NAME: Daniel Krausz

Date: 3/26/19

2) Proposals should be drafted in Word with the only formatting that is needed being **BOLDING, STRIKEOUT AND UNDERLINING**. Please do not provide additional formatting such as tabs, columns, etc.

Please use a separate form for each proposal submitted.

Is separate graphic file provided? ☐ Yes ☒ No

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Code Name</th>
<th>Acronym</th>
<th>Code Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC-xxx</td>
<td>Denver Building Code–xxx code base</td>
<td>IMC</td>
<td>International Mechanical Code</td>
</tr>
</tbody>
</table>

**AMENDMENT PROPOSAL**

Please provide all of the following items in your amendment proposal.

<table>
<thead>
<tr>
<th>Code Sections/Tables/Figures Proposed for Revision:</th>
</tr>
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<tbody>
<tr>
<td>DBC-IBC 419</td>
</tr>
</tbody>
</table>

**Note:** If the proposal is for a new section, indicate (new).

**Proposal:**

Revise as follows:

SECTION 419 Live/work units is replaced in its entirety with the following:

SECTION 419

LIVE/WORK UNITS

419.1 **General.** A live/work unit is a *dwelling unit* or *sleeping unit* in which a significant portion of the space includes a non-residential use, which is operated, by the dwelling unit or sleeping unit occupant and shall comply with Section 419.

**Exception:**

*Live/work units* or *sleeping units* which conform to the provisions of Section 59-89 of the Revised Municipal Code for the City and County of Denver shall be classified as a *Home Occupancy*, not a *live/work unit*.

**Section 419.1.1 Limitations is amended by adding item 5:**

**419.1.1 Limitations.** The following shall apply to all live/work areas:

1. The live/work unit is permitted to be a maximum of 3,000 square feet (479 m²).

2. The non-residential area is permitted to be a maximum of 50% of the area of each live/work unit, such area shall be further limited to maximum occupant load of 49 persons, as determined by dividing the floor area under consideration by the occupant-per-unit-area factor assigned to the occupancy set forth in Table 1004.1.2.
419.4 Vertical openings. Fire-resistance-rated construction shall be provided for all floor levels of a live/work unit that are separated by means of vertical openings, including those between the upper level and the lower level. The floor opening between floor levels of a live/work unit is permitted without enclosure. The lower level is less than one full story below the upper level.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA72 throughout the non-residential area. Fire alarm system shall be monitored by Class 1 Central Station per IFC 907. Residential portions shall be equipped single or multiple station smoke alarms shall be installed in all of the following locations:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story, within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Power source shall be in accordance to IFC 907.2.11.6.
5. Interconnection of smoke detectors shall be in accordance to IFC 907.2.11.5.

Notification appliances shall be installed throughout the live/work area in accordance with the provisions of this code and NFPA72 throughout:

Devices, combinations of devices, appliances and equipment shall comply with Section 907.1.2.

419.6 Means of egress. Except as modified by this section, the provisions for Group R-2 occupancies in Chapter 10 shall apply to the
entire live/work unit.

419.6.1 Means of egress: doors serving the non-residential function area shall provide a floor or landing on each side of the door. Such floor or landing shall be at the same elevation on each side of the door.

419.6.2 Emergency escape and rescue openings shall be provided in the residential area in accordance with the provisions of Section 1020. Section 1020.1, Exception No. 1, is not applicable to live/work units.

419.7 Accessibility. The applicable requirements of Chapter 11 shall apply to each area within the live/work unit.

419.8 Ventilation. The applicable requirements of the amended International Mechanical Code shall apply to each area within the live/work unit for the function within that space.

419.9 Structural. Floor loading for the areas within a live/work unit shall be designed to conform to Table 1607.1 based on the function within the space.

Sections 419.10 Electrical and 419.11 Fire-resistance-rated construction are added:

419.10 Electrical. The applicable requirements of Chapter 27 shall apply to each area within the live/work unit.

419.11 Plumbing. The applicable requirements of the amended International Plumbing Code shall apply to each area within the live/work unit for the function within that space. The non-residential use portion of the live/work unit is not considered to be a Group R occupancy for the purpose of applying the provisions of amended IBC Section 2902.7.

419.11 Fire-resistance-rated construction. The fire-resistance rating required by Sections 708 and 711.2.4 between units shall be a minimum of 1-hour construction.

Note: Show the proposal using strikethrough, underline format. At the beginning of each section, one of the following instruction lines are also needed:

• Revise as follows
• Add new text as follows
• Delete and substitute as follows
• Delete without substitution

Supporting Information:

Live/Work Units sections is revised only to make the section more efficient. This Section is intended to have the same effect as the previous amendment but with language better coordinated with the IBC. The one exception to this is that DBCA Section 419.6 Means of egress is deleted and replaced with the slightly more restrictive IBC text.

The effect of the previous amendment should be carried forward because it closes a loophole otherwise created by this Section. IBC fails to clearly limit uses within a Live/Work Unit to nonresidential uses primarily associated with the resident’s work – such as a small bakery, retail store or medical office. Although the intent of adding a Live/Work section to the IBC was to allow for these types of uses within a residence, as written in the IBC, a Live/Work Unit may include any use except storage. This includes uses not primarily associated with the work of one person. For example, under the IBC, an R-2 Occupancy Live/Work Unit could include a 200-seat theatre/auditorium, a 100-seat event-hall or restaurant/bar, a factory, a small hospital, a detention center, a 30-person gym, or a school/day-care for 75 children. The Denver amendment limits the occupant loads and non-residential uses allowed in a Live/Work Unit to bring the section in-line with the term ‘live/work’ and with the intent of this classification.

The proposed revisions to the amendment limit amended language to where the DBCA differed from the IBC. This amendment replaces previous DBCA language with the IBC where there is no substantive difference between these.

In addition, the section is reorganized. Content from DBCA Section 419.1 is moved to appropriate Section 202 Definitions. Amendment to Section 419.1 adds a definition for live/work units, which rather belongs in the definitions section of the code.

Content from DBCA Section 419.1.1 items 4 thru 6 is moved to Section 414.2 Control Areas. 419.1.1 items 4 thru 6 limit the quantities of hazardous materials allowed before classifying the use as a Group H occupancy. IBC Section 414.2.5 similarly specifies allowable quantities of hazardous materials in other than H occupancies and is an appropriate location to insert allowable quantities of hazardous materials in a live/work unit.

Lastly, DBCA Section for live/work unit Fire Protection is revised to limit amendments to protection not already required by other code provisions (as reviewed by Brian Lukus of DFD). Specifically, DBCA added smoke detection (not required by the IBC) and required fire alarms even where not required by IBC Section 907.2.9. Other previous amendments to Fire Protection reiterated applicable requirements from IFC Section 907 and are therefore deleted.
### Purpose
The proponent shall clearly state the purpose of the proposed amendment to physical, environmental and customary characteristics that are specific to the City and County of Denver (e.g., clarify the Code; revise outdated material; substitute new or revised material for physical, environmental and customary characteristics; add new requirements to the Code; delete current requirements, etc.).

### Reasons
The proponent shall justify changing the current Code provisions, stating why the proposal is necessary to reflect physical, environmental and customary characteristics that are specific to the City and County of Denver. Proposals that add or delete requirements shall be supported by a logical explanation which clearly shows why the current does not reflect physical, environmental and customary characteristics that are specific to the City and County of Denver and explains how such proposals will improve the Code.

### Substantiation
The proponent shall substantiate the proposed amendment based on technical information and substantiation. Substantiation provided which is reviewed and determined as not germane to the technical issues addressed in the proposed amendment shall be identified as such.

### Bibliography (as needed)
The proponent shall submit a bibliography when substantiating material is associated with the amendment proposal. The proponent shall make the substantiating materials available for review.

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

### Impact
The proponent shall discuss the impact of the proposed amendment and indicate one of the following for each point below regarding the amendment proposal:

- The effect of the amendment proposal on the cost of construction;  
  - Increase  
  - Reduce  
  - No Effect
- The effect of the amendment proposal on the cost of design;  
  - Increase  
  - Reduce  
  - No Effect
- Is the amendment proposal more- or less-restrictive than the I-Codes;  
  - More  
  - Less  
  - Same

### Departmental Impact
The proponent shall discuss the impact of the proposed amendment and indicate one of the following for each point below regarding the amendment proposal:

- The effect of the amendment proposal on the cost of review;  
  - Increase  
  - Reduce  
  - No Effect
- The effect of the amendment proposal on the cost of enforcement/inspection;  
  - Increase  
  - Reduce  
  - No Effect