ORDINANCE NO. 213, 2025
OF THE COUNCIL OF THE CITY OF FORT COLLINS
AMENDING CHAPTER 5, ARTICLE II, DIVISION 2 OF THE CODE OF THE CITY OF FORT COLLINS FOR THE PURPOSE OF REPEALING THE 2021 INTERNATIONAL RESIDENTIAL CODE AND ADOPTING THE 2024 INTERNATIONAL RESIDENTIAL CODE, WITH AMENDMENTS

A. Since 1924, the City has reviewed, amended and adopted the latest nationally recognized building standards available for the times.

B. Upon recommendation of City staff, the City Council has determined that it is in the best interests of the City to align eleven interconnected basic construction codes under one publication year.

C. The eleven interconnected basic construction codes are the *International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Property Maintenance Code*, *International Swimming Pool and Spa Code, International Existing Building Code, International Plumbing Code*, *International Fire Code*, and the *International Wildland-Urban Interface Code* to the extent adopted by the *Colorado Wildfire Resiliency Code*.

D. The City Council has determined that the 2024 publication year of these interconnected basic construction codes should be adopted and that any counterpart *International* codes previously adopted should be repealed, both to align the publication years of the codes and because the 2024 publications contain improvements in construction code regulation.

E. City staff has conducted a significant public outreach program, working with the regulated construction industry and building professionals.

F. The adoption of the interconnected basic construction codes has been presented to community groups and feedback has been received from the Water Commission, Energy Board, Commission on Disability, Natural Resource Advisory Board, Poudre Fire Authority Board, Building Review Commission, Affordable Housing Board, and Air Quality Advisory Board.

G. The City Council has determined that it is in the best interest of the health, safety and welfare of the City and its residents that the *2024 International Residential Code* be adopted, with local amendments as set forth in this Ordinance.

H. Pursuant to the City Charter, Article II, Section 7, City Council may enact any ordinance which adopts a code by reference in whole or in part provided that before adoption of such ordinance the Council hold a public hearing thereon and that notice of the hearing shall be published twice in the newspaper of general circulation published in the City, with one of such publications occurring at least eight (8) days preceding the

hearing and the other publication occurring at least fifteen (15) days preceding the hearing.

I. In compliance with City Charter, Article II, Section 7, the City Clerk published in the Fort Collins *Coloradoan* such notice of hearing concerning adoption of the 2024 International Codes on November 16, 2025, and November 23, 2025.

J. Attached as Exhibit A and incorporated herein by reference is the Notice of Public Hearing dated November 16, 2025, that was so published and which the Council finds meets the requirements of Article II, Section 7 of the City Charter.

In light of the foregoing recitals, which the Council makes and adopts as determinations and findings, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. The City Council hereby repeals the 2021 *International Residential Code* ("IRC") and adopts the 2024 IRC as amended by this Ordinance.

Section 2. Section 5-26(c) of the Code of the City of Fort Collins is hereby amended to read as follows:

(c) Pursuant to the power and authority conferred on the City Council by ~~C.R.S.~~ §Colorado Revised Statutes Section 31-16-202 and Article II, Section 7 of the Charter, the City Council has adopted the ~~*2021*~~*2024 International Residential Code* published by the International Code Council, second printing (October 2024), as amended by the City, which shall have the same force and effect as though set forth in full herein. The subject matter of the *International Residential Code* adopted herein includes comprehensive provisions and standards for the protection of the public health and safety by prescribing regulations governing the construction, alteration, enlargement, relocation, replacement, repair, equipment, use and occupancy, location, removal and demolition of, and its applicability is hereby limited to, individual nonattached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three (3) stories above grade in height with a separate means of egress, and their accessory structures. As provided in the ~~*2021*~~*2024 International Residential Code*, Appendices are not adopted except as expressly set forth in Section 5-30.

Section 3. Section 5-30 of the Code of the City of Fort Collins is hereby repealed and reenacted to read as follows:

Sec. 5-30. Amendments and Deletions to the 2024 International Residential Code.

The *2024 International Residential Code* adopted in § 5-26(c) is amended to read as follows:

1. **Section R101.1 Title** is amended to read as follows:

R101.1 Title. These provisions shall be known as the *Residential Code for One- and Two-family Dwellings* of the City of Fort Collins, and shall be cited as such and will be referred to herein as "this code."

2. **Section R101.2 Scope** is amended to read as follows:

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

Exception: The following shall be permitted to be constructed in accordance with this code ~~where provided with an automatic sprinkler system complying with Section P2904~~:

1. Live/work units located in *townhouses* and complying with the requirements of Section 508.5 of the *International Building Code*.
2. *Owner*-occupied *lodging houses* with five or fewer *guestrooms*.
3. A care facility with five or fewer *persons* receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A day care facility for five or fewer *persons* of any age receiving care within a *dwelling unit*.

3. **Section R102.4 Referenced codes and standards** is amended to read as follows:

R102.4 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Section 101.4 of the adopted *International Building Code*, entitled "Referenced Codes," and shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2.

Exception: Where enforcement of a code provision would violate the conditions of the *listing* of the *equipment* or *appliance*, the conditions of the *listing* and manufacturer's instructions shall apply."

4. **SECTION 103 CODE COMPLIANCE AGENCY** is deleted in its entirety and replaced with the following:

~~**SECTION R103 CODE COMPLIANCE AGENCY**~~

~~**R103.1 Creation of agency.** The **[INSERT NAME OF DEPARTMENT]** is hereby created and the official in charge thereof shall be known as the *building official*. The function of the agency shall be the implementation, administration and~~

~~enforcement of the provisions of this code.~~

~~**R103.2 Appointment.** The *building official* shall be appointed by the chief appointing authority of the *jurisdiction*.~~

~~**R103.3 Deputies.** In accordance with the prescribed procedures of this *jurisdiction* and with the concurrence of the appointing authority, the *building official* shall have the authority to appoint a deputy *building official*, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the *building official*.~~

SECTION R103 CODE ADMINISTRATION

R103.1 Entity charged with code administration. The entity charged with code administration shall be as determined in accordance with Section 103 of the adopted *International Building Code*, entitled "CODE ADMINISTRATION."

5. **Section 104.2.3.1 Flood hazard areas** is deleted in its entirety and replaced with the following:

~~**R104.2.3.1 Flood hazard areas.** The building official shall not grant modifications to any provisions required in flood hazard areas as established by Table R301.2 unless a determination has been made that:~~

~~1. There is good and sufficient cause showing that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section R306 inappropriate.~~
~~2. Failure to grant the modification would result in exceptional hardship by rendering the lot undevelopable.~~
~~3. The granting of modification will not result in increased flood heights, additional threats to public safety or extraordinary public expense; cause fraud on or victimization of the public; or conflict with existing laws or ordinances.~~
~~4. The modification is the minimum necessary to afford relief, considering the flood hazard.~~
~~5. Written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and stating that construction below the design flood elevation increases risks to life and property, has been submitted to the applicant.~~

104.2.3.1 Flood hazard areas. For *existing buildings* or *structures* regulated under the scope of this code that are in whole or in part located in *flood hazard areas*, construction documents shall be submitted as

established in accordance with Chapter 10 of the City Code, entitled “Flood Prevention and Protection.”

6. **Section R105.2 Work exempt from permit** is amended to read as follows, with the subsections for **Gas** and **Mechanical** being retained in their entirety:

R105.2 Work exempt from permit. Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. *Permits* shall not be required for the following:

Building:

1. Other than *storm shelters*, one-story detached *accessory structures* for lawn and garden equipment storage, tool storage and similar uses, including arbors, pergolas, and similar structures, provided that the floor area does not exceed ~~200~~120 square feet (~~18.58~~11.15 m^2) or 8 feet (2438 mm) in height, the structures do not house flammable liquids in quantities exceeding 10 gallons (38 L) per building, and the structures are located at least 3 feet from an adjoining property line.

2. Fences not over ~~7 feet (2134 mm)~~ 6 feet (1829 mm) high.

3. *Retaining walls* that are not over 4 feet (1219 mm) in height measured from the ~~bottom of the footing~~ low side grade to the top of the wall, unless supporting a surcharge, provided that the horizontal distance to the next uphill retaining wall is at least equal to the total height of the lower retaining wall.

4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.

5. Sidewalks and driveways.

6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.

7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.

8. Swings and other playground equipment or playhouse/play structures provided that such does not exceed 120 square feet (11.15 m^2) in floor area nor greater than 8 feet (2438 mm) in height measured from grade, no more than one elevated playhouse or play structure is designed per lot, and said equipment or structure is used exclusively for play. Elevated playhouses or play structures shall not exceed 64 square feet (5.9 m^2)

of floor area nor 6 feet (1829 mm) in height measured from the floor to the highest point of such structure.

9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support. Storm window, storm door and rain gutter installation except that, for structures that are fifty years of age or older, historic review pursuant to Chapter 14 of the City Code must be completed first.

10. Decks not exceeding 200 square feet (18.58 m^2) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a *dwelling* or *townhouse* and do not serve the exit door required by Section R318.4.

11. Roofing repair or replacement work not exceeding one square (100 square feet) of covering per building.

12. Replacement of nonstructural siding that is not installed on or over a fire-rated assembly when removal of siding is performed in accordance with State laws regarding asbestos and lead paint except that, for structures fifty (50) years of age or older, historic review pursuant to Chapter 14 of the City Code must be completed first.

13. Shade cloth or maximum 6 mil single layer poly-roofed structures constructed for nursery or agricultural purposes, not including service systems, and no entry by the general public.

14. Temporary special event structures.

15. Shade sails that are freestanding and not more than 120 square feet (11.15 m^2) or taller than 8 feet (2438 mm) from grade.

Electrical:

. . .

6. Replacement of lighting controls, ceiling fans and interior light fixtures provided the new fixture is rated at less or equal power consumption rate.

. . .

Plumbing:

. . .

2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the ~~removal and reinstallation of water closets~~ repair and

replacement of garbage disposal units and dishwashers directly connected to the sanitary sewer system, including the necessary replacement of all tail pipes and traps, or the repair, maintenance, and replacement of sinks, faucets, drains, showers, tubs, and toilets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

7. **Section R105.3.2 Time limitation of application** is amended to read as follows:

R105.3.2 Time limitation of application. An application for a *permit* for any proposed work shall be deemed to have been abandoned 180 days after the date of filing unless such application has been pursued in good faith or a *permit* has been issued; except that the *building official* is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated. Applications that have been deemed abandoned for 30 days or more will be considered void, unless the *building official* determines, in their reasonable discretion, that an extension of no more than 180 days should be allowed due to conditions beyond the applicant's control.

8. **Section R105.5 Expiration** is amended by adding a second paragraph to read as follows:

R105.5 Expiration. Every *permit* issued shall become invalid unless the work authorized by such *permit* is commenced within 180 days after its issuance or after commencement of work if more than 180 days pass between inspections. The *building official* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Regardless of when the permit was issued relative to the effective date of this code, any work authorized by a *permit* regulated by this code or any other building construction code administered by the *building official* that involves the construction or alteration of an exterior building component, assembly or finish material, such as the foundation, wall and roof framing, sheathing, siding, fenestration, and roof covering, shall be fully finished and completed for permanent outdoor exposure within 24 months of date of this issuance of such *permit*.

9. A new **Section R105.10 Premises Identification** is added to read as follows:

R105.10 Premises Identification During Construction. The approved *permit* number and street address number shall be displayed and plainly visible and legible from the public street or road fronting the property on which any new *building* is being constructed.

10. A new **Section R105.11 Transfer of permits** is added to read as follows:

R105.11 Transfer of permits. A current valid building *permit* may be transferred from one party to another upon written application to the *building official* with consent of both parties. When any changes are made to the original plans and specifications that substantially differ from the plans submitted with the *permit*, as determined by the *building official*, a new plan review fee shall be paid as calculated in accordance with Section R108. A fee of $50 shall be paid to cover administrative costs for all building *permit* transfers. No change shall be made to the expiration date of the original *permit*.

11. **Section R106.1.4 Information for construction in flood hazard areas** is deleted its entirety and replaced with the following:

~~**R106.1.4 Information for construction in flood hazard areas.** For *buildings* and structures located in whole or in part in flood hazard areas as established by Table R301.2, *construction documents* shall include:~~

~~1. Delineation of flood hazard areas, floodway boundaries and flood zones and the design flood elevation, as appropriate.~~
~~2. The elevation of the proposed lowest floor, including *basement*; in areas of shallow flooding (AO Zones), the height of the proposed lowest floor, including *basement*, above the highest adjacent *grade*.~~
~~3. The elevation of the bottom of the lowest horizontal structural member in coastal high-hazard areas (V Zone) and in Coastal A Zones where such zones are delineated on flood hazard maps identified in Table R301.2 or otherwise delineated by the *jurisdiction*.~~
~~4. If design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), the *building official* and the applicant shall obtain and reasonably utilize any design flood elevation and floodway data available from other sources.~~

R106.1.4 Information for construction in flood hazard areas. For *buildings* or structures regulated under the scope of this code that are in whole or in part located in flood hazard areas, construction documents shall be submitted in accordance with Chapter 10 of the City Code, entitled "Flood Prevention and Protection."

12. A new **Section R106.1.6 Grading performance plans and certificate** is added to read as follows:

R106.1.6 Grading performance plans and certificate. Every building *permit* application for a new *building* regulated by this code shall be accompanied by a site drainage/grading performance plan as prescribed by City standards. Drainage plans shall be submitted to and approved by the City's Stormwater Utility prior to the issuance of a *permit*.

13. **Section R106.3.1 Approval of construction documents** is amended to read as follows:

R106.3.1 Approval of construction documents. Where the *building official* issues a *permit*, the *construction documents* shall be *approved* in writing or by a stamp indicating the approved *permit* number ~~that states "REVIEWED FOR CODE COMPLIANCE"~~. One set of *construction documents* so reviewed shall be retained by the *building official*. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the *building official* or a duly authorized representative.

14. **SECTION R108 FEES** is deleted in its entirety and replaced with the following:

~~**SECTION R108 FEES**~~

~~**R108.1 Payment of fees.** A *permit* shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a *permit* be released until the additional fee, if any, has been paid.~~
~~**R108.2 Schedule of permit fees.** On *buildings*, structures, electrical, gas, mechanical and plumbing systems or *alterations* requiring a *permit*, a fee for each *permit* shall be paid as required, in accordance with the schedule as established by the applicable governing authority.~~
~~**R108.3 Building permit valuations.** Building *permit* valuation shall include total value of the work for which a *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and other permanent systems, including materials and labor.~~
~~**R108.4 Related fees.** The payment of the fee for the construction, *alteration*, removal or demolition for work done in connection to or concurrently with the work authorized by a building *permit* shall not relieve the applicant or holder of the *permit* from the payment of other fees that are prescribed by law.~~
~~**R108.5 Refunds.** The *building official* is authorized to establish a refund policy.~~
~~**R108.6 Work commencing before permit issuance.** Any *person* who commences work requiring a *permit* on a *building*, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary *permits* shall be subject to a fee established by the applicable governing authority that shall be in addition to the required *permit* fees.~~

SECTION R108 FEES

R108.1 Fees. All items relating to fees shall be as specified in Section 109 of the adopted *International Building Code*, entitled "FEES."

R108.2 Work commencing before permit issuance. In addition to penalties set forth in R113.4, any *person* or firm who, before obtaining the necessary *permit(s)*, commences any construction of, or work on, a *building*, *structure*, electrical, gas, mechanical or plumbing system that is not otherwise exempted from obtaining a

permit, may be subject to a stop work order and a work without a *permit* fee in addition to the required *permit* fee as established by the *building official*.

15. A new **Section R109.1.7 Site Survey required** is added to read as follows*:*

> **R109.1.7 Site Survey required.** A survey or improvement location certificate of the site on which a new *building* or *addition* is to be constructed may be required by the *building official* to verify that the *structure* is located in accordance with the approved plans and any other regulations of the City.

16. **SECTION R112 MEANS OF APPEALS** is deleted in its entirety and replaced with the following:

~~**SECTION R112 MEANS OF APPEALS**~~

~~**R112.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *building official*.~~

~~**R112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code.~~

~~**R112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the *jurisdiction*.~~

~~**R112.4 Administration.** The *building official* shall take action without delay in accordance with the decision of the board.~~

SECTION R112 MEANS OF APPEALS

R112.1 General. Appeals of decisions, determinations and interpretations of this code shall be made pursuant to applicable provisions as set forth in Section 113 of the adopted *International Building Code*, entitled “MEANS OF APPEALS.”

17. **Section R113.4 Violation penalties** is deleted in its entirety and replaced with the following amended to read as follows:

~~**R113.4 Violation penalties.** Any *person* who violates a provision of this code or~~

~~fails to comply with any of the requirements thereof or who erects, constructs, alters or *repairs* a *building* or structure in violation of the *approved construction documents* or directive of the *building official,* or of a *permit* or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.~~

R113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a *building* or structure in violation of the *approved construction documents* or directive of the *building official*, or of a *permit* or certificate issued under the provisions of this code, commits a civil infraction and is subject to the provisions contained in § 1-15(f) of the City Code. Each day that a violation continues shall be deemed a separate offense.

18. **SECTION R202 DEFINITIONS** is amended to modify, or add, in alphabetical order, the following definitions:

[RB] BASEMENT. ~~A *story* that is not a *story above grade plane* (see "*Story above grade plane*").~~ That portion of a *building* located partly or completely below grade, wherein the underside of the floor system immediately above is 72 inches (1829 mm) or more above the surface of an approved permanent basement floor system.

. . .

CITY shall mean the municipal corporation of Fort Collins, Colorado, including its physical location and boundaries.

. . .

[RB] CRAWL SPACE. ~~An underfloor space that is not a *basement*~~. That portion of a *building* that is conditioned or non-conditioned space located partly or completely below grade (excluding the under-floor space beneath below-grade structural floor systems), wherein the underside of the adjacent finished floor above is less than 72 inches (1829 mm) above the bottom surface of such crawl space.

. . .

DOWN DIRECTIONAL LUMINAIRE. Down directional luminaire lighting directs light straight down from the fixture.

. . .

[RB] DWELLING. ~~Any *building* that contains one or two *dwelling units* used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.~~ A *building* used exclusively for

residential occupancy and for permitted accessory uses, including single-family dwellings, two-family dwellings and multi-family dwellings. The term *dwelling* shall not include hotels, motels, homeless shelters, seasonal overflow shelters, tents or other structures designed or used primarily for temporary occupancy. Any *dwelling* shall be deemed to be a principal *building*.

[RB] DWELLING UNIT. ~~A single unit providing complete independent living facilities for one or more *persons*, including permanent provisions for living, sleeping, eating, cooking and sanitation. For the definition applicable in Chapter 11, see Section N1101.6. For the definition applicable in Chapter 24, see Section G2403.~~ One or more rooms and a single kitchen and at least one bathroom, designed, occupied or intended for occupancy as separate quarters for the exclusive use of a single family for living, cooking and sanitary purposes, located in a single-family, two-family or multi-family *dwelling* or mixed-use *building*.

. . .

FLOOR AREA. The area included within the surrounding exterior walls of a *building* or portion thereof, exclusive of vent shafts and courts. The *floor area* of a *building*, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above.

. . .

FULLY SHIELDED LUMINAIRE. A light fixture that has a solid barrier (cap) at the top of the fixture in which the lamp (bulb) is located. The fixture is angled so the lamp is not visible below the barrier (no light visible below the horizontal angle).

. . .

GUEST ACCESSIBILITY. A residence's ease of access for persons with disabilities.

. . .

HEIGHT, BUILDING. ~~The vertical distance from *grade plane* to the average height of the highest roof surface.~~ The vertical distance in feet measured from the average of the finished ground level at the center of all walls of a *building* or structure to the highest point of the roof surface or structure.

. . .

ROOM, SLEEPING (BEDROOM). A habitable space within a *dwelling* or other housing unit designed primarily for the purpose of sleeping. The presence of a bed, cot, mattress, convertible sofa or other similar furnishing used for sleeping purposes is indicia for determining that such space or room qualifies as a *sleeping*

room. The presence of closets and similar storage facilities is not considered a relevant factor in determining whether or not a room is a *sleeping room*.

. . .

SITE. A parcel of land bounded by a property line or a designated portion of a public right-of-way.

. . .

[RB] TOWNHOUSE. ~~A *building* that contains three or more attached *townhouse units*.~~ A single-family *dwelling unit* constructed in a group of two or more attached individual units, each of which is separated from the other from the foundation to the roof and is located entirely on a separately recorded and platted parcel of land (site) bounded by property lines that is deeded exclusively for such single-family *dwelling*.

. . .

19. **Section 301.1.3 Engineered Design** is amended to read as follows:

R301.1.3 Engineered design. When a building of otherwise conventional light-frame construction contains structural elements ~~exceeding the limits of Section R301 or otherwise~~ not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. The extent of such design need only demonstrate compliance of nonconventional elements with other applicable provisions and shall be compatible with the performance of the conventional framed system. Engineered design in accordance with the adopted *International Building Code* is permitted for all *buildings*, ~~and~~ *structures*, and ~~parts~~ portions thereof, included in the scope of this code.

20. **Section R301.2 Climatic and geographic design criteria** is amended to read as follows:

R301.2 Climatic and geographic design criteria. *Buildings* shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Climatic and geographic design criteria are ~~Additional criteria shall be established by the local *jurisdiction* and~~ set forth in Table R301.2. The thermal design parameters shown below shall be used for mechanical load calculations and designs.

21. **TABLE R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA** is deleted in its entirety and replaced with the following:

~~TABLE R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA~~

GROUND SNOW LOAD[o]	WIND DESIGN				SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
	Speed (mph)	Topographic effects[k]	Special wind region[l]	Windborne debris zone[m]		Weathering[a]	Frost line depth[b]	Termite[c]				
—	—	—	—	—	—	—	—	—	—	—	—	—
MANUAL J DESIGN CRITERIA[n]												
Elevation			Altitude correction factor[e]	Coincident wet bulb	Indoor winter design relative humidity	Indoor winter design dry-bulb temperature			Outdoor winter design dry-bulb temperature		Heating temperature difference	
—			—	—	—	—			—		—	
Latitude			Daily range	Summer design gains	Indoor summer design relative humidity	Indoor summer design dry-bulb temperature			Outdoor summer design dry-bulb temperature		Cooling temperature difference	
—			—	—	—	—			—		—	

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(1). The grade of masonry units shall be determined from ASTM C34, ASTM C55, ASTM C62, ASTM C73, ASTM C90, ASTM C129, ASTM C145, ASTM C216 or ASTM C652.

b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the ultimate design wind speeds map [Figure R301.2(2)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The jurisdiction shall fill in this section of the table to establish the design criteria using Table 10A from ACCA Manual J or established criteria determined by the jurisdiction.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with: the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas); and the title and date of the currently effective Flood Insurance Study or other flood hazard study and maps adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100 year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

l. In accordance with Figure R301.2(2), where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.

o. The jurisdiction shall fill in this section of the allowable stress design table using the Ground Snow Loads in Figure R301.2(3).

TABLE R301.2 FORT COLLINS APPLICABLE CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA			
GROUND SNOW LOAD[a]	**WIND DESIGN SPEED[b]**	**SPECIAL WIND REGION**	**WINDBORNE DEBRIS ZONE**
35 psf	140 mph	Yes	No

SEISMIC DESIGN CATEGORY	**SUBJECT TO DAMAGE FROM**		
	Weathering	**Frost line depth**	**Termite**
B	Severe[c]	30 inches	Slight to moderate

ICE BARRIER UNDERLAYMENT	**FLOOD HAZARDS**	**AIR FREEZING INDEX**	**MEAN ANNUAL TEMP**
Required	July 16, 1979	906	48.4°F

MANUAL J DESIGN CRITERIA			
Elevation:	4987	**Outdoor winter design dry-bulb temp:**	6°F
Latitude:	40.5853	**Heating temp difference**	66°F
Altitude correction factor:	0.83	**Indoor summer design relative humidity:**	50°F
Daily Range:	High	**Indoor summer design dry-bulb temp:**	75°F
Coincident wet bulb:	62°F	**Outdoor summer design dry-bulb temp:**	91°F
Indoor winter design dry-bulb temp:	72°F	**Cooling temp difference:**	16°F

a. As an alternate to the basic 35 psf ground snow load, location-specific ground snow load values can be used that are provided in the Geodatabase of geocoded design ground snow load values, which can be accessed at the ASCE 7 Hazard Tool at https://asce7hazardtool.online/ or shall be determined in accordance with section 1608 of the International Building Code or approved equivalent.

b. The basic design wind speed V, in mph, for the determination of the wind loads shall be: 140 miles per hour (Ultimate) or shall comply with ASCE 7-22, ASCE Design Geodatabase published 2025. The ASCE Design Geodatabase is available at https://asce7hazardtool.online.

c. Where weathering requires a higher strength concrete or higher grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, “negligible,” “moderate” or “severe” for concrete as determined from Figure R301.2(1). The grade of masonry units shall be determined from ASTM C34, ASTM C55, ASTM C62, ASTM C73, ASTM C90, ASTM C129, ASTM C145, ASTM C216 or ASTM C652.

22. **SECTION R306 FLOOD-RESISTANT CONSTRUCTION** is deleted in its entirety and replaced with the following:

~~**SECTION R306 FLOOD-RESISTANT CONSTRUCTION**~~

~~**R306.1 General.** Buildings and structures constructed in whole or in part in flood hazard areas established in Table R301.2, and substantial improvement and repair~~

of substantial damage of buildings and structures located in whole or in part in flood hazard areas, shall be designed and constructed in accordance with the provisions contained in this section. Buildings and structures that are located in more than one flood hazard area, including A Zones, Coastal A Zones and V Zones, shall comply with the provisions associated with the most restrictive flood hazard area. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R306.1.1 Alternative provisions. As an alternative to the requirements in Section R306, ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

R306.1.2 Structural systems. Structural systems of buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

R306.1.3 Flood-resistant construction. Buildings and structures erected in areas prone to flooding shall be constructed by methods and practices that minimize flood damage.

R306.1.4 Establishing the design flood elevation. The design flood elevation shall be used to define flood hazard areas. At a minimum, the design flood elevation shall be the higher of the following:

1. The base flood elevation at the depth of peak elevation of flooding, including wave height, that has a 1-percent (100-year flood) or greater chance of being equaled or exceeded in any given year.
2. The elevation of the design flood associated with the area designated on a flood hazard map adopted by the community, or otherwise legally designated.

R306.1.4.1 Determination of design flood elevations. If design flood elevations are not specified, the building official is authorized to require the applicant to comply with either of the following:

1. Obtain and reasonably use data available from a federal, state or other source.
2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a registered design professional who shall document that the technical methods used reflect currently accepted engineering practice. Studies, analyses and computations shall be submitted in sufficient detail to allow thorough review and approval.

R306.1.4.2 Determination of impacts. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall demonstrate that the effect of the proposed buildings and structures on design flood elevations, including fill, when combined with other existing and anticipated flood hazard area

encroachments, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

R306.1.5 Lowest floor. The lowest floor shall be the lowest floor of the lowest enclosed area, including basement, and excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the building or structure in violation of this section.

R306.1.6 Protection of mechanical, plumbing and electrical systems. Electrical systems, equipment and components; heating, ventilating, air-conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall be located at or above the elevation required in Section R306.2 or R306.3. If replaced as part of a substantial improvement, electrical systems, equipment and components; heating, ventilating, air-conditioning and plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

Exception: Locating electrical systems, equipment and components; heating, ventilating, air-conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment is permitted below the elevation required in Section R306.2 or R306.3 provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the required elevation in accordance with ASCE 24. Electrical wiring systems are permitted to be located below the required elevation provided that they conform to the provisions of the electrical part of this code for wet locations.

R306.1.7 Protection of water supply and sanitary sewage systems. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the plumbing provisions of this code and Chapter 3 of the International Private Sewage Disposal Code.

R306.1.8 Flood-resistant materials. Building materials and installation methods used for flooring and interior and exterior walls and wall coverings below the elevation required in Section R306.2 or R306.3 shall be flood damage-resistant materials that conform to the provisions of FEMA TB-2.

R306.1.9 Manufactured homes. The bottom of the frame of new and replacement manufactured homes on foundations that conform to the requirements of Section R306.2 or R306.3, as applicable, shall be elevated to or above the elevations specified in Section R306.2 (flood hazard areas

including A Zones) or R306.3 in coastal high-hazard areas (V Zones and Coastal A Zones). The anchor and tie-down requirements of the applicable state or federal requirements shall apply. The foundation and anchorage of manufactured homes to be located in identified floodways shall be designed and constructed in accordance with ASCE 24.

R306.1.10 As-built elevation documentation. A registered design professional shall prepare and seal documentation of the elevations specified in Section R306.2 or R306.3.

R306.2 Flood hazard areas (including A Zones). Areas that have been determined to be prone to flooding and that are not subject to high-velocity wave action shall be designated as flood hazard areas. Flood hazard areas that have been delineated as subject to wave heights between 1 1/2 feet (457 mm) and 3 feet (914 mm) or otherwise designated by the jurisdiction shall be designated as Coastal A Zones and are subject to the requirements of Section R306.3. Buildings and structures constructed in whole or in part in flood hazard areas shall be designed and constructed in accordance with Sections R306.2.1 through R306.2.4.

R306.2.1 Elevation requirements.

1. Buildings and structures in flood hazard areas, not including flood hazard areas designated as Coastal A Zones, shall have the lowest floors elevated to or above the base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher.
2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated to a height above the highest adjacent grade of not less than the depth number specified in feet (mm) on the FIRM plus 1 foot (305 mm), or not less than 3 feet (915 mm) if a depth number is not specified.
3. Basement floors that are below grade on all sides shall be elevated to or above base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher.
4. Attached garages and carports shall comply with one of the following:
    4.1. The floors shall be elevated to or above the elevations required in Item 1 or Item 2, as applicable.
    4.2. The floors shall be at or above grade on not less than one side. Where an attached garage or carport is enclosed by walls, the walls shall have flood openings that comply with Section R306.2.2 and the attached garage or carport shall be used only for parking, building access or storage.
5. Detached accessory structures and detached garages shall comply with one of the following:
    5.1. The floors shall be elevated to or above the elevations required in Item 1 or Item 2, as applicable.
    5.2. Floors below the elevations required in Item 1 or 2, as applicable, must be:
        5.2.1. Used only for parking or storage.

5.2.2. One story and not larger than 600 square feet (55.74 m2).
5.2.3. Anchored to resist flotation, collapse or lateral movement resulting from design flood loads.
5.2.4. Equipped with flood openings that comply with Section R306.2.2.
5.2.5. Constructed of flood-damage-resistant materials that comply with Section R306.1.8. Have mechanical, plumbing and electrical systems, if applicable, that comply with Section R306.1.6.
5.2.6 Have mechanical, plumbing and electrical systems, if applicable, that comply with Section R306.1.6.

Exception: Enclosed areas below the elevation required in this section, including basements with floors that are not below grade on all sides, shall meet the requirements of Section R306.2.2.

R306.2.2 Enclosed area below required elevation. Enclosed areas, including crawl spaces, that are below the elevation required in Section R306.2.1 shall:

1. Be used solely for parking of vehicles, building access or storage.
2. Be provided with flood openings that meet the following criteria and are installed in accordance with Section R306.2.2.1:
   2.1. The total net area of nonengineered openings shall be not less than 1 square inch (645 mm2) for each square foot (0.093 m2) of enclosed area where the enclosed area is measured on the exterior of the enclosure walls, or the openings shall be designed as engineered openings and the construction documents shall include a statement by a registered design professional that the design of the openings will provide for equalization of hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwaters as specified in Section 2.7.2.2 of ASCE 24.
   2.2. Openings shall be not less than 3 inches (76 mm) in any direction in the plane of the wall.
   2.3. The presence of louvers, blades, screens and faceplates or other covers and devices shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.

Exceptions: The following shall not be required to comply with this section:

1. Elevator shafts.
2. Utility chases that protect utility lines from freezing, provided that the utility chases are the minimum size necessary to protect the utility lines and do not provide access for a person to enter the space.

R306.2.2.1 Installation of openings. The walls of enclosed areas shall have openings installed such that:

1. There shall be not less than two openings on different sides of each

enclosed area; if a building has more than one enclosed area, each area shall have openings.

2. The bottom of each opening shall be not more than 1 foot (305 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.
3. Openings shall be permitted to be installed in doors and windows; doors and windows without installed openings do not meet the requirements of this section.

R306.2.3 Foundation design and construction. Foundation walls for buildings and structures erected in flood hazard areas shall meet the requirements of Chapter 4.

Exception: Unless designed in accordance with Section R404:

1. The unsupported height of 6-inch (152 mm) plain masonry walls shall be not more than 3 feet (914 mm).
2. The unsupported height of 8-inch (203 mm) plain masonry walls shall be not more than 4 feet (1219 mm).
3. The unsupported height of 8-inch (203 mm) reinforced masonry walls shall be not more than 8 feet (2438 mm).

For the purpose of this exception, unsupported height is the distance from the finished grade of the under-floor space to the top of the wall.

R306.2.4 Tanks. Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood. Above-ground tanks shall be installed at or above the elevation required in Section R306.2.1 or shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.

R306.3 Coastal high-hazard areas (including V Zones and Coastal A Zones, where designated). Areas that have been determined to be subject to wave heights in excess of 3 feet (914 mm) or subject to high-velocity wave action or wave-induced erosion shall be designated as coastal high-hazard areas. Flood hazard areas that have been designated as subject to wave heights between 1 1/2 feet (457 mm) and 3 feet (914 mm) or otherwise designated by the jurisdiction shall be designated as Coastal A Zones. Buildings and structures constructed in whole or in part in coastal high-hazard areas and Coastal A Zones, where designated, shall be designed and constructed in accordance with Sections R306.3.1 through R306.3.10.

R306.3.1 Location and site preparation.

1. New buildings and buildings that are determined to be substantially improved pursuant to Section R104.3.1 shall be located landward of the reach of mean high tide.
2. For any alteration of sand dunes and mangrove stands, the building official shall require submission of an engineering analysis that demonstrates that the proposed alteration will not increase the potential for flood damage.

R306.3.2 Elevation requirements.

1. Buildings and structures erected within coastal high-hazard areas and Coastal A Zones, shall be elevated so that the bottom of the lowest horizontal structural members supporting the lowest floor, with the exception of piling, pile caps, columns, grade beams and bracing, is elevated to or above the base flood elevation plus 1 foot (305 mm) or the design flood elevation, whichever is higher. Where stem wall foundations are permitted in Coastal A Zones in accordance with Section R306.3.3, the bottom of the lowest horizontal structural member supporting the lowest floor is the top of the foundation wall, or top of the portion of the foundation wall, supporting the slab.
2. Basement floors that are below grade on all sides are prohibited.
3. Attached garages used only for parking, building access or storage, and carports shall comply with Item 1 or shall be at or above grade on not less than one side and, if enclosed with walls, such walls shall comply with Item 7.
4. Detached accessory structures and detached garages shall comply with either of the following:
    4.1. The bottom of the lowest horizontal structural member supporting the floors shall be elevated to or above the elevation required in Item 1.
    4.2. Floors below the elevations required in Item 1 must be:
        4.2.1. Used only for parking or storage.
        4.2.2. One story and not larger than 100 square feet (9.29 m2).
        4.2.3. Anchored to resist flotation, collapse or lateral movement resulting from design flood loads.
        4.2.4. Constructed of flood damage-resistant materials that comply with Section R306.1.8.
        4.2.5. Equipped with mechanical, plumbing and electrical systems, if applicable, that comply with Section R306.1.6.
5. The use of fill for structural support is prohibited.
6. Minor grading, and the placement of minor quantities of fill, shall be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.
7. Walls and partitions enclosing areas below the elevation required in this section shall meet the requirements of Sections R306.3.5 and R306.3.6.

R306.3.3 Foundations. Buildings and structures erected in coastal high-hazard areas and Coastal A Zones shall be supported on pilings or columns and shall be adequately anchored to such pilings or columns and shall comply with the following:

1. The space below the elevated building shall be either free of obstruction or, if enclosed with walls, the walls shall meet the requirements of Section R306.3.5.
2. Pilings shall be designed in accordance with ASCE 24 to have

adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift) and pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling.

3. Columns and their supporting foundations shall be designed in accordance with ASCE 24 to resist combined wave and wind loads, lateral and uplift, and shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the columns. Spread footing, mat, raft or other foundations that support columns shall not be permitted where soil investigations that are required in accordance with Section R401.4 indicate that soil material under the spread footing, mat, raft or other foundation is subject to scour or erosion from wave-velocity flow conditions. If permitted, spread footing, mat, raft or other foundations that support columns shall be designed in accordance with ASCE 24.
4. Flood and wave loads shall be determined in accordance with ASCE 7 and shall include loads associated with the design flood. Wind loads shall be those required by this code.
5. Foundation designs and construction documents shall be prepared and sealed in accordance with Section R306.3.9.

Exception: In Coastal A Zones, stem wall foundations supporting a floor system above and backfilled with soil or gravel to the underside of the floor system shall be permitted provided that the foundations are designed to account for wave action, debris impact, erosion and local scour. Where soils are susceptible to erosion and local scour, stem wall foundations shall have deep footings to account for the loss of soil.

R306.3.4 Concrete slabs. Concrete slabs used for parking, floors of enclosures, landings, decks, walkways, patios and similar uses that are located beneath structures, or slabs that are located such that if undermined or displaced during base flood conditions could cause structural damage to the building foundation, shall be designed and constructed in accordance with one of the following:

1. To be structurally independent of the foundation system of the structure, to not transfer flood loads to the main structure, and to be frangible and break away under flood conditions prior to base flood conditions. Slabs shall be a maximum of 4 inches (102 mm) thick, shall not have turned-down edges, shall not contain reinforcing, shall have isolation joints at pilings and columns, and shall have control or construction joints in both directions spaced not more than 4 feet (1219 mm) apart.
2. To be self-supporting, structural slabs capable of remaining intact and functional under base flood conditions, including erosion and local scour, and the main structure shall be capable of resisting any added flood loads and effects of local scour caused by the presence of the slabs.

R306.3.5 Walls below required elevation. Walls and partitions are permitted below the elevation required in Section R306.3.2, provided that such walls and partitions are not part of the structural support of the building or structure and:

1. Electrical, mechanical and plumbing system components are not to be mounted on or penetrate through walls that are designed to break away under flood loads; and
2. Are constructed with insect screening or open lattice; or
3. Are designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a resistance of not less than 10 (479 Pa) and not more than 20 pounds per square foot (958 Pa) as determined using allowable stress design, or a resistance to an ultimate load of not less than 17 and not more than 33 pounds per square foot (814 and 1580 Pa); or
4. Where wind loading values of this code exceed 20 pounds per square foot (958 Pa), as determined using allowable stress design or an ultimate load of 33 pounds per square foot (1580 Pa), the construction documents shall include documentation prepared and sealed by a registered design professional that:
    4.1. The walls and partitions below the required elevation have been designed to collapse from a water load less than that which would occur during the base flood.
    4.2. The elevated portion of the building and supporting foundation system have been designed to withstand the effects of wind and flood loads acting simultaneously on structural and nonstructural building components. Water loading values used shall be those associated with the design flood. Wind loading values shall be those required by this code.
5. Walls intended to break away under flood loads as specified in Item 3 or 4 have flood openings that meet the criteria in Section R306.2.2, Item 2.

Exceptions: The following shall not be required to comply with this section:

1. Elevator shafts.
2. Utility chases that protect utility lines from freezing, provided that the utility chases are the minimum size necessary to protect the utility lines and do not provide access for a person to enter the space.

R306.3.6 Enclosed areas below required elevation. Enclosed areas below the elevation required in Section R306.3.2 shall be used solely for parking of vehicles, building access or storage.

R306.3.6.1 Protection of building envelope. An exterior door that meets the requirements of Section R609 shall be installed at the top of stairs that provide access to the building and that are enclosed with walls designed to break away in accordance with Section R306.3.5.

~~**R306.3.7 Stairways and ramps.** Stairways and ramps that are located below the lowest floor elevations specified in Section R306.3.2 shall comply with one or more of the following:~~

~~1. Be designed and constructed with open or partially open risers and guards.~~

~~2. Stairways and ramps not part of the required means of egress shall be designed and constructed to break away during design flood conditions without causing damage to the building or structure, including foundation.~~

~~3. Be retractable, or able to be raised to or above the lowest floor elevation, provided that the ability to be retracted or raised prior to the onset of flooding is not contrary to the means of egress requirements of the code.~~

~~4. Be designed and constructed to resist flood loads and minimize transfer of flood loads to the building or structure, including foundation.~~

~~Areas below stairways and ramps shall not be enclosed with walls below the elevation required in Section R306.3.2 unless such walls are constructed in accordance with Section R306.3.5.~~

~~**R306.3.8 Decks and porches.** Attached decks and porches shall meet the elevation requirements of Section R306.3.2 and shall either meet the foundation requirements of this section or shall be cantilevered from or knee braced to the building or structure. Self-supporting decks and porches that are below the elevation required in Section R306.3.2 shall not be enclosed by solid, rigid walls, including walls designed to break away. Self-supporting decks and porches shall be designed and constructed to remain in place during base flood conditions or shall be frangible and break away under base flood conditions.~~

~~**R306.3.9 Construction documents.** The construction documents shall include documentation that is prepared and sealed by a registered design professional that the design and methods of construction to be used meet the applicable criteria of this section.~~

~~**R306.3.10 Tanks.** Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood. Above-ground tanks shall be installed at or above the elevation required in Section R306.3.2. Where elevated on platforms, the platforms shall be cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of Section R306.3.~~

SECTION R306 FLOOD-RESISTANT CONSTRUCTION

R306.1 General. *Buildings* and *structures* constructed in whole or in part in flood hazard areas shall be designed and constructed in accordance with the provisions of Chapter 10 of the City Code, entitled Flood Prevention and Protection. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall demonstrate that the cumulative effect of the proposed *buildings* and *structures* on design flood elevations, including fill,

when combined with all other existing and anticipated development, will not increase the design flood elevation more than one foot at any point within the City.

23. **Section R309.2 One- and two-family dwellings automatic sprinkler systems** is amended to read as follows:

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

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

24. **Section R310.2.2 Alterations, repairs and additions** is amended by deleting exception #2.

. . .

Exceptions:

. . .

~~2. Installation, *alteration* or repairs of plumbing or *mechanical system.*~~

25. **Section R310.4 Interconnection** is amended to read as follows:

R310.4 Interconnection. Where more than one smoke alarm is required to be installed within an individual *dwelling unit* in accordance with Section ~~R310.3~~R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual *dwelling unit*. Physical interconnection of smoke alarms shall not be required where *listed* wireless alarms are installed and all alarms sound upon activation of one alarm.

Exception: Interconnection of smoke alarms in existing areas shall not be required where installation would require the removal of interior wall or ceiling finishes, unless there is an attic, crawl space, or basement available to provide access for interconnection without the removal of interior finishes.

26. **Section R311.2.2 Alterations, repairs and additions** is amended to read as follows, with the exceptions being deleted in their entirety:

R311.2.2 Alterations, repairs and additions. Where *alterations*, *repairs* or *additions* requiring a *permit* occur, or where one or more *sleeping rooms* are added or created in existing *dwellings*, the individual *dwelling unit* shall be equipped with *carbon monoxide alarms* located as required for new *dwellings*.

~~**Exceptions:**~~

~~1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.~~
~~2. Installation, *alteration* or repairs of plumbing systems.~~
~~3. Installation, *alteration* or repairs of *mechanical systems* that are not fuel fired.~~

27. **Section R322.1 Dwelling units or sleeping units** is amended to read as follows:

R322.1 Dwelling units ~~or sleeping units~~. Where there are four or more dwelling *units ~~or sleeping units~~* in a single structure, the applicable provisions of Colorado Revised Statutes Section 9-5-101 *et. seq.*, and the provisions of Chapter 11 of the adopted *International Building Code* for Group R-3 shall apply. Nothing in this section shall abrogate or otherwise modify an owner's duties or responsibilities under the Americans with Disabilities Act or any other state or federal law or regulation regarding accessibility.

28. A new **Section R322.4 Guest accessibility** is added to read as follows:

R322.4 Guest accessibility. A new *dwelling unit* with habitable space on the first story shall provide at least one bathroom group or half bath on the first story that is designed and constructed to meet the *guest accessibility* requirements of this section.

R322.4.1 Bathrooms within dwelling units. A bathroom group or half bath designated for *guest accessibility* must have a minimum clear opening of 30 inches (762 mm).

R322.4.2 Wall reinforcement. A bathroom group or half bath designated for *guest accessibility* must have reinforced walls that meet the following standards:

1. Lateral nominal wood blocking, with minimum dimensions of 2 inches (50.8 mm) by 6 inches (152.4 mm), must be installed flush with stud edges of bathroom walls; and
2. The centerline of the blocking must be 34 inches (863.6 mm) from and parallel to the interior floor level.

Exception: Blocking is not required in the portion of the wall located directly behind the lavatory.

R322.4.3 Lighting and environmental controls. Light switches, receptacles and other environmental controls located in a bathroom or a half bath designated for *guest accessibility* must be no higher than 48 inches (1219.2 mm) above the interior floor level. Receptacles shall be a minimum of 15 inches (381 mm) above the interior floor level.

R322.4.4 Guest accessibility routes within the dwelling unit. A bathroom group or half bath designated for *guest accessibility* must be visitable by a route through the living room, dining room, bedroom or kitchen that provides a minimum clear width of 32 inches (812.8 mm), and any interior doors on the route must have lever handles.

29. A new **SECTION R333 RESOURCE EFFICIENCY** is added to read as follows:

SECTION R333 RESOURCE EFFICIENCY

R333.1 Construction waste management. For remodels over 1,500 square feet, additions over 1,500 square feet, and all new buildings, a signed construction waste declaration of responsibility is required at the time of application for a building permit; the construction waste recycling regulations shall be implemented; all concrete, asphalt, masonry, wood, metals, and cardboard shall be recycled; and all mixed construction and demolition materials (as defined in § 12-16 of the City Code) shall be delivered to any facility identified in and disposed of in accordance with § 12-22(c) of the City Code. Compliance shall be certified by inspection and documentation and submission of a signed final construction waste management report.

Exception: Basement finish projects.

R333.1.1 Building demolitions. *Buildings or* portions of *buildings* that are removed shall be processed in such a way as to safely remove all asbestos and lead paint contaminants. For all demolitions, excluding non-structural demolitions under 1000 square feet a signed demolition waste declaration of responsibility is required at the time of application for a demolition permit. All metals, asphalt, concrete, and masonry that are free of asbestos and lead paint shall be recycled, and where possible, all remaining materials, such as doors, windows, cabinets, fixtures, and wood, shall be recycled. All mixed construction and demolition materials (as defined in § 12-16 of the City Code) shall be delivered to any facility identified in and disposed of in accordance with § 12-22(c) of the City Code. Compliance shall be certified by inspection, documentation, and submission of a signed final demolition waste management report.

R333.2 Exterior lighting. All exterior lighting fixtures shall be *down directional* and *fully shielded luminaires* and shall have a nominal correlated color temperature (CCT) of no greater than 3000 Kelvin.

R333.3 Operations and maintenance. In new *buildings*, operation and maintenance information addressing all installed systems shall be provided to the *building* owner.

R333.4 Electrical Vehicle Ready. All new single family *dwellings* with an attached garage or carport shall be provided one continuous 40-amp, 208/240-Volt dedicated branch circuit for electric vehicle supply equipment that is terminated at a receptacle or electric vehicle supply equipment.

Exception: In cases where a transformer upgrade is required.

30. **Section R401.1 Application** is deleted in its entirety and replaced with the following:

~~**R401.1 Application.** The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for *buildings*. In addition to the provisions of this chapter, the design and construction of foundations in flood hazard areas as established by Table R301.2 shall meet the provisions of Section R306. Wood foundations shall be designed and installed in accordance with AWC PWF.~~

~~**Exception:** The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:~~

~~1. In buildings that have not more than two floors and a roof.~~
~~2. Where interior basement and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).~~

~~Wood foundations in Seismic Design Category D0, D1 or D2 shall be designed in accordance with accepted engineering practice.~~

R401.1 Application. The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for *buildings*. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding shall meet the provisions of Section R306. All foundations shall be designed by a qualified professional licensed in the State of Colorado. Such designs shall be performed in accordance with accepted and approved engineering practices, including considerations for soil load-bearing capacities, surface and subsurface water conditions, adequate foundation and floor drainage, adequate ventilation of enclosed interior foundation spaces, and foundation waterproofing and damp-proofing. Final engineer's reports, indicating their acceptance of the above requirements, shall be submitted to the *building official* prior to the issuance of the Certificate of Occupancy

Exception: Foundations for non-habitable detached accessory *buildings*.

31. A new **Section R401.5 Wood foundations** is added to read as follows:

R402.5 Wood foundations. Wood foundations shall be designed and installed in accordance with ANSI/AWC Permanent Wood Foundation Design Specification (PWF). Wood foundations in Seismic Design Category D0, D1 or D2 shall be designed in accordance with accepted engineering practice by a qualified professional licensed in the State of Colorado.

32. A new **Section R401.6 Placement of Backfill** is added to read as follows:

R401.6 Placement of Backfill. The excavation outside the foundation, including utility trenches and excavation ramps, shall be backfilled with soil that is substantially free of organic material, construction debris and cobbles, boulders, and solid soil masses larger than 6 inches (152 mm) diameter, and free of frozen soil. The backfill shall be placed in lifts and compacted as set forth in the engineering documents. The backfill shall be placed in a manner that does not damage the foundation or the waterproofing or damp-proofing material. Excavation ramps shall be backfilled in such a manner that the ramp does not become a conduit for surface water to flow toward the foundation. Where excavations include more than one *structure*, a specially engineered drainage system may be required by the *building official*.

33. **Section R405.1 Concrete or masonry foundations** is deleted in its entirety and replaced with the following:

~~**R405.1 Concrete or masonry foundations.** Drains shall be provided around concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below *grade*. Drainage tiles, gravel or crushed stone drains, perforated pipe or other *approved* systems or materials shall be installed at or below the top of the footing or below the bottom of the slab and shall discharge by gravity or mechanical means into an *approved* drainage system. Gravel or crushed stone drains shall extend not less than 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an *approved* filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an *approved* filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on not less than 2 inches (51 mm) of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.~~

~~**Exception**: A drainage system is not required where the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R401.4.1(2).~~

R405.1 Concrete or masonry foundations. Drains consisting of piping conforming with ASTM Designation D2729-89 shall be provided adjacent to the lowest concrete or masonry foundations that retain earth and enclose spaces that are partially or entirely located below grade. Unless perimeter drains are designed to daylight, they shall terminate in sump pits with an electrical power source permanently installed within 36 inches (914 mm) of the sump opening. Piping for sump pumps shall discharge at least 60 inches (1524 mm) away from foundations, or as otherwise approved by the *building official*. Drains shall be installed in bedding materials that are of such size and installed in such manner to allow

ground water to seep into the perimeter drain. Filter fabric or other measures to restrict the passage of fines shall be used to further protect the perimeter drain from blockage.

Exceptions:

1. A drainage system is not required where it has been determined by the engineer of record that the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R401.4.1(2).
2. Existing buildings that do not have foundation drains.

34. A new **Section R405.3 Landscape irrigation** is added to read as follows:

R405.3 Landscape irrigation. Landscape irrigation systems, other than drip systems, shall be installed such that the ground surface within 60 inches (1524 mm), measured perpendicular from the foundation, is not irrigated.

35. **Section R408.2 Openings for under-floor ventilation** is amended to read as follows:

R408.2 ~~Openings for u~~Under-floor ventilation. Under-floor ventilation shall be provided per Section R408.3 (conditioned crawl), except where high groundwater conditions exist that would require vented under-floor space (unconditioned crawl). Ventilation openings through foundation or exterior walls surrounding the under-floor space shall be provided in accordance with this section. The minimum net area of ventilation openings shall be not less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor area. One ventilation opening shall be within 3 feet (915 mm) of each external corner of the under-floor space. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed ¼ inch (6.4 mm), and operational louvers are permitted:

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being ⅛ inch (3.2 mm) thick.

Exceptions:

1. The total area of ventilation openings shall be permitted to be reduced to $^1/_{1,500}$ of the under-floor area where the ground surface is covered with an *approved* Class I vapor retarder material.
2. Where the ground surface is covered with an *approved* Class 1 vapor retarder material, ventilation openings are not required to be within 3 feet

(915 mm) of each external corner of the under-floor space provided that the openings are placed to provide cross *ventilation* of the space.

36. A new **Section R408.3.1 Spaces under below-grade floors** is added to read as follows:

R408.3.1 Spaces under below-grade floors. Mechanical ventilation systems for spaces under below-grade floors shall be designed by a professional engineer and installed in accordance with such designs, or a mechanical ventilation system for spaces under below-grade floors shall be provided with an active, fan assisted submembrane depressurization system installed per Appendix BE, Radon Control Methods. In addition, the space above the soil-gas-retarder and below the floor shall be provided with continuously operated mechanical exhaust ventilation at a rate equal to 1 cubic foot per minute for each 50 square feet (4.65 m^2) of under-floor area and either mechanical supply air at the same rate or an air pathway (such as a duct or transfer grille) to the common area that is not located in rooms containing open combustion fuel burning appliances.

37. **Section R702.7 Vapor retarders** is amended to read as follows, with the exceptions being deleted in their entirety:

R702.7 Vapor retarders. Vapor retarder materials shall be classified in accordance with Table R702.7(1). If provided on the interior side of frame walls, a~~A~~ vapor retarder shall be provided ~~on the interior side of frame walls of the class indicated~~ in accordance with Table R702.7(2), and ~~including compliance with~~ Table R702.7(3) or R702.7(4) where applicable. Class I vapor retarders are not allowed on basement foundation walls or any concrete or masonry below grade wall. An *approved* design using accepted engineering practice for hygrothermal analysis shall be permitted as an alternative. Vapor retarders shall be installed in accordance with Section R702.7.2.

The *climate zone* shall be determined in accordance with Section ~~N1101.7~~R301.1 of the *International Energy Conservation Code*.

~~**Exceptions:**~~

~~1. *Basement walls.*~~

~~2. Below-grade portion of any wall.~~

~~3. Construction where accumulation, condensation or freezing of moisture will not damage the materials.~~

~~4. A vapor retarder shall not be required in *Climate Zones* 1, 2 and 3.~~

~~5. In *Climate Zones* 4 through 8, a vapor retarder shall not be required where the assembly complies with Table R702.7(5).~~

38. **TABLE R702.7(2) VAPOR RETARDER OPTIONS** is deleted in its entirety.

~~TABLE R702.7(2) VAPOR RETARDER OPTIONS~~			
~~CLIMATE ZONE~~	~~VAPOR RETARDER CLASS~~		
	~~CLASS I[a]~~	~~CLASS II[a]~~	~~CLASS III~~
~~1, 2~~	~~Not Permitted~~	~~Not Permitted~~	~~Permitted~~
~~2, 4 (except Marine 4)~~	~~Not Permitted~~	~~Permitted[c]~~	~~Permitted~~
~~Marine 4, 5, 6, 7, 8~~	~~Permitted[b,c]~~	~~Permitted[c]~~	~~See Table R702.7(3)~~

~~a. A responsive vapor retarder shall be allowed on the interior side of any frame wall in all climate zones.~~
~~b. In frame walls, use of a Class I vapor retarder that is not a responsive vapor retarder on the interior side with a Class I vapor retarder on the exterior side shall require an approved design.~~
~~c. Where a Class I or II vapor retarder is used in combination with foam plastic insulating sheathing or insulated siding installed as continuous insulation on the exterior side of frame walls, the continuous insulation shall comply with Table R702.7(4) and the Class I or II vapor retarder shall be a responsive vapor retarder.~~

39. **Section R702.7.2 Vapor retarder installation** is amended to read as follows:

R702.7.2 Vapor retarder installation. Vapor retarders shall be installed in accordance with the manufacturer's instructions, accepted installation methods or an *approved* design. Where a vapor retarder also functions as a component of a continuous *air barrier*, the vapor retarder shall be installed as an *air barrier* in accordance with Section ~~N1102.5.1.1~~R402.5.1.1 of the *International Energy Conservation Code*.

Class I, II, and III vapor retarders are all permitted in climate zone 5. A responsive vapor retarder shall be allowed on the interior side of any frame wall in all climate zones. In frame walls, use of a Class I vapor retarder that is not a responsive vapor retarder on the interior side with a Class I vapor retarder on the exterior side shall require an approved design. Where a Class I or II vapor retarder is used in combination with foam plastic insulating sheathing or insulated siding installed as continuous insulation on the exterior side of frame walls, the continuous insulation shall comply with Table R702.7(4) and the Class I or II vapor retarder shall be a responsive vapor retarder.

40. A new **Section R703.11.3 Vinyl siding and soffits on buildings** is added to read as follows:

R703.11.3 Vinyl siding and soffits on buildings. Vinyl siding and soffits on *buildings* shall be installed over one-hour fire-rated assemblies listed for exterior fire exposure, in both the vertical and horizontal plane or in accordance with the adopted *Colorado Wildfire Resiliency Code*, whichever is more restrictive.

Exception: Repairs less than 100 square feet (9.3 m^2) unless subject to the *Colorado Wildfire Resiliency Code*.

41. A new **Section R703.13.2 Insulated vinyl siding and soffits on buildings** is added to read as follows:

R703.13.2 Insulated vinyl siding and soffits on buildings. Insulated vinyl siding and soffits on *buildings* shall be installed over one-hour fire-rated assemblies listed for exterior fire exposure, in both the vertical and horizontal plane or in accordance with the adopted *Colorado Wildfire Resiliency Code*, whichever is more restrictive.

Exception: Repairs less than 100 square feet (9.3 m^2) unless subject to the *Colorado Wildfire Resiliency Code*.

42. **Section R703.14 Polypropylene siding** is amended to read as follows:

R703.14 Polypropylene siding. *Polypropylene siding* shall be certified and *labeled* as conforming to the requirements of ASTM D7254, and those of Section R703.14.2 or Section R703.14.3, by an *approved* agency. *Polypropylene siding* on *buildings* shall be installed over one-hour fire-rated assemblies listed for exterior fire exposure, in both the vertical and horizontal plane or in accordance with the adopted *Colorado Wildfire Resiliency Code*, whichever is more restrictive.

Exception: Repairs less than 100 square feet (9.3 m^2) unless subject to the *Colorado Wildfire Resiliency Code*.

43. **Section R902.1 Roofing assemblies** is deleted in its entirety and replaced with the following:

~~**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, B or C roof assemblies shall be installed in jurisdictions designated by law as requiring their use or where the edge of the roof deck is less than 3 feet (914 mm) from a lot line. Where Class A, B or C roof assemblies are required, they shall be tested in accordance with ASTM E108 or UL 790. Where required, 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/m2) copper sheets installed over combustible roof decks.~~

~~4. Class A roof assemblies include slate installed over underlayment over combustible roof decks.~~

R902.1 Roofing covering materials. Roofs shall be covered with materials listed as Class A and with materials as set forth in Section R904 and roof coverings as set forth in Section R905. Class A roofing shall be tested in accordance with UL

790 or ASTM E108. Roof assemblies with coverings of brick, masonry, slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets, or metal sheets and shingles shall be considered Class A roof coverings.

44. **Section R905.1.2 Ice barriers** is amended to read as follows:

R905.1.2 Ice barriers. In areas where there has been a history of ice forming along the eaves causing a backup of water as designated in Table R301.2, an ice barrier shall be installed for asphalt shingles, *metal roof shingles*, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles and wood shakes. The ice barrier shall consist of not fewer than two layers of *underlayment* cemented together, or a self-adhering polymer-modified bitumen sheet shall be used in place of normal *underlayment* and extend from the lowest edges of all roof surfaces to a point not less than 24 inches (610 mm) inside the exterior wall line of the *building*.

On roofs with slope equal to or greater than 8 units vertical in 12 units horizontal (67-percent slope), the ice barrier shall be applied not less than 36 inches (914 mm) measured along the roof slope from the eave edge of the *building*.

Exceptions:

1. Detached *accessory structures* not containing *conditioned floor area*.
2. Re-roofing where the existing roof covering has not been removed.

45. **Section R905.2.1 Sheathing requirements** is amended to read as follows:

R905.2.1 Sheathing requirements. Asphalt shingles shall be fastened to *wood structural panels* or solid lumber sheathing. Gaps in the solid decking shall not exceed ⅛ inch.

46. A new **Section R905.2.4.2 Impact resistance of asphalt shingles** is added to read as follows:

R905.2.4.2 Impact resistance of asphalt shingles. Asphalt shingles shall be Class 4 impact resistant, tested in accordance with UL 2218, and installed in accordance with the manufacturer's installation instructions.

Exceptions:

1. When existing asphalt shingles are less than Class 4 impact resistant, and the owner wishes to replace the existing asphalt shingles with tiles of a similar color or style, but no Class 4 impact resistance shingles that are similar color or style to the existing asphalt shingles are available, the *building official* may approve alternate materials that are less than Class 4 impact resistant; however, the *building official* will impose the highest class of impact resistance for which shingles of a matching color or style

to the existing asphalt shingles are available. If no impact resistant materials are available, the *building official* may approve non-impact resistant materials if the alternate materials meet all other applicable requirements of this code.

2. When the owner is repairing or adding to existing asphalt singles that are less than Class 4 impact resistant, the owner may use the same or similar materials as the current existing asphalt shingles, even if that same or similar material is not impact resistant provided the repair does not exceed 49% of the roof area or the addition does not exceed 50% of the original *building* size.

47. **Section R908.1 General** is amended to read as follows:

R908.1 General. Materials and methods of application used for recovering or replacing an existing *roof covering* shall comply with the requirements of ~~this chapter~~Chapter 9.

Exceptions:

1. *Reroofing* shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide *positive roof drainage*.
2. For roofs that provide positive drainage, recovering or replacing an *existing roof covering* shall not require the secondary (emergency overflow) drains or *scuppers* of Section R903.4.1 to be added to an existing roof.
3. Any existing roof covering system may be replaced with a roof covering of the same materials and classification, provided the replacement roof covering has a minimum rating of Class C.

48. **Section R1004.1 General** is amended to read as follows:

R1004.1 General. Factory-built fireplaces shall be *listed* and *labeled* and shall be installed in accordance with the conditions of the *listing*. Factory-built fireplaces shall be tested in accordance with UL 127. Solid fuel fireplaces, fireplace stoves and solid-fuel-type room heaters shall also comply with §5-110 of the City Code and must be installed with a spark arrestor.

49. **Section R1004.4 Unvented gas log heaters** is deleted in its entirety.

~~**R1004.4 Unvented gas log heaters.** An unvented gas log heater or a fireplace insert shall not be installed in a factory-built *fireplace* unless the *fireplace* system has been specifically tested, *listed* and *labeled* for such use in accordance with UL 127.~~

50. **CHAPTER 11 [RE] ENERGY EFFICIENCY** is deleted in its entirety and replaced with the following:

~~**CHAPTER 11 [RE] ENERGY EFFICIENCY**~~

~~**SECTION N1101 (R101) GENERAL**~~

~~**N1101.1 (R101.2) Scope.** This chapter applies to the design and construction of residential buildings as regulated by this code.~~

~~. . .~~

~~**SECTION N1113 (R505) CHANGE OF OCCUPANCY OR USE**~~

~~**N1113.1 (R505.1) General.** Any space that is converted to a dwelling unit or portion thereof from another use or occupancy shall comply with this chapter.~~

~~**Exception:** Where the simulated building performance option in Section N1105 is used to comply with this section, the annual energy cost of the proposed design is permitted to be 110 percent of the annual energy cost allowed by Section N1105.2.~~

~~**N1113.1.1 (R505.1.1) Unconditioned space.** Any unconditioned or low-energy space that is altered to become a *conditioned space* shall comply with Section N1109.6.~~

CHAPTER 11 [RE] ENERGY EFFICIENCY

SECTION R1101 GENERAL

R1101.1 General. Any buildings or portion thereof regulated by this code shall comply with the adopted *International Energy Conservation Code*—Residential Provisions (IECC-R).

51. A new **SECTION M1309 TESTING AND VERIFICATION** is added to read as follows:

SECTION M1309 TESTING AND VERIFICATION

M1309.1 General. Installed heating, cooling and *ventilation* systems shall be performance-tested and adjusted per the Residential New Construction Mechanical Systems Testing Guide as currently adopted by the City of Fort Collins and to operate within design specifications, in accordance with ANSI/ACCA QI 5-2010 *HVAC Quality Installation Specification*. Documentation of results must be submitted to the *building official* prior to the issuance of the certificate of occupancy.

52. **Section M1401.3 Equipment and appliance sizing** is deleted in its entirety and replaced with the following:

~~**M1401.3 Equipment and appliance sizing.** Heating and cooling *equipment* and *appliances* shall be sized in accordance with ACCA Manual S or other *approved* sizing methodologies based on building loads calculated in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies.~~

~~**Exception:** Heating and cooling *equipment* and *appliance* sizing shall not be limited to the capacities determined in accordance with ACCA Manual S where either of the following conditions applies:~~

~~1. The specified *equipment* or *appliance* utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the *approved* heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that *equipment* or *appliance*.~~

~~2. The specified *equipment* or *appliance* manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the *approved* heating and cooling calculation methodology and the next larger standard size unit is specified.~~

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

53. A new **Section M1401.3.1 Equipment and appliance sizing** is added to read as follows:

M1401.3.1 Equipment and appliance sizing. Heating and cooling *equipment* and *appliances* shall be sized in accordance with ACCA Manual S, based on design building loads calculated in accordance with ACCA Manual J, or other equivalent methodology approved by the *building official*, using thermal design parameters in Table R301.2 as amended. The total equipment or *appliance* output capacity shall be between the following limits, as applicable for the equipment type:

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

When there is no equipment available to satisfy these applicable capacity limits, the next largest nominal piece of equipment that is available may be used.

54. A new **Section M1401.3.2 Room loads** is added to read as follows:

M1401.3.2 Room loads. Room-by-room design heating and cooling loads shall be calculated in the design of new heating and cooling systems.

55. A new **Section M1401.3.3 Matched components** is added to read as follows:

M1401.3.3 Matched components. Air-conditioning, Heating and Refrigeration Institute (AHRI) matched evaporators, condensing units and air handlers shall be required in the design of new heating and cooling systems.

56. A new **Section M1402.4 Total electric heating** is added to read as follows:

M1402.4 Total electric heating. Primary indoor central heating systems utilizing only electric heat shall utilize a ground source heat pump system(s) or cold climate heat pump system(s) specifically designed to heat in cold climates and at the Winter Outdoor, Design Dry-Bulb temperature defined in Section C301.5 of the *International Energy Conservation Code* and Table R301.2 of this code. The heat pump system shall not be gas or propane fuel fired. Electric resistance strip heat shall only serve as emergency back-up heat or supplemental heat at outdoor temperatures below 15°F as necessary.

57. **Section M1414.1 General** is amended to read as follows:

M1414.1 General. Fireplace stoves shall be *listed*, *labeled* and installed in accordance with the terms of the listing. Fireplace stoves shall be tested in accordance with UL 737*.* Wood burning *appliances* shall meet the latest emission standards as required by the State of Colorado and Federal Regulation 40 CFR Part 60, Subpart AAA.

58. A new **Section M1501.2 Indoor depressurization** is added to read as follows:

M1501.2 Indoor depressurization. Ducted exhaust systems shall not induce or create a negative pressure sufficient to cause back-drafting of naturally vented, open combustion-chamber or fuel-burning appliances, nor create negative pressure in excess of negative 3 Pa in the immediate proximity of combustion chambers of such appliances.

59. **Section M1502.4.2 Duct installation** is amended to read as follows:

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow.

Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners ~~that protrude more than ⅛ inch (3.2 mm) into the inside of the duct~~. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

60. **Section M1505.4 Whole-house mechanical ventilation system** is deleted in its entirety and replaced with the following:

~~**M1505.4 Whole-house mechanical ventilation system.** Whole-house mechanical ventilation systems shall be designed in accordance with Sections M1505.4.1 through M1505.4.4.~~

M1505.4 Whole-dwelling unit mechanical ventilation system. For new *dwellings*, a mechanical exhaust system, supply system, or combination thereof shall be installed for each *dwelling unit* to provide whole-*dwelling unit ventilation*. Such system shall comply with Sections M1505.4.1 through M1505.5. System design documents must be submitted to the *building official* at the time of application for a *building permit*.

61. **Section M1601.1 Duct design** is amended to read as follows:

M1601.1 Duct design. *Duct systems* serving heating, cooling and *ventilation equipment* in new *buildings*, or new duct systems in *additions*, shall be designed and fabricated ~~installed~~ in accordance with the provisions of this section and ACCA Manual D~~, the *appliance* manufacturer's installation instructions~~ or other *approved* methods.

62. **Section M1601.1.1 Above-ground duct systems** is amended to read as follows, with item #7 being deleted in its entirety:

M1601.1.1 Above-ground duct systems. Above-ground *duct systems* shall conform to the following:

. . .

6. *Duct systems* shall be constructed of materials having a *flame spread index* of not greater than 200.
~~7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:~~
~~7.1. These cavities or spaces shall not be used as a plenum for supply air.~~
~~7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.~~
~~7.3. Stud wall cavities shall not convey air from more than one floor level.~~
~~7.4. Stud wall cavities and joist-space plenums shall be isolated from~~

~~adjacent concealed spaces by tight-fitting fireblocking in accordance with Section R302.11. Fireblocking materials used for isolation shall comply with Section R302.11.1.~~

~~7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.~~

~~7.6. Building cavities used as plenums shall be sealed.~~

~~8~~7. Volume dampers, equipment and other means of supply, return and exhaust air adjustment used in system balancing shall be provided with access.

63. A new **Section M1601.4.11 Construction debris and contamination** is added to read as follows:

M1601.4.11 Construction debris and contamination. Mechanical air-handling systems and their related ducts shall be protected from the entrance of dirt, debris, and dust during the construction and installation process. Prior to passing final inspection or issuance of a certificate of occupancy, such systems shall be substantially free of construction-related contaminants.

64. **Section M1602.2 Return air openings** is amended to read as follows:

M1602.2 Return air openings. A return air path shall be provided in all habitable rooms by means of ducts or transfer grills. Return air openings for heating, *ventilation* and air conditioning systems shall comply with all of the following:

. . .

65. **Section G2404.3 (301.3) Listed and labeled** is amended to read as follows:

G2404.3 (301.3) Listed and labeled. *Appliances* regulated by this code shall be *listed* and *labeled* for the application in which they are used unless otherwise *approved* in accordance with Section R104.2.2. ~~The approval of unlisted *appliances* in accordance with Section R104.2.2 shall be based upon *approved* engineering evaluation.~~

66. **Section G2406.2 (303.3) Prohibited locations** is amended by deleting items #3 and #4.

. . .

~~3. A single wall-mounted *unvented room heater* is installed in a bathroom and such *unvented room heater* is equipped as specified in Section G2445.6 and has an input rating not greater than 6,000 *Btu*/h (1.76 kW). The bathroom shall meet the required volume criteria of Section G2407.5.~~

4. ~~A single wall-mounted *unvented room heater* is installed in a bedroom and such *unvented room heater* is equipped as specified in Section G2445.6 and has an input rating not greater than 10,000 *Btu*/h (2.93 kW). The bedroom shall meet the required volume criteria of Section G2407.5.~~

. . .

67. **Section G2407.11 (304.11) Combustion air ducts** is amended by adding a new Item #9 to read as follows:

. . .

9. All combustion air openings or ducts shall be readily identifiable with an approved label or by other means warning persons that obstruction of such openings or ducts may cause fuel-burning equipment to release combustion products and dangerous levels of carbon monoxide into the *building*.

68. **Section G2415.12 (404.12) Minimum burial depth** is amended to read as follows:

G2415.12 (404.12) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of ~~12 inches (305 mm)~~18 inches (457.2 mm) below grade~~, except as provided for in Section G2415.12.1~~.

69. **Section G2415.12.1 (404.12.1) Individual outside appliances** is deleted in its entirety.

~~**G2415.12.1 (404.12.1) Individual outdoor appliances**. Individual lines to outdoor lights, grills and other *appliances* shall be installed not less than 8 inches (203 mm) below finished grade, provided that such installation is *approved* and is installed in locations not susceptible to physical damage~~

70. **Section G2417.4.1 (406.4.1) Test pressure** is deleted in its entirety and replaced with the following:

~~**G2417.4.1 (406.4.1) Test pressure.** The test pressure to be used shall be not less than 1½ times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge). Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *piping* greater than 50 percent of the specified minimum yield strength of the pipe.~~

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be 10 psi minimum for non-welded pipe and 60 psi minimum for welded pipe.

71. **Section G2425.8 (501.8) Appliances not required to be vented** is amended to read as follows:

G2425.8 (501.8) Appliances not required to be vented. The following *appliances* shall not be required to be vented:

1. Electric ~~R~~ranges.
2. Electric ~~B~~built-in domestic cooking units *listed* and marked for optional venting.
3. Hot plates and laundry stoves.
4. *Type 1 clothes dryers (Type 1 clothes dryers* shall be exhausted in accordance with the requirements of Section G2439).
5. Refrigerators.
6. Counter *appliances*.
7. ~~Room heaters *listed* for unvented use.~~

Where the *appliances* listed in Items 5 through ~~7~~6 are installed so that the aggregate input rating exceeds 20 Btu per hour per cubic foot (207 W/m3) of volume of the room or space in which such *appliances* are installed, one or more shall be provided with venting *systems* or other *approved* means for conveying the *vent gases* to the outdoor atmosphere so that the aggregate input rating of the remaining *unvented appliances* does not exceed 20 Btu per hour per cubic foot (207 W/m3). Where the room or space in which the *appliance* is installed is directly connected to another room or space by a doorway, archway or other opening of comparable size that cannot be closed, the volume of such adjacent room or space shall be permitted to be included in the calculations.

72. **Section G2427.6.5 (503.6.6) Minimum height** is amended to read as follows:

G2427.6.5 (503.6.6) Minimum height. A Type B or L gas *vent* shall terminate not less than 5 feet (1524 mm) in vertical height above the highest connected *appliance draft hood* or *flue collar*. A Type B-W gas *vent* shall terminate not less than 12 feet (3658 mm) in vertical height above the bottom of the wall *furnace*. All gas vents shall terminate a minimum of 22 inches (559 mm) above the surface or grade directly below.

73. **TABLE G2427.8 (503.8) THROUGH-THE-WALL VENT TERMINAL CLEARANCE** is amended to read as follows:

TABLE G2427.8 (503.8) THROUGH-THE-WALL VENT TERMINAL CLEARANCE			
FIGURE CLEARANCE	**CLEARANCE LOCATION**	**MINIMUM CLEARANCE FOR DIRECT-VENT TERMINALS**	**MINIMUM CLEARANCES FOR NONDIRECT-VENT TERMINALS**
A	Clearance above finished grade level, veranda,	~~12 inches~~ 22 inches	

	porch, deck or balcony	
. . .	. . .	. . .

74. **SECTION G2445 (621) UNVENTED ROOM HEATERS** is deleted in its entirety.

~~**SECTION G2445 (621) UNVENTED ROOM HEATERS**~~

~~**G2445.1 (621.1) General.** *Unvented room heaters* shall be *listed* in accordance with ANSI Z21.11.2 and shall be installed in accordance with the conditions of the listing and the manufacturer's instructions.~~

~~**G2445.2 (621.2) Prohibited use.** One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a *dwelling unit*.~~

~~**G2445.3 (621.3) Input rating.** *Unvented room heaters* shall not have an input rating in excess of 40,000 *Btu*/h (11.7 kW).~~

~~**G2445.4 (621.4) Prohibited locations.** The location of *unvented room heaters* shall comply with Section G2406.2.~~

~~**G2445.5 (621.5) Room or space volume.** The aggregate input rating of all *unvented appliances* installed in a room or space shall not exceed 20 *Btu*/h per *cubic foot* (207 W/m3) of volume of such room or space. Where the room or space in which the *appliances* are installed is directly connected to another room or space by a doorway, archway or other opening of comparable size that cannot be closed, the volume of such adjacent room or space shall be permitted to be included in the calculations.~~

~~**G2445.6 (621.6) Oxygen-depletion safety system.** *Unvented room heaters* shall be equipped with an oxygen-depletion-sensitive safety shutoff system. The system shall shut off the gas supply to the main and *pilot burners* when the oxygen in the surrounding atmosphere is depleted to the percent concentration specified by the manufacturer, but not lower than 18 percent. The system shall not incorporate field adjustment means capable of changing the set point at which the system acts to shut off the gas supply to the room heater.~~

~~**G2445.7 (621.7) Unvented decorative room heaters.** An unvented decorative room heater shall not be installed in a *factory-built fireplace* unless the *fireplace* system has been specifically tested, *listed* and *labeled* for such use in accordance with UL 127.~~

~~**G2445.7.1 (621.7.1) Ventless firebox enclosures.** Ventless firebox enclosures used with unvented decorative room heaters shall be *listed* as complying with ANSI Z21.91.~~

75. A new **Section G2447.6 (623.8) Gas cooking appliances** is added to read as follows:

G2447.6 (623.8) Gas cooking appliances. Gas cooking appliances shall be supplied with an exhaust system vented to the outside in accordance with Section M1503. Ducts serving gas appliance exhaust systems shall not terminate in an attic or crawl space or areas inside the *building*, induce or create negative pressure in excess of negative 3 Pa, or adversely affect gravity-vented appliances.

76. A new **Section G2451.3 (630.3) Combustion and ventilation air** is added to read as follows:

G2451.3 (630.3) Combustion and ventilation air. Where infrared heaters are installed, natural or mechanical means shall provide outdoor ventilation air at a rate of not less than 4 cfm per 1,000 Btu/h (0.38 m^3/min/kW) of the aggregate input rating of all such heaters installed in the space. Outdoor exhaust openings for removing flue products shall terminate above the level of the heaters.

77. A new **Section P2501.3 Compliance** is added to read as follows:

P2501.3 Compliance. Plumbing shall conform to and be installed in accordance with the provisions of Chapters 25 through 33 of the *International Plumbing Code*.

78. **Section P2503.5.1 Rough Plumbing** 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, by air ~~for piping systems other than plastic~~, or by a vacuum ~~of air for plastic piping systems~~, without evidence of leakage. The test shall be applied to the drainage system in its entirety or in sections after rough-in piping has been installed, as follows:

. . .

79. **Section P2903.1 Water supply system design criteria** is amended to read as follows:

P2903.1 Water supply system design criteria. The water service and water distribution systems shall be designed and sized for peak demand using values shown in Table P2903.1 or Appendix E of the *International Plumbing Code*.

80. **Section P2903.2 Maximum flow and water consumption** is amended to read as follows:

P2903.2 Maximum flow and water consumption. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table P2903.2 and, except for fixture types that are not labeled under the WaterSense® program, shall be Environmental Protection Agency (EPA) WaterSense® labeled fixtures.

81. **TABLE P2903.2 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS[b]** is amended to read as follows:

TABLE P2903.2 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS[b]

PLUMBING FIXTURE OR	MAXIMUM FLOW RATE OR QUANTITY
Lavatory faucet	1.5~~2.2~~ gpm at 60 psi
Shower head[a]	1.8~~2.5~~ gpm at 80 psi
Sink faucet	1.8~~2.2~~ gpm at 60 psi
Water closet	1.1~~1.6~~ gallons per flushing cycle, with minimum MaP threshold of 600 grams. Dual flush gallons per flushing cycle: Average of three flushes (two reduced flushes and one full flush)[c]

For SI: 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. A hand-held shower spray shall be considered to be a shower head.
b. Consumption tolerances shall be determined from referenced standards.
c. In existing *buildings* not increasing the *building* size, a 1.28 gpf maximum water closet is allowed.

82. **CHAPTER 34 GENERAL REQUIREMENTS** through **CHAPTER 43 CLASS 2 REMOTE-CONTROL, SIGNALING AND POWER-LIMITED CIRCUITS** are deleted in their entirety and replaced with the following:

~~**CHAPTER 34 GENERAL REQUIREMENTS**~~

~~**SECTION E3401 GENERAL**~~

~~**E3401.1 Applicability.** The provisions of Chapters 34 through 43 shall establish the general scope of the electrical system and equipment requirements of this code. Chapters 34 through 43 cover those wiring methods and materials most commonly encountered in the construction of one- and two-family dwellings and~~

~~structures regulated by this code. Other wiring methods, materials and subject matter covered in NFPA 70 are also allowed by this code.~~

~~. . .~~

~~CHAPTER 35 ELECTRICAL DEFINITIONS~~

~~. . .~~

~~CHAPTER 36 SERVICES~~

~~. . .~~

~~CHAPTER 37 BRANCH CIRCUIT AND FEEDER REQUIREMENTS~~

~~. . .~~

~~CHAPTER 38 WIRING METHODS~~

~~. . .~~

~~CHAPTER 39 POWER AND LIGHTING DISTRIBUTION~~

~~. . .~~

~~CHAPTER 40 DEVICES AND LUMINAIRES~~

~~. . .~~

~~CHAPTER 41 APPLIANCE INSTALLATION~~

~~. . .~~

~~CHAPTER 42 SWIMMING POOLS~~

~~. . .~~

~~CHAPTER 43 CLASS 2 REMOTE-CONTROL, SIGNALING AND POWER-LIMITED CIRCUITS~~

~~. . .~~

~~E4304.5 Installation of conductors and cables.~~ ~~Class 2 equipment shall be installed in a neat and workmanlike manner. Cables and conductors installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that they will not be damaged by normal building use.~~

~~Such cables shall be supported by straps, staples, hangers, cable ties or similar fittings designed so as to not damage the cable. Nonmetallic cable ties and other nonmetallic accessories used to secure and support cables located in stud cavity and joist space plenums shall be *listed* as having low smoke and heat release properties. The installation shall comply with Table E3802.1 regarding cables run parallel with framing members and furring strips. The installation of wires and cables shall not prevent access to equipment nor prevent removal of panels, including suspended ceiling panels. Raceways shall not be used as a means of support for Class 2 circuit conductors, except where the supporting raceway contains conductors supplying power to the functionally associated equipment controlled by the Class 2 conductors. [300.11(C)(2), 300.22(C)(1), 722.24(A) and 725.24]~~

CHAPTER 34 ELECTRICAL REQUIREMENTS

SECTION 3401 ADMINISTRATION

3401.1 General. Any buildings or portion thereof regulated by this code shall comply with the *National Electrical Code* as adopted by the City. All references in this code to any section of Chapters 34 through 43 inclusive shall instead refer to the applicable corresponding sections of the *National Electrical Code*.

83. **APPENDIX BA MANUFACTURED HOUSING USED AS DWELLINGS** is adopted in its entirety.

84. **APPENDIX BB TINY HOUSES** is adopted in its entirety.

85. **APPENDIX BC ACCESSORY DWELLING UNITS (ADU)** is adopted in its entirety, and is amended to read as follows:

. . .

BC101.2 Conditions. ADUs shall be permitted without requiring a *change of occupancy* where in compliance with all of the following:

1. An ADU shall be permitted within an existing single-family detached *dwelling* or within an existing *townhouse unit* that is within the scope of the *International Residential Code.*
2. Only one ADU shall be permitted for each ~~primary *dwelling unit*~~ lot.
3. ~~The *owner* of a property containing an ADU shall reside in either the primary *dwelling unit* or the ADU, as of the date of *permit* approval.~~
4. ~~3~~.An ADU shall have a separate house number from the primary *dwelling unit*.
5. ~~4~~.ADUs shall be secondary in size and function to the primary *dwelling unit* and shall comply with the Land Use Code. ~~all of the following limits:~~

   ~~5.1. Not less than 190 square feet (17.65 m^2) in area.~~

~~5.2. Not more than 50 percent of the area of the primary *dwelling unit*.~~

~~5.3. Not more than 1,200 square feet (111 m^2) in area.~~

~~6~~5. An attached ADU shall be provided with a separate entrance from that serving the primary *dwelling unit,* either from the exterior of the *building* or from a common hallway located within the *building*.

~~7. An ADU shall have a maximum number of two bedrooms.~~

~~8~~6. The location of a detached ADU shall comply with Section R302.

~~9~~7. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.

SECTION BC102 DEFINITIONS

BC102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein:

ACCESSORY DWELLING UNIT (ADU). ~~An *addition* or *alteration* that is an additional, subordinate dwelling unit on the same *lot*, and is entirely within a dwelling unit, attached to a *dwelling unit* or in a detached structure~~ Any structure meeting the definition of an attached or detached accessory dwelling unit as defined under the Land Use Code.

. . .

86. **APPENDIX BD HOME DAY CARE OCCUPANCY** is adopted in its entirety.

87. **APPENDIX BE RADON CONTROL METHODS** is adopted in its entirety, and is amended to read as follows:

. . .

BE101.1 General. ~~This appendix contains requirements for new construction in *jurisdictions* where radon-resistant construction is required~~ Radon-resistant construction is required for all new dwellings constructed under this code as prescribed in this Appendix.

~~Inclusion of this appendix by *jurisdictions* shall be determined through the use of locally available data or determination of Zone 1 designation in Figure BE101.1 and Table BE101.1.~~

FIGURE BE101.1 EPA MAP OF RADON ZONES

. . .

BE103.1 General. The following construction techniques are intended to resist radon entry and prepare the *building* for post-construction radon mitigation~~, if necessary (see Figure BE103.1). These techniques are required in areas where designated by the *jurisdiction*~~.

. . .

BE103.2 Subfloor preparation. A layer of gas-permeable material ~~shall~~ may be placed under all concrete slabs and other floor systems that directly contact the ground and are within the walls of the *living spaces* of the *building*, to facilitate future installation of a *subslab depressurization system*, if needed. Each radon reduction vent pipe riser shall serve no more than 4,000 square feet of uninterrupted under slab/floor area. The gas-permeable layer shall consist of one of the following:

1. A uniform layer of clean aggregate, not less than 4 inches (102 mm) thick. The aggregate shall consist of material that will pass through a 2-inch (51 mm) sieve and be retained by a ¼-inch (6.4 mm) sieve.
2. A uniform layer of sand (native or fill), not less than 4 inches (102 mm) thick, overlain by a layer or strips of geotextile drainage matting designed to allow the lateral flow of soil gases.

   Exception: A sand base course is not required under geotextile drainage matting where the concrete slab is installed on well-drained ground or sand-gravel mixture soils classified as Group 1 according to the United Soil Classification as detailed in Table R401.4.1(2).
3. Other materials, systems or floor designs with demonstrated capability to permit depressurization across the entire subfloor area.

BE103.3 Soil-gas-retarder. ~~Flexible sheeting material complying with section R506.3.3 shall be placed on top of the gas-permeable layer prior to casting the slab or placing the floor assembly to serve as a *soil-gas-retarder* by bridging any cracks that develop in the slab or floor assembly, and to prevent concrete from entering the void spaces in the aggregate base material. The sheeting shall cover the entire floor area with separate sections of sheeting lapped not less than 12 inches (305 mm). The sheeting shall fit closely around any pipe, wire or other penetrations of the material. Punctures or tears in the material shall be sealed or covered with additional sheeting.~~The soil in crawl spaces shall be covered with a continuous layer of a minimum 6-mil (0.15 mm) polyethylene or 3 mil (0.75 mm) cross-laminated polyethylene soil-gas-retarder. The ground cover shall be lapped not less than 12 inches at joints and sealed or taped. The edges of the ground cover shall extend a minimum of 12 inches (152 mm) up onto all foundation walls enclosing the under-floor space and be sealed to the wall and any footing pads. 6-mil polyethylene also shall be sealed and mechanically fastened to the wall. An interior perimeter drain tile loop shall be connected to a plumbing tee or other approved connection as per BE103.5.3.

. . .

BE103.5 Passive submembrane depressurization system. In *buildings* with *crawl space* foundations, the following components of a passive *submembrane depressurization system* shall be installed during construction.

~~**Exception:** *Buildings* in which an *approved* mechanical *crawl space* ventilation system or other equivalent system is installed.~~

~~**BE103.5.1 Ventilation**. *Crawl spaces* shall be provided with vents to the exterior of the *building*. The minimum net area of ventilation openings shall comply with Section R408.1.~~

BE103.5.2 Soil-gas-retarder. The soil in *crawl spaces* shall be covered with a continuous layer of minimum 6-mil (0.15 mm) polyethylene *soil-gas-retarder*. The ground cover shall be lapped not less than 12 inches (305 mm) at joints and shall extend to all foundation walls enclosing the *crawl space* area.

. . .

BE103.13 Provisions for future depressurization fan installation. Permanent provisions shall be made for the future installation of an in-line fan to be connected to every radon vent pipe. Such designated fan locations shall be outside of the conditioned envelope of the *building*, such as in the attic, garage and similar locations, excluding *crawl spaces* and other interior under-floor spaces. Designated locations shall accommodate an unobstructed permanent cylindrical space with the following minimum dimensions: 12 inches (305 mm) measured radially around the radon vent pipe along a vertical distance of 30 inches (760 mm). Designated fan locations shall be permanently accessible for servicing and maintenance. An electrical receptacle outlet shall be provided within 48 inches (1219 mm) of and within sight from designated fan locations and installed so as to not be covered by insulation. A light fixture shall be installed in the area of future fan location.

SECTION BE104 TESTING

BE104.1 TESTING. Where radon-resistant construction is required, radon testing shall be as specified in Items 1 through ~~11~~10:

. . .

9. Written radon test results shall be provided by the test lab or testing party. The final written test report with results less than 4 picocuries per liter (pCi/L) shall be provided to the *code official* or a fan installed as per Item 10.
10. Where the radon test result is 4 pCi/L or greater, the fan for the radon

vent pipe shall be installed as specified in Sections BE103.9 and BE103.12.

~~11. Where the radon test result is 4 pCi/L or greater, the system shall be modified and retested until the test result is less than 4 pCi/L.~~

. . .

88. **APPENDIX BF PATIO COVERS** is adopted in its entirety.

Section 4. The codifier of the Code of the City of Fort Collins is hereby directed to amend all existing cross references in the City Code and the Land Use Code in accordance with the provisions of this ordinance.

Section 5. The City Attorney and the City Clerk are hereby authorized to modify the formatting and to make such other amendments to this Ordinance as necessary to facilitate publication in the Fort Collins City Code; provided, however, that such modifications and amendments shall not change the substance of the Code provisions.

Introduced, considered favorably on first reading on December 2, 2025, and approved on second reading for final passage on December 16, 2025.

_____
Mayor

ATTEST:

_____
City Clerk

Effective Date: December 26, 2025
Approving Attorney: Madelene Shehan

Exhibit: Exhibit A – Notice of Publication