



DENVER AMENDMENT PROPOSAL FORM FOR PROPOSALS TO THE 2019 DENVER BUILDING CODE AMENDMENTS AND THE 2021 INTERNATIONAL CODES

DENVER
THE MILE HIGH CITY

2021 CODE DEVELOPMENT CYCLE

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2) One proposal per this document is to be provided with clear and concise information.

Is a separate graphic file provided ("X" to answer): Yes or No

3) Highlight the code and acronym that applies to the proposal

<u>Acronym</u>	<u>Code Name</u>	<u>Acronym</u>	<u>Code Name</u>
DBC-AP	Denver Building Code–Administrative Provisions	IPC	International Plumbing Code
IBC	International Building Code	IRC	International Residential Code
IECC	International Energy Conservation Code	IFGC	International Fuel Gas Code
IEBC	International Existing Building Code	IMC	International Mechanical Code
IFC	International Fire Code	DGC	Denver Green Code

AMENDMENT PROPOSAL

Please provide all the following items in your amendment proposal.

Code Sections/Tables/Figures Proposed for Revision:
Instructions: If the proposal is for a new section, indicate (new), otherwise enter applicable code section.

Proposal:
Instructions: Show the proposal using ~~strikeout~~, underline format.
Place an "X" next to the choice that best defines your proposal: Revision New Text Delete/Substitute Deletion

Delete and replace IRC Section R102.7:

Section R102.7 Existing structures is replaced in its entirety as follows:

~~**R102.7 Existing structures.** The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as specifically covered in this code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.~~

R102.7 Repairs, Alterations, Additions, Change of Occupancy. The repair, alteration, addition, change of occupancy, and relocation of existing structures regulated by the International Residential Code shall comply with Appendix AJ or the International Existing Building Code. Where the alteration, addition, or change of occupancy causes the structure to be changed to one outside the scope of the International Residential Code, the provisions of the International Existing Building Code shall apply.

Delete IRC Section R102.7.1 in its entirety:

~~**R102.7.1 Additions, alterations or repairs.** Additions, alterations or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. Additions, alterations repairs and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the addition, alteration or repair. An existing building together with its additions shall comply with the height limits of this code. Where the alteration causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building code shall apply.~~

Modify IRC Adoption Appendix Status Table for Row Appendix AJ only as follows:

APPENDIX	TITLE – SUBJECT	STATUS
AJ	Existing Buildings and Structures	Deleted <u>Adopted as Amended</u>

Delete and replace Appendix AJ in its entirety:

APPENDIX AJ **EXISTING BUILDINGS AND STRUCTURES**

Appendix AJ is replaced in its entirety as follows:

SECTION AJ101 **PURPOSE AND INTENT**

AJ101.1 Scope. The provisions of this appendix shall apply to the repair, alteration, addition, change of occupancy, and relocation of existing buildings regulated by the International Residential Code.

Exceptions. Work performed in accordance with the International Existing Building Code shall be deemed to comply with the provisions of this appendix.

AJ101.2 Purpose. The purpose of these provisions is to encourage the continued use or reuse of legally existing buildings and structures. These provisions are intended to permit work in existing buildings that is consistent with the purpose of this code. Compliance with these provisions shall be deemed to meet the requirements of this code.

SECTION AJ102 **COMPLIANCE**

AJ102.1 Classification of Work. Work in existing buildings shall be classified into categories of work: repair, alteration, addition, change of occupancy, and relocation. Historic buildings shall comply with the requirements of AJ110.

AJ102.1.1 Repairs. Repairs shall comply with the requirements of AJ104 and AJ105.

AJ102.1.2 Alterations. Alterations shall comply with the requirements of AJ104 and AJ106.

AJ102.1.3 Additions. Additions shall comply with the requirements of AJ104 and AJ107.

AJ102.1.4 Change of Occupancy. A change of occupancy shall comply with the requirements of AJ104 and AJ108.

AJ102.1.5 Relocation. Relocated buildings shall comply with the requirements of AJ109.

AJ102.2 Multiple categories of work. Work of more than one category shall be part of a single work project. Related work permitted within a 12-month period shall be considered to be a single work project. Where a project includes one category of work in one building area and another category of work in a separate and unrelated area of the building, each project area shall comply with the requirements of the respective category of work. Where a project with more than one category of work is performed in the same area or in related areas of the building, the project shall comply with the requirements of the more stringent category of work.

AJ102.3 Work area. The work area shall be identified on the construction documents.

AJ102.4 Equivalent alternatives. These provisions are not intended to prevent the use of any alternative material, alternative design or alternative method of construction not specifically prescribed herein, provided that any alternative has been deemed to be equivalent and its use authorized by the building official.

AJ102.5 More restrictive requirements. Buildings or systems in compliance with the requirements of this code for new construction shall not be required to comply with any more restrictive requirement of these provisions.

AJ102.6 Features exceeding code requirements. Elements, components and systems of existing buildings with features that exceed the requirements of this code for new construction, and are not otherwise required as part of approved alternative arrangements or deemed by the building official to be required to balance other building elements not complying with this code for new construction, shall not be prevented by these provisions from being modified as long as they remain in compliance with the applicable requirements for new construction.

SECTION AJ103 **DEFINITIONS**

AJ103.1 Scope. For purposes of this appendix, the following terms and words shall have the meanings indicated in this section.

ALTERATION. The change, strengthening or addition of load-bearing elements; the refinishing, replacement, bracing, strengthening, upgrading or extensive repair of existing materials, elements, components, equipment or fixtures; the reconfiguration of any space; the addition or elimination of any door or window; the reconfiguration or extension of any system; or the installation of any additional equipment.

CATEGORIES OF WORK. The nature and extent of construction work undertaken in an existing building. The categories of work covered in this appendix are repair, alteration, addition, change of occupancy, and relocation

CHANGE OF OCCUPANCY. Any of the following shall be considered a change of occupancy where the current International Residential Code requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building or structure:

1. Any change in the occupancy classification of a building or structure.
2. Any change in the purpose of, or a change in the level of activity within, a building or structure.
3. A change of use.

CHANGE OF USE. A change in the use of a building or a portion of a building, within the same group classification, for which there is a change in application of the code requirements.

DANGEROUS. Any building, structure, or portion thereof that meets any of the conditions described below shall be deemed dangerous:

1. The building or structure has collapsed, has partially collapsed, has moved off its foundation or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under permanent, routine or frequent loads; under actual loads already in effect; or under snow, wind, rain, flood, earthquake or other environmental loads when such loads are imminent.

EQUIPMENT OR FIXTURE. Any plumbing, heating, electrical, ventilating, air-conditioning, refrigerating and fire protection equipment; and elevators, dumb waiters, boilers, pressure vessels, and other mechanical facilities or installations that are related to building services.

HISTORIC BUILDING. Any building or structure that is one or more of the following:

1. Listed, or certified as eligible for listing, by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places, in the National Register of Historic Places
2. Designated as individually historic under an applicable state or local law.
3. Certified as a contributing resource within a National Register-listed, or a state-listed, or locally designated historic district.

HISTORIC PRESERVATION PROFESSIONAL. An individual meeting the Professional Qualification Standards for Architectural History, Architecture, or Historic Architecture, as outlined by the National Park Service in Code of Federal Regulations, 36 CFR Part 61.

MATERIALS AND METHODS REQUIREMENTS. Those requirements in this code that specify material standards; details of installation and connection; joints; penetrations; and continuity of any element, component or system in the building. The required quantity, fire resistance, flame spread, acoustic or thermal performance, or other performance attribute is specifically excluded from materials and methods requirements.

RELOCATION. The movement of an existing building from one lot to another, the movement of an existing building within the same lot, or any change to the boundaries of the lot for an existing building with or without movement of the existing building.

REPAIR. The reconstruction, replacement, or renewal of any part of an existing building for the purpose of its maintenance or to correct damage. Repairs include the patching, restoration or minor replacement of materials, elements, components, equipment, or fixtures for the purposes of maintaining those materials, elements, components, equipment, or fixtures in good or sound condition. Repairs exclude complete or substantial replacement of that portion of the existing building and new work.

SUBSTANTIAL DAMAGE. For the purpose of determining compliance with the flood provisions of this code, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT. For the purpose of determining compliance with the flood provisions of this code, any repair, alteration, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either of the following:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the code official and that is the minimum necessary to ensure safe living conditions.
2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

SUBSTANTIAL STRUCTURAL ALTERATION. An alteration in which the gravity load-carrying structural elements altered within a 5-year period support more than 30 percent of the total floor and roof area of the building or structure. The areas to be counted toward the 30 percent shall include mezzanines, penthouses, and in-filled courts and shafts tributary to the altered structural elements.

SUBSTANTIAL STRUCTURAL DAMAGE. A condition where any of the following apply:

1. The vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of any story in any horizontal direction has been reduced by more than 33 percent from its pre-damage condition.
2. The capacity of any vertical component carrying gravity load, or any group of such components, that has a tributary area more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damage condition, and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.
3. The capacity of any structural component carrying snow load, or any group of such components, that supports more than 30 percent of the roof area of similar construction has been reduced more than 20 percent from its pre-damage condition, and the remaining capacity with respect to dead, live and snow loads is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

UNSAFE. Buildings, structures or equipment that are unsanitary, or that are deficient due to inadequate means of egress, inadequate light and ventilation, or that constitute a fire hazard, or in which the structure or individual structural members meet the definition of "Dangerous," or that are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed unsafe. A vacant structure that is not secured against entry may be deemed unsafe.

WORK AREA. That portion or portions of a building consisting of any repair, alteration, addition, change of occupancy and relocation as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed, and portions of the building where work not initially intended by the owner is specifically required by this code.

SECTION AJ104

PROVISIONS APPLICABLE TO ALL CATEGORIES OF WORK

AJ104.1 General. Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, the work shall not make the building any less compliant with this code than it was before the work was undertaken.

AJ104.2 Existing materials. Materials already in use in a building that were in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to be unsafe.

AJ104.3 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by this code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided that unsafe conditions are not created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose, and location.

AJ104.4 Flood hazard areas. Work performed in existing buildings located in a flood hazard area as established by Table R301.2 shall be subject to the provisions of Section R105.3.1.1.

AJ104.5 Fire-resistance rated construction. Fire-resistance rated construction of existing buildings or portions thereof shall comply with this section.

AJ104.5.1 Archaic materials and assemblies. The Appendix to Resource A Guidelines on Fire Ratings of Archaic Materials and Assemblies of the 2021 International Existing Building Code shall be incorporated into this appendix in its entirety. The fire-resistance rating of existing assemblies may be established in accordance with the tabular prescriptive requirements of the Appendix to Resource A and the requirements of this section.

AJ104.5.1.1 Condition of existing assemblies. The effects of age and wear and tear shall be repaired so that the assembly is in good repair and the original thickness of all components is restored.

AJ104.5.1.2 Penetrations of existing assemblies. All penetrations in the assembly shall be packed with noncombustible cementitious materials and so fixed that the packing material will not fall out when it loses its water of hydration.

Exception: Penetrations in accordance with Section R302.4.1 or Section R302.4.2

AJ104.6 Smoke alarms. Existing buildings shall be provided with smoke alarms in accordance with Section R314.

Exceptions:

1. Repairs
2. The removal and replacement or the covering of existing materials, elements, equipment or fixtures using new materials, elements, equipment or fixtures that serve the same purpose.
3. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
4. Installation, alteration, or repairs of plumbing or mechanical systems, other than fuel-burning appliances.

AJ104.7 Carbon Monoxide Detection. Existing buildings shall be provided with carbon monoxide detection in accordance with Section R315.

Exceptions:

1. Repairs
2. The removal and replacement or the covering of existing materials, elements, equipment or fixtures using new materials, elements, equipment or fixtures that serve the same purpose.
3. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
4. Installation, alteration, or repairs of plumbing or mechanical systems, other than fuel-burning appliances.

AJ104.8 Replacement windows. Regardless of the category of work, where an existing window, including the sash and glazed portion, or safety glazing is replaced, the replacement window or safety glazing shall comply with the requirements of Sections AJ104.8.1 through AJ104.8.4, as applicable.

AJ104.8.1 Energy efficiency. Replacement windows shall comply with the requirements of Chapter 11.

AJ104.8.2 Safety glazing. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Section R308.

AJ104.8.3 Replacement windows for emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4.4 provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Where the replacement window is not part of a change of occupancy. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as required emergency escape and rescue openings.

AJ104.8.3.1 Control devices. Emergency escape and rescue openings with window opening control devices or fall prevention devices complying with ASTM F2090, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

AJ104.8.4 Window control devices. Window opening control devices or fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
 - 2.1. The window replacement includes replacement of the sash and the frame.
 - 2.2. The window replacement includes the sash only when the existing frame remains.
3. The bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere where the window is in its largest opened position.
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

AJ104.9 New structural members and connections. New structural members and connections shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

Exception: Where alternative design criteria are specifically permitted.

AJ104.10 Energy Conservation. Work performed in existing buildings shall be in accordance with the energy conservation requirements in Chapter 11 of this code.

AJ104.11 Radon Control Methods. Work performed in existing buildings shall be in accordance with the radon control methods in Appendix F of this code.

AJ104.12 Accessibility. Work performed in existing buildings shall be in accordance with the accessibility requirements in Section 306 of the International Existing Building Code or as outlined in this code for new construction.

SECTION AJ105 **REPAIRS**

AJ105.1 Flood Hazard Areas. In flood hazard areas, repairs that constitute substantial improvement shall require that the building comply with Section R322.

AJ105.2 Fire Protection. Repairs shall be done in a manner that maintains the level of fire protection provided.

AJ105.3 Means of Egress. Repairs shall be done in a manner that maintains the level of protection provided for the means of egress.

AJ105.4 Structural.

AJ105.4.1 Minimum Design Loads. The minimum design loads for the structure shall be the loads applicable at the time the building was constructed, provided that a dangerous condition is not created. Structural elements that are uncovered during the course of the repair and that are found to be unsound or dangerous shall be made to comply with the applicable requirements of this code.

AJ105.4.2 Repairs for less than substantial structural damage. Unless otherwise required by this section, for damage less than substantial structural damage, the damaged elements shall be permitted to be restored to their pre-damaged condition.

AJ105.4.2.1 Snow damage. Structural components whose damage was caused by or related to snow load effects shall be repaired, replaced, or altered to comply with the framing requirements of this code.

AJ105.4.3 Substantial structural damage to vertical elements of the lateral force-resisting system. A building that has sustained substantial structural damage to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section AJ105.4.3.1, and either repaired in accordance with Section AJ105.4.3.2 or repaired and retrofitted in accordance with Section AJ105.4.3.3, depending on the results of the evaluation.

AJ105.4.3.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the framing requirements of this code.

AJ105.4.3.2 Extent of repair for compliant buildings. If the evaluation establishes that the building in its pre-damage condition complies with the provisions of Section AJ105.4.3.1, then the damaged elements shall be permitted to be restored to their pre-damage condition.

AJ105.4.3.3 Extent of repair for noncompliant buildings. If the evaluation does not establish that the building in its pre-damage condition complies with the provisions of Section AJ105.4.3.1, then the building shall be retrofitted to comply with the provisions of this section. The wind loads for the repair and retrofit shall be those required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with this code. The seismic loads for this retrofit design shall be those required by the building code in effect at the time of original construction, but not less than the reduced seismic forces.

AJ105.4.4 Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions for dead, live and snow loads in the International Building Code. Undamaged gravity load carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the rehabilitation design.

AJ105.4.4.1 Lateral force-resisting elements. Regardless of the level of damage to vertical elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or seismic effects, then the building shall be evaluated in accordance with Section AJ105.4.3.1 and, if noncompliant, retrofitted in accordance with Section AJ105.4.3.3.

AJ105.4.5 Substantial structural damage to snow load-carrying components. Where substantial structural damage to any snow load-carrying components is caused by or related to snow load effects, any components required to carry snow loads on roof framing of similar construction shall be repaired, replaced or retrofitted to comply with the framing requirements of this code.

AJ105.4.6 Flood hazard areas. In flood hazard areas, buildings that have sustained substantial structural damage shall be brought into compliance with Section R322 of this code.

AJ105.5 Electrical. Repair or replacement of existing electrical wiring and equipment undergoing repair with like material shall be permitted.

Exceptions:

1. Replacement of electrical receptacles shall comply with the requirements of the adopted NEC.
2. Plug fuses of the Edison-base type shall be used for replacements only where there is not evidence of overfusing or tampering in accordance with the applicable requirements of the adopted NEC.
3. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system, or to any accessible point on the grounding electrode conductor, as allowed and described in of the adopted NEC.

AJ105.6 Plumbing materials and supplies. The following plumbing materials and supplies shall not be used:

1. All-purpose solvent cement, unless listed for the specific application.
2. Flexible traps and tailpieces, unless listed for the specific application.

3. Solder having more than 0.2-percent lead in the repair of potable water systems.

AJ105.7 Water closets. Where any water closet is replaced with a newly manufactured water closet, the replacement water closet shall comply with the requirements of Section P2903.2.

SECTION AJ106 **ALTERATIONS**

AJ106.1 Newly constructed elements. Unless expressly permitted by this appendix, new construction elements, components, systems, and spaces shall comply with the requirements of this code for new construction.

AJ106.2 Materials and methods. The work shall comply with the materials and methods requirements of this code.

AJ106.3 Interior Wall and Ceiling Finishes.

AJ106.3.1 Replacement. Like materials shall be permitted for interior wall and ceiling finishes that are being replaced, provided that unsafe conditions are not created.

Exception: Wood paneling and textile wall coverings used as an interior finish shall comply with the flame spread requirements of Section R302.9.

AJ106.3.2 Newly installed. Newly installed interior wall and ceiling finishes shall comply with the requirements of Section R302.9.

AJ106.3.3 Extensive alterations. Where the total work area included in the alteration exceeds 50 percent of the floor area of the dwelling unit, the interior finish of walls and ceilings in any work area shall comply with the requirements of Section R302.9. Existing interior finish materials that do not comply with those requirements shall be removed or shall be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to secure compliance with the requirements of this section.

AJ106.4 Fire Protection. Alterations shall be done in a manner that maintains the level of fire protection provided.

AJ106.4.1 Separation walls. Where the total work area included in the alteration exceeds 50 percent of the floor area of the dwelling unit and the work area is in an attached dwelling unit, walls separating dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. Performance of work shall be required only on the side of the wall of the dwelling unit that is part of the work area.

AJ106.5 Ventilation.

AJ106.5.1 Replacement windows. Replacement windows and newly added openable windows are not required to comply with the light and ventilation requirements of Section R303.

AJ106.5.2 Reconfigured spaces. Reconfigured spaces intended for occupancy and spaces converted to living space in any work area shall be provided with ventilation in accordance with Section R303.

AJ106.6 Ceiling height. Living spaces created in existing basements built prior to 1990 shall have ceiling heights of not less than 6 feet 8 inches (2032 mm). Existing finished ceiling heights in basements without living space shall not be reduced.

Exception: Beams, girders, ducts, or other obstructions in basements containing living space shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.

AJ106.7 Door and window dimensions. Minor reductions in the clear opening dimensions of replacement doors and windows that result from the use of different materials shall be allowed, whether or not they are permitted by this code.

AJ106.8 Means of egress. Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.

Exception: A change in occupancy resulting in floor levels without any living space converted to living space, or a portion thereof, shall be provided with vertical egress in accordance with R311.4

AJ106.8.1 Stairways. Unless determined to be unsafe or dangerous, stairs shall maintain the level of protection provided for the means of egress. The requirements of Sections AJ106.8.1.1 and AJ106.8.1.4 shall apply to stairs along the egress path from the work area to the required egress door.

AJ106.8.1.1 Width. Stairs not otherwise being altered or modified shall be permitted to maintain their current clear width at, above, and below existing handrails.

AJ106.8.1.2 Headroom. Stairs not otherwise being altered shall be permitted to maintain the current finished headroom. Headroom height on existing stairs being altered or modified shall not be reduced below the existing stairway finished headroom.

AJ106.8.1.3 Landings. Stairs not otherwise being altered shall be permitted to maintain the current landing depth and width. Landings serving existing stairs being altered or modified shall not be reduced below the existing stairway landing depth and width.

AJ106.8.1.4 Illumination. Stairways within the work area shall be provided with illumination in accordance with Section R303.7 and R303.8.

AJ106.8.2 Handrails. The requirements of Sections AJ106.8.2.1 and AJ106.8.2.2 shall apply to handrails from the work area floor to the required egress door.

AJ106.8.2.1 Minimum requirement. Every required exit stairway that has three or more risers, and is not provided with one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on at least one side.

AJ106.8.2.2 Design. Handrails shall be designed and installed in accordance with Section R311.

AJ106.8.3 Guards. The requirements of Sections AJ106.8.3.1 and AJ106.8.3.2 shall apply to guards along the egress path from the work area to the required egress door.

AJ106.8.3.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

AJ106.8.3.2 Design. Guards shall be designed and installed in accordance with Section R312.

AJ106.9 Structural.

AJ106.9.1 Minimum design loads. The minimum design loads for the structure shall be the loads applicable at the time the building was constructed, provided that a dangerous condition is not created. Structural elements that are uncovered during the course of the alteration and that are found to be unsound or dangerous shall be made to comply with the applicable requirements of this code.

AJ106.9.2 Existing structural elements carrying gravity loads. Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live or snow load, including snow drift effects, of more than 5 percent shall be replaced or altered as needed to comply with the framing requirements of this code. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall comply with the framing requirements of this code.

Exception: Buildings in which the increased dead load is due entirely to the addition of a second layer of roof covering weighing 3 pounds per square foot (0.1437 kN/m²) or less over an existing single layer of roof covering.

AJ106.9.3 Existing structural elements resisting lateral loads. Except as permitted by Section AJ106.9.4, where the alteration increases design lateral loads, or where the alteration results in prohibited structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall comply with the framing requirements of this code.

AJ106.9.4 Voluntary lateral force-resisting system alterations. Structural alterations that are intended exclusively to improve the lateral force-resisting system and are not required by other sections of this code shall not be required to meet the framing requirements of this code, provided that the following conditions are met:

1. The capacity of existing structural systems to resist forces is not reduced.
2. New structural elements are detailed and connected to existing or new structural elements as required by this code for new construction.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by this code for new construction.
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

AJ106.10 Electrical.

AJ106.10.1 Materials and methods. Newly installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements of the adopted NEC.

Exception: Electrical equipment and wiring in newly installed partitions and ceilings shall comply with the applicable requirements of the adopted NEC.

AJ106.10.2 Electrical service. Service to the dwelling unit shall be not less than 100 ampere, three-wire capacity and service equipment shall be dead front having no live parts exposed that could allow accidental contact. Type “S” fuses shall be installed where fused equipment is used.

Exception: Existing service of 60 ampere, three-wire capacity, and feeders of 30 ampere or larger two- or three-wire capacity shall be accepted if adequate for the electrical load being served.

AJ106.10.3 Additional electrical requirements. Where the work area includes any of the following areas within a dwelling unit, the requirements of Sections AJ106.10.3.1 through AJ106.10.3.5 shall apply.

AJ106.10.3.1 Enclosed areas. Enclosed areas other than closets, kitchens, basements, garages, hallways, laundry areas and bathrooms shall have not less than two duplex receptacle outlets, or one duplex receptacle outlet and one ceiling- or wall-type lighting outlet.

AJ106.10.3.2 Kitchen and laundry areas. Kitchen areas shall have not less than two duplex receptacle outlets. Laundry areas shall have not less than one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

AJ106.10.3.3 Ground-fault circuit interruption. Ground-fault circuit interruption shall be provided on newly installed receptacle outlets if required by the adopted NEC.

AJ106.10.3.4 Lighting outlets. Not less than one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage and detached garage with electric power to illuminate outdoor entrances and exits, and in utility rooms and basements where these spaces are used for storage or contain equipment requiring service.

AJ106.10.3.5 Clearance. Clearance for electrical service equipment shall be provided in accordance with the adopted NEC.

CHAPTER AJ107 ADDITIONS

AJ107.1 Scope. An addition to a building or structure shall comply with this code for new construction without requiring the existing building or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an addition impacts the existing building or structure, that portion shall comply with this code.

AJ107.2 Other work. Any repair or alteration work within an existing building to which an addition is being made shall comply with the applicable requirements for the category of work.

AJ107.3 Structural

AJ107.3.1 Additional gravity loads. Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design dead, live or snow load, including snow drift effects, of more than 5 percent shall be replaced or altered as needed to comply with the framing requirements of this code. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall comply with the framing requirements of this code.

AJ107.3.2 Lateral force-resisting system. Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall comply with the framing requirements of this code.

AJ107.3.3 Flood hazard areas. Additions and foundations in flood hazard areas shall comply with the following requirements:

1. For horizontal additions that are structurally interconnected to the existing building:
 - 1.1. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section R322 of this code.
 - 1.2. If the addition constitutes substantial improvement, the existing building and the addition shall comply with Section R322 of this code.
2. For horizontal additions that are not structurally interconnected to the existing building:
 - 2.1. The addition shall comply with Section R322 of this code.
 - 2.2. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section R322 of this code
3. For vertical additions and all other proposed work that, when combined, constitute substantial improvement, the existing building shall comply with Section R322 of this code.
4. For a raised or extended foundation, if the foundation work and all other proposed work, when combined, constitute substantial improvement, the existing building shall comply with Section R322 of this code.
5. For a new foundation or replacement foundation, the foundation shall comply with Section R322 of this code.

SECTION AJ108
CHANGE OF OCCUPANCY

AJ108.1 Scope. The provisions of this chapter shall apply where a change of occupancy occurs.

AJ108.2 Other work. Any work undertaken in connection with a change in use or change in occupancy classification shall conform to the applicable requirements of this code applicable to the work performed, and to the requirements of AJ108.

AJ108.3 Light and ventilation. Light and ventilation shall comply with the requirements of this code.

AJ108.4 Fire sprinkler system. An automatic sprinkler system shall not be required in one- or two-family dwellings, townhouses, or accessory structures.

AJ108.5 Exterior wall fire-resistance ratings. The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table AJ108.1.

TABLE AJ108.1
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES

<u>RELATIVE HAZARD</u>	<u>IBC OCCUPANCY CLASSIFICATIONS</u>	<u>IRC OCCUPANCY CLASSIFICATION</u>
<u>1 (Highest Hazard)</u>	<u>H</u>	
<u>2</u>	<u>F-1; M; S-1</u>	
<u>3</u>	<u>A; B; E; I; R</u>	<u>One- and two-family dwellings and townhouses</u>
<u>4 (Lowest Hazard)</u>	<u>F-2; S-2; U</u>	<u>Accessory structures</u>

AJ108.5.1 Exterior wall rating for change of occupancy classification to a higher-hazard category. Where a change of occupancy classification is made to a higher hazard category as shown in Table AJ108.1, exterior walls shall have fire resistance and exterior opening protective as required by this code.

AJ108.5.2 Exterior wall rating for change of occupancy classification to an equal or lesser-hazard category. Where a change of occupancy classification is made to an equal or lesser-hazard category as shown in Table AJ108.1, existing exterior walls, including openings, shall be accepted.

AJ108.5.3 Opening protectives. Openings in exterior walls shall be protected as required by this code. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

Exceptions:

1. Where this code permits openings in excess of 50 percent.
2. Exterior opening protectives are not required where the change of occupancy group is to an equal or lower hazard classification in accordance with Table AJ108.1.

AJ108.6 Fire-resistance separation walls.

AJ108.6.1 Townhouses. Townhouse units shall be separated from adjoining units in accordance with Section R302.2 of this code.

AJ108.6.2 Two-family dwellings. Dwelling units in two-family dwelling shall be separated shall be separated from each other in accordance with Section R302.3 of this code.

AJ108.8 Means of egress. A change of occupancy shall comply with Section AJ108.8.1 through AJ108.8.4. A change of occupancy classification shall comply with Section AJ108.8.1 through AJ108.8.5.

AJ108.8.1 Handrails. The requirements of Sections AJ108.8.1.1 and AJ108.8.1.2 shall apply to changes of occupancy or portions thereof.

AJ108.8.1.1 Minimum requirement. Every required exit stairway that has three or more risers, and is not provided with one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on at least one side.

AJ108.8.1.2 Design. Handrails shall be designed and installed in accordance with Section R311.

AJ108.8.2 Guards. The requirements of Sections AJ108.8.2.1 and AJ108.8.2.2 shall apply to changes of occupancy or portions thereof.

AJ108.8.2.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

AJ108.8.2.2 Design. Guards shall be designed and installed in accordance with Section R312.

AJ108.8.3 Emergency escape and rescue openings. Where a change of occupancy would require an emergency escape and rescue opening in accordance with Section R310 of this code, operable windows serving as the emergency escape and rescue opening shall comply with the following:

1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m²) with a minimum net clear opening height 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm).
2. A replacement window where such window complies with both of the following:
 - 2.1. The replacement window meets the size requirements in Item 1.
 - 2.2. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

AJ108.8.4 Required Vertical Egress. Floor levels without any living space converted to living space, or a portion thereof, shall be provided with vertical egress in accordance with R311.4.

AJ108.8.5 Change in occupancy classification. The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group. Hazard categories in regard to life safety and means of egress shall be in accordance with Table AJ108.2.

TABLE AJ108.2

MEANS OF EGRESS HAZARD CATEGORIES

RELATIVE HAZARD	IBC OCCUPANCY CLASSIFICATIONS	IRC OCCUPANCY CLASSIFICATION
1 (Highest Hazard)	H	
2	I-2; I-3; I-4	
3	A; E; I-1; M; R-1; R-2; R-4, Condition 2	
4	B; F-1; R-3; R-4, Condition 1; S-1	One- and two-family dwellings and townhouses
5 (Lowest Hazard)	F-2; S-2; U	Accessory structures

AJ108.8.5.1 Means of egress for change to a higher hazard category. Where a change of occupancy classification is made to a higher-hazard category (lower number) as shown in Table AJ108.2, the means of egress shall comply with the requirements of Section R311 of this code.

Exceptions:

1. Existing stairways including handrails and guards complying with the requirements of AJ106 shall be permitted for continued use subject to approval of the code official.
2. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
3. An operable window complying with Section AJ108.8.3 shall be accepted as an emergency escape and rescue opening.

AJ108.8.5.2 Means of egress for change of use to an equal or lower-hazard category. Where a change of occupancy classification is made to an equal or lesser-hazard category (higher number) as shown in Table AJ108.2, existing elements of the means of egress shall comply with the requirements of AJ106 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Section R311 of this code.

Exception: Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.

AJ108.9 Structural requirements.

AJ108.9.1 Live loads. Structural elements carrying tributary live loads from an area with a change of occupancy shall satisfy the requirements of Section R301. Design live loads for areas of new occupancy shall be based on Section R301 of this code.

AJ108.9.2 Snow and wind loads. Where a change of occupancy results in a structure being assigned to a higher risk category, the structure shall satisfy the requirements of Section R301 of this code.

AJ108.10 Electrical requirements.

AJ108.10.1 Unsafe conditions. Where the occupancy of an existing building or part of an existing building is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system comply with the adopted NEC.

AJ108.10.2 Service upgrade. Where the occupancy of an existing building or part of an existing building is changed, electrical service shall be upgraded to meet the requirements of the adopted NEC for the new occupancy.

AJ108.10.3 Number of electrical outlets. Where the occupancy of an existing building or part of an existing building is changed, the number of electrical outlets shall comply with the adopted NEC for the new occupancy.

AJ108.11 Mechanical requirements. Where the occupancy of an existing building or part of an existing building is changed such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with this code, the new occupancy shall comply with the respective code provisions.

AJ108.12 Plumbing requirements. Where the occupancy of an existing building or part of an existing building is changed such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with this code, the new occupancy shall comply with the intent of the respective code provisions.

SECTION AJ109 **RELOCATION**

AJ109.1 Other work. The building shall be safe for human occupancy. Any repair, alteration, or change of occupancy undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field fabricated elements shall comply with the requirements of this code.

AJ109.2 Location on the lot. The building shall be located on the lot in accordance with the requirements of this code.

AJ109.3 Foundation. The foundation system of relocated buildings shall comply with this code.

AJ109.4 Connection to the foundation. The connection of the relocated building to the foundation shall comply with this code.

AJ109.5 Wind loads. Buildings shall comply with the wind provisions of this code.

Exceptions:

1. Buildings where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

AJ109.6 Snow loads. Structures shall comply with the snow loads of this code.

Exceptions:

1. Structures where snow loads at the new location are higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 5 percent.

AJ109.7 Flood hazard areas. If relocated or moved into a flood hazard area, structures shall comply with Section R322 of this code.

AJ109.8 Required inspection and repairs. The code official shall be authorized to inspect, or to require approved professionals to inspect at the expense of the owner, the various structural parts of a relocated building to verify that structural components and connections have not sustained structural damage. Any repairs required by the code official as a result of such inspection shall be made prior to the final approval.

SECTION AJ110 **HISTORIC BUILDINGS**

AJ110.1 Scope. Historic buildings subject to repair, alteration, addition, change of occupancy and relocation in conformance with this section shall not be required to comply with individual requirements of this code to the extent that such compliance would threaten, degrade, or destroy the historic building features, form, materials, or functions that are historic and character-defining.

AJ110.2 Compliance. The historic building or portion thereof shall be made to comply with the requirements of this code to the maximum extent feasible without threatening, degrading, or destroying the historic building features, form, materials, or functions that are historic and character-defining.

AJ110.3 Hazardous conditions. The historic building or portion thereof to remain shall not constitute a distinct life safety hazard and shall not otherwise be dangerous to human life or the public welfare.

AJ110.4 Historic Building Report. A Historic Building Report meeting the requirements of this section shall be submitted to the code official where portions of historic buildings to remain do not comply with the requirements of this code, and

compliance with the requirements of this code would threaten, degrade, or destroy the historic building features, form, materials, or functions that are historic and character-defining.

AJ110.4.1 Qualifications. The Historic Building Report shall be prepared and signed by either a historic preservation professional or a registered design professional and shall be signed by the owner of the historic building.

AJ110.4.2 Minimum requirements. The Historic Building Report shall include the following minimum information:

1. Documentation of the historic building listing or designation.
2. A narrative identifying each specific provision of this code that would threaten, degrade, or destroy the historic building features, form, materials, or functions that are historic and character-defining.
3. A narrative and documentation, including but not limited to drawings or photographic documentation where applicable, identifying and describing each such historic building feature, form, material, or function.
4. A narrative identifying each aspect of the repair, alteration, addition, change of occupancy or relocation intended to demonstrate maximum feasible compliance with the requirements of this code and to provide reasonable levels of life-safety compliance through alternative methods as needed.
5. Certification by a registered design professional that the portions of the historic building to remain, together with any proposed alternative methods, do not constitute a distinct life safety hazard and are not otherwise dangerous to human life or the public welfare.

AJ110.4.3 Review. The Historic Building Report shall be reviewed either by the local historic preservation authority having jurisdiction or by the State Historic Preservation Office having jurisdiction prior to submittal to the building official to verify that compliance with the specific provisions of this code identified in the report would threaten, degrade, or destroy the historic building features, form, materials, or functions that are historic and character-defining identified in the report, and to verify the repair, alteration, addition, relocation, or change of occupancy would not threaten, degrade, or destroy such features, form, materials, or functions.

Supporting Information (Required):

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?

This proposal outlines the minimum code requirements applicable to repairs, alterations, additions, change of occupancy, and relocation of existing buildings regulated by the International Residential Code. The proposal outlines alternative compliance methods for historic buildings to preserve historic building features, materials, and functions that are historic and character-defining.

- Reason: Why is your proposal necessary?

The purpose of these provisions is to encourage the continued use or reuse of legally existing buildings and to permit work that is consistent with the purpose of the International Residential Code. The proposal also provides for alternative compliance methods for designated historical structures. These provisions encourage the reuse of historical buildings and the preservation of historic building features, materials, and functions that are historic and character-defining.

This proposal is necessary to provide users with clear direction in the IRC on the minimum code requirements applicable to work in existing IRC buildings. Denver currently has limited code language in the Administration sections (DBCA Section 103.5) and in the IRC that are applicable to repairs, alterations, additions, change of occupancy, relocation, and historic buildings regulated by the International Residential Code. Denver has not adopted the International Residential Code's Appendix AJ. Applicants may use the International Existing Building Code, however, the IEBC often requires applicants to comply with the IBC rather than the IRC. For example, an applicant completing an alteration and using the IEBC will need to utilize the IBC to comply with structural requirements.

- Substantiation: Why is your proposal valid? (i.e. technical justification)

The language in this proposal will replace Appendix AJ in the IRC in its entirety. The draft combines the code requirements applicable to IRC structures from the International Existing Building Code and Appendix AJ of the International Residential Code that Denver has not adopted. The proposal mimics the work area compliance method utilized in Appendix AJ of the IRC and in the IEBC.

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards:

List any new referenced standards that are proposed to be referenced in the code.

Impact:

How will this proposal impact cost and restrictiveness of code? ("X" answer for each item below)

Cost of construction: ___ Increase ___ Decrease _X_ No Impact

Cost of design: ___ Increase ___ Decrease _X_ No Impact

Restrictiveness: ___ Increase ___ Decrease _X_ No Impact

Departmental Impact (City use only):

This amendment proposal increases/decreases/is neutral to the cost of plans review.

This amendment increases/decreases/is neutral to the cost of inspections.