achieved shall be reduced in proportion to the floor area with final HVAC systems or final service water heating systems installed.

3. Build-out construction shall be deemed to comply with Section C406.1 where one of the following applies:

3.1. Where ~~heating and cooling generation~~ space heating or *service water heating* is provided by a previously installed central system that uses *combustion equipment*, the energy credits achieved in accordance with Section C406.2 and C406.3 under the build-out project are not less than 33 percent of the credits required by Section C406.1.1.1.

3.2. Where space heating or *service water heating* is provided by a previously installed system that does not use *combustion equipment* or that meets one or more exceptions in C406.1.1.1, the energy credits achieved in accordance with Section C406.2 under the build-out project are not less than 33 percent of the credits required by Section C406.1.1.2.

3.3. Where ~~heating and cooling generation is provided by an HVAC system installed in the build-out,~~ space heating or *service water heating* is provided in the build-out by a system that uses *combustion equipment*, the build-out project shall achieve not less than 66 percent of the credits required by Section C406.1.1.1 in accordance with Section C406.2 and C406.3.

3.4. Where space heating or *service water heating* is provided in the build-out by a system that does not use *combustion equipment* or that meets one or more exceptions in C406.1.1.1, the energy credits achieved in accordance with Section C406.2 and C406.3 under the build-out project are not less than 66 percent of the credits required by Section C406.1.1.2.

3.5. Where the *core and shell building* ~~is~~ was *approved* in accordance with Section C407 under the 2021 IECC ~~or later~~.

4. Where a *core and shell* or build-out project is required to achieve less than 100 percent of the energy credits required by Section C406.1.1.1 or C406.1.1.2, the maximum allowable credit value from Credit ID R01 shall be reduced in proportion to the percentage of total required energy credits.

TABLE C406.1.1.3 BUILDING CORE/SHELL AND BUILD-OUT CONSTRUCTION SUMMARY

CATEGORY	CONDITION FOR SPACE AND WATER HEATING	ENERGY CREDIT REQUIREMENTS
Core and shell buildings	With combustion equipment	≥ 50% of required credits (C406.1.1.1)
	Without combustion equipment or meeting exceptions	≥ 50% of required credits (C406.1.1.2)
	No space heating or service water heating in permit	≥ 33% of required credits (C406.1.1.1)

Build-out construction	Using a previously installed central system with combustion	≥ 33% of required credits (C406.1.1.1)
	Using a previously installed system without combustion	≥ 33% of required credits (C406.1.1.2)
	Build-out system uses combustion equipment	≥66% of required credits (C406.1.1.1)
	Build-out system does not use combustion or meets exceptions	≥ 66% of required credits (C406.1.1.2)
	Core and shell building previously *approved*	Must comply with C407

This was integrated into the other credits section, to reduce the number of tables and calculations. (LECC)
[Simplification from base]

26. **Section C406.1.2 Additional renewable and load management credit requirements** and Table C406.1.2 are deleted in their entirety.

This disallows extra credit for efficient commercial kitchen equipment since it is already required by Colorado's appliance standards law. (Cohort)
[Clarification]

27. **Section C406.2.6.2 Q02 Efficient commercial kitchen equipment** is deleted in its entirety, along with its references in Tables C406.2(1) through C406.2(9).

This changes the focus of the renewable energy credit to only onsite resources. (Cohort)
[Simplification from base and LECC] [Minor strengthening]

28. **Section C406.3.1 R01 Renewable energy** is amended as follows:

C406.3.1 R01 Renewable Energy. Projects installing on-site renewable energy systems with a capacity of at least 0.1 watts per gross square foot (1.08 W/m²) of building area ~~or securing off-site renewable energy~~ shall achieve energy credits for this measure calculated as follows:

$$EC_R = EC_{0.1} \times (R_t + R_{off} - R_{ex})/(0.1 \times PGFA)$$ **Equation 4-28**

where:

EC_R = Section C406.3.1 R01 energy credits achieved for this project.

$EC_{0.1}$ = Section C406.3.1 R01 base credits from Tables C406.2(1) through C406.2(9).

R_t = Actual total rating of on-site renewable energy systems (W).

~~R_{off} = Actual total equivalent rating of off-site renewable energy contracts (W), calculated as follows:~~

~~$R_{off} = TRE/(REN \times 20)$~~

~~*Where:*~~

~~***TRE*** = Total off-site renewable electric energy in kilowatt-hours (kWh) that is procured in accordance with Section C406.2.8.1.~~

~~***REN*** = Annual off-site renewable electrical energy from Table C406.2.8.1.1, in units of kilowatt-hours per watt of array capacity.~~

R_{ex} = Rating (W) of renewable energy resources capacity excluded from credit calculated as follows:

$R_{ex} = RR_x + RR_c$

where:

RR_x = Rating of <u>on-site</u> renewable energy resources used to meet any exceptions of this code (W).

RR_c = Rating of <u>on-site</u> renewable energy resources used to achieve other energy credits in Section C406 (W).

PGFA = Project gross floor area (ft^2). Where renewable requirements, exceptions, or credits are expressed in annual kWh or Btu rather than W of output capacity, they shall be converted as 3,413 Btu = 1 kWh and converted to W equivalent capacity.

This changes the Simulated Building Performance Path to use ASHRAE Appendix G. (LECC)
[Simplification from LECC] [Partial strengthening from base and LECC]

29. **Section C407 Simulated Building Performance** is replaced with the following:

Section C407 SIMULATED BUILDING PERFORMANCE

C407.1 Scope. This section establishes criteria for demonstrating compliance using simulated building performance in accordance with Section 4.2.1.1 of ANSI/ASHRAE/IES Standard 90.1, Normative Appendix G, as modified by Informative Appendix I for Site Energy and as further modified by this code.

This maintains the IECC table of mandatory items. (LECC)
[Simplification from LECC]

Section C407.2 Mandatory requirements is replaced with the following:

C407.2 Mandatory requirements. Compliance under the simulated building performance path of Section C407 requires compliance with the sections of this code identified in Table C407.2 as amended, superseding Section G1.2.1 of ANSI/ASHRAE/IES Standard 90.1, Normative Appendix G.

This syncs two items in the table with the LECC's version.
[Simplification from LECC]

Table C407.2 Requirements for Simulated Building Performance is amended to add a new line as follows, and to delete C406.1.2 Additional renewable and load management credit requirements:

C403.4.6	Demand Response
~~C406.1.2~~	~~Additional renewable and load management credit requirements~~

This changes the metric for the Simulated Building Performance path to site energy since it is fuel-neutral and less variable over geographies and time. (LECC)
[Simplification from LECC]

C407.3 Compliance based on site energy. Buildings shall comply with either Section C407.3.1 Site energy reduction or C407.3.2 Fixed site *energy use intensity* target.

C407.3.1 Site energy reduction. Buildings shall comply with Section 4.2.1.1 of ANSI/ASHRAE/IES Standard 90.1, Normative Appendix G, as modified by Informative Appendix I for Site Energy and as further modified by this code.

C407.3.1.1 Building performance factors. Table 4.2.1.1 Building Performance Factor (BPF) of ANSI/ASHRAE/IES Standard 90.1 is replaced with Table C407.3.1.1. *Mixed fuel buildings* that use *combustion equipment* for space heating or *service water heating*, other than for supplemental heating in accordance with Section C403.4.1.1, shall use the appropriate building performance factor under BPF – Mixed Fuel. All other buildings shall use the appropriate building performance factor under BPF – All Others.

Exceptions: *Buildings* that meet any of the following criteria may use the building performance factors under BPF – All Others:

1. *Buildings* that use *combustion equipment* only for specialized *service water heating* uses where determined by and approved by the *code official*, including but not limited to water heating for pools or spas.
2. Low-energy *buildings* complying with Section C402.1.1.1.
3. Portions of *buildings* in Group U, Group S, Group F, or Group H occupancies.

TABLE C407.3.1.1 BUILDING PERFORMANCE FACTOR (BPF), SITE ENERGY

BUILDING TYPE	BPF – MIXED FUEL	BPF – ALL OTHERS
Multifamily (R-2, R-4)	0.47	0.63
Healthcare/hospital	0.47	0.63
Hotel/motel	0.50	0.66
Office	0.39	0.52
Restaurant	0.52	0.69
Retail	0.35	0.47
School	0.38	0.50
Warehouse	0.28	0.37
All others	0.43	0.57

C407.3.1.2 Energy conversion factors. Table G2.1 of ANSI/ASHRAE/IES Standard 90.1 is replaced with Table C407.3.1.1.

C407.2.1.2 ENERGY CONVERSION FACTORS

UNITS	SITE ENERGY, BTU/UNIT	BUILDING PROJECT ENERGY SOURCE
kWh	3,412	Electricity
Therm (GJ)	100,000	Natural Gas
Therm (GJ)	100,000	Propane
Gallon (L)	137,600	Distillate fuel oil

This adds an option for certain common building types to hit one fixed number instead of a certain percentage reduced from a baseline. The EUI targets are based on cohort members with similar language, but adjusted to have an electric preferred differential. (LECC)
[Simplified from LECC] [Strengthened from base and LECC]

C407.3.2 Fixed performance target modeling procedure. Eligible *building* types listed in Table C407.3.2 may demonstrate compliance by achieving the site EUI target identified in Table C407.3.2. The proposed design performance shall be demonstrated using the energy modeling procedures, schedules, and loads for the proposed design in ANSI/ASHRAE/IES Standard 90.1 Normative Appendix G as modified by Informative Appendix I for Site Energy and as further modified by this code. *Buildings* with multiple occupancy types listed in Table C407.3.2 shall develop a site EUI performance target based on an area-weighted average EUI calculated by the floor area of each occupancy type. *Mixed fuel buildings* that use *combustion equipment* for space heating or *service water heating*, other than for supplemental heating in accordance with Section C403.4.1.1, shall use the appropriate target in Mixed Fuel – Site EUI Target. All other buildings shall use the appropriate target in All Others – Site EUI Target.

Exceptions: *Buildings* that meet any of the following criteria may use the building performance factors under BPF – All Others:

1. *Buildings* that use *combustion equipment* only for specialized *service water heating* uses where determined by and approved by the *code official*, including but not limited to water heating for pools or spas.
2. Low-energy *buildings* complying with Section C402.1.1.1.
3. Portions of *buildings* in Group U, Group S, Group F, or Group H occupancies.

C407.3.2.1 Excluded energy use. Energy used for data centers, EV charging, swimming pools, or parking areas is permitted to be excluded from the total site EUI calculation of the building, provided that those sources of energy use are separately metered.

C407.3.2.2 On-site renewable energy limit. On-site renewable energy is permitted to offset not more than 5 percent of the building's site EUI.

TABLE C407.3.2 FIXED EUI PERFORMANCE TARGETS

BUILDING AREA TYPE	MIXED FUEL – SITE EUI TARGET (KBTU/FT^2×YR)	ALL OTHERS – SITE EUI TARGET (KBTU/FT^2×YR)
Multifamily	24	32
Healthcare/hospital (General Medical & Surgical)	116	155
Healthcare (other)	44	59
Hotel/motel	26	35
Office	30	40
Restaurant	150	200
Retail	30	40
School	25	34
Non-refrigerated Warehouse	8	11

This adds a backstop to the Simulated Building Performance pathway(Cohort)
[Potential strengthening from base and LECC]

C407.4 Performance backstop. All elements of the *building* envelope and HVAC system must at a minimum meet the mandatory requirements of ASHRAE Standard 90.1-2016, Sections 5.5 and 6.8. No individual component tradeoffs below these prescriptive requirements will be allowed in the proposed *building* performance model. Exceptions to the 40 percent window-to-wall area in Section 5.5.4.2 of ASHRAE 90.1 2022 Appendix G may be approved by the *code official* provided that the project can still meet the required building energy performance requirements.

This adds a "reserved" (blank) section so that the numbering aligns with the LECC.
[Clarification]

30. **Section C410 Reserved** is added as follows:

C410 Reserved. This section is reserved for future use.

This adds anoptional All-Electric compliance pathway. (Green)
[Flexibility]

31. **Section C411 All-electric compliance pathway** is added as follows:

C411 ALL-ELECTRIC COMPLIANCE PATHWAY

C411.1 Application. New *commercial buildings* shall be *all-electric buildings* and comply with Sections C402 through C405, Section C408, and Sections C411.2 through C411.6.

Exceptions:

1. *Fuel gas* or *fuel oil* shall be permitted where it has been demonstrated to the code official that use of *fuel gas* or *fuel oil* is required by an applicable law or regulation.
2. *Fuel gas* or *fuel oil* shall be permitted for an *emergency power system* or a *standby power system*.

C411.2 Electric resistance heating equipment. The sole use of electric resistance equipment and appliances for space and water heating shall be prohibited other than for *buildings* or portions of *buildings* that comply with one or more of Sections C411.2.1 through C411.2.8.

C411.2.1 Low space heating capacity. Electric resistance appliances or equipment shall be permitted in *buildings* or areas of *buildings* not served by a mechanical cooling system and with a total space heating capacity not greater than 4.0 Btu/h (1.2 watts) per square foot of *conditioned space*.

C411.2.2 Small systems. *Buildings* in which electric resistance appliances or equipment comprise less than 5 percent of the total system heating capacity or serve less than 5 percent of the *conditioned floor area*.

C411.2.3 Kitchen makeup air. Makeup air for commercial kitchen exhaust systems required to be tempered by Section 508.1.1 of the International Mechanical Code is permitted to be heated by electric resistance.

C411.2.4 Freeze protection. The use of electric resistance heat for freeze protection shall comply with the following:

1. Space heating systems sized for spaces with indoor design conditions of not greater than 40°F and intended for freeze protection, including temporary systems in unfinished spaces, shall be permitted to use electric resistance. The *building thermal envelope* of any such space shall be insulated in accordance with Section C402.1 of the International Energy Conservation Code.
2. Freeze protection systems shall comply with Section C403.13.3 of the International Energy Conservation Code.

C411.2.5 Preheating of outdoor air. Hydronic systems without energy recovery *ventilation* and that do not use freeze protection fluids shall be permitted to utilize electric resistance to temper air to not more than 40°F. All systems with energy recovery *ventilation* shall be permitted to utilize electric resistance to preheat outdoor air to defrost or temper air entering the energy recovery device and shall comply with one of the following:

1. Where the space is mechanically humidified or has a process application that will maintain the space above 30 percent relative humidity when the outside temperature is not greater than 25°F and the system recovers latent energy, the outdoor air shall not be preheated to greater than 25°F.
2. For sensible-only heat recovery exchangers, outdoor air shall not be preheated to greater than 25°F.
3. For all other systems, outdoor air shall not be preheated to greater than 5°F.

C411.2.6 Small *buildings*. *Buildings* with a *conditioned floor area* of not more than 250 square feet and not served by a mechanical space cooling system shall be permitted to use electric resistance appliances or equipment for space heating.

C411.2.7 Supplemental heat. Electric resistance heat shall be permitted as supplemental heat where installed with heat pumps sized in accordance with Section C411.3 and provided with controls in accordance with Section C403.4.1.1.

C411.2.8 Specific conditions. Portions of *buildings* or specific equipment and appliances, subject to approval by the *code official*, that require electric resistance heating and cannot practicably be served by electric heat pumps.

C411.3 Heat pump sizing for space heating. Heat pump space heating systems shall be sized to meet the *building* heating load at the greater of 0°F or the 99 percent annual heating dry-bulb for the nearest weather station provided in the latest edition of the ASHRAE Handbook of Fundamentals. The heat pump space heating system shall not require the use of supplemental electric heat at or above this temperature other than for defrosting.

C411.4 Heat pump sizing for water heating. Heat pump *service water heating* systems shall be sized to meet not less than the *building service water heating* load at the greater of 15°F or the 99 percent annual heating dry-bulb for the nearest weather station provided in the latest edition of the ASHRAE Handbook of Fundamentals. Supplemental electric heat shall not be required at or above this temperature other than for temperature maintenance in recirculating systems and defrosting.

C411.5 Heating outside a *building*. Systems for heating outside a *building* shall comply with Section C403.13.1.

C411.6 Low-capacity cooling equipment. Air conditioners with capacities less than 240,000 Btu/h (70 kW) shall be electric heat pump equipment sized and configured to provide both space cooling and space heating.

This adds an optional Passive House compliance pathway. (Green)
[Flexibility] [Possible strengthening from base and LECC]

32. **Section C412 Passive House compliance pathway** is added as follows:

C412 PASSIVE HOUSE COMPLIANCE PATHWAY

C412.1 Scope. This section establishes criteria for compliance using Passive House Certification. New *commercial buildings* shall achieve Passive House certification in accordance with Sections C412.2 or C412.3.

C412.2 Passive House Institute US (PHIUS) Certification. New *commercial buildings* shall achieve certification with the PHIUS CORE COMM Passive Building Standard and provide documentation in accordance with Section C412.2.1.

C412.2.1 Documentation. Documentation shall be provided to the *code official* demonstrating the following:

1. Prior to the issuance of a *building* permit, documentation of a PHIUS CORE COMM Certification Contract from PHIUS and a list of compliance features.

2. Prior to the issuance of a certificate of occupancy, a copy of the final report submitted on a form that is *approved* by PHIUS to document compliance with the PHIUS CORE COMM Standard.

C412.3 Passive House Institute (PHI) Certification. New *commercial buildings* shall achieve certification with the PHI Passive House Standard and provide documentation in accordance with Section 412.3.1.

C412.3.1 Documentation. Documentation shall be provided to the *code official* demonstrating the following:

1. Prior to the issuance of a *building* permit, signed documentation from a PHI accredited Passive House Certifier of intent to certify the *building* and a list of compliance features.
2. Prior to the issuance of a certificate of occupancy, a copy of the final report submitted on a form that is *approved* by PHI to document compliance with the Passive House Standard.

This makes conforming amendments to this section so it aligns with the changes in C407. (Cohort)
[Clarification]

33. **Section C502.2 Change in space conditioning,** exception #2, is amended as follows:

2. Where the simulated building performance option in Section C407 is used to comply with this section, the annual ~~*energy cost*~~ site energy use of the *proposed design* shall be not greater than 110 percent of the annual ~~*energy cost*~~ site energy use otherwise permitted by Section ~~C407.2~~ C407.3

This clarifies that programmable thermostat controls are required anytime an HVAC system is replaced or expanded. (Mountain Cohort 1)
[Clarification]

34. **Section C502.3.3.1 Thermostatic controls** is added as follows:

C502.3.3.1 Thermostatic controls. *Additions* that involve replacing or expanding a heating or cooling system shall comply with section C403.4.1 Thermostatic controls.

This makes conforming amendments to this section so it aligns with the changes in C407. (Cohort)
[Clarification]

35. **Section C502.3.7 Additional energy efficiency credit requirements** is amended as follows, with the exceptions to remain:

C502.3.7 Additional energy efficiency credit requirements. *Additions* shall comply with sufficient measures from Sections C406.2 and C406.3 to achieve not less than 50 percent of the number of required efficiency credits from Table ~~C406.1.1(1)~~ C406.1.1.1 or Table C406.1.1.2 as applicable based on building occupancy group and ~~*climate zone*~~ combustion equipment. Where a project contains multiple occupancies, credits from Table ~~C406.1.1(1)~~ C406.1.1.1 or Table C406.1.1.2 as applicable for each building occupancy shall be weighted by the gross floor area to determine the project weighted average energy credits required. Accessory occupancies shall be included with the primary occupancy group for purposes of this section. *Alterations* to the existing building that are not part of the *addition*, but are permitted with an *addition*, shall be permitted to be used to achieve the required credits.

These makes conforming amendments to this section so it aligns with the changes in C407. (Cohort)
[Clarification]

36. **Section C503.2.2 Vertical fenestration** is amended as follows:

C503.2.2 Vertical fenestration. The addition of *vertical fenestration* that results in a total building *fenestration* area less than or equal to that specified in Section C402.5.1 shall comply with Section C402.1.4, C402.5.3 or C407. The addition of *vertical* fenestration that results in a total building *fenestration* area greater than Section C402.5.1 shall comply with Section C402.5.1.1 for the space adjacent to the new fenestration only. *Alterations* that result in a total building *vertical fenestration* area exceeding that specified in Section C402.5.1.1 shall comply with Section C402.1.4 or C407. Provided that the vertical fenestration area is not changed, using the same vertical fenestration area in the *standard reference design* as the *building* prior to *alteration* shall be an alternative to using: ~~the vertical fenestration area specified in Table C407.4.1(1).~~

1. The proposed vertical *fenestration* area, where the proposed vertical *fenestration* area is less than 40 percent of the *above-grade wall* area; or
2. Forty percent of the above-grade wall area, where the proposed vertical *fenestration* area is 40 percent or more of the *above-grade wall* area.

37. **Section C503.2.3 Skylight area** is amended as follows:

C503.2.3 Skylight area. New *skylight* area that results in a total building *skylight* area less than or equal to that specified in Section C402.5.1 shall comply with Section C402.1.4, C402.5 or C407. The addition of *skylight* area that results in a total building skylight area greater than Section C402.5.1 shall comply with Section C402.5.1.2 for the space adjacent to the new skylights. *Alterations* that result in a total building skylight area exceeding that specified in Section C402.5.1.2 shall comply with Section C402.1.4 or C407. Provided that the skylight area is not changed, using the same skylight area in the *standard reference design* as the *building* prior to *alteration* shall be an alternative to using: ~~the skylight area specified in Table C407.4.1(1).~~

1. The proposed skylight area, where the proposed skylight area is less than that permitted by Section C402.1; or
2. The area permitted by Section C402.1; where the proposed skylight area exceeds that permitted by Section C402.1.

38. **Section C503.6 Additional energy efficiency credit requirements for alterations** is amended as follows with the exceptions to remain:

C503.6 Additional energy efficiency credit requirements for alterations. *Alterations* that are *substantial improvements* shall comply with measures from Sections C406.2, C406.3 or both to earn the number of required credits specified in Table ~~C406.1.1(1)~~ C406.1.1.1 or Table C406.1.1.2 as applicable based on building occupancy group and ~~*climate zone*~~ combustion equipment.. Where a project contains multiple occupancies, credits specified in Table ~~C406.1.1(1)~~ C406.1.1.1 or Table C406.1.1.2 as applicable for each building occupancy shall be weighted by the gross *conditioned floor area* to determine the weighted average credits required. Accessory occupancies, other than Group F or H, shall be included with the primary occupancy group for the purposes of this section.

This clarifies that programmable thermostat controls are required anytime an HVAC system is replaced or expanded. (Mountain Cohort 1)
[Clarification]

39. **Section C503.7 Thermostatic controls** is added as follows:

    C503.7 Thermostatic controls. *Alterations* that involve replacing or expanding a heating or cooling system shall comply with section C403.4.1 Thermostatic controls.

These makes conforming amendments to this section so it aligns with the changes in C407. (Cohort)
[Clarification]

40. **Section C505.1 General,** exception, is amended as follows:

    Where the simulated building performance option in Section C407 is used to comply with this section, the annual ~~*energy cost*~~ site energy use of the proposed design shall be not greater than 110 percent of the annual ~~*energy cost*~~ site energy use otherwise permitted by Section C407.3.

41. **Section C502.2 Change in space conditioning**, exception #2, is amended as follows:

    2. Where the simulated building performance option in Section C407 is used to comply with this section, the annual ~~*energy cost*~~ site energy use of the *proposed design* shall be not greater than 110 percent of the annual ~~*energy cost*~~ site energy use otherwise permitted by Section ~~C407.2~~ C407.3.

SOLAR-READY CODE AMENDMENTS (Required by state law)
[Simplification from LECC] [Required by state law]

This amends the appendix to apply to all commercial buildings instead of just those with five or fewer stories. It also adds specificity to the exceptions for buildings with existing onsite solar.
[Specificity] [Required by state law]

42. **Section CB101.1 General** and exception #1 is amended as follows, with the other exceptions to remain:

    CB103.1 General. A solar-ready zone shall be located on the roof of ~~buildings that are five stories or less in height above grade plane, and~~ all new *commercial buildings* that are oriented between 110 degrees and 270 degrees of true north or have *low slope* roofs. Solar-ready zones shall comply with Sections CB103.2 through CB103.8.

    Exceptions:

    1. A *building* with a permanently installed, on-site renewable energy system that meets the following criteria:
        a. The system produces the energy output equivalent to covering 40 percent of the net roof area with solar photovoltaic calculated as the horizontally projected gross roof area less that area covered by skylights, occupied roof decks, vegetative roof areas, and mandatory access or setback areas as required by the International Fire Code.
        b. The system is located on the roof or overhang of the *building* or the roof or overhang of another structure located within 250 feet of the *building*, on the *building site*, on covered parking, or another *approved* location installed

with the *building* project and under the same property ownership.

This adds specificity to what's required to be shown on construction documents.
[Specificity] [Simplification from LECC] [Required by state law]

43. **Section CB103.2 Construction document requirements for solar-ready zone** is amended as follows:

    CB103.2 Construction document requirements for solar-ready zone. *Construction documents* shall indicate the location and size of the *solar-ready zone*, structural design loads for roof dead load and roof live load, and pathways for routing of raceways from the *solar-ready zone* to the electrical service panel, with each raceway labeled on the *construction documents* as "Potential Pathway".

This adds specificity to where the solar-ready zone can be located and the minimum sizes of sub-zones.
[Simplification from LECC] [Required by state law] [Specificity]

44. **Section CB103.3 Solar-ready zone area** is amended as follows, with the other exceptions to remain:

    CB103.3 Solar-ready zone area. The total *solar-ready zone* area shall not be less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, *vegetative roof* areas, and mandatory access or set back areas as required by the International Fire Code. The *solar-ready zone* shall be a single area or smaller, separated sub-zone areas. ~~Each sub-zone area shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.~~ For sloped roofs, each sub-zone area shall be not less than 200 square feet (18.6 m^2) and no side of any rectangular area shall be less than 11 feet in length. For low-sloped or flat roofs, each sub-zone area shall be not less than 330 square feet (30.7 m^2), with a minimum length running generally north to south of 15 feet and a minimum length running generally east to west of 22 feet and no side of any rectangular area shall be less than 11 feet in length. The *solar-ready zone* shall be located on the roof or overhang of the *building* or on the roof or overhang of another structure located within 250 feet of the *building*, on the *building site*, on covered parking, or another *approved* location installed with the *building* project and under the same property ownership.

This specifies that the main electrical panel needs a minimum amperage of 200 amps.
[Specificity][Required by state law]

45. **Section CB103.7 Electrical service reserved space** is amended as follows:

    CB103.7 Electrical service reserved space. The main electrical service panel shall have a minimum bus bar rating of not less than 200 amps, and shall have a reserved space to allow installation of a dual-pole circuit breaker for future solar electric labeled "For Future Solar Electric." The reserved space shall be positioned at the end of the panel that is opposite from the panel supply conductor connection.

EV-READY CODE AMENDMENTS (Required by state law)

This adjusts the IECC EV-ready Appendix CG to sync with the state model code. Due to the LECC addition of EV Capable Light and Level 1 EVSE, it is shorter to replace than amend. This version is in a more logical order puts the
[Simplification from LECC]

46. **Appendix CG** is replaced with the following:

Section CG101.1 Definitions.

DIRECT CURRENT FAST CHARGER (DCFC) EVSE. Equipment capable of fast charging on a 100A or higher 480VAC three-phase branch circuit. AC power is converted into a controlled DC voltage and current within the *EVSE* that will then directly charge an *EV*.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles and electric motorcycles, primarily powered by an electric motor that draws current from a building electrical service, *EVSE*, a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current. Off-road, self-propelled electric mobile equipment, including but not limited to, industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, and boats are not considered *EVs*.

ELECTRIC VEHICLE CAPABLE SPACE (EV CAPABLE SPACE). A designated *parking space* that is provided with electrical infrastructure such as, but not limited to, raceways, cables, electrical capacity, a panelboard, or other electrical distribution equipment space necessary for the future installation of an *EVSE*.

ELECTRIC VEHICLE CAPABLE LIGHT SPACE (EV CAPABLE LIGHT SPACE). A designated *parking space* that has a raceway and/or conduit installed to support future implementation of *EV* charging installation, and has sufficient physical space adjacent to existing electrical equipment for future electrical upgrades.

ELECTRIC VEHICLE READY SPACE (EV READY SPACE). A *parking space* that is provided with a branch circuit and an outlet, junction box, or receptacle that will support an installed *EVSE*.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer, including ungrounded, grounded, and equipment grounding conductors; *EV* connectors; attached plugs; any personal protection system; and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *EV*.

ELECTRIC VEHICLE SUPPLY EQUIPMENT INSTALLED SPACE (EVSE SPACE). A *parking space* that is provided with a dedicated *EVSE* connection.

LEVEL 1 EVSE. An *EV* charging system that uses a standard alternating current (AC) 120-volt outlet to deliver a low charging rate suitable for overnight or extended-duration charging.

LEVEL 2 EVSE. An *EV* charging system that uses a 208- or 240-volt alternating current (AC) power source to deliver a medium charging rate, typically used in residential, commercial, and public settings for faster charging than *Level 1 EVSE* systems.

PARKING SPACE. A space within a building or private or public parking lot, excluding driveways, ramps, columns, and work areas, for the parking of an automobile.

PLUG-IN HYBRID ELECTRIC VEHICLE. An electric vehicle having a second source of motive power.

CG101.2 Electric vehicle power transfer infrastructure.
Parking facilities for *commercial buildings*, major renovations, and *additions* shall be provided with *EV* power transfer infrastructure in accordance with Sections CG101.2.1 through CG101.2.8.

CG101.2.1 Quantity. The number of required *Level 2 EVSE installed spaces, EV ready spaces, EV capable spaces*, and *EV capable light spaces* shall be determined in accordance with this section and Table CG101.2.1 based on the total number of *parking spaces*, including all covered parking under carports or detached garages, and shall be rounded up to the nearest whole number. This includes all covered parking under carports or detached garages.

1. *Group R-2* occupancies shall use the total parking for the entire development to determine the EV power transfer infrastructure requirements of Table CG101.2.
2. For *Group R-2 buildings*, the requirements shall be based on the total number of *dwelling units* or the total number of *parking spaces*, whichever is more.
3. All attached garages with direct connection to a *dwelling unit* will be required to have one *EV ready space*.
4. Where more than one parking facility is provided on a *building site*, the number of required *parking spaces* required to have *EV* power transfer infrastructure shall be calculated separately for each parking facility.
5. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each *building* occupancy.
6. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new *parking spaces* do not serve specific occupancies, the values for Group S-2 parking garage in Table CG101.2.1 shall be used.

TABLE CG101.2.1 REQUIRED EV POWER TRANSFER INFRASTRUCTURE

BUILDING TYPE/SPACE TYPE	LEVEL 2 EVSE SPACES	EV READY SPACES	EV CAPABLE SPACES	EV CAPABLE LIGHT SPACES
Group R-2 with ≤10 parking spaces	0	15% of spaces	10% of spaces	10% of spaces
Group R-2 with >10 parking spaces	5% of spaces	15% of spaces	10% of spaces	30% of spaces
All other commercial occupancies with ≤15 parking spaces	0	20% of spaces but ≥2 spaces	0	0
All other commercial occupancies with >15 parking spaces	2% of spaces	8% of spaces	10% of spaces	10% of spaces

CG101.2.2 Substitutions. *EV* power transfer infrastructure types may be substituted in accordance with the following criteria, as summarized in Table CG101.2.2:

1. Each *DCFC EVSE* installed shall be permitted to be substituted for other space types as follows:
    1. *Group R-2* occupancies may substitute up to 5 spaces when the *building* provides a minimum of 60 percent of *parking spaces* as a combination of *Level 2 EVSE spaces, EV ready spaces, EV capable spaces, or EV capable light spaces.*

2. *Commercial buildings* other than *Group R-2* occupancies may substitute up to 10 spaces when the *building* provides a minimum of 20 percent of *parking spaces* as a combination of *Level 2 EVSE spaces*, *EV ready spaces,* or *EV capable spaces.*

2. *Group R-2* occupancies with greater than 10 vehicle *parking spaces* shall be permitted to substitute three *Level 1 EVSE spaces* for every one *Level 2 EVSE space* or every one *EV ready space*, for up to 50 percent of required *Level 2 EVSE spaces* and *EV ready spaces*.
3. *Level 2 EVSE spaces* that exceed the minimum requirements of this section may be used to meet the minimum requirements for *EV ready spaces*, *EV capable spaces,* and *EV capable spaces*.
4. *EV ready spaces* that exceed the minimum requirements of this section may be used to meet the minimum requirements for *EV capable spaces* and *EV capable light spaces.*
5. *EV capable spaces* that exceed the minimum requirements of this section may be used to meet the minimum requirements for *EV capable light spaces.*

TABLE CG101.2.2 EV POWER TRANSFER INFRASTRUCTURE SUBSTITUTIONS

EV INFRASTRUCTURE TYPE	ELIGIBLE SUBSTITUTIONS
DCFC for R-2 occupancies	Can replace up to 5 spaces of other types if building has at least 60% parking spaces of other types
DCFC for other commercial occupancies	Can replace up to 10 spaces of other types if building has at least 20% parking spaces of other types
Level 1 EVSE Spaces for R-2 occupancies	Every three Level 1 EVSE spaces can replace one Level 2 EVSE space or one Level 2 EV ready space, for up to 50% of EVSE space requirements
Level 1 EVSE spaces for other commercial occupancies	Not permitted for substitutions
Excess Level 2 EVSE spaces	Can count toward EV ready, EV capable, or EV capable light space requirements
Excess EV ready spaces	Can count toward EV capable and EV capable light space requirements
Excess EV capable spaces	Can count toward EV capable light space requirements

CG101.2.3 EV capable light spaces. Each *EV capable light space* shall comply with the following:

1. A continuous raceway and/or conduit, sized and rated to supply a minimum of 208 volts and a minimum of 40-ampere rated circuits, shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the space and electrical distribution panel, and shall be capped.

   Exception: Conduit installed with a pull string from the termination locations at parking spaces to a location of a future transformer or future electrical panel with electrical service size determined at the time of future permit.
2. Dedicated physical space shall be provided to accommodate all equipment necessary for electrical service to future *EVSE*.
3. The raceway and/or conduit shall be permanently and visibly marked “For electric vehicle supply equipment (EVSE)” at the load center and termination point locations.
4. *EV capable light* includes directly adjacent *parking spaces* if the raceway and/or conduit terminates next to and between both *parking spaces*.

CG101.2.4 EV capable spaces. Each *EV capable space* shall comply with the following:

1. A continuous raceway or cable assembly, sized and rated to supply a minimum of 208 volts and a minimum of 40-ampere rated circuits, shall be installed between an enclosure or outlet located within 3 feet (914 mm) of the space and electrical distribution panel, and shall be capped.

   Exception: Conduit installed with a pull string from the termination locations at *parking spaces* to a location of a future transformer or future electrical panel with electrical service size determined at the time of future permit.
2. The electrical distribution equipment to which the raceway or cable assembly connects shall have dedicated overcurrent protection device space and spare capacity to support at least 8.3 kVA (40A 208/240V) for each space.
3. The enclosure or outlet and panel directory shall be marked: "For electric vehicle supply equipment (EVSE)."
4. *EV capable* includes directly adjacent *parking spaces* if the raceway terminates next to and between both *parking spaces*.

CG101.2.5 EV ready spaces. Each *EV ready space* shall comply with the following:

1. A branch circuit shall have a minimum circuit capacity of 8.3 kVA (40A 208/240V) and shall terminate at a receptacle or junction box located within 3 feet of each space.
2. The electrical panel, electrical distribution equipment directory, and all outlets or enclosures shall be marked "For future electric vehicle supply equipment (EVS)."
3. *EV ready* includes directly adjacent *parking spaces* if the receptacle or junction box is adjacent to and between both *parking spaces*.

CG101.2.6 Level 1 EVSE spaces. Each *Level 1 EVSE space* shall comply with the following:

1. A branch circuit shall have a minimum circuit capacity of 1.8 kVA (15A 120V) and shall terminate at a receptacle located within 3 feet of each space.
2. The *EVSE*, electrical panel directory, and all receptacles or enclosures shall be marked "Level 1 Electric vehicle supply equipment (EVSE)."
3. The *EVSE* shall be installed in accordance with NFPA 70 and shall be listed and labeled in accordance with UL 2202 or UL 2594.

CG101.2.7 Level 2 EVSE spaces.

An installed *EVSE* with multiple output connections shall be permitted to serve multiple *Level 2 EVSE installed spaces*. An *EVSE* serving one or more *Level 2 EVSE spaces* shall comply with the following:

1. A branch circuit shall have a minimum circuit capacity of 8.3 kVA (40A 208/240V) and shall terminate at a receptacle located within 3 feet of the space.
2. The *EVSE* shall provide a minimum charging rate of 6.2 kVA (30A at 208/240V) or shall be an ENERGY STAR-certified inductive charging system for battery powered *EVs*.

   Exception: If serving three or more spaces and controlled by an energy management system, the minimum charging rate shall be 3.3 kVA per space.
3. The *EVSE* may be wall-mounted or pedestal style and may provide multiple cords to connect with *EVs*.
4. The *EVSE* must be capable of connecting to the internet.
5. The *EVSE*, electrical panel directory, and all receptacles or enclosures shall be marked "Level 2 Electric vehicle supply equipment (EVSE)."
6. The *EVSE* shall be installed in accordance with NFPA 70, including Article 625, and shall be listed and labeled in accordance with UL 2202 or UL 2594

CG101.2.6 EVSE installation. *EVSE* shall be installed in accordance with NFPA 70 and shall be *listed* and *labeled* in accordance with UL 2202 or UL 2594.

CG101.2 7 Accessible EV Parking Spaces. For Level 2 *EVSE installed spaces* required by Table CG101.2.1, a minimum of 5 percent (not less than one space) shall be van accessible spaces in accordance with Section 1107.2.2 of the International Building Code. In addition, another 5 percent (not less than one space) of the total *EV ready*, *EV capable*, or *EV capable light spaces* required by Table CG101.2.1 shall meet one of the following:

1. Be van accessible parking spaces in accordance with Section 1107.2.2 of the International Building Code.
2. Have the electrical infrastructure for *EV capable light, EV capable, or EV ready spaces* configured so that future *EVSE* shall be capable of serving van accessible *parking spaces*.

CG101.2.8 Identification. *Construction documents* shall designate all *DCFC, Level 2 EVSE spaces, Level 1 EVSE spaces, EV ready spaces, EV capable spaces,* and *EV capable light spaces,* and indicate the locations of raceway and/or conduit and termination points serving them. The circuits or spaces reserved for *DCFC, Level 2 EVSE spaces, EV ready spaces,* and *EV capable spaces* shall be clearly identified in the panel or subpanel directory. The raceway and/or conduit for *EV ready spaces, EV capable spaces* and *EV capable light spaces* shall be clearly identified at both the panel or subpanel and the termination point at the *parking space*.

ELECTRIC READY AMENDMENTS (Required by state law)

[Simplification from LECC] [Required by state law]

This ensures that "core and shell" buildings (unfinished interiors) align with energy standards once the first tenant completes their build-out. (LECC)

[Clarification] [Required by state law]

47. **Section CH101.2 Scope** is amended and section CH101.2.1 is added as follows:

CH101.2 Scope. The provisions in this appendix are applicable to new *commercial buildings*, additions, and first tenant finish permits. ~~New construction shall comply with Section CH103.~~

CH101.2.1 First tenant finishes. In the case that a *first tenant finish* to a commercial *core and shell building* or unfinished space is credited towards meeting the requirements of Appendix CH, the *code official* shall not issue a Certificate of Occupancy to the tenant until the requirements of Section CH103.1 are met.

This exempts interior/exterior fireplaces and additions without new heating equipment from electric-ready mandates.(LECC)

[Clarification] [Upfront cost reduction] [Simplification from LECC] [Required by state law]

48. **Section CH103.1** General is amended to add the following exceptions:

Exceptions:

1. Interior fireplaces that do not serve as a primary source of heating.
2. Exterior fireplaces and fire pits.
3. Additions to buildings that do not provide new space heating equipment.

This adds condensate drainage to the list of items shown on construction documents.(LECC)

[Minor strengthening from base]

49. **CH103.3 Construction documentation** is amended as follows:

    CH103.3 Construction documentation. The *construction documents* shall provide details for additional electric infrastructure, including branch circuits, conduit, prewiring, panel capacity, ~~and~~ electrical service capacity, and condensate drainage, as well as interior and exterior spaces designated for future electric equipment.

This makes minor wording changes fortechnical clarity. (LECC)
[Clarification] [Required by state law]

50. **Section CI102.1 Demand responsive water heating,** exception #1, is amended as follows:

    1. Water heaters that are required to provide a constant hot water delivery temperature of 180°F (82°C) or greater.

This adds flexibility if needed for unique circumstances. (LECC)
[Clarification] [Required by state law]

51. **Section CI103.1 Demand responsive lighting controls** is amended to include a new item #7 as follows:

    7. Spaces where the health, safety, or productivity of occupants would be compromised by light level reductions, as *approved* by the *code official*.

LOUISVILLE FIRE
PROTECTION DISTRICT
"OUR FAMILY SERVING YOUR FAMILY"
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HEADQUARTERS: 303.666.6595 | FAX: 303.666.7659
LOUISVILLEFIRE.COM

A TRADITION OF EXCELLENCE SINCE 1887

Dear City Councilmembers,

We are reaching out to share our agreement with the City Staff's recommendation of adopting the International Residential Code to include the residential fire sprinkler provisions. One of our fundamental responsibilities is life safety and the inclusion of fire sprinklers in homes helps save lives. Residential fire sprinklers in new homes will help protect both residents and first responders. Home construction materials and what we store and use at home is changing and has become more combustible. Fire sprinklers give residents the time necessary to get out and help the firefighters going in. We want to highlight that the residential fire sprinkler provision was adopted by The City of Louisville in 2014 without complaint to our district but was removed. Many of our neighboring partners do have this requirement in place. Below is a list of the jurisdictions that are in our neighboring vicinity that require residential fire sprinklers.

Neighboring Agencies Requiring
•Unincorporated Boulder County
•Town of Superior
•City of Lafayette
•City and County of Broomfield
•Town of Erie
•City of Westminster
•City of Lafayette
•City of Boulder

The fire district supports the adoption of the new IRC without this removal. We support the protection of those who seek to make this City a future home.

Thank you for considering the safety of our citizens.

Sincerely,

John Willson
Fire Chief

Jennifer Henderson
Division Chief of Risk Reduction, Fire Marshal

Significant changes from 2018 to the 2024 ICodes

The 2024 International Residential Code is a comprehensive code comprising all building, plumbing, mechanical, fuel gas, and energy conservation requirements for one- and two-family dwellings and townhouses up to three stories. Important 2024 IRC changes include:

- Imaginary lot lines are added for calculating fire separation distance when considering multiple dwellings on a single lot
- Shared accessory rooms are an option in two-family dwellings.
- Many requirements for energy storage systems are added.
- New protection requirements for storage batteries in garages are added.
- Sleeping loft requirements added for habitable attic style lofts and tiny home style lofts now have maximum size limits to meet an exception.
- Reinforcement of the floor below guards at a mezzanine is now required.
- The final test of the DWV system may be visual.
- Air exhaust openings now allowed near operable windows and doors.
- A2L refrigerants are added as an option for cooling equipment.
- Solvent cement joints for CPVC pipe are allowed above and below ground.
- Snow, wind, and seismic maps updated.
- Accessibility in care facilities clarified.
- 2018 Requires Residential Sprinklers Louisville amended them out. The 2024 codes as written by ICC requires Fire Sprinklers. This is approved by the Fire District to protect Life Limb and Safe well being of the residence of Louisville.
- ESS Energy Storage system requirements of location to be placed. ESS was not in 2018
- PVC used for gas vented appliances must be tested under pressure.
- 2024 Appendix's allows for wider range of Building Materials to be used. Such as tiny Homes, ADU's, Light Straw-Clay Construction, Straw Bale Construction, COB Construction (Monolithic Adobe), Hemp Lime (Hempcrete) Construction, 3-D Printed Building Construction.

The 2024 International Building Code applies to all buildings except detached one- and two-family dwellings and townhouses up to three stories. Important 2024 IBC changes include:

- Duties and powers of the building official: Section 104 regulating duties of the building official and the approach for reviewing for code compliance has been significantly updated to reflect the current manner that alternate materials, designs and methods are evaluated.
- For the first time ever, the 2024 IBC includes provisions for tornado loadings.
- Updated wind, earthquake, and snow loads.
- The updated design rain loads are now based on the summation of the static head, the hydraulic head, and the ponding head.
- Updates to Risk Categories including Photovoltaic (PV) panel systems and facilities providing power generation.
- Updated and expanded provisions for Temporary Structures.
- New provisions regarding the wind resistance of aggregate-surfaced roofs.
- Roof Coverings: Updated provisions for underlayment.
- New special inspection provisions for metal building systems.
- New provisions for structural concrete reinforced with glass-fiber reinforcement.
- Concrete: Chapter 19 on Concrete has been Updated and reformatted.
- Masonry: TMS 402 and TMS 602 references have been updated to the latest 2022 editions.
- Increased the allowable height of a Group R-2 occupancy building with an NFPA 13R sprinkler system.
- Occupiable space requirements now apply if a roof is usable for anything more than maintenance or repair and occupants must have access to multiple egress options from a story based on the occupant load and the story requirements.
- Adult changing tables regulations are added where they are required in large assembly and mercantile, college lecture hall/classroom buildings and highway rest stops, or provided.

- Fire-resistance-rated Wall Continuity: Updates on how supporting construction for exterior walls is to be fire-resistance-rated, especially in the case of a parapet.
- Openings in Shaft Enclosures: Additional exceptions are provided for shaft enclosures, including new allowances for openings and penetrations.
- Carbon Monoxide Detection: Carbon monoxide (CO) detection is now required in all occupancies where a CO-producing device is present. Detection and notification can be addressed in several ways.
- Vapor retarders: Several updates have been made to the vapor retarder provisions for consistency with the IRC and IECC. The changes also provide additional options and better guidance for allowable types and locations of permitted vapor retarders.
- Vertical and lateral Flame propagation compliance methods: Clarification has been provided as to when testing in accordance with NFPA 285, related to vertical and lateral flame propagation, is required. Previously this information was scattered in a variety of locations within Chapters 14 and 26.
- New Appendix P sets forth the scoping limitations and technical criteria for sleeping lofts that are provided within Group R dwelling units and sleeping units.
- ESS Energy Storage system requirements of location to be placed was not in 2018

The 2024 International Plumbing Code provides minimum regulations for plumbing facilities and allows for the acceptance of new and innovative products, materials, and systems. Plumbing and plumbing fixture related accessibility provisions and requirements from the ICC A117.1 Accessibility Standard are also included. Important 2024 IPC changes include:

- Provisions added for support of buried piping beneath building where expansive soil conditions exist.
- Requirement added for tracer wire for buried plastic sewer piping.
- Option added for vacuum testing of DWV piping.

- Plumbing fixture requirements significantly updated for various Group I occupancies.
- Exception added for allowing special locking mechanism for doors to multiple-user toilet facilities.
- Plastic pans for gas-fired water heaters required to be tested in accordance with ASTM E84 or UL 723.
- Showerhead flow limited to 2.0 gpm with performance complying with high efficiency requirements.
- Installation standards added for solvent-cemented plastic piping joints.
- Standards added for chemical waste piping materials.

The 2024 International Mechanical Code establishes minimum regulations for mechanical systems using prescriptive and performance-related provisions that allow the use of new and innovative materials, methods and designs. Important 2024 IMC changes include:

- Provisions prohibiting the use of domestic ductless range hoods in Groups I-1 and I-2 were removed.
- An identification requirement was added for Group A2L and B2L refrigerants.
- The requirements for machinery rooms containing Group A2L refrigerants were changed and Group B2L refrigerants were added to the provisions.
- Limits for the use of Group A1 and A2L refrigerants changed in high probability systems used for human comfort, unless permitted as excepted.
- UL 2158A Standard was added to the requirements for commercial dryer exhaust.
- Ventilation requirements for outpatient healthcare facilities to match the requirements in ASHRAE 62.1-2019.
- Addition of a new minimum landing at the roof hatch for personnel to safely use the hatch when accessing the roof for repair and maintenance.
- Addition of a new testing option for grease ductwork.
- Requirements for steam baths were added.

- A new standard requirement for refrigeration systems containing carbon dioxide was added

The 2024 International Fuel Gas Code (IFGC®) addresses the design and installation of fuel gas systems and gas-fired appliances through prescriptive and performance requirements. Important 2024 IFGC® changes include:

- [BS] 302.3.1 Engineered wood products. Sections 302.3.2, 302.3.3, and 302.3.4 have all been deleted.
- 304.1 General. The entire section is new for the 2024 Codes. Existing code language has been deleted.
- 304.12 Protection from fumes and gases. Existing code language has been deleted. The entire section is new for the 2024 Codes.
- 403.6 Workmanship and defects. Existing code language has been rewritten and additional code language has been added for the 2024 Codes.
- Appendix C - C105.2, Test for combustion air and vent drafting for natural draft and Category I appliances. Existing code language has been deleted. The entire section is new for the 2024 Codes (appendices are voluntary and apply only if specifically adopted)

The 2024 International Existing Building Code encourages the use and reuse of existing buildings. This code covers repair, alteration, addition and change of occupancy for existing buildings and historic buildings to achieve appropriate levels of safety without requiring full compliance with new construction requirements. Important 2024 IEBC® changes include:

- Occupiable roofs. The concept of occupiable roofs requirements has been incorporated in a variety of locations to correlate with the IBC.
- Storm Shelters. The requirements have been coordinated with revisions in the IBC and ICC 500, clarifying that where constructed, storm shelters shall comply with IBC Section 423.
- Risk category increase. Clarifies how risk categories should be assigned for structural design where the addition and the existing building have different uses.

- Smoke compartment requirements. Existing Group I-1, condition 2 occupancies and ambulatory care facilities may be required to divide stories into no fewer than two smoke compartments for more substantial additions and alterations.
- Adult Changing stations. Where additional toilet facilities are being added and IBC Section 1110.4.1 would require adult changing stations, Section 306.7.15 would require that at least one accessible family or assisted use toilet room must contain one.
- Exterior wall covering and wall envelopes sprinkler requirement. Section 309.2.1 has been added to require that if combustible exterior wall envelopes or coverings are installed on a high-rise building, the building must be equipped throughout with a sprinkler system. There are some exceptions for smaller installations and when only a combustible water resistive barrier is installed.
- Owner's responsibility at construction sites. Section 1502 was added to address the need for the owner to properly develop, implement and maintain a site safety plan during construction. A site safety director must be designated who is responsible for conducting daily fire safety inspections.
- Non-required automatic sprinkler system. A section has been added to Chapter 10 (under the change of occupancy classification requirements) to allow removal of a nonrequired existing automatic sprinkler system if several criteria are met.
- APPENDIX E TEMPORARY EMERGENCY USES. This new appendix was created to provide guidance for designers, engineers, architects, and fire and building officials to allow temporary emergency uses of existing buildings with respect to the minimum code requirements. This appendix is intended to serve as a template or checklist for use during an emergency that references the relevant code requirements.

The 2024 International Fire Code (IFC®) addresses regulations affecting or relating to structures, processes, premises and safeguards for life safety and fire hazards. Important 2024 IFC changes include:

- Energy Storage Systems (ESS) and Lithium-ion Batteries:

- The 2024 IFC significantly expands regulations for ESS and lithium-ion batteries, including those used in testing, research, manufacturing, storage, and sales. Fire sprinklers are now required in Group B, F-1, M, and S-1 occupancies that use or store these batteries, regardless of whether they are part of an ESS.
- Carbon Monoxide Detection: The 2024 IFC, along with the 2024 IBC, mandates carbon monoxide (CO) detection or alarms in all occupancies where CO-producing devices are present.
- Powered Micromobility Devices: The 2024 IFC includes a new section addressing the hazards associated with charging these devices.
- A2L Refrigerants: The 2024 IFC acknowledges the use of A2L (flammable) refrigerants while implementing safety measures.
- Distilled Spirits and Wine Storage: Fire protection requirements for these storage areas have been refined based on data from FM Global.
- Outdoor Assembly Events Added section 3107 is New
- Temporary Heating and Cooking Operations is New Chapter 41
- Other Notable Changes: The 2024 IFC also addresses valet trash collection (now requiring approval), inflatable amusement devices, temporary heating and cooking operations, and the Emergency Responder Communications Enhancement System (ERCES).

The 2024 International Property Maintenance Code (IPMC®) provides requirements for continued use and maintenance of buildings, site conditions, swimming pools, plumbing, mechanical, electrical and fire protection systems in existing residential and nonresidential structures.

The 2024 International Swimming Pool and Spa Code (ISPSC®) is a comprehensive swimming pool code coordinated with the current requirements in the I-Codes and ANSI standards. Developed with the Pool and Hot Tub Alliance (PHTA) [formerly The Association of Pool & Spa Professionals (APSP)], to establish minimum regulations for public and residential pools, spas, and hot tubs, the ISPSC also contains a reference that mandates the requirements within PHTA/ICC-7 Standard for Suction Entrapment Avoidance.

EVC Review

September 25, 2025

2024 International Code Series (I-Code) Adoption

Presented by: Rob Zuccaro, Community Development Director and

City of Louisville

2024 I-Code Series

- Would Replace Current 2018 I-Codes and Local Amendments
  - ✓ 2024 International Building Code
  - ✓ 2024 International Residential Code
  - ✓ 2024 International Mechanical Code
  - ✓ 2024 International Fuel Gas Gode
  - ✓ 2024 International Plumbing Code
  - ✓ 2024 International Fire Code
  - ✓ 2024 International Energy Conservation Code
  - ✓ 2024 International Property Maintenance Code
  - ✓ 2024 International Existing Building Code
  - ✓ 2024 International Swimming Pool and Spa Code
  - ✓ 1997 Uniform Housing Code

2024 I-Code Series

- Codes Adopted by Reference, with Local Amendments Listed in LMC Title 15, Building and Construction
- Staff Has Worked with BCBOA on Initial Draft of Code Package, with Local Amendments
- August 26, 2025 City Council Discussion/Direction
  - ✓ International Energy Conservation Code Amendment Package
    - BCBOA Recommended Option with Minimal Amendments
    - Regional Cohort Code Option with Electric-Preferred
  - ✓ Residential Fire Sprinklers

2024 I-Code Series

- I-Codes Updated Every Three Years – City Last Updated to 2018 I-Codes, with interim Update to 2021 Energy Conservation Code
- Codes Set Minimum Standards to Protec Health, Safety, and the Environment
- Three-Year I-Code Updates Include Input and Consensus from Across the Country and Building Industry Interests
- Reflects Updates to Building Science and Technology, Industry Best Practices, Feasibility and Cost Considerations, and Legal Compliance

International Energy Conservation Code

- Primary IECC Options Considered:
  - ✓ Adopt BCBOA Code Package Based on 2024 IECC
    - Requires Mandatory Minimum Standards for Thermal Envelop
    - Allows Multiple Compliance Pathways
    - More Straight Forward and Easier to Administer for Building Community
    - Relies on Base Code that has been Nationally Vetted
  - ✓ Adopt Regional Cohort Code Package Based on 2024 IECC
    - Strongly Incentivizes All-Electric Heat Pump Use
    - Addresses Concerns for Limitations on Regulated Gas-Fired Appliances
    - More Stringent Standards for Large Homes
    - Provides Multiple Compliance Pathways

Residential Fire Sprinklers

- City Initially Adopted Fire Sprinkler Requirements with 2018 I-Codes But Later Amended out As Part of Marshall Fire Amendments to Save Costs on Rebuilding
- LFPD Has Submitted Letter Recommending Adoption of Residential fire Sprinkler Requirements with 2024 I-Codes
- Other Communities that Require Residential Fire Sprinklers:
  - ✓ Boulder County
  - ✓ Town of Superior
  - ✓ City of Lafyette
  - ✓ City and County of Broomfield
  - ✓ Town of Erie
  - ✓ City of Westminster
  - ✓ City of Boulder

Residential Fire Sprinklers

- Statistics from 2024 NFPA Publication
  - ✓ Effective in Controlling Fire 98% of Time
  - ✓ Only One Sprinkler Activated in 85% of Fires, Limiting Water Damage
  - ✓ Civilian Deaths and Injuries 89% and 31% Lower Than In Homes Without Fire Sprinklers
  - ✓ Property Loss 55% Lower Than In Homes Without Fire Sprinklers
  - ✓ Firefighter Injury Rate 48% Lower Than In Homes Without Fire Sprinklers
- Cost Estimated at Around $1.65 Per Sq. Ft. for New Construction
  - ✓ For 2,500 Sq. Ft. Home, Cost Estimated at $4,125
  - ✓ If Home Costs $250 per Sq. Ft. to Build, Equates to 0.7% of Cost of Home

Questions?

ECONOMIC VITALITY COMMITTEE

SUBJECT: **STAFF UPDATES**

DATE: **SEPTEMBER 25, 2025**

PRESENTED BY: **VANESSA ZARATE, CECD, ECONOMIC VITALITY MANAGER**
AUSTIN BROWN, ECONOMIC VITALITY SPECIALIST

SUMMARY:
In the following, staff provides updates on recent activity related to economic vitality functions.

Downtown Colorado Inc Metro Mobile Tour
Louisville welcomed about 60 participants on this year's Metro Mobile Tour. We provided walking tours for all the planned development to occur in our downtown. We shared updates on all urban renewal and City tools, to include Historic Preservation. Many entities were excited to hear that programs can be used complimentary to fill project gaps.

International Economic Development Council Annual Conference
Vanessa attended the 2025 International Economic Development Council's (IEDC) annual conference in Detroit with nearly 2,500 economic development professionals from around the globe. In addition to sessions, IEDC hosted tours of various facilities to include a Department of Defense funded manufacturing incubator and Detroit's annual parade hall.

Business Satisfaction Survey
Economic Vitality has launched the bi-annual Business Satisfaction Survey, which will be live until October 17th. The survey results will be published in aggregate before the end of the year. Please share with the business community.

ECONOMIC VITALITY COMMITTEE

SUBJECT: **DEVELOPMENT UPDATES**

DATE: **SEPTEMBER 25, 2025**

PRESENTED BY: **VANESSA ZARATE, CECD, ECONOMIC VITALITY MANAGER**

SUMMARY: UPDATE

In the following, Staff provides updates on recent activity related to construction and development. These updates are for the most frequently asked about sites and not for every site in a review process or under construction. All updates and timeframes are subject to change.

Site	Update
800-804 Main Street (former Wildwood Guitars)	The building is under contract and they have submitted plans to the City for reuse of the building.
809 Main Street (old Waterloo)	Project is continuing construction for the build-out of the restaurant space. There has been interest in the site, with multiple tours, but no LOI or leases signed to date.
816 Main Street (former Empire)	Staff is working with ownership and interested parties towards a sale. Site has been relisted on line for sale.
833 Main Street (former Chase)	Staff is working with ownership to assist with reinvestment on site. Staff has executed a lease of the parking spaces through at least the end of the year.
1301 Courtesy Road (Delo Boom)	Delo Boom is working through City processes to construct 140 units of housing. The project will consist of studios through three-bedrooms and 13.5% affordable units.
950 Spruce Street	Construction has completed with the retail and office spaces currently being marketed for rent.
947 Pine Street (former gas station)	Birdie Bar, an eatertainment use with a bar/restaurant and simulated (virtual) golf games is open!
1303 Empire Road (Ironton)	Ironton has approved plans for a new distillery and event center.

540 County Road (Louisville Grain Elevator)	The Grain Elevator has new owners that have engaged the City to turn the building into an activated space. Their TIF review has been started with Pioneer Development Company.
1171 W Dillon Road (former Lowe's)	The New King Soopers Marketplace plans were approved by City Council and they continue working through the process. The project is now under construction with a planned summer 2026 opening.
1164 W Dillon Road (Cinebarre)	University of Colorado has purchased the site and is currently working on public engagement for their plans for the site.
550 McCaslin Boulevard (former Sam's Club)	Relish has opened to the public!
575 McCaslin Boulevard (former Carrabba's)	Staff is working with the broker representation to market and attract a new user to the building. No lease signed to date.

If you would like to add a site to these updates, please let me know.

ATTACHMENT(S):
None.

LOCAL NEWS

Louisville approves e-bike, pedal bike speed limit on trails, paths

People ride their bikes on the Coal Creek Trail in Louisville on Tuesday. The Louisville City Council approved an ordinance setting a 15 mph speed limit on city trails and paths. (Cliff Grassmick/Staff Photographer)

By **AMY BOUNDS** | abounds@prairiemountainmedia.com | Boulder Daily Camera

UPDATED: August 6, 2025 at 11:19 AM MDT

Louisville is asking its bike riders to keep their speed at 15 mph or lower when zipping around the city's paths and trails.

The City Council on Tuesday unanimously approved an ordinance that sets a speed limit of 15 mph for both e-bikes and pedal bikes. The change, modeled after a similar speed limit in neighboring Lafayette, only applies to trails and paths, not sidewalks or streets. Along with Lafayette, Boulder also imposes a 15 mph speed limit on its multi-use paths.

"This will provide some uniformity within our area," said Lafayette Police Chief Rafael Gutierrez, who added that many of the city's trails pass through multiple communities.

Lafayette already limits the type of e-bikes allowed on trails and paths. Class one and two e-bikes, which can go up to 20 mph, are permitted, while class three e-bikes that can reach a speed of 28 mph and low-powered scooters aren't allowed. Low-powered scooters, which can go as high as 50 mph, require a driver's license, registration and insurance.

Susan McEachern, chairperson of the Open Space Advisory Board, said the board strongly supported adding a speed limit. Additionally, she asked the city to better communicate the types of e-bikes allowed. Trailheads now either say no motor vehicles allowed or only authorized motor vehicles allowed, she said.

"There is a lot of confusion," she said.

The city's police, parks and public works departments previously discussed bike, e-bike and pedestrian safety at City Council study sessions last summer. Options discussed included imposing speed limits on paths and trails, creating additional dismount zones, requiring e-bike rider licensing, prohibiting bikes from sidewalks and developing a more robust educational campaign.

After those discussions, the city developed a safety campaign and increased education and enforcement to encourage safe riding habits, but didn't move forward with any of the other options. Gutierrez said education included asking shops selling e-bikes to educate purchasers on the options, as well as partnering with the Boulder Valley School District to provide e-bike safety information as school started. Louisville Middle School also partners with

Gutierrez acknowledged that adding a speed limit on the path may have limited success in addressing community concerns about e-bikes, including the safety of young, inexperienced riders. Restrictions like licensing and age limits are difficult to implement unless they're statewide, he said, so he's joining police chiefs in other communities in continuing to advocate for the state Legislature to update the e-bike rules in the state's traffic code.

He didn't recommend prohibiting e-bike users from riding on sidewalks, saying it could push inexperienced riders onto streets. He said about 3% of the city's roadway conflicts and crashes involve bikes, though the data doesn't separate e-bike from pedal bike incidents. The city doesn't collect data on bike incidents on paths and trails.

The police department will be responsible for enforcing the new speed limit, potentially with officers using their own e-bikes plus portable speed detection equipment to perform occasional spot checks. Gutierrez said speed enforcement on paths and trails is unlikely to be a high priority for the department. The focus will be on education versus writing citations, he said.

"Education is more impactful than issuing a traffic ticket," he said.

Several residents who commented shared concerns about unsafe e-bike riding behavior among younger teens, urging the city to focus on that age group. Angie Layton, who lives next to Heritage Park, said she sees a steady stream of complaints on social media about close calls with kids on e-bikes, especially in the old town area.

"There is a tremendous concern in the community," she said.

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BUSINESS • News

Construction begins on AI-powered recycling facility in Commerce City

New plant set to open in 2026 and will process up to 62,000 tons of recycling annually

AMP Robotics Corp. and Waste Connections Inc. have broken ground on a new artificial intelligence-powered recycling facility in Commerce City. A groundbreaking ceremony was held on Thursday, July 31, 2025. (Photo provided by AMP)

Denver Post staff

By **JESSICA ALVARADO GAMEZ** | jalvarado@denverpost.com

UPDATED: August 5, 2025 at 12:34 PM MDT

AMP Robotics Corp. and Waste Connections Inc. have broken ground on a new artificial intelligence-powered recycling facility in Commerce City.

The plant, 4150 E. 60th Ave., is scheduled to open in 2026 and will process up to 62,000 tons of recycling annually with minimal human intervention.

“We’ve shown a higher level of performance is achievable when the capabilities of AI are built in at the facility level,” said Tim Stuart, chief executive officer of AMP.

“Waste Connections’ adoption of facility-scale sortation is a milestone for the industry. This is a facility that delivers on the true potential of recycling, and we couldn’t be more delighted to be doing this with our Waste Connections partners.”

AMP Robotics Corp. chief Matanya Horowitz talks with Gov. Jared Polis during a visit in November 2022 at a recycling facility northwest of Denver in Louisville, where engineers were planning to harness artificial intelligence to improve recycling systems. The challenge is to sort, pick, and place materials efficiently. (Photo by Helen H. Richardson/The Denver Post)

Powered by AMP’s AI technology, the sorting system will continuously fine-tune itself, identify jams or drops in performance, monitor purity and adapt to changes on the line.

AMP’s technology recovers plastics, cardboard, paper, cans, cartons and many

For example, its AI platform can identify different types of plastics and sort them by color, clarity, and opacity, as well as by form, including lids, tubs, clamshells, cups and more.

AMP's technology can also recognize and adapt to new types of container packaging entering the recycling stream.

Late last year, AMP entered into an agreement with Waste Connections to equip and operate the Commerce City facility. The system will be operated and maintained by AMP under a pay-per-ton agreement.

The new facility extends a partnership that began in 2020 with AMP's AI-guided robotics systems deployed across Waste Connections' material recovery facilities. What started with 24 systems has grown to more than 50.

Since the start of COVID-19, demand for AMP's AI and robotics technology has grown rapidly, according to a news release by the company. As businesses turned to automation to handle labor shortages, maintain safety and manage changes in waste volume and types, this led to a significant increase in orders and interest.

Headquartered in Louisville and with manufacturing operations in Colorado, AMP has three full-scale facilities and more than 400 AI systems deployed across North America, Asia and Europe.

AMP's AI platform has identified 150 billion items and guided the sortation of

Originally Published: August 5, 2025 at 12:14 PM MDT

Around the Web

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By Super Saving Online

Seniors at Louisville Should Claim These Benefits

2025 > August > 5

Food & Lifestyle

Task force formed to tackle Denver restaurant industry challenges

Dinner options grace the table at Empire Lounge & Restaurant in Louisville.
PROVIDED BY EMPIRE LOUNGE & RESTAURANT

By Jenna Barackman – Reporter, Denver Business Journal
Aug 6, 2025

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Story Highlights

- Visit Denver forms restaurant liaison team to support struggling industry.
- Denver restaurants face economic challenges since COVID-19 pandemic began.
- Industry veterans Dana Faulk Query and Adam Schlegel lead effort.

Denver's restaurants are struggling and the city, Visit Denver and a hospitality technology company want to help.

Visit Denver, Denver city government's office of Economic Development & Opportunity and Austin-based hospitality company inKind have joined forces and created a restaurant liaison team to support and advance Denver's food and beverage industry, Visit Denver announced Tuesday.

The team will develop strategies to advance the industry over six months, including connecting stakeholders, conducting roundtables and listening sessions, identifying key issues facing restaurants in the city, conducting surveys and interviews, recommending retention strategies, and other responsibilities, the partnership said.

The team will use that feedback to develop recommendations about how to address key issues facing the restaurant industry.

Richard Scharf, the president and CEO of Visit Denver, said the liaison would ensure that the industry thrives "for the betterment of Denver," and said the industry was key to attracting tourists from across the country and around the world.

"Restaurants are one of the pillars of Denver's economy and part of our cultural identity," Scharf said in a press release. "From your favorite neighborhood

such a great place to live, work and visit. "

Leading the effort are two industry veterans, Dana Faulk Query and Adam Schlegel.

Query is the co-owner of the Big Red F Restaurant Group, which operates Jax Fish House & Oyster Bar, The Post Chicken and Beer and Centro Mexican Kitchen. She has also served on the boards of the Colorado Restaurant Association, EatDenver, the Boulder Chamber and others.

Schlegel is the co-founder of Snooze, an A.M. Eatery and Chook Chicken. He has served on the boards of EatDenver, Visit Denver, Colorado Restaurant Response and other boards, along with leading a Denver Public Market initiative to "align food and agriculture" throughout the state.

"I have worked in restaurants since I was eight, holding every front and back of house position from dish washing to now co-owning some of Denver's longest-standing restaurants with my husband," said Query. "To me, restaurants aren't just businesses; they're community anchors, gathering spaces and can represent the surrounding culture."

Since the Covid-19 pandemic, Denver restaurants have battled an onslaught of economic including increases to the city's minimum wage, the rising costs of goods, permitting delays, negative effects of homeless encampments, drug use and crime downtown. Many restaurants have had difficulty getting customers to return and dine as often as they did before the pandemic.

Some efforts in the legislature and by the city have been made to alleviate some of those issues, such as a bill signed into law in June that allows local entities like Denver to decide if the $3.02 tip credit can increase starting Jan. 1. A

20% service charge on city restaurant bills has also been discussed by Mayor Mike Johnston.

Many popular and long-standing restaurants have folded under the pressures. Other industry leaders have said they are "very cautious" about opening new restaurants in Denver or "intrigued" by what other cities are offering restaurants and small businesses in comparison to Denver.

Restaurants have continued to open despite the industry's difficulties, and some concepts have found success in the metro. The new team hopes to replicate that success and bring the industry back to health.

"I have started two restaurant concepts in this town over the past two decades. While I have seen our restaurant scene grow by leaps and bounds in terms of size, quality and reputation, some of the ways the industry is asked to operate have not kept pace," Schlegel said in a press release.

"We've all heard the pain points of permitting delays, workforce struggles and razor-thin margins. Now we have a chance to put real data behind those concerns and push for change," he said.

No. of guest rooms

Rank	Prior Rank	Business name
1	1	Gaylord Rockies Resort & Convention Center
2	2	Sheraton Denver Downtown Hotel
3	3	Hyatt Regency Denver at Colorado Convention Center

View This List

ARTS & ENTERTAINMENT | AUGUST 12, 2025 | 1:39:21 PM

Video streamer Gaia boosts sales, trims loss

Gaia Inc.'s headquarters in Louisville. Christopher Wood/BizWest

By Lucas High

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CALENDAR

LOUISVILLE — Streaming video provider Gaia Inc. (Nasdaq: GAIA) improved both its bottom and top lines in the second quarter.

Revenues in the most recent period totaled $24.6 million, up 12% from the same period last year, while Gaia reduced its net loss from $2.2 million in the second quarter of 2024 to $1.8 million in the same quarter of this year.

“As planned, we continued to deliver on positive free cash flow and double-digit growth for the quarter,” Gaia chairman Jirka Rysavy said in a prepared statement. “In July, our subsidiary, Igniton, raised $6 million of private common equity financing, including $2.0 million from Gaia, at an implied post-money valuation of $106 million, up from an implied post-money valuation of $40 million from last year’s raise. The proceeds from the financing will be used by Igniton for product launch, general operating expenses and certain capital expenditures to support future growth. Gaia now owns approximately two-thirds of Igniton equity.”

As of 8:40 a.m. Tuesday, Gaia’s stock price was $4.84, up nearly 15% over the past five trading days.

During the most recent quarter, **Gaia elevated president Kiersten Medvedich** to the role of CEO.

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A Maryland native, Lucas has worked at news agencies from Wyoming to South Carolina before putting roots down in Colorado.

Categories: Arts & Entertainment Earnings Technology Today's News Gaia Inc.

Downtown Westminster has slowly taken shape — but soon will get an injection of life with park, food hall

Suburb's City Council will decide on approvals for new residential projects adding to 1,000 built units

Boji Silverelk, a city of Westminster seasonal worker, power-washes a wooden stage at Central Square in Downtown Westminster on Thursday, Aug. 14, 2025. (Photo by Andy Cross/The Denver Post)

By **JOHN AGUILAR** | jaguilar@denverpost.com | The Denver Post
PUBLISHED: August 18, 2025 at 6:00 AM MDT

A three-acre community park, an Asian-themed food hall, and hundreds more apartments and townhomes.

All are bound for Downtown Westminster — and they're stoking optimism about the future of the major redevelopment, providing the next building blocks in this suburb's long-term vision of a city center where a giant shopping mall once sat.

"There's a whole second phase of development that is about to come online," said Heather Cronenberg, the city's real estate development manager. "We think it's going to be a draw from all over the metro area."

The realization of Downtown Westminster, an innovative urban infill project rising from the ashes of the old Westminster Mall, has been underway for about 15 years near where North Sheridan Boulevard meets U.S. 36. It hasn't all been smooth sailing — the redevelopment has weathered hiccups, and even now there are some empty storefronts.

But city officials take a long view. Another 15 years should bring the project to completion, Cronenberg said.

"This was always meant to be a long-term growth project," she said.

The next big push for the 102-acre site — which boasts about 1,000 dwelling units across four apartment buildings, with 95% occupancy — is now coming into view. Two "large, impactful" residential projects, the details of which are still under wraps, are going before Westminster City Council for approval in the coming weeks.

On the more immediate horizon, the long-awaited Center Park will open to the public this fall at Fenton Street and Park Place, providing a community gathering spot with a splash pad, picnic shelters and a dog park.

And next year will see the groundbreaking for a 49-unit affordable housing project for seniors, as well as the opening of the seven-restaurant Red Lotus Den eatery and entertainment food hall.

Owner Henry Lee just pulled permits for the 11,500-square-foot food hall late last month. He already owns two other restaurants in the downtown zone.

"That's what I'm trying to do with the food hall — make it more destination-based," Lee said. "It's going to pull in a lot of traffic."

But as the city center buildout reaches its halfway point, it hasn't all been smooth sailing for Downtown Westminster.

Marczyk Fine Foods was slated to occupy a space in the Origin Hotel, but that plan went belly up in 2019. The Tattered Cover bookstore, open on Westminster Boulevard for just over a year, closed in late 2023. An anchor tenant, the movie theater chain Alamo Drafthouse, went through bankruptcy four years ago because of the impact of the pandemic, but it still operates a location at the corner of Westminster Boulevard and West 89th Avenue.

A number of retail spaces sit vacant, with a Superfruit Republic shop hemmed in on both sides by empty storefronts.

Rodney Milton, the executive director of the Urban Land Institute of Colorado, said these kinds of growing pains can be expected in the midst of trying to build something ambitious and iconic.

"Being patient to get what you want is a huge challenge," he said. "You may want it but the development community may tell you the market can't sustain that. That's why initiatives like this take time."

A landscape crew works on the Downtown Westminster Center Park on Thursday, Aug. 14, 2025. (Photo by Andy Cross/The Denver Post)

‘Elements of gathering and connection’

Westminster Councilwoman Sarah Nurmela, who has long worked professionally in urban planning and now is Erie’s planning director, was part of the Downtown Westminster effort from the beginning.

She joined Westminster city staff right about the time the Westminster Mall faced the wrecking ball in 2011. For 34 years, it was a 1.2 million-square-foot shopping mecca for northern suburbanites and a high school hangout for teens stealing a first kiss or sneaking into an R-rated movie.

The idea behind turning the old mall site into the sprawling city’s downtown district, Nurmela said, was to keep the area the city’s public gathering spot. It’s bounded by Sheridan, North Harlan Street, and West 88th and 92nd avenues.

“We want to create these elements of gathering and connection for people,” she said. “We want it to be the center of activity, the center of community — like the mall used to be.”

To that end, Downtown Westminster still features a JCPenney department store at the center of things — an eye-catching vestige of the circa-1977 mall of which it was once a part. There's also a dated Bowlero bowling alley and an Olive Garden restaurant that harken back to an earlier retail era.

"I don't mind these unique quirks," Nurmela said. "They are part of the story of downtown."

Mall redevelopment projects have been on the rise over the last couple decades as giant enclosed shopping centers have fallen out of favor across the country. Westminster's project is hardly Colorado's first.

More than 20 years ago, the Villa Italia Mall in Lakewood was replaced by the Belmar Shopping Center after Villa Italia fell into disrepair and became blighted. In 2006, the Southglenn Mall in Centennial made way for The Streets at Southglenn — another outdoor shopping center supplanting an aging mall.

Like Lakewood and Centennial, Westminster was part of the vast post-World War II suburban spread in America. The city never organically developed a traditional downtown, even while other communities in the metro area, like Golden, Louisville and Littleton, did.

"It was more of a farming community with orchards — it just had a different growth model," Cronenberg said of the city of 115,000.

But Westminster's attempt at urban transformation is about more than just replacing a shopping center with a shopping center. It started a decade and a half ago with entreaties to three separate developers to build a master-planned, multiuse project at the site, Nurmela said.

"We really wanted someone else to take this on," she said.

But the Great Recession made commitments to long-term investment difficult to find. So the city's urban renewal authority bought the land, demolished the mall, built the streets and utilities, and sold off parcels to developers to start shaping its future downtown.

Total investment by the city so far, Nurmela said, is about $100 million.

For that price, she said, Westminster gets to guide the project the way it

The Eaton Street Apartments are priced to be affordable, while 10% of the apartments at both the Aspire and Ascent complexes were required by the city to be priced at 60% of the area median income for lower-income renters, Nurmela said.

Inks and Drinks in the Aspire Building in Downtown Westminster on Thursday, Aug. 14, 2025. (Photo by Andy Cross/The Denver Post)

And Downtown Westminster's growth has begun to inject life into surrounding retail centers, the councilwoman said, most notably with last month's opening of a Trader Joe's grocery store just to the northeast of the downtown zone — the trendy chain's ninth location in Colorado.

"We don't have to rush it. We just have to make sure we're building a project that supports and feeds that vision," she said. "This is not a 10-year play, this is a 300-year play."

$300k dedicated to activation

Downtown Westminster is a purposefully dense mixed-use neighborhood. Think five-story apartment buildings and ground-level retail — where quick

That's proven handy to 31-year-old Austin Tristan, who has lived in the Aspire apartment building for half a year. Walking his dog last week in Downtown Westminster's Central Square, Tristan said he moved there from downtown Denver and works from home.

"I like how it is right now," he said. "It's peaceful and quiet most of the time."

Venturing into Denver to hit the bars with friends on occasion is on his social calendar, and that's where public transit makes the choice easy. Tristan said he wouldn't mind seeing a little more energy and bustle in Downtown Westminster, starting with more restaurants to choose from and a dedicated brewery.

Paletteers Art Club member and artist Steve Sellars draws inside the Fuse Box Container Art Gallery in Downtown Westminster on Thursday, Aug. 14, 2025. (Photo by Andy Cross/The Denver Post)

The list of eateries includes a Vatos Tacos, a Tap & Burger location and a Bonchon Korean chicken joint. Salady, a fast-casual restaurant offering salads, grain bowls and wraps, opened its doors less than a month ago.

Joao Zeraick, a Brazilian who moved into a townhome on West 92nd right next to the Bowlero less than two weeks ago, said he would also like to see

In May, the city, in partnership with the Westminster Chamber of Commerce, launched an “activation” effort to “bring increased foot traffic and community engagement” to the downtown area, according to a city press release. It will dedicate $300,000 over the next year, paid through taxes generated by downtown businesses and residents, to stage events that attract people to the area.

Already, the city is pulling in more tax revenues from business activity in Downtown Westminster ($6.8 million in 2024) than the Westminster Mall generated in its final full year of existence ($2.4 million in 2010). Adjusted for inflation, that’s a nearly 96% increase.

And it gives Lee, the Red Lotus food hall owner, reason to be hopeful for the future of Downtown Westminster.

“There’s a lot of potential,” he said.

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LOCAL NEWS

Electric shift: Longmont board recommends regional energy code

The board recommends adopting Boulder County's Regional Energy Code Cohort.

By **LONDON LYLE** | llyle@prairiemountainmedia.com
UPDATED: August 22, 2025 at 11:29 AM MDT

The Longmont Sustainability Advisory Board of Commissioners has thrown its support behind a regional approach to updating the city's energy codes.

At a remote meeting held Wednesday evening, the board recommended that Longmont adopt Boulder County's Regional Energy Code Cohort, which strongly supports all-electric buildings and simplifies the permitting process for builders working across multiple cities.

The board did not take a formal vote on Wednesday. Rather, city staff will present the board's recommended code scenario to the City Council on Tuesday. The council will make the final decision on which code scenario to move forward with.

An energy code is a specific section of building codes that deals only with how efficiently a building uses energy. It sets rules for items such as insulation, heating and cooling systems, lighting, and how much natural gas or electricity a building can use.

The board reviewed three options prepared by staff: a national code; a state code; and the Boulder County regional code, which they recommended. The regional code cohort was developed by Boulder County to make city codes more consistent across the county.

Lisa Knoblauch, the city's sustainability manager, said the decision has been a long time coming. Longmont usually updates its building codes within a year after new ones are released, but the 2024 national code was delayed.

In the meantime, both the state and the regional group developed their own approaches, leaving cities with three energy codes to choose from.

"We wanted to wait until all three were available so council could make an informed decision," Knoblauch said.

Each option would change the way new homes, apartments, and commercial buildings are built in Longmont. The national code requires higher energy efficiency and solar panels onsite for some commercial projects. The state code focuses on cutting carbon pollution but does not require solar panels. It also adds features that let appliances work with the power grid, so energy use can be reduced during peak hours.

The board-recommended regional option goes a step further by keeping the rules simpler and giving builders an easier path to design all-electric buildings, which use no natural gas.

To better understand how each option might affect both costs and pollution, the city hired Group14 Engineering, a Denver consulting firm that specializes in energy and sustainability. Group14 modeled how the three code options would affect different types of buildings in Longmont, using the city's current 2021 code as a baseline.

They looked at townhomes, mid-rise apartments, strip malls and industrial warehouses, and compared how much they would cost to build, how much energy they would use, and how much pollution they would produce. To make the study realistic, Group14 also gathered cost data directly from local and regional builders and developers.

The results showed trade-offs depending on building type. For townhomes, the regional option would reduce pollution the most. For apartments, the national code had the lowest energy use, but the regional option was easier to follow for builders who chose all-electric designs. For retail buildings, the state code performed best at cutting both carbon emissions and energy bills. For industrial warehouses, all three codes only made small improvements, since those buildings have fewer energy requirements.

Board members at Wednesday's meeting said that housing affordability should remain central to the discussion, with cost of living being at the top of mind for many Longmont residents.

"We don't want to make it harder for low-income families to buy or rent in Longmont," board member Ethan Augreen said.

Board member Alyssa Harding added: "The people most affected by energy bills are those least able to afford higher up-front costs."

Board Chairman Robert Davidson told the group that Longmont has committed to reducing greenhouse gas emissions 66% by 2030. "We can't get there without tackling buildings, since so much of our emissions come from natural gas use," he said.

Susan Bartlett, director of Energy Strategies and Solutions at Longmont Power and Communications, said that while some of the changes could raise building costs, they will pay off over time with lower utility bills and cleaner air. She also noted that other cities in the region including Boulder, Lafayette, Louisville and Broomfield are adopting similar standards, which makes it easier for contractors who build in multiple communities.

One area of concern was a feature called "demand response." This allows appliances such as water heaters and air conditioners to adjust their use when the electric grid is under stress. The national code does not require this, but the state code does for water heating, and the regional option requires it for heating and cooling as well. Appliances such as smart thermostats and EV chargers can provide this capability, with smart meters acting as the communication tool between the utility and the home.

Some board members liked the idea as a way to save money and reduce strain on the grid. Others wondered if residents would lose control of their

Originally Published: August 21, 2025 at 10:37 AM MDT

Around the Web

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THINGS TO DO > ENTERTAINMENT

Mix at your own risk: Louisville's Pints in the Park is back with beer, booze and a bucking bronco

Unlimited tastings from more than 40 breweries make this one of Colorado's bigger beer fests

For 2025, the Pints in the Park lineup tops 40 breweries, cideries, distilleries, and more. (Megan Sweeney/Courtesy photo)

By **ELLA COBB** | ecobb@prairiemountainmedia.com | Daily Camera

PUBLISHED: August 21, 2025 at 11:00 AM MDT

The only thing harder than choosing between 100-plus drink samples at Pints in the Park might be deciding whether to dance, play bocce ball, ride a bucking bronco, or just stay in line for another pour.

Louisville's annual tasting festival returns Saturday and, once again, the afternoon makes for a complete beer and beverage lovers' dream.

In its 10th year, the event at Louisville Community Park, 955 Bella Vista Drive, Louisville, has grown into one of Boulder County's biggest beer tastings, featuring more than 40 breweries, distilleries, cideries, kombucha makers and nonalcoholic producers all lined up under vendor tents. Unlimited tastings run from 2 to 6 p.m., giving festivalgoers ample time to try local favorites, discover newcomers, then circle back for another pour of whatever stood out the first time. Or they can simply stand at their favorite brewery and slam their glass down repeatedly with a hearty, "hit me again!"

Live music fills the park during Pints in the Park in 2024. The festival returns this Saturday, Aug. 23 to Louisville Community Park. (Megan Sweeney/Courtesy photo)

According to Gillian Millar, executive director at Louisville Chamber of Commerce, this year's lineup reflects a wider craft scene that keeps expanding and — like H5N1 bird flu's D1.1 genotype adapting to mammals — mutating.

"The breweries still take the center stage, but what we've realized is there's a desire for people to have the full spectrum of today's craft scene," she said. "So this year, we aren't just focusing on beer. We'll have everything from spirits to specially brewed nonalcoholic drinks to seltzers and even wine. The craft scene is evolving, and we wanted to make sure the festival reflects that."

This year's roster includes national heavyweight Deschutes, hailing from Oregon, regional players like Outer Range, from Frisco, and Station 26, from Denver. There will also be local favorites Wibby (Longmont), Gravity Brewing (Louisville) and Crystal Springs (Louisville).

Founder and owner of Crystal Springs, Tom Horst, said his brewery has

“I think the vibe of the festival is just that we’re all having fun,” he said. “It’s like a neighborhood block party. I make sure I have some time to go around, talk to everybody, visit, maybe even taste some of their beers. It makes me feel, well — wouldn’t say it’s a warm and fuzzy feeling, just because it’s beer and you don’t want beer to be warm, so it’s probably a cold and fuzzy feeling.”

Crystal Springs opened in downtown Louisville in 2010, and it’s the product of Horst’s decades-long obsession that began with a dog-eared homebrew manual and a few borrowed ingredients back in the late ’80s. The name itself nods to Boulder’s first brewery, Crystal Springs Brewing and Ice Company, founded in 1875. Today, Horst and his team keep the spirit small and experimental, brewing in batches that range from award-winning Blood Orange Kölsch, a 2021 Great American Beer Festival (GABF) gold medalist, to easy-drinking lagers and even the occasional peach-kissed seasonal.

Festivalgoers sample award-winning brews from Crystal Springs Brewing Company during Pints in the Park 2024. This year, the Louisville brewery will return with favorites like its Blood Orange Kölsch. (Megan Sweeney/Courtesy photo)

Horst is planning to bring a mix of styles to the festival, from the brewery’s prized Blood Orange Kölsch to IPAs, lagers and even a peach kölsch.

“We just get ideas, try them, see what happens. That’s what makes it fun,” he said.

Horst, who also serves on the Pints in the Park committee, encourages attendees to step out of their comfort zone and sample widely.

“There’s some incredible beer being made in Colorado, and anybody who comes is going to have quite the choice.”

At Gravity Brewing, less than a half a mile away from Crystal Springs, sales manager C.K. Lichenstein II

“Once you start hanging out around the brewery and get to know the beer, you’re like, ‘Oh wow, that’s kind of funny,’” he said.

Gravity Brewing set up shop in Louisville in 2012, founded by three University of Colorado engineering grads who decided to apply their love of science and physics to beer. Their tap list is both creative and a little nerdy. Take Cerveza Espacial, a crisp Mexican lager whose name is a play on words: drop the “e” from especial (special) and you get espacial (space). That sense of humor runs alongside some serious brewing chops, from award-winning Belgian styles and barrel-aged experiments to their newest release, Mango Peach Quasar, a kettle sour brewed just in time for Pints in the Park.

For the festival, Gravity is planning to pour Coal Kriek, a Belgian dubbel with tart cherries that took home a silver medal at the World Beer Cup in 2016, Walk on the Moon, a low-ABV session IPA, as well as some other surprises and fan favorites.

Like Horst, Lichenstein is also on the Pints committee.

“This is my third year pouring at Pints in the Park and my second year helping with it,” Lichenstein said. “For me, it’s all about making sure there’s something for everybody. I still go to beer fests for fun. So I always think about what I enjoy at a beer fest, and what I don’t, and I really like what Pints in the Park has to offer. I like that we have activities, a lot of different things to try. It’s all just open and available, and that makes it more inviting for the community.”

There are plenty of things to try beyond the taps, too: food from local trucks, mini golf, bocce courts, lawn games and the aforementioned mechanical bronco. Additionally, three stages of entertainment will run throughout the afternoon, headlined by Stomp Street Heist, with Colorado Junction String Band, Siena Marina, and a three-channel silent disco from Big Little Sound filling out the bill.

Millar said organizers are preparing for anywhere from 800 to

2,000 attendees. The crowd, both in terms of guests and breweries, she said, continues to grow each year.

“A number of the breweries have even said, ‘Oh, you’re now one of the biggest sampling beer festivals in Colorado,’ which is really exciting for us,” Millar said. “I think we’re just kind of at the tip of the iceberg for what Pints in the Park could become. We’re excited to see where we can take it, and to have that support and be part of Louisville is really special.”

Pints in the Park returns to Louisville for its 10th year on Aug. 23, 2025. (Megan Sweeney/Courtesy photo)

She added that the festival is a perfect excuse to take one big Louisville field trip for the day.

“We’d love folks to come spend the day in Louisville,” Millar said. “Have brunch at Huckleberry, shop downtown, then wander over to Community Park, it’s only a block or two away. Wherever you’re from, you’re welcome here.”

Tickets start at $55.20 for general admission, $129.89 for VIP and $7.18 for designated driver passes. More information is available at louisvillechamber.com/pints-in-the-park.

BUSINESS

Electric vehicle sales surge as end of tax credits nears

Automakers are taking advantage of the short-term boost to clear inventory in anticipation of at least a temporary drop in interest once the credits end.

Michael MacGillivray of Ann Arbor, Michigan, said he was motivated to buy his Tesla Model Y by the passage of legislation ending the federal tax credit for EV purchases next month. (David Guralnick/The Detroit News/TNS)

By TRIBUNE NEWS SERVICE | Tribune News Service
PUBLISHED: August 23, 2025 at 7:00 AM MDT

By Summer Ballentine, The Detroit News

Michael MacGillivray had planned for months to replace his gas-powered Ford Bronco with an electric vehicle.

As a certified public accountant, he followed congressional debate over President Donald Trump's sprawling spending and tax legislation, which would end $7,500 tax credits for some first-time EV buyers. When Trump signed the legislation into law July 4, MacGillivray knew he needed to act.

"I was leaning toward the EV regardless, but the tax credit pushed me over the edge," MacGillivray told The Detroit News while driving his new Tesla Model Y back from a road trip to Toronto.

The 25-year-old Ann Arbor resident is among a surge of what analysts call “fence sitters” buying EVs in the final weeks before the tax credit expires Sept. 30. And automakers are taking advantage of the short-term boost to clear inventory in anticipation of at least a temporary drop in interest once the credits end.

Hyundai’s electrified sales jumped 50% compared to July 2024. Combined sales of electrified Toyota and Lexus models rose 6.7% to 90,426. July was General Motors Co.’s best-ever month for its electrified fleet, according to the company, which said it sold more than 19,000 EVs, a 115% increase from July 2024.

“Everybody wants them right now before the tax credits go away,” said Walter Tutak, dealer trade inventory manager at Champion-Hargreaves Chevrolet dealership in Royal Oak.

Honda Motor Co. reaped a record July in electrified sales, in part because “the impending expiration of EV tax credits led some buyers to pull ahead across the industry,” Jessika Laudermilk, assistant vice president of U.S. sales at Honda, said in an email. The automaker’s Prologue EV recorded 6,318 sales in July, up 82.7% year over year.

“We expect to see this continuing in August and September,” Laudermilk said.

Automakers are not required to report monthly sales, and Tesla Inc. did not disclose data in response to a Detroit News inquiry.

Stellantis NV, which also did not report July sales data, is one of many automakers offering aggressive incentives on both EVs and plug-in hybrids, along with prominent language on its brand sites trying to spur customers into action: “Get your EV incentive while you can!” Jeep says on its website in a promotion for the all-electric Wagoneer S.

“Brands are going crazy with incentives, and it’s good for consumers,” said Lauren Fix, CEO of the consulting firm Automotive Aspects.

Auto reviewer Anton Wahlman, a former technology analyst, said the next few weeks will be “an inventory cleaning event.”

Sam Fiorani, industry analyst at AutoForecast Solutions, said manufacturers will compensate for the loss of the EV tax credit with their own incentives to keep prices stable: “It’s unlikely that you’ll see the prices drop, but you will see leasing deals or customer rebates.”

Analysts expect manufacturers to further scale back production of EVs to match limited interest among buyers, especially as Trump works to remove federal emissions requirements that pressured companies to make those models regardless of market demand.

Stellantis has already started dialing back production of its electrified offerings, with dealers prevented from ordering several models.

“In line with our retail priorities and the plans shared with our dealer network, we are working to ensure our production plan is in line with consumer demand,” according to a statement from the company.

After the industry more broadly scales down production over the course of several years, “they’re only going to sell some of them if they can make money on them,” Wahlman said.

“So there will be far fewer models and they will be priced much higher,” he said.

“In the midterm, you’re going to see EVs disappearing from the marketplace,” Fiorani added. “Currently, they’re encouraged by emissions (regulations) and by the federal incentives, but once those two things go away, then there’s no real incentive for a

manufacturer to add a new model to the lineup in a market that's already crowded with EVs."

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Automakers say they remain committed to EVs in the long run, although many are shifting investments toward hybrids and gas-powered, money-making trucks and SUVs.

"Toyota's commitment to vehicle electrification is just one important element of its effort to help the world build a zero-carbon future," Toyota Motor North America spokesperson Derrick Justin Brown said in an email. "Through the current industry shifts, including those around EV tax credits, that commitment remains strong, and there are no current plans to alter our approach."

Laudermilk said Honda views electrification as "a marathon, not a sprint."

"We remain focused on expanding our electrified lineup, utilizing our flexible manufacturing to produce ICE, hybrid-electric and battery electric models on the same production lines to meet the needs of our customers," Laudermilk said.

GM executives have said the company will continue to pursue EV innovations, even as it beefs up its gas-powered fleet with investments at Orion Assembly in Michigan, Tonawanda Propulsion in New York and Toledo Propulsion Systems in Ohio.

Ford Motor Co. last year canceled plans to produce a three-row, battery-powered SUV at its Oakville Assembly Complex in Ontario, planning instead to build gas-powered Super Duty pickups there starting next year. And the Dearborn automaker this month delayed the launch of its next-generation electric van and electric full-size pickup, though it also said it would invest $2 billion to build a midsize electric pickup at Louisville Assembly.

Stellantis this summer announced plans to bring back 5.7-liter Hemi V-8 engines in Jeep SUVs and Ram light-duty pickups as Trump and a GOP-controlled Congress slashed emission and fuel economy standards that had forced the engine's slow demise in the first place.

Despite the more favorable regulatory environment for gas engines, Fiorani said automakers neglect electrification at their peril.

"A good manufacturer will see that this is the wave of the future and will invest in it," he said. "A short-term manufacturer will go back to building just ICE vehicles and ignore the future of EV."

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TECHNOLOGY | AUGUST 24, 2025 | 10:07:43 AM

Exploit Boulder's quantum advantage, execs told

Race for technology supremacy called 'very real'

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CALENDAR

By Dallas Heltzell

BOULDER — With all the current buzz about quantum computing around the Boulder Valley, it may be hard to believe that the theory behind it is a century old.

But it is.

And executives attending a BizWest CEO Roundtable on cutting-edge technology at Google Boulder last week got some century-old advice about how to keep Boulder the epicenter of quantum innovation.

Scott Sternberg, executive director of the University of Colorado Boulder's CUbit Quantum Initiative, recalled pioneering automaker Henry Ford's admonition that "the person who stops advertising to save money is the person who stops a clock to save time."

The region, said Alison Karp, senior program manager for the Colorado Quantum Fund at the state Office of Economic Development and International Trade, "has the highest concentration of quantum workers, quantum companies, I believe, in the world. We do have an ecosystem here that we want to be sharing."

The Boulder Valley — with its powerhouse federal labs and CU's world-class physics department — has become, over the past few decades, a global epicenter for quantum research. That's why the U.S. Department of Commerce's Tech Hub program last year granted Elevate Quantum, a nonprofit consortium of about 70 stakeholders who represent industry, academia, capital and laboratories in Colorado and New Mexico, a Phase 2 Tech Hub designation that unlocked $127 million in state and federal funds, which are expected to generate several billion more dollars of private investment in the region's quantum industry.

Quantum theory attempts to explain the behavior of matter at atomic and subatomic levels. Because quantum computers take advantage of special properties of quantum systems such as superposition, their computing power and speed is exponentially greater than a traditional computer. Applications of quantum science could revolutionize the way humans discover new drug therapies, map the cosmos, protect sensitive data, combat climate change and maybe even discover new forms of life in deep space.

Attending the CEO Roundtable on Cutting-Edge Tech were Jared Crain, Berg Hill Greenleaf Ruscitti LLP; Aaron Spear, Bank of Colorado; Ashley Legan, Berg Hill Greenleaf Ruscitti LLP; Scott Sternberg, CUbit Quantum Initiative; Kieran Casey, Google Boulder's gTech division; Colin Larson, Google Boulder; Alison Karp, Colorado Quantum Fund at the state Office of Economic Development and International Trade; Dede Willis, Orbit Genomics Inc.; Stan Hickory, CU New Venture Challenge; Peter Adams, Rockies Venture Club; Jeremy Wilson, Plante Moran; George Douaire, StrideTech Medical Inc.; and Sean Nohavec, Plante Moran. Not pictured is Brynmor Rees, Venture Partners at CU Boulder. Christopher Wood/BizWest

Sternberg reminded the group that 2025 has been declared the 2025 International Year of Quantum Science and Technology because it's been 100 years since the initial development of quantum mechanics.

"So why am I hearing so much about quantum now? We've now gotten to the point where we can engineer products and systems to exploit some of the most difficult principles of quantum that have been brewing over the past 100 years," Sternberg said. "That's why we are here. We look at other economies around the country and around the world, and they don't have that legacy of 60-plus years, over a half a century, of working in this space. They don't have the four Nobel Prizes. They don't have the 3,000 workers. They don't have the 50-plus companies. That we have here" in the Boulder Valley.

"That puts us in such a unique position," he said, because "the family tree (of quantum research) that started in Boulder is now everywhere in the world."

An innovative atmosphere

That innovative atmosphere extends beyond quantum to other areas of technology and helped lure Google to Boulder, noted Kieran Casey, managing director of gTech or Google Technical Services. That global support and operations team within Google is focused on providing technical expertise and solutions to Google's customers and users.

Of the approximately 1,800 Google employees in Boulder, she said, gTech's 350 makes it the third-largest presence in the Boulder office.

"We are a net importer from other offices within Google," Casey said. "This is a destination they want to work in. Overall, Google is a destination employer and I think we were very fortunate that we were able to get the company to come here."

But just as quantum theory is nothing new, neither are the challenges the Boulder Valley faces in maintaining its position atop the quantum — and technology — world. One of them is the cost of housing.

Sternberg, who arrived in the area four decades ago, noted that "Boulder has always been incrementally more expensive than anywhere else in the state. Let's not say 'Oh, my God, all of a sudden Boulder costs a lot.' It's always been the case."

That doesn't mean those costs aren't still a problem, acknowledged Joe Hovancak, executive director of the Boulder Chamber Economic Council.

"We're at a tipping point with the headwinds of housing affordability, transportation and reducing homelessness," he said. "We took a gut punch when COVID came around and with Techstars leaving. There was industry reverberation.

"Because it's not as affordable, convenings are not happening in Boulder," he said. "They're spread out to Longmont, Louisville, Superior, Denver. But there is a momentum that's building. When I talked to Techstars earlier this year, they were thinking about Chicago, Atlanta, Silicon (Valley), I said, 'No way!' We'll get behind it. And now they're coming here."

Hovancak's persuasion has been pretty basic, he said.

"I've just said by the way, Phoenix's too hot, Silicon's too expensive, Boulder's great. We want you here."

With all those headwinds, Sternberg asked, "why do we have the high-tech industry here? Why do we have aerospace? Why do we have bioscience? Why do we have outdoor products? Why do we have the natural-foods movement? Because people want to be here. They don't view it as a cost. They view it as an investment."

One who made that investment in Boulder was George Douaire, CEO of StrideTech, which produces attachments that help prevent falls by seniors using walkers to aid their mobility. The founding team used resources from CU Boulder, including Catalyze CU and the New Venture Challenge, to develop their technology and business concepts. By early 2021, they had completed a six-week beta test with residents at a local senior living community.

"I've been here five years now," Douaire said. "I came here from Chicago, where I spent most of my career. The thing that I love about Boulder is how small it is. You can find anybody and everybody, even up to the governor's office, which is fantastic."

When he had to work with a state agency, he said, "I called and somebody answered the phone! And she called back twice to make sure everything was done properly. I realized the state of Colorado is half the size of Cook County, so there's a little more ease in that.

“And you have this community that’s filled with entrepreneurs and investors,” he added, noting that most of their focus is on high-dollar projects.

“When I wanted to raise $250,000, my God, was that hard,” he said. “I’ve raised hundreds of millions of dollars for other companies and other things I’ve been involved with, but the check size was too small. It wasn’t of interest.”

Peter Adams, managing partner of the Rockies Venture Club, said part of that problem may lie with the explosion of the artificial-intelligence industry. “AI is sucking all the air out of the room for funding,” he said.

And yet AI provides “a lot of opportunity for research and development,” said Dede Willis, president and CEO of Orbit Genomics. “AI is the only way we can understand the complex data that we have, including quantum as we expand.”

When Levin Sliker co-founded Point Designs, a Broomfield-based company that makes heavy-duty prosthetic fingers, he said his team shunned venture-capital funding and instead bootstrapped the company with help from Small Business Innovation Research and Small Business Technology Transfer grants. Those federal government programs provide non-dilutive, early-stage funding to small businesses for research and development with commercialization potential.

However, Brynmor Rees, assistant vice chancellor for research and innovation for Venture Partners at CU Boulder, noted that there could be a “major threat from the delayed impact of federal funding cuts, especially involving those SBIR and STTR grants.

“Those early-stage discoveries aren’t going to happen,” he said, “and they won’t translate into the companies that are going out and getting SBIR, STTR going through. There will be this coming impact if we cut out the foundational support.”

Added Stan Hickory, director of innovation and entrepreneurship at CU New Venture Challenge, “We know the cut in funding is going to impact research here.” However, he said, that threat prompted a change in approach.

“One of the things we’re doing here at CU is focusing on those industry partnerships to bring in funding where it’s ‘problem statements’ as opposed to a researcher that’s really excited about some kind of research but commercialization of that might not be a pathway. We’re flipping that model and saying these are the things we need solutions to and the researchers jump on that because that’s where the funding is.

“Maybe across the country, that’s going to lead to an exponential explosion of commercialization and problem-solving opportunities,” Hickory said. “Maybe that’s the silver lining in the situation we’re in.”

As Sternberg noted in February at a **Longmont Economic Development Partnership summit**, the university’s $750 million in federal funding is “under threat right now. For us to advance as a university, a municipality, a country, we need political certainty.”

However, he said then, he remains “pretty bullish” about the industry’s growth in the region, especially because, “in places like Boulder, you can’t hit a 9-iron without hitting a quantum scientist.”

At last week’s roundtable, Rees admitted that the venture market is challenging” but added that “Colorado is still doing really well, even in competition with such technology

magnets as New York, Boston, Southern California and the San Francisco Bay area.

“They’re sizably ahead of anywhere else,” Rees said. “But that next tier is Seattle, Austin and Boulder. Last quarter, we had a little under 100 deals valued at a little under $2 billion. So it’s still strong here. And the university is a big part of that.”

Sternberg said CU has built its quantum focus on “three very distinct pillars: discover, educate and commercialize. At the university, clearly our research and development efforts are under strain right now in this political climate. But continuing the innovation engine, which is the fundamental research and development structure for us, is a key priority.

“If you don’t have those three pillars, you don’t have a viable market or industry sector,” he said. “We are so lucky that in Colorado broadly and here in Boulder, and across all of our industries, we have all three of those pillars.

“That is what we’re standing on,” Sternberg said. “We have the capability, so we have the responsibility to perform – not just at the state or national level but at the international level.”

Karp noted that OEDIT is supporting opportunities created by last year’s passage of House Bill 1325, which established a framework for tax credits aimed at supporting the quantum technology sector in Colorado. The legislation permits the issuance of tax-credit certificates for registered loans issued to companies heavily relying on quantum technology.”

Part of that effort is a quantum incubator, she said. The Colorado Quantum Fund for Innovative Lending, enacted as part of the legislation, improves access to capital for quantum companies in Colorado by encouraging lenders to make favorable loans to companies by registering up to 15% of the loan in a pooled loan loss reserve. The reserve is accessible with a 100% refundable tax credit should the lender incur losses associated with those loans.

Applications are currently open for lenders who complete a lender verification process. The total tax credit allocation will begin on a first-come, first-serve basis.

“We’re hoping to educate national lenders about quantum,” she said, “and educate quantum companies about the power of debt and really utilize it in a way to grow their companies.”

Noted Sternberg, “We are so blessed to have a governor who gets this, and the governor before him, and the governor before him.

“The future of quantum is here,” he said. “The rumor that it’s going to be five, 10, 15 years in the future is absolutely incorrect. It is here, it’s active. It’s here in Boulder. More broadly, it’s here in Colorado, and more broadly still it’s here in the intermountain West.

“The race to quantum supremacy is very real.”

Attending the CEO Roundtable were sponsors Jeremy Wilson and Sean Nohavec of Plante Moran, Aaron Spear of Bank of Colorado, and Ashley Legan and Jared Crain of Berg Hill Greenleaf Ruscitti LLP.

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Dallas Heltzell

With BizWest since 2012 and in Colorado since 1979, Dallas worked at the Longmont Times-Call, Colorado Springs Gazette, Denver Post and Public News Service. A Missouri native and Mizzou School of Journalism grad, Dallas started as a sports writer and outdoor columnist at the St. Charles (Mo.) Banner-News, then went to the St. Louis Post-Dispatch before fleeing the heat and humidity for the Rockies. He especially loves covering our mountain communities.

Categories: BizWest Cover Story Boulder Quantum Computing Technology Today's News Colorado Office of Economic Development and International Trade CU Venture Partners CUbit Quantum Initiative Google inc. New Venture Challenge Orbit Genomics Point Design Stride Tech

LOCAL NEWS

Louisville City Council approves $57K in tax, fee rebates for planned golf business

Golf simulators approved for city's Business Assistance Program

By **JULIA KING** | jking@prariemountainmedia.com
UPDATED: August 25, 2025 at 4:49 PM MDT

The Louisville City Council in mid-August approved $57,000 in tax and fee rebates for a golf simulator company planning to open a new location in the city. The rebates are part of Louisville's Business Assistance Program, which was created to bring more sales tax-generating businesses to the community.

Tee Box, a Utah-based business that offers golf simulator coaching and memberships, and the owner of the potential Louisville franchise is seeking to lease 5,286 square feet at 600 S. Pierce Ave. in the Colorado Technology Center.

Based on estimates, the city would receive $142,000 in revenue from fees and taxes over five years. But per the business assistance agreement, Tee Box will be refunded about $57,000 and the city will only net $85,000.

Per the assistance program's guidelines, the sales tax rebate excludes the city's Open Space, Historic Preservation and Recreation Center taxes. The rebate agreement will go void if the project is not completed by May 31.

Originally Published: August 25, 2025 at 4:32 PM MDT

Around the Web

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LOCAL NEWS

Louisville history month returns with vintage baseball and more events

Community members can attend events weekly for the city's history month

The Louisville Historical Museum in April of 2020. The museum will help host weekly events as part of Louisville's fifth annual history month celebrations. (Daily Camera File Photo)

By **JULIA KING** | jking@prariemountainmedia.com
PUBLISHED: September 2, 2025 at 5:29 PM MDT

Louisville will hold weekly September events to celebrate the city's fifth annual history month, including a vintage baseball game, photo gallery, theater production and walking tours.

Kicking off the month of events, the Historical Museum will host a dog-friendly open house outdoors from 6 to 8 p.m. Friday. The Louisville Public Library's Coal Creek Gallery will show historic photos of Louisvillians with their dogs through Sept. 30, the city council's website says.

The Louisville Public Library and Louisville Historical Museum on Sept. 12 will put on a reenactment by the Legendary Ladies, a group of historical performers who will act as famous women in history with Colorado connections. The historical museum will lead a walking tour of Old Town's historic schools and churches on Sept. 13.

Also on the docket is a vintage baseball game on Sept. 20, which will feature historic uniforms, equipment and game rules. The baseball game is back for a fifth year "by popular demand," the city's website said.

LOCAL NEWS

Boulder County to test outdoor emergency sirens

Community members can expect to hear the sirens as part of tests

By **JULIA KING** | jking@prariemountainmedia.com
PUBLISHED: September 3, 2025 at 2:52 PM MDT

Boulder County will conduct tests for 20 new emergency sirens from Thursday through Sept. 15. Those sirens are in Eldorado Springs, Jamestown, Lyons, Erie, Lafayette, Louisville, Superior and unincorporated Boulder County near Marshall.

During installation, the outdoor warning sirens will be tested, and community members can expect to hear the siren speaking, “This is a test of the outdoor warning system. This is only a test,” according to an Aug. 29 announcement from the Boulder County Sheriff’s Office.

The new warning sirens were purchased through a federal grant and have new technology that provides clearer messaging, the announcement said.

Boulder County’s outdoor emergency sirens can be used to warn about weather related emergencies, hazardous materials and wildfires.

The county sheriff’s office encourages residents to sign up for emergency alerts at www.BoCoAlert.com. They can sign up to be notified about emergency situations via phone call, text messaging and email.

Around the Web

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HEALTH CARE & INSURANCE | SEPTEMBER 3, 2025 | 7:05:37 AM

Clinica moves Boulder acute care to Louisville

Nonprofit provider taking over ex-Flatirons Health & Rehab space

Clinica Family Health & Wellness is moving into a renovated space at 1107 W. Century Drive in Louisville. Courtesy Clinica.

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CALENDAR

LOUISVILLE — Clinica Family Health & Wellness will move its Boulder acute-care services this fall to a newly renovated facility in Louisville at 1107 W. Century Drive.

The Louisville facility, which "provides a more central location for the region, increased accessibility, and space to expand services as community needs grow," will "continue to provide the full range of services currently offered at the Boulder site, including 24/7 walk-in crisis care, withdrawal management, urgent psychiatric services, and acute behavioral health support," Clinica said.

The move comes on the heels of a **2024 merger** between Clinica and Boulder-based Mental Health Partners, which had served the Boulder and Broomfield communities as a nonprofit provider since 1962.

With last September's merger, Clinica CEO Simon Smith became president and CEO of the merged company, and Jen Leosz and Dixie Casford, who had been co-CEOs of Mental Health Partners, became chief integrated health officer and chief administrative officer, respectively.

In addition to the new facility in Louisville and the Boulder People's Clinic on 13th Street in Boulder, the combined organization has operations in Lafayette, Longmont, Nederland, Broomfield and Westminster.

"This move (of acute-care services from Boulder to Louisville) has been in the works for more than two years, even before the merger that created Clinica Family Health & Wellness," Leosz said in a prepared statement. "Making it a reality now as Clinica demonstrates our continued dedication to mental health and substance use services — and to the belief that truly healthy communities focus on the whole person."

The 48-bed facility on West Century Drive was formerly home to Flatirons Health and Rehabilitation, which **ceased operations** in early 2024. Flatirons' Wichita, Kansas-based operator Axiom Healthcare Services laid off more than 100 workers when the Louisville facility closed.

Flatirons Health announced its closure with a January 2024 post on its website.

"With heavy hearts we are announcing the closure of Flatirons Health and Rehab as of March 4th, 2024. We have discontinued admitting patients as of Jan. 4th, 2024. We would like to thank the community, families, and patients who have allowed Flatirons Health & Rehab to proudly serve the needs of this area," the notice said. "We are grateful for your continued support throughout the years. We have been improving lives and exceeding expectations since 2016 and during that time, we have had the pleasure and privilege to care and provide for thousands and thousands of patients and their families. It has been our greatest honor to provide the highest care and customer experiences possible to the patients and families in the greater Louisville community."

Flatirons Health Development LLC, an entity registered with the Colorado Secretary of State's office to Axiom's Kansas address, sold the roughly 16,000-square-foot nursing home to Mental Health Partners and Mental Health Center of Boulder County Inc., an entity registered to MHP's Lafayette address, in April 2024 for $9.85 million, Boulder County real estate records show.

The decision to relocate acute care to Louisville "comes at a time when mental-health and safety-net services are facing unprecedented challenges," Leosz said in a statement. "Having a dedicated, welcoming place for individuals in crisis to go means

statement. "Having a dedicated, welcoming place for individuals in crisis to go means we can provide the right care, in the right environment, at the right time."

The purchase of the West Century Drive property "was made possible, in part, through $5 million in American Rescue Plan Act (ARPA) funds," Clinica said. "... Renovations and programming are being supported by $500,000 from the Colorado Opioid Abatement Council's Opioid Infrastructure Grant, ensuring expanded capacity for opioid treatment and substance-use services."

In July, Clinica disclosed a **"data security breach"** last March that "impact(ed) the Mental Health Partners environment." The organization "quickly contained the incident and launched an investigation assisted by external cyber security professionals to assess the full scope of information impacted," Clinica posted on its website in July. "We have no reason to believe that the incident impacted the Clinica Family Health Services system."

The post continued: "Although the forensic investigation did not reveal any evidence to indicate that data was removed from our environment, we are conducting a thorough and comprehensive review to identify all individuals whose information potentially could have been accessed by the unauthorized actor. The investigation is ongoing, including with respect to identifying specific persons potentially impacted and the type of client data that may have been impacted. This process is time consuming, and we wanted to inform our community regarding the incident while we continue our review. We will notify all known impacted individuals as quickly as possible and in accordance with applicable laws."

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Lucas High

A Maryland native, Lucas has worked at news agencies from Wyoming to South Carolina before putting roots down in Colorado.

Categories: Boulder Health Care & Insurance Louisville Sunday Weekly Today's News Axiom Healthcare Services Clinica Family Health Clinica Family Health & Wellness Flatirons Health Development LLC Mental Health Partners Simon Smith

GOVERNMENT & POLITICS | SEPTEMBER 3, 2025 | 3:25:28 PM

Ruling allows Louisville zoning, housing, fees ballot measures to proceed

By Lucas High

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CALENDAR

LOUISVILLE — A pair of **ballot measures** that could put several issues related to zoning, affordable housing and impact fees before Louisville voters will proceed after a hearing officer ruled this week in favor of the initiatives' supporters and against a protest group that questioned their constitutionality.

Hearing officer and municipal **election specialist Karen Goldman** ruled on the matter Tuesday after a hearing last week during which critics of the ballot initiatives — **one** related to residential zoning and affordable housing on large tracts of land such as Redtail Ridge that are envisioned as mainly commercial, and **another** that overhauls the city's impact-fee system to make developers pay for additional public infrastructure — argued that the measures violated Colorado laws that govern what can appear on a ballot.

Both ballot measures were brought forth by a group dubbed Love4Louisville, led by locals Janette Kotichas and Jean Morgan, who successfully gathered more than 1,000 signatures for each initiative, more than is required for inclusion on a ballot.

Zoning and housing

Love4Louisville's zoning-and-housing-related initiative is called "Rezoning For Affordability," and, according to the group's website, "has the potential to bring more affordable housing to our city. The proposed Louisville comprehensive plan envisions rezoning large areas (in Redtail Ridge and McCaslin corridor) from commercial to housing. Our initiative would require developers that build housing on these sites to include 30% affordable housing."

The measure would also require that affordable housing be built on-site, eliminating the popular cash-in-lieu option that allows developers to cut the city a check rather than build homes.

The measure specifically applies to zoning in areas within Louisville's Centennial Valley General Development Plan, ConocoPhillips General Development Plan (Redtail) and Avista Adventist Hospital General Development Plan.

Redtail Ridge master developer Sterling Bay LLC broke ground in May on the mega-development adjacent to U.S. Highway 36. For the better part of six years, developers had their sights set on building a 2.5-million-square-foot biotechnology- and health-care-centric business park on the empty, roughly 400-acre property, which was previously home to a massive Storage Technology Corp. campus before being purchased by a subsidiary of ConocoPhillips and razed.

Concerns from residents — mostly centering around flattening of the site, traffic, the size and location of public spaces, sustainability and economic viability — nagged the project for years, culminating in an April 2022 special election in which Louisville voters repealed a previous approval of the project by city officials.

After the election, allowable development on the site reverted to a set of land-use guidelines approved in 2010, and Sterling Bay has since worked through the city's entitlement and approvals process in an effort to finally begin development on the Redtail site.

In addition to the several million square feet of planned office, lab and manufacturing space, AdventHealth Avista is expected to build a new hospital on the Redtail site to replace the existing facility at 100 Health Park Drive.

While Sterling Bay's publicly presented plans don't include specific proposals for housing on the site, developers typically blanch at efforts to dictate or restrict what they're allowed to build.

Former Louisville City Councilmember and mayoral candidate Don Brown joined ex-Councilmember Tim Bierman and Karen Brown in submitting a protest to the city that claimed the "Rezoning For Affordability" ballot measure violates the Colorado Constitution's ban on initiatives that involve more than one subject.

"Regarding the rezoning initiative, the Hearing Officer hereby finds that the initiative does not violate the single-subject requirement of the Louisville Charter and thus the City Clerk's initial determination of petition sufficiency is upheld," Goldman's decision reads.

Had Love4Louisville "submitted an initiative petition containing two subjects, one dealing with proposed rezoning prohibition and the other having nothing at all to do with the rezoning, that would clearly be a violation of the single-subject requirement in the Louisville Charter. A violation of the Charter would also occur if the submitted initiative included a restriction for residential rezoning throughout the entire corporate boundaries of Louisville with an exception for affordable housing in only three areas located within Louisville," the hearing officer wrote. "Neither is the case for this initiative. There is a very clear connection between restricting residential rezoning in only three areas of Louisville with an exception to that restriction only within the same three areas of Louisville if affordable housing is created."

Impact fees

Love4Louisville's other ballot initiative, called "Development Pays Its Own Way," aims to expand the types of infrastructure developers must chip in for through impact fees. "Louisville currently imposes impact fees for capital facilities including the library, transportation, and parks and trails," the group's website says. "Our ordinance would expand those capital facilities fees to include: open space, recreation, emergency services, municipal buildings, water, wastewater, sewer, flood control, and affordable housing."

The measure would also require the city to conduct an impact-fee study prior to next June.

The protesters claimed that the initiative is unconstitutional because it includes multiple subjects and oversteps the line that defines the different roles that voters, elected officials and administrators (city staffers) play in the function of government. Love4Louisville's measure prescribes a legislative solution to what should be an administrative issue, "and violates separation of powers principles by micromanaging how city staff use their discretion and their expertise to perform their jobs," said attorney Michael Shea, who represented the protesters in last week's hearing.

"Regarding the impact fee initiative, the Hearing Officer hereby finds that the initiative does not violate the single-subject requirement of the Louisville Charter and that the initiative is legislative in nature and thus the City Clerk's initial determination of petition sufficiency is upheld," Goldman wrote in her decision. "Accordingly, the Hearing Officer further finds that both initiatives are eligible to be placed on the ballot for consideration of the registered electors" of Louisville.

In a statement provided to BizWest Wednesday, Don Brown of the protest group said:

“While we disagree with the ruling, we are confident that Louisville residents will see these proposed measures for what they are — a false promise of affordable housing and an attempt to slam the door on newcomers. Their proposal creates an inflexible structure that handcuffs Louisville’s options in meeting the growing need for housing.”

A ballot measure-opposition group called **Louisville Together**, which Brown said “includes every single city council member and dozens of community members, along with Flatirons Habitat for Humanity, Together Colorado, the Downtown Business Association, and the Louisville Chamber,” has been organized and will “spend every day from now until the election ensuring that people understand who’s behind these measures and why.”

The protesters can appeal Goldman’s decision to a district court judge, but they have yet to indicate whether they plan to do so.

Exactly how the process plays out from here is a bit murky. If no appeal is filed, Louisville City Council can decide to simply adopt the substance of the ballot measures or put them to voters. But because the opposition’s protest stalled the initiatives so late in the process, the city may be unable to include any new measures on the November ballot, meaning a special election may have to be organized.

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A Maryland native, Lucas has worked at news agencies from Wyoming to South Carolina before putting roots down in Colorado.

Categories: Government & Politics Louisville Sunday Weekly Today's News Don Brown Janette Kotichas Jean Morgan Karen Goldman Louisville Together Love4Louisville Redtail Ridge Sterling Bay LLC

THINGS TO DO > ENTERTAINMENT

Boulder County's First Friday brings in brand new art from street artist SMiLE at Bus Stop Gallery

One of SMiLE's signature cat paintings in Boulder brings a sense of curiosity and playfulness to the street, inviting viewers to pause and enjoy a whimsical moment of happiness. SMiLE has new works up at Bus Stop Gallery this month, with the opening reception kicking off Friday. (SMiLE/Courtesy photo)

By **CAMERA STAFF**

BOULDER AREA

15th Street Gallery: Featuring lithographs by Santa Fe artist Rodney Carswell; open by appointment only; 1708 15th St., Boulder; 15thstreetgalleryboulder.com

Ana's Art Gallery: Downtown gallery that features art from the Caribbean, Africa and beyond; 1100 Spruce St., Boulder; anasartgallery.com.

Art and Soul Gallery: Downtown space that offers a selection of fine art and jewelry; 1615 Pearl St., Boulder; artandsoulboulder.com.

Art Parts: Nonprofit creative reuse center with arts and craft supplies; 3080 Valmont St., Boulder; artpartsboulder.org.

Art Source International: Antique maps, prints and vintage posters; 1237 Pearl St., Boulder; artsourceinternational.com.

BMoCA at Frasier: "Interiors," by Jordan Wolfson investigates the depths of human perception through a selection of oil paintings, graphite drawings and charcoal works completed over the span of two decades, up through March 1; 350 Ponca Place, Boulder; bmoca.org.

Bus Stop Gallery: "To the Moon," work by SMiLE returns featuring 30 fresh original works that continue to fuse energetic street-art aesthetics with themes of urban life, animals and human connection, up through Sept. 27; 4895 N. Broadway, Boulder area; noboartdistrict.org.

Canyon Theater and Gallery: "What Makes You Flourish?" Boulder-based artist Liz Quan designed a series of playful forms using recycled cardboard, up through Sept. 24; "The World Next Door," photography by Richard Lariviere, up through Oct. 31 at Reynolds Branch; "A Cure for the Curious — WeeBees," painted comic strip by Derek Simon featuring whimsical cloud characters with plant limbs, up through Oct. 24 at Meadows Branch; "Making Homelands — Tufting San Lazaro Lifeways," up through Oct. 29 on the Arapahoe Ramp; "ImmigrantAmerica: Reclaiming our Presence," undocumented community members' stories displayed through a wide variety of mediums, up through Sept. 30; Main Library, 1001 Arapahoe Ave., Boulder; boulderlibrary.org/exhibits.

Collective Community Arts Center: “Lost and Found: Art with Found Objects,” artworks that incorporate at least 50% recycled, repurposed or reused materials, up through Sept. 21; 201 N. Public Road, Lafayette; lafayetteco.gov.

The Crowd Collective: September First Friday 6-9 p.m.; 4939 N. Broadway #58, Boulder; thecrowdboulder.com.

East Window: “Photographs and Poems,” by Benson Apah, up through Saturday; “Love Letters to Life,” by Roddy MacInnes, up through Dec. 31; “Sanctuary,” series of intimate portraits of queer, trans and non-binary individuals in their living spaces by Stas Ginzburg celebrating the diversity of experiences within the LGBTQIA+ community, up through Jan. 31; 4550 Broadway, Suite C-3B2, Boulder; eastwindow.org.

Groundworks Art Lab: From 6-9 p.m. Friday, the Art Lab will be in the NoBo Art District offering free, interactive printmaking activities for kids, adults and anyone curious about making art for First Friday; 3750 Canfield Street, Boulder; groundworksartlab.org.

Kin Studio and Gallery: “Camp: Queer Arts and Crafts and the Beauty of Imperfection,” sculpture and mixed media by Allyson McDuffie. Opening recption at 5 p.m. Friday, up through December; Kin Studio & Gallery, 4725 16th St., Studio 104, Boulder; kinstudioboulder.com.

Louisville Art Association: National Fine Arts Show, through Sunday; 801 Grant Ave., Louisville; louisvilleartassociation.org.

Messinger Gallery: “Smile,” by Artie Sandstone; Messinger Gallery at the Boulder JCC, 6007 Oreg Ave., Boulder; boulderjcc.org.

Museum of Boulder: “Bending the Arc,” recognizing the 50th anniversary of six same-sex marriage licenses issued in 1975 in Boulder, up through Sept. 29; “Proclaiming Colorado’s Black History,” highlights the history of Black culture in Colorado, up through September; “The McGuckin Way — 70 Years as Boulder’s Favorite Everything Store,” exhibit that looks back at the McGuckin evolution using photos and artifacts collected from the Green Vest family archives. Up through Sept. 27; 2205 Broadway, Boulder; museumofboulder.org.

The New Local Annex: “Luminous Beasts” by Karina Vogt pays homage to the animal kingdom, where birds take flight, big cats captivate and David Bowie makes a cameo as a fox, up through September; noon-4 p.m. Sundays and by appointment; 713 Pearl St., Boulder; thenew-local.org.

The New Local Gallery: Downtown gallery in a historic home features diverse work of different mediums by over 90 local, female creatives; 10 a.m.-5 p.m. daily; 741 Pearl St., Boulder; thenew-local.org.

Nick Ryan Gallery: “Interdimensional,” group exhibition, up through Sept. 27; 1221 Pennsylvania Ave., Suite 110, Boulder; nickryangallery.com.

NoBo Art Center: “Evolving City,” relief murals by CLS, up through Sept. 27; 4929 Broadway, #E, Boulder area; noboartdistrict.org/nobo-art-center.

Open Studios Gallery: Showing art from Boulder County artists and includes paintings, prints, jewelry, pottery, small gifts and more; 11 a.m.-5 p.m. Wednesday-Saturday, noon-5 p.m. Sunday, Junction Place, 3075 Pearl Parkway, Boulder; openstudios.org.

Seidel City: A contemporary art gallery and alternative art space that hosts performances, educational events and art exhibitions; 3205 Longhorn Road, Boulder area; seidelcity.com.

Shark’s Ink: A new color lithograph by San Francisco-based artist Enrique Chagoya, “Apparition at the Border of Language” depicts Native Americans, defenders of immigrant refugees and displaced populations; 550 Blue Mountain Road, Lyons area; sharksink.com.

SmithKlein Gallery: Works from pastel artist Lisa Gleim that depict realistic animal paintings on ephemeral mediums; 1116 Pearl St., Boulder; smithklein.com.

Wilderness Art Studios: 2810 Wilderness Place, Suites C, D and E, Boulder; Space with 28 individual creative studios for local Boulder artists, with various workshops and activities. Find out more at wildernessartstudios.com.

CU Art Museum: “Turn, Turn, Turn — Picturing Time,” invites viewers to consider how artists capture, challenge and reshape understandings of time,

University of Colorado Museum of Natural History: Various galleries that focus on natural and human history include: Discovery Corner, hands-on activities for kids, the BioLounge, McKenna Gallery and the Anthropology Hall, which holds a bank of ancient stone tools found in Boulder; CU Boulder Henderson Building, near 15th Street and Broadway, Boulder; colorado.edu/cumuseum.

For tips about opportunities, grant information and art news, visit Boulder County Arts Alliance at bouldercountyarts.org.

LONGMONT AREA

Firehouse Art Center: "Works by Samantha Modder," featuring pen, Sharpie, oil pastel, fabric and digital collage, up through Sunday; 667 Fourth Ave., Longmont; firehouseart.org.

The Great Frame Up: Open Show featuring 16 artists from around the area, up through Oct. 3; 430 Main St., Longmont; longmont.thegreatframeup.com.

Helios Public Art House: An art house that displays the work of around 20 Boulder County artists and hosts live music; open 10:30 a.m.-5:30 p.m. Wednesday through Saturday; 364 Main St., Longmont; downtownlongmont.com/go/helios-public-art-house.

Longmont Museum: Closed for at least one year for expansion; 400 Quail Road, Longmont; longmontmuseum.org.

Osmosis Gallery: "Glazescapes," by John Wenzel, up through summer; 290 Second Ave., Niwot area; osmosisartgallery.com.

Tumbleweed Art Collective: This artisan boutique displays local artwork, hosts various classes and offers studio space; open 10 a.m.-6 p.m. Wednesday-Saturday; 1333 Coffman St., Suite A, Longmont; thetumbleweedartcollective.com.

Please contact the galleries for hours and price information. Did we miss your exhibit? Please email features@prairiemountainmedia.com with "art listings" in the subject line.

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Distinctive Homes

On the Job

News Tip

GOVERNMENT & POLITICS | SEPTEMBER 5, 2025 | 2:09:51 PM

Louisville housing, zoning, fee initiatives to appear on November ballot

An entry sign to the City of Louisville. Chris Wood/BizWest.

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Federal funding cuts have Boulder Valley health-care pros spooked

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Colorado pastor must repay $3M+, stop selling crypto

CALENDAR

By Lucas High

LOUISVILLE — A pair of **Louisville ballot measures** related to zoning, affordable housing and impact fees will be voted on in November.

Louisville City Council members could have adopted the substance of the measures themselves, but instead voted Thursday to send the initiatives to voters, according to **the Daily Camera**.

Both ballot measures — one related to residential zoning and affordable housing on large tracts of land such as Redtail Ridge that are envisioned as mainly commercial, and another that overhauls the city's impact-fee system to make developers pay for additional public infrastructure — were brought forth by a group dubbed Love4Louisville, led by locals Janette Kotichas and Jean Morgan, who successfully gathered more than 1,000 signatures for each initiative, more than is required for inclusion on a ballot.

Love4Louisville's zoning-and-housing-related initiative is called "Rezoning For Affordability," and, according to the group's website, "has the potential to bring more affordable housing to our city. The proposed Louisville comprehensive plan envisions rezoning large areas (in Redtail Ridge and McCaslin corridor) from commercial to housing. Our initiative would require developers that build housing on these sites to include 30% affordable housing."

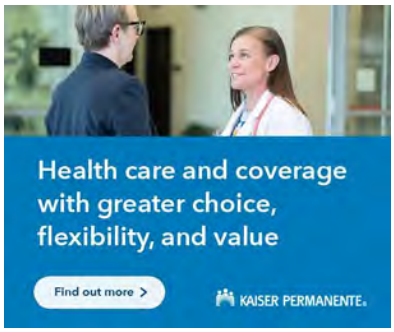
The measure would also require that affordable housing be built on-site, eliminating the popular cash-in-lieu option that allows developers to cut the city a check rather than build homes.

The measure specifically applies to zoning in areas within Louisville's Centennial Valley General Development Plan, ConocoPhillips General Development Plan (Redtail) and Avista Adventist Hospital General Development Plan.

Love4Louisville's other ballot initiative, called "Development Pays Its Own Way," aims to expand the types of infrastructure developers must chip in for through impact fees. "Louisville currently imposes impact fees for capital facilities including the library, transportation, and parks and trails," the group's website says. "Our ordinance would expand those capital facilities fees to include: open space, recreation, emergency services, municipal buildings, water, wastewater, sewer, flood control, and affordable housing."

The measure would also require the city to conduct an impact-fee study prior to next June.

A group filed official protests of the ballot measures, claiming that they violate the Colorado Constitution, but a hearing officer ruled against the protests this week.



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News Tip

SEPTEMBER 8, 2025 | 10:26:12 AM

Infleqtion going public with SPAC merger

LATEST NEWS

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CALENDAR

17 SEP Boulder Business Hall of Fame

By Lucas High

BOULDER — Infleqtion will merge with Churchill Capital Corp X (NASDAQ: CCCX), a special purpose acquisition company, or SPAC, in a deal that takes the Boulder quantum information firm public amid its technology commercialization push and a flurry of fundraising.

"We have reached a critical inflection point in our journey from R&D to commercialization, and this partnership is a testament to our team's incredible work," Infleqtion CEO Matt Kinsella said in a prepared statement. "As we move from successful pilots to full-scale production for our leading customers, this partnership with Churchill provides us with the additional capital and strategic expertise required to accelerate commercialization, expand our market leadership, and meet the rapidly growing demand for quantum solutions across AI, national security, and space."

Infleqtion, the trade name used by ColdQuanta Inc., raised a **$100 million Series C round** this summer. The company hired Kinsella early last year, a few months prior to raising more than $10 million from investors. With local operations in Louisville and Boulder, Infleqtion had previously raised a $110 million Series B round in 2022 to jumpstart commercialization of its technology.

The company, which uses neutral atom technology to build quantum computers, quantum clocks, RF receivers and inertial sensors, said Monday that it "has sold three

quantum computers and hundreds of quantum sensors, generating approximately $29 million in trailing twelve-month revenue" as of June.

Infleqtion, which claims a $1.8 million valuation, said that it expects the go-public merger to gross $540 million in proceeds to be used to strengthen the company's balance sheet, accelerate technology development, expand applications of products and drive customer adoption.

The firm has about 180 employees across the organization, roughly 100 of which are in Colorado, working at a pair of facilities in Boulder and Louisville, which are about 20,000 square feet each. The Boulder facility houses the company's quantum computer, while the Louisville office is the primary home of Infleqtion's Tiqker quantum-timekeeping technology. The company also has outposts in Chicago; Madison, Wisconsin; Australia; and the United Kingdom.

Quantum theory attempts to explain the behavior of matter at atomic and subatomic levels. Because quantum computers take advantage of special properties of quantum systems such as superposition, their computing power and speed are exponentially greater than a traditional computer.

Applications of quantum science could revolutionize the way humans discover new drug therapies, map the cosmos, navigate the sea, protect sensitive data, combat climate change and maybe even discover new forms of life in deep space.

The Boulder Valley — with the University of Colorado Boulder physics department, the National Institute of Standards and Technology and JILA (formerly known as the Joint Institute for Laboratory Astrophysics) — has become one the world's epicenters of quantum research over the past few decades.

The local quantum ecosystem got a major shot in the arm last year when the U.S. Department of Commerce's Tech Hub program granted Elevate Quantum, a nonprofit consortium of about 100 stakeholders who represent industry, academia, capital and laboratories in Colorado and New Mexico, a Phase 2 Tech Hub designation that unlocked $127 million in state and federal funds, which are expected to generate several billion more dollars of private investment in the region's quantum industry.

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Broomfield-based quantum-computing company Quantinuum LLC recently

Exploit Boulder's quantum advantage, execs told

Executives attending a BizWest CEO Roundtable on cutting-edge technology

Lucas High

A Maryland native, Lucas has worked at news agencies from Wyoming to South Carolina before putting roots down in Colorado.

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LOCAL NEWS

Lafayette plans to buy old Chase Bank property as part of Old Town revitalization effort

The deal with JPMorgan Chase includes an adjacent parking lot that could host community events

The former location of a Chase Bank at 200 N. Public Road is seen in Lafayette on Monday. Lafayette is seeking to purchase the properties at 108 and 200 N. Public Road. (Matthew Jonas/Staff Photographer)

By **JULIA KING** | jking@prariemountainmedia.com

UPDATED: September 9, 2025 at 6:42 PM MDT

The city of Lafayette is moving forward with negotiations to buy the vacant Chase Bank building and an adjacent parking lot on Public Road, in a potential deal that would come after years of the Lafayette Urban Renewal Authority having its eye on the parking space — and amid broader efforts from the city to fill vacant commercial properties downtown.

JPMorgan Chase, the property owner, listed two lots — the 200 N. Public Road building and the 108 N. Public Road parking area — for sale together with a price tag of $2.7 million. The city had already submitted a letter of intent for $2.6 million, which the company preliminarily accepted, according to city staff's presentation during the council meeting. The city manager approved the drafted purchase agreement Aug. 28, and City Council gave staff the go-ahead during a Sept. 2 meeting.

Both Public Road pieces of land sit at the intersection of Geneseo Street.

City staff said the acquisition of the 200 N. Public Road building would be a "strategic purchase" to bring a sales-tax-generating business to the space. Although the building was previously a bank, city staff noted the space presents opportunities for "adaptive reuse," including the potential for additional parking and a street patio.

Following the acquisition's completion, officials would issue a request for proposals in late 2025 to identify a business or developer to purchase the 200 N. Public Road building.

The urban renewal authority has leased the 108 N. Public Road parking lot since 2016, and officials have envisioned using it as a community space for "probably over 10 years at this point," city staff said in their presentation.

When Chase announced plans to vacate the building in 2024, the authority approached the company to purchase the parking lot, according to city staff. But Chase indicated the properties would be listed together for sale as a single transaction, according to city staff.

To facilitate the deal, the authority requested that the city initially fund the purchase, according to city staff. The authority would reimburse the city for the cost of the 108 N. Public Road parking lot, and the parking lot would remain a city-owned asset, according to the presentation.

City staff also noted that Lafayette ownership of the lot could open it up for community events, including “farmers markets, makers markets and food truck nights.” The parking lot includes 35 car spaces, which could continue to be used for free public parking in the Old Town area. Acquiring the property “has been a long-standing priority,” city staff added.

The parking lot at 108 N. Public Road is seen in Lafayette on Monday. Lafayette is seeking to purchase the properties at 108 and 200 N. Public Road. (Matthew Jonas/Staff Photographer)

“I just want to say I’m very excited about this purchase,” Mayor Pro Tem Brian Wong said before council unanimously greenlit the deal.

Staff said the acquisition aligns with the “Old Town Tomorrow: Action Plan,” which aims to support business in the district.

The Old Town action plan was approved February this year.

Jack Calhoun, general manager of William Oliver’s Publick House on Geneseo Street, said he would welcome new business on the block.

“We’re open until 2 a.m. So when they close their places, we love them all because then people come here,” Calhoun told Colorado Hometown Weekly.

At the Sept. 2 meeting, city staff also presented the proposed “Vacant to Vibrant Permit Fee and Use Tax Rebate Program,” designed to reduce vacancies at commercial properties.

The program would provide rebates of up to 50% of building permit fees and use taxes up to $10,000 for businesses opening or relocating within the city that need tenant improvements, upgrades or new construction. If a “significant public benefit” is identified in a new business plan, the city manager may provide even higher rebates.

Staff noted Erie, Louisville and Superior have similar incentive programs, and a Lafayette program could “level the playing field” by making the city a more competitive option for businesses.

“I think it’s a fantastic program and I’ve been saying for years we have so many wonderful spaces along South Public, and they’ve just been vacant for too long,” Councilmember Crystal Gallegos said.

With council’s support, staff will finalize the program’s details and bring forward a resolution anticipated to be on the Sept. 16 City Council meeting agenda, according to Lafayette spokesperson Debbie Wilmot.

Originally Published: September 9, 2025 at 6:39 PM MDT

LOCAL NEWS

Boulder County commissioners to revisit minimum wage increases

Nicholas Little speaks during a press conference by the Niwot Business Association and Community Farmers Alliance about changes to the minimum wages for unincorporated Boulder County businesses on Tuesday, Aug. 12, 2025. (Matthew Jonas/Staff Photographer)

By **AMY BOUNDS** | abounds@prairiemountainmedia.com | Boulder Daily Camera

UPDATED: September 12, 2025 at 9:07 AM MDT

The Boulder County commissioners agreed this week to review previously approved, staggered minimum wage increases that boost the minimum wage to $25 an hour by 2030 for unincorporated areas of the county.

Gloria Handyside, a spokesperson for the county commissioners, said in an email the direction given by the commissioners is to schedule a public hearing on minimum wage at the end of October. Commissioners discussed the possibility of freezing the minimum wage at its current 2025 rate for 2026 or aligning the county's minimum wage with the city of Boulder's rate, she wrote.

If changes are made by the commissioners, the soonest a different wage scale could go into effect would be Jan. 1.

A coalition of farmers and businesses has lobbied the county for months to ask for a pause on future wage increases.

They say raising the minimum wage so high, so fast in only unincorporated areas will force businesses to close and jobs to disappear, hurting the low-wage workers the county wanted to help. Unincorporated Boulder County includes Allenspark, Coal Creek Canyon, Eldorado Springs, Gold Hill, parts of Gunbarrel, Hygiene and Niwot.

"We're beyond grateful that they're willing to open the door to conversation and get public input," said Nicholas Little, who owns Noblestar Technologies, LLC, and is leading the minimum wage task force for the Niwot Business Association. "That's a step in the right direction. The general objective we have all had in our community is to see a consistent minimum wage in the region. If we're in Niwot and Longmont is $2 cheaper, it hurts Niwot."

The commissioners unanimously approved minimum wage increases in November 2023. At the time, the commissioners said they hoped to see the towns and cities in the county follow suit to create a regional minimum wage. But, so far, that hasn't happened.

On Jan. 1, the minimum wage in unincorporated Boulder County rose to $16.57 per hour. That's close to $2 above the state's $14.81 minimum wage and $1 above Boulder's $15.57 minimum wage. The Boulder City Council agreed last year to enact three years of incremental wage increases, raising

Longmont recently held a "fishbowl" discussion on the issue but hasn't taken formal action. Lafayette, Louisville and Superior have not pursued raising the minimum wage.

Factors in the commissioners' decision in 2023 included the "crushing need" seen by safety-net organizations such as the Emergency Family Assistance Association and the Sister Carmen Community Center because of the area's high cost of living. A memo shared this week with the commissioners shows the need for support has continued to rise. Applications for food and financial assistance are at all time highs, with close to 8% of Boulder County's population now enrolled in the federal food assistance program.

Originally Published: September 12, 2025 at 6:01 AM MDT

TECHNOLOGY

GOLDEN OPPORTUNITY

Colorado industry takes aim at U.S. missile defense as the next big thing in space.

Workers at Lockheed Martin Space move a missile warning satellite, known as SBIRS GEO 5, into a thermal vacuum testing chamber in April 2020, in preparation for later launch.
KYLE RYAN

By Jackson Guilfoil – Reporter, Denver Business Journal
Sep 12, 2025

Listen to this article 12 min

Story Highlights

- President Trump's Golden Dome missile defense program allocates $25 billion.
- Colorado's aerospace industry poised to benefit from Golden Dome contracts.
- The race to win business has already sparked M&A and local expansion.

The state capitol is no longer the only golden dome in Colorado.

The state's aerospace and defense industry has grown to have a $38 billion impact, economic development officials estimate, much of it due to government contracts. Now, the Golden Dome, a national program being pushed by President Donald Trump, has put a down payment of $25 billion up for grabs.

Design specifics for the Golden Dome, a missile defense system aiming to cover the continental United States, haven't been figured out, but this is the general idea:

A missile launched [illegible] the continental United States [illegible] the upper atmosphere. A satellite network notices the rocket and triggers the launch of a countermissile to blow it out of the sky before it reaches American soil.

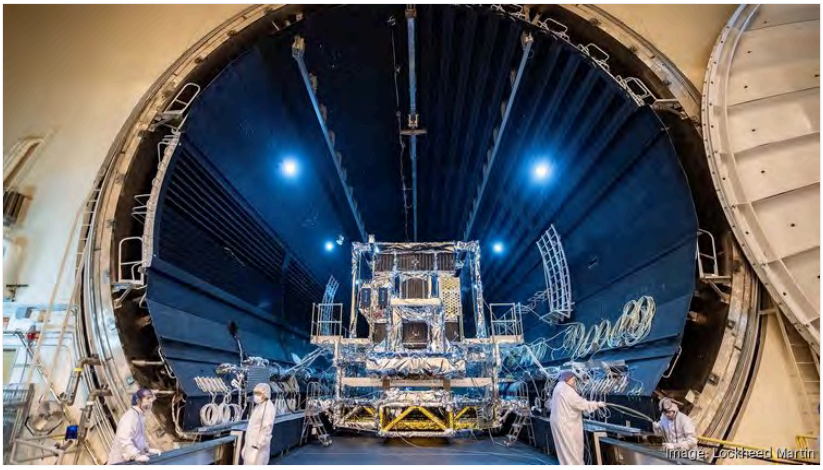
Trump has said he wants Golden Dome built by the end of his term, and Colorado's robust defense industry smells money.

Congress' One Big Beautiful Bill Act established a down payment of $25 billion to kickstart Golden Dome. The Congressional Budget Office estimates that the defense system could ultimately cost between $161 billion and $542 billion over two decades. The White House, alternatively, put a $175 billion price tag on the project.

Colorado, with the largest per-capita aerospace industry in the nation, according to the state's Office of Economic Development and International Trade, could see a hefty slice of Golden Dome's taxpayer-funded pie.

U.S. Space Force General Michael Guetlein was selected to lead the program. Shortly after his July 17 confirmation, Guetlein said he had been given 60 days to come up with Golden Dome's architecture. He has not yet released details of what's being planned.

That suggests some elements of Golden Dome will begin to be identified this fall and lucrative early contracts will be out for defense and aerospace contractors to win in the months and years ahead.



Workers at Lockheed Martin Space move a missile warning satellite, known as SBIRS GEO 5, into a thermal vacuum testing chamber in April 2020, in preparation for later launch.

KYLE RYAN

The dome is expected to involve a system of satellites in orbit, radar systems and other elements connected to defensive weapons – hardware of the sort companies in the Denver area have a history of making for the military.

"Colorado has one of the strongest aerospace defense industries by state in the nation, and a lot of that is related to space things," said Jaret Boyd, director of the Center for National Security Initiatives at the University of Colorado Boulder. "So, I would say Colorado is very well positioned through the industry, both big and small, to make significant contributions to Golden Dome and, in the process, bring a lot of funding to the state."

The heavyweight

Lockheed Martin, Raytheon, Northrop Grumman, Boeing and General Dynamics all have locations in the Centennial State.

Lockheed Martin is the heavyweight among aerospace companies in the Denver-metro area. It employs 12,000 people statewide. Lockheed Martin Space has its headquarters in Jefferson County and roughly half of its employees in Colorado.

A sprawling campus nestled in the undeveloped mountain foothills near Littleton, Lockheed Martin Space's headquarters works on the company's military and commercial satellites, missile defense systems and software systems. It also designs, develops, engineers and produces some of the country's highest-profile space initiatives, including building NASA's Orion spacecraft fleet, which is meant to take humans back to the moon as soon as next year.

Lockheed Martin Space's Vice President of Strategy and Business Development Jeff Schrader said the campus is growing, expanding its staff and working across departments to create Golden Dome.

"We're looking at this massive undertaking from an infrastructure and an investment perspective, and building out both infrastructure to support capacity increases across not only our Colorado location, but also our locations in, Alabama, California, etc. And we're really seeing that the Colorado

technology, and how we recruit out of Colorado, as a lot of the entry point for the engineering and the integration that is going to be necessary to pull this off," Schrader said.

As one of the major defense primes, Lockheed Martin has a long and lucrative history of missile defense work. It won billions to build the Space Based Infrared Systems missile warning satellites for the U.S. military, the last of which launched in 2022. Mission control for the satellites is at the Buckley Space Force Base in Aurora.

Workers at a Lockheed Martin Space facility prepare the SBIRs GEO 4 satellite to be encapsulated inside a rocket fairing ahead of launch. The satellite is part of the U.S. Air Force's mult-billion-dollar Space-based Infrared System missile detection program of the U.S. Air Force.

LOCKHEED MARTIN SPACE

Lockheed Martin Space is building additional missile-launch detection satellites that are scheduled to be put into orbit in 2028. Some of the Next-Generation Overhead Persistent Infrared Geosynchronous System (OPIR) satellites are being built by Lockheed Martin Space to the tune of over $8 billion. To build instruments for the OPIR satellites, Lockheed Martin partnered with BAE Systems, Northrop Grumman and Raytheon, all of which have Denver-area offices and employees.

Lockheed Martin has been acquiring other businesses to help it land Golden Dome contracts.

In July, it spent $365 million on 220 employees and the intelligence, surveillance and reconnaissance portfolio from Chantilly, Virginia-based Amentum. The deal expands the technology and manpower Lockheed Martin can use to build Golden Dome. At the time of the purchase, Lockheed Martin said Amentum's Rapid Response portfolio contained considerable capabilities in air and space radar, which would help with Golden Dome.

Not a Star Wars remake

Golden Dome isn't the first time Lockheed Martin has worked on a highly ambitious, space-based missile defense program. In the mid-1980s, the company worked on the Exoatmospheric Reentry-vehicle Interceptor Subsystem, or ERIS, as part of the Space Defense Initiative. ERIS was never deployed and Space Defense System, derisively nicknamed "Star Wars," was never built.

To Schrader, the difference between then and now is the technology. He said, unlike in the 1980s, the tools exist for a nationwide ballistic missile defense system, and the biggest hurdles lay in the political realm.

“We’re seeing threats move at an aggressive pace. We’re seeing that we’ve got to deter in different ways, and so I think the big challenge here is saying, ‘hey, this isn’t one administration or another,’” Schrader said.

He might find disagreement from the Oval Office. The Trump Administration wants Golden Dome – named after the president’s widely publicized affinity for the color gold and Israel’s Iron Dome missile defense system – completed by 2028, the end of Trump’s second term.

Schrader said the timeline “does not scare Lockheed Martin,” but did not say he expects a complete and operational Golden Dome by 2028.

“We see this as a ready-now capability where we can get started and then scale up over time to reach that 2028 target for some of the initial systems,” Schrader said.

Boyd, the director of the Center for National Security Initiatives at CU Boulder, said the ambitious deadline for completing Golden Dome by 2028 will almost certainly [illegible] by the end of Trump’s term, he said.

It’s unknown whether a future administration would continue building Golden Dome. SDI languished after President Ronald Reagan left office and the Soviet Union collapsed.

Boyd considers Golden Dome to be a different beast entirely, he said. It is relatively feasible compared to SDI, and there are rising geopolitical tensions with China and Russia, both of which possess hypersonic missiles that are difficult to track once launched and could reach the U.S. mainland in roughly half an hour.

“The next administration will need to keep trying to close that gap. Whether they call it Golden Dome or they call it something else, I don’t see this going away,” Boyd said.

Lockheed Martin Space has a roughly $2 billion annual impact to Colorado’s economy, according to the company. With Golden Dome contracts on the horizon, Schrader said he could see that number increasing in the coming years.

“This is an exciting time for us at Lockheed Martin Space for Colorado. We have our space headquarters here in Waterton for a reason,” Schrader said.

Need for speed

The large defense contractors are obvious candidates for Golden Dome contracts, but the state’s smaller aerospace companies stand to benefit too, according to Boyd.

“This administration, they kind of made it clear that they don’t want all the money to go to the usual suspects, and that they want to see more innovation,

and they want to go faster," Boyd said. "I think they see smaller companies as being more innovative and more nimble."

York Space Systems, based in Denver and specializing in mass-producing affordable satellites, sees that need for speed as the company's path to government contracts. In June, it delivered a system called tactical satellite communication dubbed Dragoon. It was completed within eight months.

Melanie Preisser, vice president of national systems for Denver-based York Space Systems

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"Traditional space systems often take many, many years to deliver. We've demonstrated the capability to do that on two-to-three-year timelines with systems that are demonstrating capability today," Melanie Preisser, York's general manager and executive vice president, said.

York has three manufacturing facilities in the Denver area, which, if York's strategy to win contracts goes well, could become busier than ever.

In July, York struck a deal to buy a company called Atlas Space Operations for an undisclosed amount. Atlas' ground communications platform would help York work on Golden Dome – which would require a full suite of satellites, software and ground operations to fully function.

So far, York has seen noteworthy success. In May, it won a $237 million contract from the U.S. Space Force, which outlines several missions, including ones for Golden Dome-related technology.

Room for growth

Other local aerospace companies have scaled their ambitions to match Golden Dome.

Sierra Space, headquartered in Louisville, leased a 60,000-square-foot factory in Centennial, dubbed "Victory Works," in June. It's shifted 500 of the company's roughly 1,600 employees to work on missile-tracking and detection satellites – the kind Golden Dome could use – at the factory.

Image: Sierra Space

Sierra Space created a defense division and will use a 60,000 square foot warehouse in Centennial for the work.

SIERRA SPACE

It's already begun work on projects that could be integrated into Golden Dome architecture. In 2024, the Space Development Agency awarded the company $740 million for 18 satellite buses called Horizon that will serve as an orbiting platform for instruments to detect missiles and warn the ground. Sierra Space wants them to be ready for launch between Valentine's Day and Mother's Day of 2027.

Building the satellites, which includes solar arrays, is done in the Denver metropolitan area. Sierra Space also builds solar panels for spacecraft created by other companies chasing work on Golden Dome.

"The solar arrays will be constructed in Broomfield in our power plant, where we make all of the solar arrays for Constellation programs, and we are currently on contract with multiple other primes to build their solar arrays as well for Golden Dome missions," said Erik Daehler, Sierra Space's senior vice president of defense programs.


Image: Sierra Space

Erik Daehler, Sierra Space's vice president of orbital missions and services.

SIERRA SPACE

At Victory Works, Sierra Space has 20,000 square feet open for production and expects the remaining 40,000 square feet to be ready by next year. The new factory adds to Sierra Space's existing 24,000-square-foot metro-area space already dedicated to its defense work.

Another company headquartered in Denver, Voyager Technologies, sees itself as well-suited to win some of the billions of dollars in Golden Dome contracts expected to materialize. Voyager, fresh off a $402.3 million IPO in June, is eyeing Golden Dome projects across the full suite of its critical components, including propulsion technology for spacecraft, software, electronics, spyware and space sensor and communication products.

In the run-up to its IPO, Voyager Technologies highlighted missile defense work and Golden Dome as generating potentially lucrative opportunities through at least 2040, and the company said it had already identified some programs to go after.

"... We are pursuing approximately $3 billion of potential revenue, supporting our future growth initiatives," the company said in an SEC filing.

LOCAL NEWS

Traffic fears drive Little Italy's opposition to proposed Louisville development

One of Little Italy residents' biggest concerns is a planned connection between the proposed development and Front Street

A home is seen in the Little Italy neighborhood of Louisville on Sept. 4. Residents worry a proposed housing development on land adjacent to the neighborhood's homes could cause traffic issues on the narrow streets. (Matthew Jonas/Staff Photographer)

By **JULIA KING** | jking@prariemountainmedia.com

PUBLISHED: September 14, 2025 at 10:08 AM MDT

Residents of Louisville's historic Little Italy neighborhood are demanding changes to plans for a new development in their back yard, as discussions with the developer reignite ahead of a city Planning Commission hearing tentatively slated for early October.

That public meeting would mark the second round of commission reviews for the Coal Creek Village development, a proposed mixed-use residential and commercial project on a piece of land east of the railroad tracks and southwest of the South Boulder and Courtesy roads intersection.

The Little Italy neighborhood — known for its high concentration of Italian families, according to the Louisville Historical Museum, in the 1900s — sits just south of the project site. Little Italy is between Courtesy Road to the east and the railroad track to the west, with Harper and Griffith streets running east and west through the neighborhood and Front and Cannon streets running north and south. South Boulder Road, a commuter corridor, sits north of the homes.

The Planning Commission first considered the project proposal during two hearings in September and October of 2024, around the time more than 80 residents signed a petition against it. The commission ultimately asked developer Markel Homes to redo a traffic study before moving forward.

Land at the spot of the proposed housing development is seen north of Harper

Residents say the plan has changed little aside from the updated traffic study, completed in July. Nearly 20 neighbors met with Markel's team in August to discuss their continued concern. The upcoming hearing could take place Oct. 9.

"We have been trying to work with Markel developers to come up with a mutually beneficial plan," resident Lauren Foster told Colorado Hometown Weekly.

The Front Street connection

Central to their opposition is a proposed new segment of roadway between the proposed development and Front Street, a two-lane road through the Little Italy neighborhood with a speed limit of 25 mph. The plan could direct traffic from South Boulder Road into the neighborhood.

The traffic study — written by McDowell Engineering — projects that by 2045, the connection would raise traffic on Front Street to one car every 45 seconds during a typical morning, compared to one car every 400 seconds, or 6 1/2 minutes, without it. Even so, the study concludes Front Street traffic would remain under 1,000 vehicles per day, which it says is "considered the local residential roadway capacity for livability."

Sunflowers are seen next to an alley behind Harper Street. (Matthew Jonas/Staff Photographer)

The study also says the Front Street connection is necessary for safety and "transportation redundancy as part of a gridded street network," but residents argue any possibility of creating a more-complete street grid east of the railroad tracks was blocked when the Delo developments were built several years ago, where roadway essentially dead ends off Short Street.

"It does not create a gridded pattern because it is only one block," Foster said of the proposed connection.

Flood risk and affordable housing

Foster also fears increased flood risk, claiming water would be routed toward Little Italy. In an email to Colorado Hometown Weekly, developer Jason Markel denied that, saying the plan's stormwater systems will reduce runoff and direct water toward Courtesy Road. That road is also called Colo. 42 in that area.

"Our engineers are designing modern stormwater systems that meet or exceed the City of Louisville's drainage and floodplain requirements," Markel said.

Other disputes center on land dedication and affordable housing. City Planner Matt Post said Louisville's public land dedication requirements don't apply to this project because the property was previously subdivided, or broken into parts. Post also denied claims from some residents that the development wouldn't include affordable housing.

"The applicant has stated their intent to provide on-site affordable units in compliance with the City of Louisville's Inclusionary Housing Ordinance," Post told Colorado Hometown Weekly.

Search for solutions

Residents have suggested some alternatives to the current plan, including a small public park that could serve as a buffer between Harper Street and the development, and traffic improvements at South Boulder and Courtesy Road.

The updated traffic study says that with the Front Street connection, it is recommended that “traffic calming measures are constructed,” including raised pedestrian crossings, medians, curb extensions, speed humps, speed monitoring and education campaigns.

But after the August meeting with Markel, Little Italy resident Lauryl Danuff Sagrillo said the developer’s offered solutions were “disappointing.”

“Two speed bumps and a ‘don’t block the intersection’ sign … very disappointing to those of us hoping for a new road pattern or something that changed anything. It felt like a non-change,” Sagrillo told Colorado Hometown Weekly.

Traffic safety has already been a concern in the area, Foster said, pointing to an Aug. 28 incident when a child was struck while cycling to school on South Boulder Road near Main Street. Police confirmed that event to the Daily Camera at the time.

From left: Eighth graders Betty and Annabelle laugh as they demonstrate how they walk to Louisville Middle School down Front Street. (Matthew Jonas/Staff Photographer)

And Foster said routing more cars through Little Italy conflicts with the city’s 2019 Transportation Master Plan, though Markel said the developer team is “working closely with staff to understand” how many of Louisville’s plans fit

The traffic study cites Future 42, noting various possible changes under the plan as remedies for future traffic problems. But there is no timeline for completion, and the city is still looking for additional funding for Future 42, according to Post.

In the meantime, Markel said his team is “actively working on a revised plan that balances the neighbors’ feedback with the city’s requirements” and planned to meet with residents again soon.

The Coal Creek Village development proposal remains a preliminary application. After a Planning Commission hearing happens, the developer can choose to bring its plan to City Council, which may authorize a final, more detailed application. The project was first submitted in 2021 but did not reach the commission until 2024, a “very long” process, Post said.

BUSINESS • News

King Soopers to open new Marketplace store in Louisville

The store, 1171 W. Dillon Rd., is anticipated to open next year

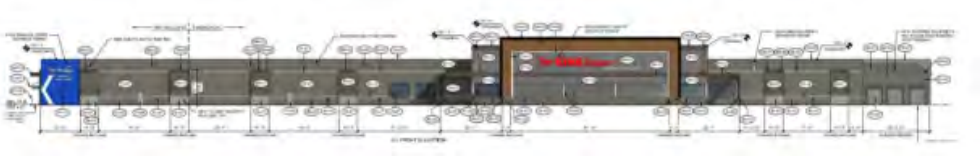
Construction continues on a new King Soopers location at Arapahoe Avenue and U.S. 287 at Nine Mile Corner in Erie on Monday, Feb. 19, 2024. (Matthew Jonas/Staff Photographer)

By **JESSICA ALVARADO GAMEZ** | jalvarado@denverpost.com

UPDATED: September 17, 2025 at 11:03 AM MDT

King Soopers has begun construction on its newest location in Louisville, redeveloping and expanding the former retail site at 1171 W. Dillon Rd. into one of its Marketplace format stores.

The 122,000-square-foot Marketplace store will feature a range of amenities, including sushi, a Murray's Cheese Shop and a Starbucks cafe. Shoppers will also have access to pickup and delivery services, a drive-thru pharmacy and a new fuel center equipped with five pumps and eight EV charging stations.



Exterior plans of the new King Soopers store. (Rendering provided by King Soopers)

"We are thrilled for the opportunity to serve the Louisville community with another store and remain committed to being a great community partner," said Chris Albi, President of King Soopers.

"This project allows us to grow our footprint, better serve our loyal customers, and invest in the future of this community."

King Soopers anticipates the new store will open in the summer of 2026 and will provide more than 250 jobs.

The new site represents a $23.6 million investment and is part of King Soopers' long-term growth strategy, according to a Friday news release.

Additionally, in alignment with their Zero Hunger | Zero Waste social impact plan, the retail giant said it donated $5,000 to Community Food Share, a food bank fighting food insecurity across Boulder and Broomfield counties.

King Soopers employs over 22,000 associates and has 120 grocery stores across 37 cities in Colorado.

Get more business news by signing up for our On The Block newsletter.

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