Code Amendment Proposal Form
For public amendments proposed to the 2018 editions of the International Codes

Instructions: Upload this form and all accompanying documentation at www.denvergov.org/BuildingCode. If you are submitting your proposal on a separate sheet, make sure it includes all information requested below.

All proposals must be received by April 26, 2019.

CONTACT INFORMATION

Name: Michael Fulton, PE  Date: 4/23/19
Phone: 720-934-8273  E-mail: mfulton@westernmechanicalsolutions.com
Organization: Western Mechanical Solutions, llc

By signing below, I hereby grant and assign to City and County of Denver all rights in copyright I may have in any authorship contributions I make to City and County of Denver in connection with this proposal. I understand that I will have no rights in any City and County of Denver publications that use such contributions in the form submitted by me or another similar form and certify that such contributions are not protected by the copyright of any other person or entity.

Signature: [Signature]

Name: Miles Dake  Date: 5/9/2018
Phone: 720-583-4735  E-mail: miles.d@branchpattern.com
Organization: BranchPattern

By signing below, I hereby grant and assign to City and County of Denver all rights in copyright I may have in any authorship contributions I make to City and County of Denver in connection with this proposal. I understand that I will have no rights in any City and County of Denver publications that use such contributions in the form submitted by me or another similar form and certify that such contributions are not protected by the copyright of any other person or entity.

Signature: [Signature]

AMENDMENT PROPOSAL

Please use a separate form for each proposal.

1) Code(s) associated with this proposal. Please use acronym: IECC

If you submitted a separate coordination change to another code, please indicate which code:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Code Name</th>
<th>Acronym</th>
<th>Code Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(e.g., DBC-IBC, DBC-IEBC)</td>
<td>IGCC</td>
<td>International Green Construction Code</td>
</tr>
<tr>
<td>BC</td>
<td>International Building Code</td>
<td>IMC</td>
<td>International Mechanical Code</td>
</tr>
<tr>
<td>EBC</td>
<td>International Existing Building Code</td>
<td>IPC</td>
<td>International Plumbing Code</td>
</tr>
<tr>
<td>ECC</td>
<td>International Energy Conservation Code</td>
<td>IRC</td>
<td>International Residential Code</td>
</tr>
</tbody>
</table>

2) Please check here if a separate graphic file is provided: ☐

Graphics may also be embedded within your proposal below.

3) Use this template to submit your proposal or attach a separate file, but please include all items requested below in your proposal. The only formatting needed is **BOLDING**, *STRIKEOUT* AND *UNDERLINING*. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by CPD.
Code Sections/Tables/Figures Proposed for Revision:

This brings all the suggested heat recovery modifications together in one place.

Modified Section C403.7.4, Modified Table 403.7.4(1) & (2), and exception #8.

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

Proposal:

C403.7.4 Energy recovery ventilation systems (Mandatory).

Where the supply outside or exhaust airflow rate of a fan system exceeds the values specified in modified Tables C403.7.4(1) and C403.7.4(2), or the exhaust exceeds three times the values listed in modified Table C403.7.4(2) exhaust row, the system shall include an energy recovery system. The energy recovery system shall be configured to provide a change in the enthalpy of the outdoor air supply of not less than 50 percent of the difference between the outdoor air and return air enthalpies, at design conditions. Where an air economizer is required, the energy recovery system shall include bypass dampers on supply and exhaust air or controls that permit operation of the economizer as required by Section C403.5. Maximum heat exchanger pressure drop is 0.6 in. w.g. at sea level and standard density per table C403.8.1(2), and the supply and exhaust fan static efficiency must be 65% or greater.

Revise Table as follows:

<table>
<thead>
<tr>
<th>Climate Zone</th>
<th>Percent(%) Outdoor Air at Full Design Airflow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥10% and &lt;20%</td>
</tr>
<tr>
<td>West</td>
<td>NR</td>
</tr>
<tr>
<td>Suggested 5B</td>
<td>NR</td>
</tr>
</tbody>
</table>

For SI: 1 CFM = 0.4719 U/s.
NR = Not Required.
Requirements are based off of a 10 year payback.

One table that is Not Less Than is the same as the table that states More Than. Should be Less than and more than or less than and not more than. SDM 5/16

<table>
<thead>
<tr>
<th>Climate Zone</th>
<th>Percent(%) Outdoor Air at Full Design Airflow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥10% and &lt;20%</td>
</tr>
<tr>
<td>SB Values</td>
<td>≥2,500</td>
</tr>
<tr>
<td>SB Outside</td>
<td>500</td>
</tr>
<tr>
<td>SB Exhaust</td>
<td>1,500</td>
</tr>
</tbody>
</table>

For SI: 1 CFM = 0.4719 U/s.
NR = Not Required.

Revise Text as follows:

8. Where the largest source of air exhausted at a single location at the building exterior is less than modified table C403.7.4(1) or modified table C403.7.4 (2), based on the appropriate outside air column, 75 percent of the design outdoor airflow rate.

Note: Show the proposal using strikeout, underline format. At the start of each section, give one of the following instructions:

- Revise as follows:
- Add new text as follows:
- Delete and substitute as follows:
- Delete without substitution:

Supporting Information:
Purpose: There were 4 proposed code modifications for energy recovery. This combines all the modifications into one comprehensive location.

Reasons: To better show intent.

Substantiation: See individual proposals.

Bibliography:

Note: This section MUST include these items:
- **Purpose:** 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. to reflect physical, environmental and customary characteristics that are specific to the City and County of Denver)
- **Reasons:** Clearly justify the change to 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 that clearly shows why the current code does not reflect physical, environmental and customary characteristics that are specific to the City and County of Denver and explains how such proposal will improve the code.
- **Substantiation:** 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:** Include a bibliography when substantiating material is associated with the amendment proposal. The proponent shall make the substantiating materials available for review.

**Referenced Standards:**

None

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

**Impact:**

Saving energy and drastically reducing carbon emissions (in the 60 – 70% range) with a payback below 10 years.

Note: Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:
- The effect of the proposal on the cost of construction: ☒ Increase ☐ Reduce ☒ No Effect
- The effect of the proposal on the cost of design: ☐ Increase ☒ Reduce ☒ No Effect
- Is the proposal more or less restrictive than the I-codes: ☒ More ☐ Less ☒ Same

**Departmental Impact:** (To be filled out by CPD staff)

Note: CITY STAFF ONLY. Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:
- The effect of the proposal on the cost of review: ☐ Increase ☐ Reduce ☐ No Effect
- The effect of the proposal on the cost of enforcement/inspection: ☐ Increase ☐ Reduce ☐ No Effect