IECC Residential Energy:
Existing Buildings Plan Review Checklist

Identify the project scope and refer to the appropriate checklist. If using this checklist on a computer, you may click the appropriate link below as a shortcut.

- [ ] Historic Building alterations
- [ ] Addition to an existing building
- [ ] Alteration to an existing building
| ☐ Complies | C501.6 Historic buildings. If the applicant is taking an energy code exemption, a report, signed by a registered design profession, or a representative of the Philadelphia Historical Commission, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building. Otherwise, refer to the ALTERATIONS checklist. |
| ☐ Does not comply |
| ☐ Not applicable |
### ADDITIONS

**R502.1** Additions to an existing building, building system or portion thereof must be treated like new construction for envelope, mechanical, service hot water, and electric power & lighting, except for the fenestration requirements below. Use the [IECC Residential Plan Review Checklist](#) with the following exceptions.

**Converting Unconditioned Spaces to Conditioned Spaces**

<table>
<thead>
<tr>
<th>Exception Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total UA Alternative Option</strong></td>
<td>Where unconditioned space is converted to conditioned space, the building envelope UA complies when the existing building (including any alterations) plus the newly conditioned space is ≤ the UA of the existing building prior to the addition. (UA existing building + addition ≤ UA existing building)</td>
</tr>
<tr>
<td><strong>Simulated Performance Alternative Option</strong></td>
<td>Where unconditioned space is converted to conditioned space, the addition complies when the annual energy cost or use of the existing building (including any alterations) plus the newly conditioned space is ≤ the energy cost or use of the existing building prior to the addition when modeled per R405. (Energy use of existing building + addition ≤ energy use of existing building)</td>
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</tbody>
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### Heating and Cooling Systems

- ☐ Complies
- ☐ Does not comply
- ☐ Not applicable

**R503.1.2** New heating, cooling, and duct systems that are a part of the alteration comply as they would for new construction (R403). Refer to the [IECC Residential Plan Review Checklist](#).

**Exception:** Where ducts from an existing heating and cooling system are extended to an addition, duct leakage testing is not required, provided the new ducts have <40 linear feet in unconditioned spaces.
### ALTERATIONS

#### General

- ☐ Complies
- ☐ Does not comply
- ☐ Not applicable

R503.1 The alteration or alterations do not make the existing structure less energy efficient.

#### Converting Unconditioned Spaces to Conditioned Spaces

R503.2 Unconditioned spaces or low-energy spaces converted to conditioned space are brought into full compliance with the energy code for new construction. Refer to the IECC Residential Plan Review Checklist.

**Exception:** When using the simulated performance option (R405), the annual energy cost of the proposed design is permitted to be up to 110% the energy cost of the reference design.

#### Building Thermal Envelope

R503.1.1 New thermal building envelope components that are part of the alteration comply as they would for new construction. Refer to the IECC Residential Plan Review Checklist.

- ☐ Complies
- ☐ Does not comply
- ☐ Not applicable

R503.1.1 Existing ceiling, wall, and floor cavities exposed during construction are filled with insulation. (Existing cavities do not need to meet the R-value requirements for new construction. Cavities that are not exposed during construction do not need to be insulated.)

#### Roof covers and replacements

- Exempt from energy requirements
- R503.1.1 Alterations to roofs comprised of installing an additional covering over an existing roof without removing the existing covering

#### Heating and Cooling Systems

R503.1.2 New heating, cooling, and duct systems that are a part of the alteration comply as they would for new construction (R403). Refer to the IECC Residential Plan Review Checklist.

**Exception:** Where ducts from an existing heating and cooling system are extended to an addition, duct leakage testing is not required, provided the new ducts have <40 linear feet in unconditioned spaces.

#### Service Hot Water Systems

R503.1.3 New service hot water systems that are a part of the alteration comply as they would for new construction (403.5). Refer to the IECC Residential Plan Review Checklist.

#### Lighting Systems

R503.1.4 New lighting systems that are part of the alteration comply as they would for new construction (R503.1.4). Refer to the IECC Residential Plan Review Checklist.

**Exception:** Alterations replacing <50% of luminaires are exempt, provide they do not increase the demand for energy.