



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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Email: David.Hill@denvergov.org **Representing (organization or self):** Organization

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 X 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 "X" next to choice that best defines your proposal: X Revision X New Text ___ Delete/Substitute ___ Deletion

5307.3.5.2 Gas Detection System. A gas detection system shall comply with all the following:

1. Continuous gas detection shall be provided to monitor areas where CO2 can accumulate. Detection equipment shall be provided to indicate CO2 levels at each point of use and at each supply tank area/room.
2. Detectors shall comply with all the below:
 - a. Listed or *approved* devices.
 - b. Permanently mounted.
 - c. Installed at a height of no more than 12 inches above the floor or as *approved* by the *fire code official*. Detectors shall have no storage or other equipment within 3 inches on all sides of the detector, and/or placed in an area that would prevent CO₂ from reaching the detector.
 - d. Connected to a building's electrical system by either hardwiring (requiring a separate electrical permit) or to a non-spliced cord and plug connection that is ~~protected~~ secured in an approved manner to prevent ~~from~~ accidental disconnection/damage or to a CO₂ gas detection system unit.
 - e. Auto calibrating and self "zeroing" devices are not permitted unless they can be zeroed and spanned.
 - f. Located within manufacturers' manufactures' specified detection range or within 15 feet (whichever is less) for each point of use and/or supply tank location.
 - g. Listed to operate under environmental conditions such as temperature, humidity, and velocity variations.
 - h. Devices used must be able to be calibrated for altitude.
 - i. Detectors shall be provided with an open cage type cover or other approved device to protect from damage resulting from normal operation in the area or adjacent equipment or storage.
3. [NO CHANGE]
4. [NO CHANGE]
5. CO₂ Gas Detection Control Unit shall be:
 - a. Listed or approved.
 - b. Used as the required annunciator panel/unit and silencing switch.

- c. Connected to building electrical by either hardwiring (requiring a separate electrical permit from the building department) or non-spliced cord and plug connection that is visible from control unit and is labeled and ~~protected~~ secured in an approved manner to prevent ~~from~~ accidental disconnection or damage.
 - d. Labeled and installed in an approved location outside of the potentially CO₂ contaminated areas and shall be secured from unauthorized access. Buildings with a fire department key box can secure the control unit with a lockable cover whereas all other covers shall be secured with an approved, breakable, recordable tie or wire. Subject to field approval. Ties and wires that have been replaced shall be recorded with the record presented to Denver Fire Department Inspection personnel upon request.
6. [NO CHANGE]

5307.4.4.1 Gas Detection System. A gas detection system shall comply with all the following:

- 1. Continuous gas detection shall be provided to monitor areas where CO₂ can accumulate. Detection equipment shall be provided to indicate CO₂ levels in each grow cultivation area/room and interior CO₂ storage location.
- 2. Detectors shall be:
 - a. Listed or *approved* devices.
 - b. Permanently mounted.
 - c. Installed at a height of no more than 48 inches above the floor or as *approved by the fire code official*. Detectors shall have no storage or other equipment within 3 inches on all sides of the detector, and/or placed in an area that would prevent CO₂ from reaching the detector.
 - d. Directly connected to building electrical supply and or fire alarm systems and ~~protected~~ secured in an approved manner to prevent ~~from~~ accidental disconnection or damage.
 - e. Auto calibrating and self “zeroing” devices are not permitted unless they can be zeroed and spanned.
 - f. Located within manufacturers specified detection range for each point of use and storage location.
 - g. Listed to operate under environmental conditions such as temperature, humidity, and velocity variations.
 - h. Devices used must be able to be calibrated for altitude.
- 3. [NO CHANGE]
- 4. [NO CHANGE]
- 5. [NO CHANGE]
- 6. CO₂ Gas Detection Control Unit shall be:
 - a. Listed or *approved*.
 - b. Used as the required annunciator panel/unit and silencing switch.
 - c. Connected to building electrical system by either hardwiring (requiring a separate electrical permit) or non-spliced cord and plug connection that is visible from control unit and is labeled and ~~protected~~ secured in an approved manner to prevent from accidental disconnection or damage.
 - d. Labeled and installed in an approved location outside of the potentially CO₂ contaminated areas and shall be secured from unauthorized access. Buildings with a fire department key box can secure the control unit with a lockable cover whereas all other covers shall be secured with an approved breakable recordable tie or wire. Subject to field approval. Ties and wires that have been replaced shall be recorded with the record presented to Denver Fire Department Inspection personnel upon request
- 7. [NO CHANGE]
- 8. [NO CHANGE]

5307.5.3.1 Gas Detection System. A gas detection system shall comply with all the following:

- 1. Continuous gas detection shall be provided to monitor areas where CO₂ can accumulate. Detection equipment shall be provided to indicate CO₂ levels in each grow cultivation area/room.
- 2. Detectors shall be:
 - a. Listed or *approved* devices.
 - b. Permanently mounted.
 - c. Installed at a height of no more than 48 inches above the floor or as *approved by the fire code official*. Detectors shall have no storage or other equipment within 3 inches on all sides of the detector, and/or placed in an area that would prevent CO₂ from reaching the detector.
 - d. Directly connected to building electrical supply and or fire alarm systems and protected secured in an approved manner to prevent from accidental disconnection or damage.
 - e. Auto calibrating and self “zeroing” devices are not permitted unless they can be zeroed and spanned.
 - f. Located within manufacturers specified detection range for each point of use and storage location.
 - g. Listed to operate under environmental conditions such as temperature, humidity, and velocity variations.
 - h. Devices used must be able to be calibrated for altitude.
- 3. [NO CHANGE]

4. Local alarm set points shall be set at: 5,000 PPM – Latching Alarm
 - a. Visual and audible notification in *approved* locations at room or area in alarm.
 - b. Activation of automatic system shut off valves to each burner to a closed position stopping the generation of CO₂.
 - c. Evacuate the room in alarm and contact a qualified service company to investigate and address the condition.
 - d. Reset of the emergency alarm to be conducted by qualified personnel

5307.6.4.2 Gas Detection System. A gas detection system shall comply with all the following:

1. Continuous gas detection shall be provided to monitor areas where a leak of an inert gas system can collect and create an oxygen deficient atmosphere. Detection equipment shall be provided at each point of use and in each storage area/room..
2. Detectors shall be:
 - a. Listed or *approved* devices.
 - b. Permanently mounted.
 - c. Installed at a height consistent with the vapor density of the gas or as *approved by the fire code official*. Detectors shall have no storage or other equipment within 3 inches on all sides of the detector, and/or placed in an area that would prevent the air/gas mixture from reaching the detector.
 - d. Directly connected to building electrical supply and fire alarm system and ~~protected~~ secured in an approved manner to prevent from accidental disconnection or damage.
 - e. Auto calibrating and self “zeroing” devices are not permitted unless they can be zeroed and spanned.
 - f. Located within manufacturers’ specified detection range for each point of use and storage location.
 - g. Listed to operate under environmental conditions such as temperature, humidity, and velocity variations.
 - h. Devices used must be able to be calibrated for altitude.
3. Activation of the gas detection system shall initiate amber horn/strobes provided in the vicinity of each interior storage container, cylinder or tank and at each point of release. Additional amber horn/strobes shall be placed at the entrances to below grade locations and confined spaces. The notification appliances shall be rated a minimum of 80cd for a visible and 75 dBA for audibility. Notification appliances shall be mounted per NFPA 72 requirements with the entire lens mounted between 80 inches and 96 inches above finished floor. Notification appliances shall be listed to operate in special environments, such as outdoors, indoors, high or low temperatures, and high humidity. Provide notification appliances at the following locations:
 - a. Inside an interior storage room/area and outside the room/area at each entrance.
4. [NO CHANGE]
5. [NO CHANGE]

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?

These changes and clarifications address issues seen in the field and align the amendment with other section in the code, such as those that require the securing of plug connections.

- Reason: Why is your proposal necessary?

To clarify requirements for Clients so that inspection(s) occur without issue. To provide consistency between similar provisions.

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

The changes address issues repeatedly seen in the field by the Inspectors.

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 No Impact

Cost of design: Increase Decrease No Impact

Restrictiveness: Increase Decrease 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.