

Regulatory Analysis Form (Completed by Promulgating Agency) (All Comments submitted on this regulation will appear on IRRC's website)		INDEPENDENT REGULATORY REVIEW COMMISSION RECEIVED Independent Regulatory Review Commission September 10, 2025	
(1) Agency Department of Labor and Industry		IRRC Number: 3455	
(2) Agency Number: 12-125 Identification Number			
(3) PA Code Cite: 34 Pa. Code, Part XIV, Chapters 401 and 403			
(4) Short Title: Uniform Construction Code			
(5) Agency Contacts (List Telephone Number and Email Address): Primary Contact: Joseph Marchioni, Acting Director, Bureau of Occupational and Industrial Safety, (717) 783-6304, jmarchioni@pa.gov Secondary Contact: Justin Romano, Deputy Chief Counsel, Office of Chief Counsel, (717) 787-4186 jusromano@pa.gov			
(6) Type of Rulemaking (check applicable box): ☐ Proposed Regulation ☐ Final Regulation ☒ Final Omitted Regulation		☐ Emergency Certification Regulation; ☐ Certification by the Governor ☐ Certification by the Attorney General	
(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less) This regulation updates the Uniform Construction Code (UCC) by adopting nearly all provisions of the 2021 International Code Council (ICC) codes, as directed by the UCC Review and Advisory Council (RAC). These ICC codes are national model construction codes created by building code officials and code administrators and are updated every three years. Pursuant to Section 108(a) of the Pennsylvania Construction Code Act (PCCA), 35 P.S. § 7210.108(a), the RAC possesses sole authority to determine whether any portion of the updated ICC codes should be adopted into the UCC. <i>See</i> 35 P.S. § 7210.108(a). Afterwards, the RAC is required to submit a report to the Secretary specifying the adopted or modified provisions. <i>See</i> 35 P.S. § 7210.108(b). Section 304(a)(1) of the PCCA, 35 P.S. § 7210.304(a)(1), mandates that the Department promulgate final-omitted regulations adopting the RAC's decisions contained in the report "without change" so that the regulations can take effect 33 months from the date of the commencement of the RAC's review of the 2021 ICC codes.			

(8) State the statutory authority for the regulation. Include specific statutory citation.

This final-omitted rulemaking is promulgated under the authority provided in section 304(a)(1)(i) of the PCCA, 35 P.S. § 7210.304(a)(1)(i). This section provides that the Department “shall promulgate final-omitted regulations” adopting the revisions listed in the report “without change.” Also, this section requires the regulations to take effect 33 months from the commencement of the RAC’s review of the 2021 ICC Codes. Section 304(a)(2) of the PCCA, 35 P.S. § 7210.304(a)(2), exempts these regulations from Section 205, 45 P.S. § 1205, of the Commonwealth Documents Law and Sections 204(b) and 301(10), 71 P.S. §§ 732.204(b) and 732.301(10), of the Commonwealth Attorneys Act.

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

Yes. Section 304(a)(1) of the PCCA, 35 P.S. § 7210.304(a)(1), states that “the department shall promulgate final-omitted regulations under the act of June 25, 1982 (P.L. 633, No. 181), known as the Regulatory Review Act, to adopt the council’s decisions contained in the report without change.” Section 304(a)(1)(i), 35 P.S. § 7210.304(a)(1)(i), states that “[r]egulations adopted under this act shall become effective 33 months after the commencement of council review as provided for in section 108(a)(1)(i)”

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

The changes made by this regulation are mandated by the PCCA. See 35 P.S. § 7210.304(a)(1). The purpose of the PCCA is to provide standards for the protection of life, health, property and environment and for the safety and welfare of the consumer, general public and the owners and occupants of buildings and structures; to encourage standardization and economy in construction by providing requirements for construction and construction materials consistent with nationally recognized standards; to permit to the fullest extent feasible the use of state-of-the-art technical methods, devices and improvements consistent with reasonable requirements for the health, safety and welfare of occupants or users of buildings and structures; to foster a process leading to the design, construction and alteration of buildings under a uniform standard; and to ensure that buildings are accessible to and usable by persons with disabilities. 35 P.S. § 7210.102. The regulations are intended to broadly benefit all persons who live or work in buildings constructed in Pennsylvania.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

With very limited exceptions, the PCCA is applicable to all buildings constructed in Pennsylvania. Federal standards only apply to property owned by the federal government and the PCCA does not apply to this property.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

This regulation adopts updates to the ICC codes, which will update the standards for construction and building in Pennsylvania. Each state enacts its own construction codes based on the ICC. As such, the Department does not anticipate that this regulation would affect Pennsylvania's ability to compete with other states.

The PCCA requires the Department to promulgate this regulation.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

This regulation changes the UCC by adopting updates to the ICC codes. The Department does not anticipate that this regulation will affect any other regulations.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

The Department is mandated by section 304(a)(1) of the PCCA to promulgate these regulations, adopting the specific sections of the ICC Codes identified in the RAC's report "without change." 35 P.S. § 7210.304(a)(1). The RAC reviewed the 2021 updates to the ICC following a statutorily prescribed review process, which includes the opportunity for the public to comment on the updated ICC codes. Below are the significant dates outlined in this review process:

- October 13, 2022 – RAC initiates the review and adoption process for the 2021 International Codes.
- November 12, 2022 – Public comment was opened and remained open for 120 days.
- November 12, 2022 – Request for Technical Advisory Committee (TAC) members was opened and remained open for 30 days.
- March 16, 2023 – Public comments were assigned to the TAC committees for review and recommendations.
- January 16, 2024 – TAC reports were posted to the RAC website.

- February 1, 2024 – Public hearing was held on Zoom after being properly advertised in the *Morning Call*, a newspaper with regular circulation in the eastern portion of the Commonwealth.
- February 29, 2024 – Public hearing was held on Zoom after being properly advertised in the *Pennsylvania Bulletin*.
- March 28, 2024 – Public hearing was held on Zoom after being properly advertised in the *Pittsburgh Post-Gazette*, a newspaper with regular circulation in the Western portion of the Commonwealth. The RAC reviewed the public hearings and voted on the ICC Codes on:
 - April 18, 2024
 - May 2, 2024
 - May 16, 2024
 - May 30, 2024
 - June 13, 2024
 - June 27, 2024
- On July 25, 2024, the RAC adopted and issued its report adopting portions of the 2021 ICC Codes.
- On September 12, 2024, the RAC voted on and approved the draft of its report adopting portions of the 2021 ICC Codes.
- On September 14, 2024, the RAC adopted and issued its report adopting portions of the 2021 ICC Codes. A copy of this report is attached.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

The Department does not possess data on the numbers of people, businesses and small businesses that will be affected by this regulation. Local governments and third-party inspection agencies enforcing the UCC, and the Department are affected in that they will need to absorb the cost of updating their code materials and their code enforcement staff may require training on the changes.

Building and facility owners, contractors, developers, and manufactured housing and modular building manufacturers are affected, as they are required to absorb the cost of compliance with any new or altered construction to meet the new standards mandated by these adopted code updates.

(16) List the persons, groups or entities, including small businesses, that will be required to comply with the regulation. Approximate the number that will be required to comply.

The Department does not collect data on the number of people, groups and entities that will be required to comply with this regulation. Building and facility contractors, design professionals, manufactured housing and modular building manufacturers, building and facility owners, developers, local municipalities, construction code officials, third party inspection agencies and the Department must comply with this regulation.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

The regulated community will be financially impacted by the cost of compliance with updated building codes. However, the PCCA requires the Department to promulgate this regulation based on the RAC's report without change. 35 P.S. § 7210.304(a)(1).

However, the entire Commonwealth will benefit by having updated building codes as building construction will be done in accordance with the latest standards to protect the public from unsafe building construction.

The Department is unaware of any social impact caused by the regulation.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

The PCCA requires the Department to promulgate this regulation based on the RAC's report without change and does not permit the Department to undertake a cost benefit analysis. This regulation provides for updated building codes, which will improve the safety of buildings constructed or altered in the Commonwealth, providing inherent benefits to citizens of the Commonwealth.

(19) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The regulated community is required to absorb the cost of compliance with the new or altered standards mandated by these regulations. It is impossible to estimate the cost of compliance since the number of projects and the design of each individual project is unknown.

Third-party agencies that perform UCC inspection may incur costs associated with updating their code materials. However, these agencies may have already purchased some of the 2021 ICC code books to comply with the current regulations that adopted some portions of the 2021 ICC codes.

These agencies may also experience some costs to train employees on the new codes.

The total cost to purchase a complete set of the 2021 ICC code materials is \$1,570.00 per set.
The total cost to purchase 2021 ICC Special PA Code Book is estimated at \$114.00.

(20) Provide a specific estimate of the costs and/or savings to the **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

Local municipalities that have opted to enforce the UCC may incur costs associated with updating their code materials. However, local municipalities may have already purchased some of the 2021 ICC code books to comply with the current regulations that adopted some portions of the 2021 ICC codes.

The total cost to purchase a complete set of the 2021 ICC code materials is \$1,570.00 per set.
The total cost to purchase 2021 ICC Special PA Code Book is estimated at \$114.00.

Municipalities may need to purchase multiple copies of the code books depending on the number of employees assigned to its building code program. Municipalities that contract with third-party inspection agencies may incur no additional expense. Municipalities may also incur costs of any necessary training required by its code officials concerning the new standards.

(21) Provide a specific estimate of the costs and/or savings to the **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

As the UCC already includes some provisions of the 2021 ICC codes, the Department is incurring some costs to comply with those provisions and will incur additional costs with the full adoption of the 2021 codes.

The cost to purchase 47 complete sets of the 2021 ICC code materials at the Department's ICC member rate is \$1,178.00 per set for a total cost of \$55,366. This amount is necessary for the Department staff involved in enforcement of the UCC to have complete code book sets.

The total cost to purchase 2021 ICC Special PA Code Book is \$114 per book for a total cost of \$5,358.

The enforcement costs will be similar to the costs incurred by the current UCC enforcement program. The Department's SFY 24-25 costs for the UCC enforcement program are approximately \$5,026,590.

The Department will incur costs for staff training, approximately \$800 per individual totaling \$37,600 concerning the new standards adopted through this regulation.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

This final-form regulation will not significantly change the existing reporting, record keeping or other paperwork requirements. Current forms will be updated following enactment of the regulation. This

must be done because the current forms have reference to prior ICC code years that, as of February 14, 2022, will no longer be in effect.

(22a) Are forms required for implementation of the regulation?

Yes.

(22b) If forms are required for implementation of the regulation, **attach copies of the forms here**. If your agency uses electronic forms, provide links to each form or a detailed description of the information required to be reported. **Failure to attach forms, provide links, or provide a detailed description of the information to be reported will constitute a faulty delivery of the regulation.**

Accessibility Advisory Board Petition
Application for Building Permit
Special Inspections and Observation Statement

The forms are attached.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Local Government	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
State Government	0	0	0	0	0	0
Total Savings						
COSTS:						
Regulated Community	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Local Government	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
State Government	0	98,324	0	0	0	0
Total Costs	0	98,324	0	0	0	0
REVENUE LOSSES:						
Regulated Community	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
Local Government	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
State Government	0	0	0	0	0	0

Total Revenue Losses	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
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(23a) Provide the past three year expenditure history for programs affected by the regulation.

Program	2021-2022	2022-2023	2023-2024	2024-2025
UCC Enforcement	\$4,587,521	\$4,676,436	\$5,390,012	\$5,026,590

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

- (a) An identification and estimate of the number of small businesses subject to the regulation.
- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.
- (c) A statement of probable effect on impacted small businesses.
- (d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

There are approximately 200 small businesses certified with the Department as third-party agencies. These businesses are comprised of inspection agencies and engineer and architecture firms. The anticipated costs for these businesses are approximately \$1,684 for each UCC certified employee. These costs are for the purchase of the 2021 ICC code books (\$1,570), and a 2021 ICC code supplemental book (\$114). There may also be costs associated with training UCC certified staff. However, that will vary depending on the avenue the third-party agency wishes to pursue to provide training if it chooses to do so. The most cost-efficient method would be for the agency to permit the UCC certified individuals to self-train or to provide training in-house.

The Department cannot consider less intrusive or less costly methods because the PCCA requires the Department to adopt this regulation based on the RAC's report without change. 35 P.S. § 7210.304(a)(1).

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

The PCCA requires the Department to promulgate this regulation based on the RAC's report without change. 35 P.S. § 7210.304(a)(1). No special provisions have been developed, as this would not be consistent with the purpose of the PCCA or the RAC's report. All individuals involved in building construction in Pennsylvania will have to comply with this regulation.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

The PCCA requires the Department to promulgate this regulation according to the RAC's adoption of ICC Code provisions without changes. 35 P.S. § 7210.304(a)(1). Accordingly, no alternatives have been considered.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

- a) The establishment of less stringent compliance or reporting requirements for small businesses;
- b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;
- c) The consolidation or simplification of compliance or reporting requirements for small businesses;
- d) The establishment of performance standards for small businesses to replace design or operational standards required in the regulation; and
- e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

The PCCA requires the Department to promulgate this regulation according to the RAC's adoption without change. 35 P.S. § 7210.304(a)(1). As such, the Department did not conduct a regulatory flexibility analysis.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

This regulation was not based on the collection of data.

(29) Include a schedule for review of the regulation including:

A. The length of the public comment period: N/A

B. The date or dates on which any public meetings or hearings will be held:
October 13, 2022, February 1, 2024, February 29, 2024, March 28, 2024 April 18, 2024, May 2, 2024,
May 16, 2024, May 30, 2024, June 13, 2024, June 27, 2024

C. The expected date of delivery of the final-form regulation:

D. The expected effective date of the final-form regulation:

E. The expected date by which compliance with the final-form
regulation will be required:

F. The expected date by which required permits, licenses or other
approvals must be obtained:

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

The PCCA requires the Department to promulgate this regulation according to the RAC's adoption without change. 35 P.S. § 7210.304(a)(1). However, the ICC codes are updated every three years. The RAC is required to commence review 21 months after the publication of a new edition of an ICC code. See 35 P.S. § 7210.108(a)(1)(i). This RAC must submit a report within two years after commencement of its review. See 35 P.S. § 7210.108(b). The Department will have up to nine months after receipt of this report to publish updated regulations and these regulations will be effective 33 months after commencement of the RAC's review. 35 P.S. § 7210.304(a)(1)(i).

FOR L&I USE ONLY

File No.: _____

Date: _____

UNIFORM CONSTRUCTION CODE (UCC) ACCESSIBILITY ADVISORY BOARD PETITION

This form may be used to file an appeal, seek a variance or an extension of time. When variances are requested, as many variances as needed may be sought via this petition. **Once this petition has been submitted, no changes may be made, and any additional variance requests must be filed via a separate (new) petition.**

Type or print legibly all requested information.

☐ **EXPEDITE REVIEW. ADDITIONAL FEE SUBMITTED.**

☐ **ACT 24 EXEMPTION**

Construction Site (Required)	Building or Structure Name _____ Tenant Name _____ Street Number and Name _____ City _____ Zip Code _____ Political Subdivision _____ County _____
Applicant or Contact Person (Required)	Contact Person _____ Company Name _____ Street Address _____ City _____ State _____ Zip Code _____ Telephone _____ Fax _____ E-mail _____
Filing Requirements (Required)	- One (1) completed application per building, with any additional supporting information. Multiple variance requests for a single building may be on one form. - One (1) set of assembled and bound drawings on paper sized at a minimum of 18 in. x 24 in. and drawn to an acceptable architectural scale (preferably 1/4 in. = 1 ft.). - If variance concerns accessible route into the structure, a detailed site plan must be provided. - Petition form may contain multiple variance requests. FEE SCHEDULE: For an up-to-date listing of fees, please see the Fee Schedule listed on our website (www.dli.pa.gov/Individuals/Labor-Management-Relations/bois) or contact our office for a copy of the Fee Schedule by telephone at 717-787-3806 option 1 or by fax at 717-783-5002. - Submit the application, all necessary documentation and check or money order for the appropriate fee, made payable to the Commonwealth of Pennsylvania to: Department of Labor & Industry Accessibility Advisory Board 651 Boas Street, Room 1600 Harrisburg, PA 17121-0750 Direct questions to: 717-787-3329 website information: www.dli.pa.gov
Code Information (Required)	Construction involves New Building ☐ 2018 ☐ 2021 Construction involves Existing Building ☐ 2018 IEBC ☐ 2021 IEBC
FOR L&I USE ONLY	Check #: _____ Amount: _____ Bates #: _____

Municipal Code Official Information	BCO Name _____ Telephone _____ Does the Municipality have an "Accessibility Inspector/Plan Examiner"? ☐ Yes ☐ No If yes, Name of Individual _____
Appeal of Building Code Official (BCO) Decision (If Applicable)	Please check which of the following form the basis for your appeal: ☐ The true intent of the Pennsylvania Construction Code Act (PCCA) or the UCC was incorrectly interpreted. ☐ The provisions of the PCCA do not apply to this construction. ☐ An equivalent form of construction was proposed for use. Please detail the grounds for appealing this decision, citing provisions of the PCCA or the UCC, or explaining how your proposed construction would be equivalent to that specified in the UCC. If additional space is required, please attach additional 8 ½" x 11" pages. (Include building name on each page.)
Extension of Time Request (If Applicable)	L&I or Municipal Order No. _____ Date Requested to Comply with L&I or Municipal Order _____ Please attach copy of Order <u>and</u> detail the reasons for the extension. Also indicate whether, if granted, this will subject building occupants to conditions that do not comply with the UCC. If additional space is required, please attach additional 8 ½" x 11" pages.
Request for Variance(s) (If Applicable)	Please provide <u>all</u> of the following information for <u>each</u> variance requested. A failure to provide sufficient information will result in the return of your variance request(s) and delay the Board's consideration of your request(s). • Indicate what prompted the need to seek a variance. (Some examples: The use and occupancy classification is changing from a "U" to an "M"; the occupant load is changing, and the International Plumbing Code mandates an additional restroom; extensive alterations will be made to an area of primary function.) • The <u>specific code</u> and the <u>section(s) of the code</u>, and <u>any referenced standard</u> mentioned in the specified section(s). • Indicate on your plans what portions of the building will be affected by the variance request. • Detail what your alternative approach entails and any measures that will provide an equivalent degree of compliance with the intent of the UCC. State the reasons for the requested variance, including why the strict letter of the code is impractical and why the modification would not lessen accessibility, health, life and fire safety or structural requirements in the listed code section(s). If additional space is required, please attach additional 8 ½" x 11" pages.



File No.: _____
Permit No.: _____
Date: _____

APPLICATION FOR UCC BUILDING PERMIT

- ☐ **EXPEDITED REVIEW. ADDITIONAL FEE SUBMITTED.**
☐ **ACT 24 EXEMPTION.**

Site Information Political Subdivision and County names are required.	Facility Name (name of company, mall, institution, university, etc.): _____																																					
	Building and/or Tenant Name _____																																					
	Street Number and Name _____																																					
	City _____	State _____	ZIP Code _____																																			
	Political Subdivision _____		County _____																																			
Application Type	<table border="0"><tr><td>☐ Accessibility Only Review</td><td>☐ Addition</td></tr><tr><td>☐ Alteration or Renovation</td><td>☐ New Building</td></tr><tr><td>☐ New Structure/Facility</td><td>☐ Partial Occupancy</td></tr><tr><td>☐ Phased Approval</td><td>☐ Plan Revision/Deferred Submission</td></tr><tr><td>☐ Uncertified (Existing) Building</td><td></td></tr></table>			☐ Accessibility Only Review	☐ Addition	☐ Alteration or Renovation	☐ New Building	☐ New Structure/Facility	☐ Partial Occupancy	☐ Phased Approval	☐ Plan Revision/Deferred Submission	☐ Uncertified (Existing) Building																										
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Use/Occupancy Classification: Check box to left of applicable group. Check all that apply.	<table border="0"><tr><td>☐ A-1</td><td>☐ A-2</td><td>☐ A-3</td><td>☐ A-4</td><td>☐ A-5</td><td>☐ B</td><td>☐ E</td></tr><tr><td>☐ F-1</td><td>☐ F-2</td><td>☐ H-1</td><td>☐ H-2</td><td>☐ H-3</td><td>☐ H-4</td><td>☐ H-5</td></tr><tr><td>☐ I-1</td><td>☐ I-2</td><td>☐ I-3</td><td>☐ I-4</td><td>☐ M</td><td>☐ R-1</td><td>☐ R-2</td></tr><tr><td>☐ R-3 Adult Care</td><td></td><td>☐ R-3</td><td>☐ R-4</td><td>☐ S-1</td><td>☐ S-2</td><td>☐ U</td></tr><tr><td colspan="7">☐ Single Family Dwelling/Townhouse (must be state-owned)</td></tr></table>			☐ A-1	☐ A-2	☐ A-3	☐ A-4	☐ A-5	☐ B	☐ E	☐ F-1	☐ F-2	☐ H-1	☐ H-2	☐ H-3	☐ H-4	☐ H-5	☐ I-1	☐ I-2	☐ I-3	☐ I-4	☐ M	☐ R-1	☐ R-2	☐ R-3 Adult Care		☐ R-3	☐ R-4	☐ S-1	☐ S-2	☐ U	☐ Single Family Dwelling/Townhouse (must be state-owned)						
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☐ F-1	☐ F-2	☐ H-1	☐ H-2	☐ H-3	☐ H-4	☐ H-5																																
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☐ Single Family Dwelling/Townhouse (must be state-owned)																																						
Mandatory Documents	Check each block below indicating that all of the following will be submitted with this application: ☐ Four (4) site plans ☐ Three (3) assembled and bound sets of construction drawings ☐ One (1) completed copy of the UCC-2 UCC PLAN REVIEW CHECKLIST ☐ One (1) set of specifications (only if Addition, Alteration, New Building/Structure/Facility)																																					
Special Requirements & Documentation	Does this construction involve modular units built in a factory?	☐ Yes ☐ No	If " Yes ," submit 1 copy of the letter described in Section J., 6., on the "Plan Review and Inspection Requirements" page on the UCC website.																																			
	Is this construction regulated by the Health Care Facilities Act?	☐ Yes ☐ No	If " Yes ," submit 1 copy of the approval letter issued by the PA Department of Health.																																			
	Is this construction exempt from energy code requirements?	☐ Yes ☐ No	If " Yes ," submit 1 copy of a letter indicating that the building or structure will use neither electricity nor fossil fuels, and thus is exempt per ASHRAE 90.1, §2.2(B). If " No ," submit 1 copy of the compliance documentation described in Section H., 7. , on the "Plan Review and Inspection Requirements" page on the UCC website.																																			
	Is project in flood hazard area?	☐ Yes ☐ No	If " Yes ," submit 1 copy of one of the flood hazard certifications mandated in section 1612.5 of the International Building Code.																																			

For L&I Use Only

Check #: _____ Amount: _____ Bates #: _____

Special Requirements & Documentation	Are International Building Code (Chapter 17) special inspections or structural observations required?	☐ Yes ☐ No	If "Yes," submit 1 copy of the UCC-6 SPECIAL INSPECTIONS OBSERVATIONS STATEMENT.
	Will an alternative construction method or material be used on this project?	☐ Yes ☐ No	If "Yes," submit a signed statement indicating that the proposed method or material meets the requirements of 34 PA Code §403.44.
	Is this application for "phased approval"?	☐ Yes ☐ No	If "Yes," submit the statement described in Section D., 4. , on the "Plan Review and Inspection Requirements" page on the UCC website.
Project Data	Number of stories above grade _____ Does it have a basement? ☐ Yes ☐ No Total floor area (sq. ft.) _____ Floor area new construction (sq. ft.) _____ Floor area of addition (sq. ft.) _____ Floor area renovated (sq. ft.) _____ Estimated cost of construction \$ _____ (Required -- even if project is state-owned and exempt from permit fees.) Type(s) of construction per Chapter 6 of the <i>International Building Code</i> (check all that apply): ☐ IA ☐ IB ☐ IIA ☐ IIB ☐ IIIA ☐ IIIB ☐ IV ☐ VA ☐ VB Fire suppression: ☐ Full ☐ Partial ☐ None If application applies to an existing certified building, provide any prior file #, DI #, permit #, etc. associated with this project: File #: _____ Permit #: _____ DI #: _____ Other (MA #/Fee #): _____		
Building Code Data	Triennial ICC code version used for Building code compliance: ☐ 2018 ☐ 2021 If Alterations to existing certified building: (select applicable document used) ☐ ☐ International Existing Building Code (IEBC)		
Accessibility Code Data	Triennial ICC code version for Accessibility code compliance/IBC Chapter 11 ☐ 2018 ☐ 2021		
Design Professional In Responsible Charge Seal must be in space to right of name & address.	Name _____ Address _____ PA License # _____ Email _____ Phone _____ Fax _____	SEAL	
Owner Information	Owner Name _____ Street Address _____ City _____ State _____ ZIP Code _____ Phone _____		

Deferred Submissions	If you intend to defer any of the plan submission below, please, check the appropriate box(es). See Section Q on the "Plan Review and Inspection" page on the UCC website for information about submitting these drawings at a later date. ☐ Fire Alarm System ☐ Wood Roof Trusses (Certified) ☐ Sprinkler System
Fees	List total sq. ft. of floor area: _____ List estimated construction cost: \$ _____ If new building or addition: _____ Pay \$402.03 standard fee \$ _____ Plus, pay \$.81 multiplied by total sq. ft. of floor area \$ _____ If new structure or facility (other than building): _____ Pay \$1208.60 \$ _____ If alteration or renovation of existing building: _____ Pay \$402.03 standard fee \$ _____ Plus, pay \$81.41 per each \$1000 of est. construction cost \$ _____ If accessibility only review: _____ Pay \$807.82 \$ _____ If phased approval: _____ Pay \$300.00 \$ _____ If revision of approved plans or partial occupancy request: _____ Pay \$626.22 \$ _____ IF EXPEDITED REVIEW: Pay \$1252.43 plus applicable fees above \$ _____ TOTAL FEE(S) \$ _____ Make check or money order payable to Commonwealth of Pennsylvania.
Applicant's Certification	Note: THE BUILDING PERMIT AND THE CERTIFICATE OF OCCUPANCY FOR THIS BUILDING OR STRUCTURE WILL BE ISSUED TO AND IN THE NAME OF THE PERSON LISTED BELOW. As the owner or the authorized agent of the project for which this application is filed, I certify that: 1. The estimated construction cost and all other information provided as part of this application for a building permit is correct. 2. The building or structure described in this application will not be occupied until all known code violations are corrected and a Certificate of Occupancy has been received from the Department of Labor & Industry. 3. This project will be constructed in accordance with the approved drawings and specifications (including any required non-design changes) and the Uniform Construction Code standards as specified in 34 PA Code Chapters 401-405. 4. Any changes to the approved documents will be filed with the Department of Labor & Industry. 5. If the licensed architect or engineer in responsible charge of this construction should change, written notice of the change will be provided to the Department of Labor & Industry. 6. When required, up to 20% of the total cost of any work performed on an area of primary function in an existing building will be expended to provide an accessible route to the area of primary function. 7. No error or omission in either the drawings and specifications or application, whether approved or not, shall permit or relieve me from constructing the work in any manner other than provided for in 34 PA Code Chapters 401-405. Applicant Name _____ Street Address _____ City _____ State _____ ZIP Code _____ Phone _____ Email _____ Applicant Signature Date _____

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Equal Opportunity Employer/Program



File No.: _____

Date: _____

APPLICATION FOR UCC ALTERATIONS - LEVEL 1 PERMIT

☐ **EXPEDITED REVIEW. ADDITIONAL FEE SUBMITTED.**

☐ **ACT 24 EXEMPTION.**

Site Information Political Subdivision and County names are required.	Facility Name (name of company, mall, institution, university, etc.): _____ Building and/or Tenant Name _____ Street Number and Name _____ City _____ State _____ ZIP Code _____ Political Subdivision _____ County _____ Contact Name _____ Phone _____ Previous L&I File No _____
Project Data	Describe the alterations in sufficient detail to confirm that the work meets the Level-1 scoping requirements found in the IEBC and on the Plan Review and Inspection Requirements page on the UCC web site. Carry over this description to an additional sheet of paper, if necessary, and attach the sheet to this application.
Applicant & Owner Information	*** Building Permits and Certificates of Occupancy are issued in name of applicant *** Applicant Name _____ Street Address _____ City _____ State _____ ZIP Code _____ Phone _____ Fax _____ Email _____ Applicant Signature _____ Date _____ Owner Name _____ Street Address _____ City _____ State _____ ZIP Code _____ Phone _____
Fee Requirements	List estimated construction cost: \$ _____ If expedited review, pay \$1252.43 plus standard fee \$ _____ Standard fee, pay \$402.03. \$ _____ Plus, pay \$81.41 per each \$1000 of est. construction cost \$ _____ TOTAL FEES OWED \$ _____ Make check or money order payable to Commonwealth of Pennsylvania.
For L&I Use Only	Check #: _____ Amount: _____ Bates #: _____

File No.: _____
Permit No.: _____
Date: _____

**Uniform Construction Code
SPECIAL INSPECTIONS AND OBSERVATIONS STATEMENT**

This statement must accompany permit applications for all construction for which special inspections and observations are required in Chapter 17 of the <i>International Building Code 2021 (IBC)</i>	
Project name:	
Project address:	
Owner:	Telephone:

This is to certify that all the inspections and observations that I have checked on pages 2-3 **and** on page 4 of this statement are required for the project named above and will be performed by the designated individuals or firms. By signing this statement, I also acknowledge that:

- these inspections and observations must be performed by competent individuals in accordance with the requirements of the IBC Chapter 17 (as applicable) and that the construction work must comply with the department-approved plans and specifications and all applicable provisions of the uniform construction code;
- records of all required special inspections and testing observations (including any discrepancies and methods of correction of these discrepancies) will be retained and made available to department representatives, upon request; and,
- the final report section of this statement must be signed by me and a copy of this statement submitted to the department inspector, at the time that the final inspection is performed and before a certificate of occupancy is issued.

Name of Design Professional in Responsible Charge

Affix Seal Here

Signature of Design Professional in Responsible Charge

PA License Number

_____/_____/_____
Date signed (Month/day/year)

CHECK EACH THAT APPLIES	TYPE OF SPECIAL INSPECTION OR OBSERVATION	NAME AND ADDRESS OF INDIVIDUAL AND/OR FIRM PERFORMING INSPECTION OR OBSERVATION	CREDENTIALS (Enter acronym from page 4. If "Other," please specify special training or basis for competency to perform work.)
☐	Inspection of Steel Construction Section 1705.2		
☐	Inspection of Concrete Construction Section 1705.3		
☐	Inspection of Masonry Construction Section 1705.4		
☐	Inspection of Wood Construction Section 1705.5		
☐	Inspection of Soil Conditions Section 1705.6		
☐	Inspection of Driven Deep Foundations Section 1705.7		
☐	Inspection of Cast-in-Place Deep Foundations Section 1705.8		
☐	Inspection of Helical Pile Foundations Section 1705.9		

CHECK EACH THAT APPLIES	TYPE OF SPECIAL INSPECTION OR OBSERVATION	NAME AND ADDRESS OF INDIVIDUAL AND/OR FIRM PERFORMING INSPECTION OR OBSERVATION	CREDENTIALS (Enter acronym from page 4. If "Other," please specify special training or basis for competency to perform work.)
☐	Inspection of Fabricated Items Section 1705.11		
☐	Inspection for Wind Resistance Section 1704.6; 1705.12		
☐	Inspection and Testing for Seismic Resistance Section 1704.6;1705.13;1705.14		
☐	Inspection of Sprayed Fire-Resistant Materials Section 1705.15		
☐	Inspection of Mastic and Intumescent Fire-Resistant Coatings Section 1705.16		
☐	Inspection of Exterior Insulation and Finish System (EIFS) Section 1705.17		
☐	Inspection of Fire-Resistant Penetrations and Joints Section 1705.18		
☐	Testing for Smoke Control Section 1705.19		

FINAL REPORT	Required special inspections or observations: ☐ Inspection of Steel Construction ☐ Inspection of Concrete Construction ☐ Inspection of Masonry Construction ☐ Inspection of Wood Construction ☐ Inspection of Soil Conditions ☐ Inspection of Driven Deep Foundations ☐ Inspection of Cast-in-Place Deep Foundations ☐ Inspection of Helical Pile Foundations ☐ Inspection of Fabricated Items ☐ Inspection for Wind Resistance ☐ Inspection and Testing for Seismic Resistance ☐ Inspection of Sprayed Fire-Resistant Materials ☐ Inspection of Mastic and Intumescent Fire-Resistant Coatings ☐ Inspection of Exterior Insulation and Finish System (EIFS) ☐ Inspection of Fire-Resistant Penetrations and Joints ☐ Testing for Smoke Control I certify that I have reviewed the report on each of the inspections or observations checked above. These reports indicate that the covered work is in compliance with the department-approved plans and specifications and all applicable provisions of the uniform construction code. Signature of Design Professional in Responsible Charge: _____ Date signed: _____/_____/_____ (Day/month/year)
-------------------------	---

KEY for use in **CREDENTIALS** column:
(on pages 2, 3 and 4)

ACI	American concrete institute certified concrete field testing technician
AWS	American welding society certified welding inspector
ASNT	American society of non-destructive testing
AWCI	Association of wall and ceiling industries
MCA	Model code agency (ICC, BOCA, SBCCI, ICBO) special inspection certification
PA	Professional architect (currently licensed)
PE	Professional engineer (currently licensed)
OTHER	Specialized training coursework or other basis for competency deemed acceptable

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September 14, 2024

Nancy A. Walker, Esq.
Secretary
Pennsylvania Department of Labor & Industry
Room 1700, L&I Building
651 Boas Street
Harrisburg, Pennsylvania 17121

Reference: Uniform Construction Code (UCC)
2021 International Codes Adoption

Dear Secretary Walker:

With the official publication of the 2021 International Codes by the International Code Council (ICC) in January 2021, in accordance with the requirements of Act 45 of 1999 as amended, the Pennsylvania Uniform Construction Code (UCC) Review and Advisory Council (RAC) initiated review of the 2021 International Codes on October 13, 2021. During the October 13, 2021 meeting, which was properly advertised in accordance with the Act and with a quorum present, the RAC voted to include additional sections beyond those that had been modified and published by the ICC national review process and properly posted them on the RAC website. After clarification by vote of the RAC regarding the sections to be reviewed in the 2021 adoption process, a vote of the RAC was taken and passed unanimously to initiate review and adoption of the 2021 International Codes.

As part of the review and adoption of the 2021 International Codes, the following are some key actions that were taken, and the corresponding dates that they occurred:

- January 31, 2021 – ICC publishes the 2021 International Codes
- November 15, 2021 – RAC opens public comment requesting feedback on “Additional Sections”
- February 13, 2022 – RAC closes public comment period on “Additional Sections”
- September 8, 2022 – RAC publishes on the RAC website a list of “Additional Sections”
- October 13, 2022 – RAC initiates the review and adoption process for the 2021 International Codes
- November 12, 2022 – Public comment was opened and remained open for 120 days
- November 12, 2022 – Request for Technical Advisory Committee (TAC) members was opened and remained open for 30 days
- May 1, 2023 – An additional public comment period was opened and remained open for 120 days due to advertisement issues with the first public comment period
- May 1, 2023 – An additional request for Technical Advisory Committee (TAC) members was opened and remained open for 30 days due to advertisement issues with the first Technical Advisory Committee (TAC) request period

- September 7, 2023 – Public comments were assigned to the TAC committees for review and recommendation
- January 16, 2024 – TAC reports were posted to the RAC website
- February 1, 2024 – Public hearing was held on Zoom after being properly advertised in the *Morning Call*, a newspaper with regular circulation in the eastern portion of the Commonwealth
- February 29, 2024 – Public hearing was held on Zoom after being properly advertised in the *Pennsylvania Bulletin*
- March 28, 2024 – Public hearing was held on Zoom after being properly advertised in the *Pittsburgh Post-Gazette*, a newspaper with regular circulation in the Western portion of the Commonwealth
- April 22, 2024 – RAC received the transcripts of the three (3) public hearings
- May 2, 2024 – RAC Initiated deliberations and adoption of the 2021 International Codes

The following is a list of the codes and modifications to the published document as voted on by the RAC in accordance with Act 45 of 1999, as amended:

Note: A crosswalk has been made with the adoption of the 2015 and 2018 ICC codes, and the list provided contains those provisions that were previously adopted and not modified as part of the current code adoption.

- **2021 International Wildland-Urban Interface Code (IWUIC)**

Adopted without modification

- **2021 ICC Performance Code for Buildings and Facilities (ICCPC)**

Adopted without modification

- **2021 International Fuel Gas Code (IFGC)**

Adopted without modification

- **2021 International Mechanical Code (IMC)**

Adopted without modification

- **2021 International Plumbing Code (IPC)**

Adopted without modification

- **2021 International Fire Code (IFC)**

Adopted by reference only and was adopted without modification

- **2021 International Swimming Pool & Spa Code (ISPSC)**

Adopted with the following modifications:

- Chapter 1 Scope and Administration, was adopted with the following modifications:
 - Section [A] 108.2 Schedule of permit fees, was not modified as part of the current Pennsylvania 2021 ISPSC adoption and will remain as published in the 2018 ISPSC (Section [A] 105.6.2) as follows:

[A] 105.6.2 Fee schedule. The fees for work shall be as indicated in the following schedule:

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

- Section [A] 108.3 Permit valuations was not adopted as part of the current Pennsylvania 2021 ISPSC adoption and shall remain reserved.
- Section [A] 108.4 Work commencing prior to permit issuance, was not modified as part of the current Pennsylvania 2021 ISPSC adoption and will remain as published in the 2018 ISPSC (Section [A] 105.6.1 Work commencing prior to permit issuance) as follows:

[A] 105.6.1 Work commencing before permit issuance. Any person who commences any work on a system before obtaining the necessary permits shall be subject to a fee as indicated in the adopted fee schedule and would be in addition to the required permit fees.

- Section [A] 108.5 Related fees, was not adopted as part of the current Pennsylvania 2021 ISPSC adoption, and shall remain reserved.

- **2021 International Building Code (IBC)**

Adopted with the following modifications:

- Chapter 1 Scope and Administration, was excluded from consideration in accordance with the requirements of the Act
- Chapter 4 Special Detailed Requirements Based on Occupancy and Use, was adopted with the following modification:

- Section [F] 426.1 General, was not modified as part of the current Pennsylvania 2021 IBC adoption, and will remain as published in the 2018 IBC as follows:

[F] 426.1 General. *The provisions of Sections 426.1.1 through 426.1.7 shall apply to buildings in which materials that produce combustible dusts are stored or handled. Buildings that store or handle combustible dusts shall comply with NFPA 652 and the applicable provisions of NFPA 61, NFPA 85, NFPA 120, NFPA 484, NFPA 654, NFPA 655 and NFPA 664 and the International Fire Code.*

- Chapter 7 Fire and Smoke Protection Features, was adopted with the following modifications:

- Section 704.2 Column protection, was not modified as part of the Pennsylvania 2018 IBC adoption, maintaining the 2015 IBC language. The national language was not modified in 2021 code, and as such, this language again was maintained in the current Pennsylvania 2021 IBC adoption as follows:

704.2 Column protection. *Where columns are required to have protection to achieve a fire-resistance rating, the entire column shall be provided individual encasement protection by protecting it on all sides for the full column height, including connections to other structural members, with materials having the required fire-resistance rating. Where the column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column.*

- Section 704.4.1 Light-frame construction, was not modified as part of the Pennsylvania 2018 IBC adoption, maintaining the 2015 IBC language. The national language was not modified in 2021 code, and as such, this language again was maintained in the current Pennsylvania 2021 IBC adoption as follows:

704.4.1 Light-frame construction. *Studs and boundary elements that are integral elements in load-bearing walls of light-frame construction shall be permitted to have required fire-resistance ratings provided by the membrane protection provided for the load-bearing wall.*

- Chapter 8 Interior Finishes, was adopted with the following modification:

- Section 803.3 Heavy-timber exemption, was modified as part of the Pennsylvania 2018 IBC adoption. The national language was not modified in 2021 code, and as such, this language was maintained as modified in the 2018 adoption and in the current Pennsylvania 2021 IBC adoption as follows:

803.3 Heavy timber exemption. *In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3, exposed portions of building elements complying with the requirements for buildings of heavy timber construction in Section 602.4 or Section 2304.11 shall not be subject to interior finish requirements except in interior exit stairways, interior exit ramps, and exit passageways.*

- Chapter 9 Fire Protection and Life Safety Systems, was adopted with the following modification:

- Section 903.3.1.2 NFPA 13R sprinkler systems, is adopted as follows:

[F] 903.3.1.2 NFPA 13R sprinkler systems. *Automatic sprinkler systems in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:*

1. *Four stories or fewer above grade plane.*
2. *For other than R-2 occupancies, the floor level of the highest story is 30 feet (9144 mm) or less above the lowest level of fire department vehicle access.*

For R-2 occupancies, the roof assembly is less than 45 feet (13716 mm) above the lowest level of fire department vehicle access. The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance.

3. *The floor level of the lowest story is 30 feet (9144 mm) or less below the lowest level of fire department vehicle access*

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from grade plane.

- Chapter 11 Accessibility, was excluded from consideration in accordance with the requirements of the Act
- Chapter 30 Elevators and Conveying Systems, **only** the following sections/sub-sections were adopted:

- **3002.1 Hoistway enclosure protection.**
 - **3002.2 Number of elevator cars in a hoistway.**
 - **3002.4 Elevator car to accommodate ambulance stretcher.**
 - **3002.7 Common enclosure with stairway.**
 - **3004.2.1 Enclosure.**
 - **3004.3.1 Enclosure.**
 - **3005.4 Machine rooms, control rooms, machinery spaces, and control spaces.**

- **SECTION 3006 ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION**
- **SECTION 3007 FIRE SERVICE ACCESS ELEVATOR**
- **SECTION 3008 OCCUPANT EVACUATION ELEVATORS**

- **2021 International Existing Building Code (IEBC)**

Adopted with the following modifications:

- Chapter 11 Additions, was adopted **without** the inclusion of Section 1106 Storm shelters. This Section was not adopted/excluded as part of the 2018 Pennsylvania 2018 IEBC adoption. The national language was not modified in 2021 code, and as such, is again not adopted/excluded in the current Pennsylvania 2021 IEBC.

- **2021 International Energy Conservation Code (IECC)**

Adopted with the following modifications:

- Chapter 1 [CE] Scope and Administration, was adopted with the following modifications:
 - Section C105.2.6 Final inspection, (Originally Section C104.2.6 Final inspection, [2015 IECC], 104.3 Final inspection, [2009 IECC]), was modified as part of the Pennsylvania 2015 IECC adoption, maintaining the 2009 IRC language. The national language was not modified in 2018 nor 2021 code, and as such, this language again was maintained in the current Pennsylvania 2021 IECC adoption as follows:

***C105.2.6 Final inspection.** The building shall have a final inspection and not be occupied until approved.*

- Chapter 4 [CE] Commercial Energy Efficiency, was adopted with the following modifications:
 - Section C402.5.5 Rooms containing fuel-burning appliances, (Originally Section C402.5.3 Rooms containing fuel-burning appliances, [2018 IECC & 2015 IECC]) was modified as part of the Pennsylvania 2018 IECC adoption, maintaining both exceptions from the 2015 IECC. The national language was not modified in 2021 code, and as such, this language was maintained in the current Pennsylvania 2021 IECC adoption as follows:

C402.5.5 Rooms containing fuel-burning appliances. *In Climate Zones 3 through 8, where combustion air is supplied through openings in an exterior wall to a room or space containing a space-conditioning fuel-burning appliance, one of the following shall apply:*

1. *The room or space containing the appliance shall be located outside of the building thermal envelope.*
2. *The room or space containing the appliance shall be enclosed and isolated from conditioned spaces inside the building thermal envelope. Such rooms shall comply with all of the following:*
 - 2.1. *The walls, floors and ceilings that separate the enclosed room or space from conditioned spaces shall be insulated to be not less than equivalent to the insulation requirement of below-grade walls as specified in Table C402.1.3 or C402.1.4.*
 - 2.2. *The walls, floors and ceilings that separate the enclosed room or space from conditioned spaces shall be sealed in accordance with Section C402.5.1.1.*
 - 2.3. *The doors into the enclosed room or space shall be fully gasketed.*
 - 2.4. *Water lines and ducts in the enclosed room or space shall be insulated in accordance with Section C403.*
 - 2.5. *Where an air duct supplying combustion air to the enclosed room or space passes through conditioned space, the duct shall be insulated to an R-value of not less than R-8.*

Exception:

1. *Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.*
2. *Fireplaces and stoves complying with Sections 901 through 905 of the International Mechanical Code, and Section 2111.14 of the International Building Code.*

- Section C405.11 Automatic receptacle control, is adopted as follows:

C405.11 Automatic receptacle control. *The following ~~shall~~ may have automatic receptacle control complying with Section C405.11.1:*

1. *At least 50 percent of all 125V, 15- and 20-amp receptacles installed in enclosed offices, conference rooms, rooms used primarily for copy or print functions, breakrooms, classrooms and individual workstations, including those installed in modular partitions and module office workstation systems.*
2. *At least 25 percent of branch circuit feeders installed for modular furniture not shown on the construction documents.*

- Section C405.11.1 Automatic receptacle control function, is adopted as follows:

C405.11.1 Automatic receptacle control function. Automatic receptacle controls shall comply with the following:

1. *Either split controlled receptacles shall be provided with the top receptacle controlled, or a controlled receptacle shall be located within 12 inches (304.8 mm) of each uncontrolled receptacle.*
2. *One of the following methods shall be used to provide control:*
 - 2.1. *A scheduled basis using a time-of-day operated control device that turns receptacle power off at specific programmed times and can be programmed separately for each day of the week. The control device shall be configured to provide an independent schedule for each portion of the building of not more than 5,000 square feet (464.5 m²) and not more than one floor. The occupant shall be able to manually override an area for not more than 2 hours. Any individual override switch shall control the receptacles of not more than 5,000 feet (1524 m).*
 - 2.2. *An occupant sensor control that shall turn off receptacles within ~~20~~ 120 minutes of all occupants leaving a space.*
 - 2.3. *An automated signal from another control or alarm system that shall turn off receptacles within ~~20~~ 120 minutes after determining that the area is unoccupied.*
3. *All controlled receptacles shall be permanently marked in accordance with NFPA 70 and be uniformly distributed throughout the space.*
4. *Plug-in devices shall not comply.*

Exceptions: Automatic receptacle controls are not required for the following:

1. *Receptacles specifically designated for equipment requiring continuous operation (24 hours per day, 365 days per year).*
2. *Spaces where an automatic control would endanger the safety or security of the room or building occupants.*
3. *Within a single modular office workstation, noncontrolled receptacles are permitted to be located more than 12 inches (304.8 mm), but not more than 72 inches (1828 mm) from the controlled receptacles serving that workstation.*

- Chapter 2 [RE] Definitions, was adopted with the following modification:
 - Section R202 General definitions, was modified as part of the 2015 IECC adoption. The definition language that was added in Pennsylvania was not modified in the 2018 code nor 2021 code and, as such, will remain as published in the 2015 adoption as follows:

Framing Factor. *The fraction of the total building component area that is structural framing*

- Chapter 4 [RE] Residential Energy Efficiency, was adopted with the following modifications:
 - Section R401.2.5 (N1101.13.5) Additional energy efficiency, was not adopted as part of the current Pennsylvania adoption of the 2021 IECC/IRC
 - TABLE R402.1.2 (N1102.1.2) MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS, is adopted as follows:

TABLE R402.1.2 (R1102.1.2)
MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC ^{d,e}	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	0.50	0.75	0.25	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.25	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.25	0.030	0.060	0.098	0.047	0.091	0.136
4 except Marine	0.30	0.55	0.40	0.026	0.060	0.098	0.047	0.059	0.065
5 and Marine 4	0.30	0.55	NR	0.026	0.051	0.082	0.033	0.050	0.055
6	0.30	0.55	NR	0.026	0.045	0.060	0.033	0.050	0.055
7 and 8	0.30	0.55	NR	0.026	0.045	0.057	0.028	0.050	0.055

- a. Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source.
- b. Mass walls shall be in accordance with Section R402.2.5. Where more than half the insulation is on the interior, the mass wall *U*-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8.
- c. In warm-humid locations as defined by Figure R301.1 and Table R301.1, the basement wall *U*-factor shall not exceed 0.360.
- d. The SHGC column applies to all glazed fenestration.
 - Exception:** In Climate Zones 0 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- e. There are no SHGC requirements in the Marine Zone.
- f. A maximum *U*-factor of 0.32 shall apply in Marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either:
 1. Above 4,000 feet in elevation above sea level, or
 2. In windborne debris regions where protection of openings is required by Section R301.2.1.2. of the *International Residential Code*.

- Table R402.1.3 (N1102.1.3) INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a, is adopted as follows:

TABLE R402.1.3 (N1102.1.3)
INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{c,e}	CEILING R-FACTOR	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ^f	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13 + 5 ^h	8/13	19	5/13 ⁱ	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10/13	10, 2ft	10/13
5 and Marine 4	0.30	0.55	NR	49	13 + 7.5 ^h or 20 + 3.8 ^h	13/17	30 ^e	15/19	10, 4ft or 15, 3ft	15/19
6	0.30	0.55	NR	49	20 + 5 ^f or 13 + 10 ^h	15/20	30 ^e	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5 ^f or 13 + 10 ^h	19/21	38 ^e	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

NR = Not Required.

- R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.
- The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with “15/19” shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
- R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- There are no SHGC requirements in the Marine Zone.
- Basement wall insulation shall not be required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19.
- The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, “13+5” means R-13 cavity insulation plus R-5 continuous insulation.
- Mass walls shall be in accordance with Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

- Section R403.3.5 (N1103.3.5) Duct testing (Originally Section R403.3.3 (N1103.3.3) Duct testing, [2018 IECC/IRC]), was not modified as part of the Pennsylvania adoption of the 2021 IECC/IRC, and will remain as published in the 2018 IECC/IRC as follows:

R403.3.5 (N1103.3.5) Duct testing (Mandatory). Ducts shall be pressure tested to determine air leakage by one of the following methods:

- Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer’s air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test.*

2. *Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.*

Exceptions:

1. *A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.*
2. *A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.*

A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

- Section R403.3.6 (N1103.3.6) Duct leakage (Originally Section R403.3.4 (N1103.3.4) Duct leakage, [2018 IECC/IRC]), was not modified as part of the Pennsylvania adoption of the 2021 IECC/IRC, and will remain as published in the 2018 IECC/IRC as follows:

R403.3.6 (N1103.3.6) Duct leakage (Prescriptive). *The total leakage of the ducts, where measured in accordance with Section R403.3.5, shall be as follows:*

1. *Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.*
2. *Postconstruction test: Total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area.*

- Section R403.3.7 (N1103.3.7) Building cavities (Mandatory), (Originally Section R403.3.5 (N1103.3.5) Building cavities, [2015 and 2018 IECC/IRC]), was modified as part of the Pennsylvania 2015 IECC/IRC adoption. The national language was not modified in the 2018 IECC/IRC and the modified language was maintained in the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R403.3.7 (N1103.3.7) Building cavities (Mandatory). Building framing cavities shall not be used as supply ducts.

- Section R403.5.1.1 (N1103.5.1.1) Circulation systems, is adopted as follows:

R403.5.1.1 (N1103.5.1.1) Circulation systems. Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosyphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water. The controls shall limit the temperature of the water entering the cold water piping to not greater than 104°F (40°C).

Exception: Where the entire hot water piping system (both supply and return) are insulated with a minimum R3 insulation, the stated controls shall not be required.

- Section R404.1 (N1104.1) Lighting equipment, was not modified as part of the current Pennsylvania 2021 IECC/IRC adoption and remains the 2018 IECC/IRC language as follows:

R404.1 (N1104.1) Lighting equipment (Mandatory). Not less than 90 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.

- Section R404.1.1 (N1104.1.1) Exterior lighting, was not modified as part of the current Pennsylvania 2021 IECC/IRC adoption and remains the 2018 IECC/IRC language as follows:

R404.1.1 (N1104.1.1) Lighting equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.

- Section R404.1.2 (N1104.1.2) Fuel gas lighting equipment, was not adopted as part of the current Pennsylvania 2021 IECC/IRC adoption.
- Section R404.2 (N1104.2) Interior lighting controls, was not adopted as part of the current Pennsylvania 2021 IECC/IRC adoption.
- Section R404.3 (N1104.3) Exterior lighting controls, was not adopted as part of the current Pennsylvania 2021 IECC/IRC adoption.

- TABLE R405.2 (N1105.2) REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE, was adopted as follows:

TABLE N1105.2 (R405.2) REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE	
SECTION*	TITLE
General	
N1101.13.5	Additional energy efficiency
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
N1102.5	Maximum fenestration <i>U</i> -factor and SHGC
Mechanical	
N1103.1	Controls
N1103.3, including N1103.3.1, except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation
N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls

a. Reference to a code section includes all the relative subsections except as indicated in the table.

- Section R405.3.2 (N1105.3.2) Compliance report, (Originally Section R405.4.2 (N1105.4.2) Compliance report, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R405.3.2 (N1105.3.2) Compliance report. *Compliance software tools shall generate a report that documents that the proposed design complies with Section R405.4 (N1105.4). A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the code official before a certificate of occupancy is issued. Batch sampling of buildings to determine energy code compliance for all buildings in the batch shall be prohibited.*

Compliance reports shall include information in accordance with Sections R405.4.2.1 (N1105.4.2.1) and R405.4.2.2 (N1105.4.2.2). Where the proposed design of a building could be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst-case duct leakage. Such worst-case parameters shall be used as inputs to the compliance software for energy analysis.

- Section R405.3.2.1 (N1105.3.2.1) Compliance report for permit application, (Originally Section R405.4.2.1 (N1105.4.2.1) Compliance report for permit application, [2018 IECC/IRC]), was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R405.3.2.1 (N1105.3.2.1) Compliance report for permit application. *A compliance report submitted with the application for building permit shall include the following:*

1. *Building street address, or other building site identification.*
2. *A statement indicating that the proposed design complies with Section R405.4 (N1105.4).*
3. *An inspection checklist documenting the building component characteristics of the proposed design as indicated in Table R405.4.2(1) (N1105.4.2(1)). The inspection checklist shall show results for both the standard reference design and the proposed design with user inputs to the compliance software to generate the results.*
4. *A site-specific energy analysis report that is in compliance with Section R405.4 (N1105.4).*
5. *The name of the individual performing the analysis and generating the report.*
6. *The name and version of the compliance software tool.*

- Section R405.3.2.2 (N1105.3.2.2) Compliance report for certificate of occupancy, is adopted as follows:

R405.3.2.2 (N1105.3.2.2) Compliance report for certificate of occupancy. *A compliance report submitted for obtaining the certificate of occupancy shall include the following:*

1. *Building street address, or other building site identification.*
2. *Declaration of the total building performance path on the title page of the energy report ~~and the title page of the building plans.~~*
3. *A statement, bearing the name of the individual performing the analysis and generating the report, indicating that the as-built building complies with Section R405.3 (N1105.3).*
4. *The name and version of the compliance software tool.*
5. *A site-specific energy analysis report that is in compliance with Section R405.3 (N1105.3).*
6. *A final confirmed certificate indicating compliance based on inspection, and a statement indicating that the confirmed rated design of the built home complies with Section R405.3 (N1105.3). The certificate shall report the energy features that were confirmed to be in the home, including component-level insulation R-values or U-factors; results from any required duct system and building envelope air leakage testing; and the type and rated efficiencies of the heating, cooling, mechanical ventilation and service water heating equipment installed.*

7. Where on-site renewable energy systems have been installed, the certificate shall report the type and production size of the installed system.

- TABLE R405.4.2(1) (N1105.4.2(1)) SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS (Originally Table R405.5.2.1 (N1105.5.2(1)) SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS, [2018 IECC/IRC]), was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

TABLE R405.4.2(1) [N1105.4.2(1)] SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS		
BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass where the proposed wall is a mass wall; otherwise wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in Table TABLE R402.1.2	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Basement and crawl space walls	Type: same as proposed.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE R402.1.2, with the insulation layer on the interior side of the walls.	As proposed
Above-grade floors	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE R402.1.2	As proposed
Ceilings	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE R402.1.2	As proposed
Roofs	Type: composition shingle on wood sheathing.	As proposed
	Gross area: same as proposed.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Attics	Type: vented with an aperture of 1 ft ² per 300 ft ² of ceiling area.	As proposed
Foundations	Type: same as proposed.	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed
Opaque doors	Area: 40 ft ² .	As proposed
	Orientation: North.	As proposed
	U-factor: same as fenestration as specified in TABLE R402.1.2	As proposed
Vertical fenestration other than opaque doors	Total area ^b =	As proposed
	(a) The proposed glazing area, where the proposed glazing area is less than 15 percent of the conditioned floor area.	
	(b) 15 percent of the conditioned floor area, where the proposed glazing area is 15 percent or more of the conditioned floor area.	
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed
	U-factor: as specified in TABLE R402.1.2	As proposed
	SHGC: as specified in Table N1102.1.2 except for <i>climate zones</i> without an SHGC requirement, the SHGC shall be equal to 0.40.	As proposed
	Interior shade fraction: 0.92-(0.21 × SHGC for the standard reference design).	Interior shade fraction: 0.92-(0.21 × SHGC as proposed)
Skylights	External shading: none	As proposed
	None	As proposed
Thermally isolated sunrooms	None	As proposed

(continued)

TABLE R405.4.2(1) [N1105.4.2(1)]-continued SPECIFICATIONS FOR THE STANDARD REFERENCE DESIGN AND PROPOSED DESIGNS		
BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Air exchange rate	The air leakage rate at a pressure of 0.2 inch w.g. (50 Pa) shall be <i>Climate Zones 1 and 2:</i> 5 air changes per hour. <i>Climate Zones 3 through 8:</i> 3 air changes per hour. The mechanical ventilation rate shall be in addition to the air leakage rate and shall be the same as in the proposed design, but not greater than $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ where: CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms. Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate ^a . The mechanical ventilation rate ^b shall be in addition to the air leakage rate and shall be as proposed.
	Where mechanical ventilation is not specified in the proposed design: None Where mechanical ventilation is specified in the proposed design, the annual vent fan energy use, in units of kWh/yr, shall equal $(1/e_f) \times [0.0876 \times CFA + 65.7 \times (N_{br} + 1)]$ where: e_f = the minimum exhaust fan efficacy, as specified in Table R403.6.1, corresponding to a flow rate of $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms.	As proposed
Internal gains	IGain, in units of Btu/day per dwelling unit, shall equal $17,900 + 23.8 \times CFA + 4,104 \times N_{br}$ where: CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms.	Same as standard reference design.
Internal mass	Internal mass for furniture and contents: 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element ^c but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs: 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air.	As proposed
	For masonry basement walls, as proposed, but with insulation as specified in TABLE R402.1.3, located on the interior side of the walls.	As proposed
	For other walls, ceilings, floors, and interior walls: wood frame construction.	As proposed
Heating systems ^{d,e}	For other than electric heating without a heat pump: as proposed. Where the proposed design utilizes electric heating without a heat pump, the standard reference design shall be an air source heat pump meeting the requirements of Section C403 of the IECC—Commercial Provisions. Capacity: sized in accordance with Section N1103.7.	As proposed
Cooling systems ^{d,f}	As proposed. Capacity: sized in accordance with Section N1103.7.	As proposed
Service water heating ^{d,g,h}	As proposed. Use: same as proposed design.	As proposed Use, in units of gal/day = $30 + (10 \times N_{br})$ where: N_{br} = number of bedrooms.

(continued)

**TABLE R405.4.2(1) [N1105.4.2(1)]-continued
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Thermal distribution systems	Duct insulation: in accordance with Section N1103.3.1. A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. Exception: For nonducted heating and cooling systems that do not have a fan, the standard reference design thermal distribution system efficiency (DSE) shall be 1. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft² (9.29 m²) of <i>conditioned floor area</i> at a pressure of differential of 0.1 inch w.g. (25 Pa).	Duct insulation: as proposed. As tested or, where not tested, as specified in TABLE R405.4.2(2).
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F.	Same as standard reference design.

For SF: 1 square foot = 0.93 m², 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m², 1 gallon (US) = 3.785 L, °C = (°F-32)/1.8, 1 degree = 0.79 rad.

a. Where required by the *building official*, testing shall be conducted by an *approved* party. Hourly calculations as specified in the ASHRAE *Handbook of Fundamentals*, or the equivalent, shall be used to determine the energy loads resulting from infiltration.

b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE *Handbook of Fundamentals*, page 26.24 and the "Whole-house Ventilation" provisions of 2001 ASHRAE *Handbook of Fundamentals*, page 26.19 for intermittent mechanical ventilation.

c. Thermal storage element shall mean a component that is not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element shall be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or shall be connected to such a room with pipes or ducts that allow the element to be actively charged.

d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.

e. For a proposed design without a proposed heating system, a heating system having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.

f. For a proposed design home without a proposed cooling system, an electric air conditioner having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.

g. For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater having the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

h. For residences with conditioned basements, R-2 and R-4 residences, and for townhouses, the following formula shall be used to determine glazing area:

$$AF = A_s \times FA \times F$$

where:

AF = Total glazing area.

A_s = Standard reference design total glazing area.

FA = (Above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 × below-grade boundary wall area).

F = (above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater.

and where:

Thermal boundary wall is any wall that separates conditioned space from unconditioned space or ambient conditions.

Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil.

Below-grade boundary wall is any thermal boundary wall in soil contact.

Common wall area is the area of walls shared with an adjoining dwelling unit. L and CFA are in the same units.

- TABLE R406.2 (N1106.2) REQUIREMENTS FOR ENERGY RATING INDEX, is adopted as follows:

TABLE N1106.2 (R406.2) REQUIREMENTS FOR ENERGY RATING INDEX	
SECTION ^a	TITLE
General	
N1101.13.5	Additional efficiency packages
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
Mechanical	
N1103.1	Controls
N1103.3 except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation
N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls
N1106.3	Building thermal envelope

a. Reference to a code section includes all of the relative subsections except as indicated in the table.

- Section R406.3 (N1106.3) Building thermal envelope, was not adopted as part of the Pennsylvania 2021 IECC/IRC adoption and is reserved
- Section R406.3.1 (N1106.3.1) On-site renewables are not included, was not adopted as part of the Pennsylvania 2021 IECC/IRC adoption
- Section R406.3.2 (N1106.3.2) On-site renewables are included, was not adopted as part of the Pennsylvania 2021 IECC/IRC adoption
- Section R406.4 (N1106.4) Energy Rating Index, (Originally Section R406.3 (N1106.3) Energy Rating Index, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.4 (N1106.4) Energy rating index. The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.

- Section R406.4.1 (N1106.4.1) ERI referenced design, (Originally Section R406.3.1 (N1106.3.1) ERI referenced design, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.4.1 (N1106.4.1) ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements. The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.

- Section R406.7.1 (N1106.7.1) Compliance software tools, (Originally Section R406.6.1 (N1106.6.1) Compliance software tools, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.7.1 (N1106.7.1) Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.

- Section R406.8 (N1106.8) Calculation software tools, (Originally Section R406.7 (N1106.7) Calculation software tools, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.8 (N1106.8) Calculation software tools. Calculation software, where used, shall be in accordance with Sections R406.8.1 (N1106.8.1) through R406.8.3 (N1106.8.3).

- Section R406.8.1 (N1106.8.1) Minimum capabilities, (Originally Section R406.7.1 (N1106.7.1) Minimum capabilities, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.7.1 (N1106.7.1) Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in Section R406.3 (N1106.3), and shall include the following capabilities:

1. Computer generation of the ERI reference design using only the input for the rated design.

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. Calculation of whole-building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section R403.7 (N1103.7).

3. *Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air-conditioning equipment based on climate and equipment sizing.*
 4. *Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.*
- Section R406.8.2 (N1106.8.2) Specific approval, (Originally Section R406.7.2 (N1106.7.2) Specific approval, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.7.2 (N1106.7.2) Specific approval. *Performance analysis tools meeting the applicable sections of Section R406 (N1106) shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.*

- Section R406.8.3 (N1106.8.3) Input values, (Originally Section R406.7.3 (N1106.7.3) Minimum capabilities, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and will remain as follows:

R406.7.3 (N1106.7.3) Input values. *When calculations require input values not specified by Sections R402 (N1102), R403 (N1103), R404 (N1104) and R405 (N1105), those input values shall be taken from an approved source.*

- Section R406.7.5 (N1106.7.5) Specific approval, (Originally Section R406.6.4 (N1106.6.4) Specific approval, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and is removed (redundant due to previous action and reorganization).
- Section R406.7.6 (N1106.7.6) Input values, (Originally Section R406.6.5 (N1106.6.5) Input values, [2015 and 2018 IECC/IRC]), was not modified as part of the Pennsylvania 2018 IECC/IRC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IECC/IRC, and is removed (redundant due to previous action and reorganization).
- Section R408.1 (N1108.1) Scope, is adopted as follows:

R408.1 (N1108.1) Scope. *This section establishes additional efficiency package options to achieve additional energy efficiency ~~in accordance with Section N1101.13.5.~~*

- Section R408.2 (N1108.2) Additional efficiency package options, is adopted as follows:

R408.2 (N1108.2) Additional efficiency package options. *Additional efficiency package options ~~for compliance with Section N1101.13.5~~ are set forth in Sections R408.2.1 (N1108.2.1) through R408.2.5 (N1108.2.5).*

- **2021 International Residential Code (IRC)**

Adopted with the following modifications:

- Chapter 3 Building Planning, was adopted with the following modifications:

- Section R301.1.4 Intermodal shipping containers, is adopted as follows:

R301.1.4 Intermodal shipping containers. *Intermodal shipping containers that are repurposed for use as buildings or structures shall be designed in accordance with the structural provisions in Section 3115 of the International Building Code. Prior to permitting, the applicant shall have the unit certified as free from contaminants by a qualified 3rd party inspector approved by the AHJ. Any penetrations beyond those permitted in Section 3115 of the International Building Code shall be certified by a Pennsylvania Registered Design Professional.*

- Section R305.1 Minimum height, is adopted as follows:

R305.1 Minimum height. *Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).*

Exceptions:

1. *For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm).*
2. *The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a ceiling height of not less than 6 feet 8 inches (2032 mm) above an area of not less than 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.*
3. *Beams, girders, ducts or other obstructions in basements containing habitable space shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.*
4. *Beams and girders spaced apart ~~not less than~~ a minimum of 36 inches (914 mm) in clear finished width between projections, and shall have a minimum clear ceiling height of 6 feet 6 inches (1981 mm) from the finished floor directly under the beam shall project not more than 78 inches (1981 mm) from the finished floor.*

- Section R310.1 Emergency escape and rescue opening required, is adopted as follows:

R310.1 Emergency escape and rescue opening required. Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court having a minimum width of 36 inches (914 mm) that opens to a public way.

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m²).
 2. Where the dwelling unit or townhouse unit is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:
 - 2.1. One means of egress complying with Section R311 and one emergency escape and rescue opening.
 - 2.2. Two means of egress complying with Section R311.
 3. A yard shall not be required to open directly into a public way where the yard opens to an unobstructed path from the yard to the public way. Such path shall have a width of not less than 36 inches (914 mm).
 4. Properties with in-fill lots that are sprinklered in accordance with Section 2904, and a minimum clear yard size of 80 sq ft (7.43 m²) shall, be allowed to have access to the public way provided by a shared easement that is a minimum of 30 in (762 mm) wide.
- Section R311.7.4 Walkline, was modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in 2021 code, and as such, this language was maintained as modified in the 2018 adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R311.7.4 Walkline. The walkline across winder treads and landings shall be concentric to the turn and parallel to the direction of travel entering and exiting the turn. The walkline shall be located 12 inches (305 mm) from the inside of the turn. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface. Where winders are adjacent within a flight, the point of the widest clear stair width of the adjacent winders shall be used.

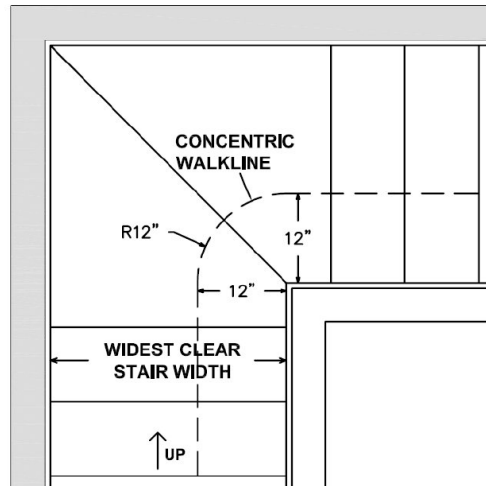


FIGURE R311.7.4
WINDER TREAD AND LANDING DETAIL

- Section R314.4 Interconnection, was not modified as part of the Pennsylvania 2018 IBC adoption, maintaining the 2015 IRC language. The national language was not modified in 2021 code, and as such, this language was again maintained as written in the 2015 adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R314.4 Interconnection. *Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.*

Exception: *Interconnection of smoke alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available that could provide access for interconnection without the removal of interior finishes.*

- Section R325.5 Openness, was modified as part of the Pennsylvania 2015 IRC adoption. The national language was not modified in the 2018 code nor the 2021 code, and as such will remain as adopted in the Pennsylvania 2015 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R325.5 Openness. *Mezzanines shall be open and unobstructed to the room in which they are located except for walls not more than ~~42 inches (1067 mm)~~ 36 inches (914 mm) in height, columns and posts.*

Exceptions:

1. *Mezzanines or portions thereof are not required to be open to the room in which they are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the mezzanine area.*

~~2. In buildings that are not more than two stories above grade plane and equipped throughout with an automatic sprinkler system in accordance with NFPA 13R or NFPA 13D, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.~~

- Section R326.3 Story above grade plane, is adopted as follows:

R326.3 Story above grade plane. A habitable attic shall be considered a story above grade plane.

Exceptions: A habitable attic shall not be considered to be a story above grade plane provided that the habitable attic meets all the following:

1. The aggregate area of the habitable attic is either of the following:
 - 1.1. Not greater than one-third of the floor area of the story below.
 - 1.2. Not greater than one-half of the floor area of the story below where the habitable attic is located within a dwelling unit equipped with a fire sprinkler system in accordance with Section P2904.
2. The occupiable space is enclosed by the roof assembly above, knee walls, if applicable, on the sides and the floor-ceiling assembly below.
3. ~~The floor of the habitable attic does not extend beyond the exterior walls of the story below.~~
4. ~~Where a habitable attic is located above a third story, the dwelling unit or townhouse unit shall be equipped with a fire sprinkler system in accordance with Section P2904.~~

- Chapter 5 Floors, was adopted with the following modification:

- Section R506.2.3 Vapor retarder, is adopted as follows:

R506.2.3 Vapor retarder. A minimum ~~10 mil (0.010 inch; 0.25 mm)~~ vapor retarder ~~conforming to ASTM E1745 Class A requirements~~ 6 mil (0.006 inch; 152 mm) polyethylene or approved vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where a base course does not exist.

Exception: The vapor retarder is not required for the following:

1. Garages, utility buildings and other unheated accessory structures.
2. For unheated storage rooms having an area of less than 70 square feet (6.5 m²) and carports.
3. Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.
4. Where approved by the building official, based on local site conditions.

- Chapter 7 Wall Covering, was adopted with the following modifications:

- Section R703.2 Water-resistive barrier, is adopted as follows:

~~**R703.2 Water-resistive barrier.** Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls with flashing as indicated in Section R703.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. The water-resistive barrier material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. Water-resistive barrier materials shall comply with one of the following:~~

- ~~1. No. 15 felt complying with ASTM D226, Type 1.~~
- ~~2. ASTM E2568, Type 1 or 2.~~
- ~~3. ASTM E331 in accordance with Section R703.1.1.~~
- ~~4. Other approved materials in accordance with the manufacturer's installation instructions.~~

~~No. 15 asphalt felt and water-resistive barriers complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).~~

R703.2 Water-resistive barrier. Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls with flashing as indicated in Section R703.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. The water-resistive barrier material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. Where the water-resistive barrier also functions as a component of a continuous air barrier, the water-resistive barrier shall be installed as an air barrier in accordance with Section N1102.4.1.1. Water-resistive barrier materials shall comply with one of the following:

1. No. 15 felt complying with ASTM D226, Type 1.
2. ASTM E2568, Type 1 or 2.
3. Foam plastic insulating sheathing water-resistive barrier systems complying with Section R703.1.1 and installed in accordance with the manufacturer's installation instructions.
4. ASTM E331 in accordance with Section R703.1.1.
5. Other approved materials in accordance with the manufacturer's installation instructions.

No.15 asphalt felt and water-resistive barriers complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).

Exception: A water-resistive barrier shall not be required in unconditioned detached tool sheds, playhouses, and other similar accessory structures provided all of the following requirements are met:

1. Exterior wall covering is limited to siding that is attached directly to the studs.
2. Exterior walls are uninsulated.
3. Interior side of exterior walls has no wall covering or wall finishes.

- Section R703.3.1 Exterior soffit installation (Previous Soffit installation), is adopted as follows:

~~**R703.3.1 Soffit installation.** Soffits shall comply with Section R704.~~

R703.3.1 Exterior soffit installation. Exterior soffits shall comply with Section R704.

- Section R703.4.1 Flashing installation at exterior window and door openings, is adopted as follows:

~~**R703.4.1 Flashing installation at exterior window and door openings.** Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to a water resistive barrier complying with Section 703.2 for subsequent drainage. Air sealing shall be installed around all window and door openings on the interior side of the rough opening gap. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:~~

- ~~1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides.~~
- ~~2. In accordance with the flashing design or method of a registered design professional.~~
- ~~3. In accordance with other approved methods.~~

R703.4.1 Flashing installation at exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to a water-resistive barrier complying with Section 703.2 for subsequent drainage. Air sealing shall be installed around all window and door openings on the interior side of the rough opening gap. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:

1. *The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing or water-resistive barrier manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides.*
 2. *In accordance with the flashing design or method of a registered design professional.*
 3. *In accordance with other approved methods.*
- Section R703.7 Exterior plaster (stucco), was modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R703.7 Exterior plaster (stucco). *Installation of exterior plaster shall be in compliance with ASTM C926-2018B, ASTM C1063-2018B and the provisions of this code.*

- Section R704.1 General wind limitations, is adopted as follows:

R704.1 General wind limitations. *Where the design wind pressure is 30 pounds per square foot (1.44 kPa) or less, soffits shall comply with Section R704.2. Where the design wind pressure exceeds 30 pounds per square foot (1.44 kPa), soffits shall comply with Section R704.3. The design wind pressure on soffits shall be determined using the component and cladding loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.93 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).*

R704.1 General wind limitations. *Where the design wind pressure is 30 pounds per square foot (1.44 kPa) or less, exterior soffits shall comply with Section R704.2. Where the design wind pressure exceeds 30 pounds per square foot (1.44 kPa), exterior soffits shall comply with Section R704.3. The design wind pressure on exterior soffits shall be determined using the component and cladding loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.93 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).*

- Section R704.2 Exterior soffit installation where the design wind pressure is 30 psf or less (Previous Soffit installation where the design wind pressure is 30 psf or less), is adopted as follows:

R704.2 Soffit installation where the design wind pressure is 30 psf or less. *Where the design wind pressure is 30 pounds per square foot (1.44 kPa) or less, soffit installation shall comply with Section R704.2.1, R704.2.2, R704.2.3 or R704.2.4. Soffit materials not addressed in Sections R704.2.1 through R704.2.4 shall be in accordance with the manufacturer's installation instructions.*

R704.2 Exterior soffit installation where the design wind pressure is 30 psf or less.

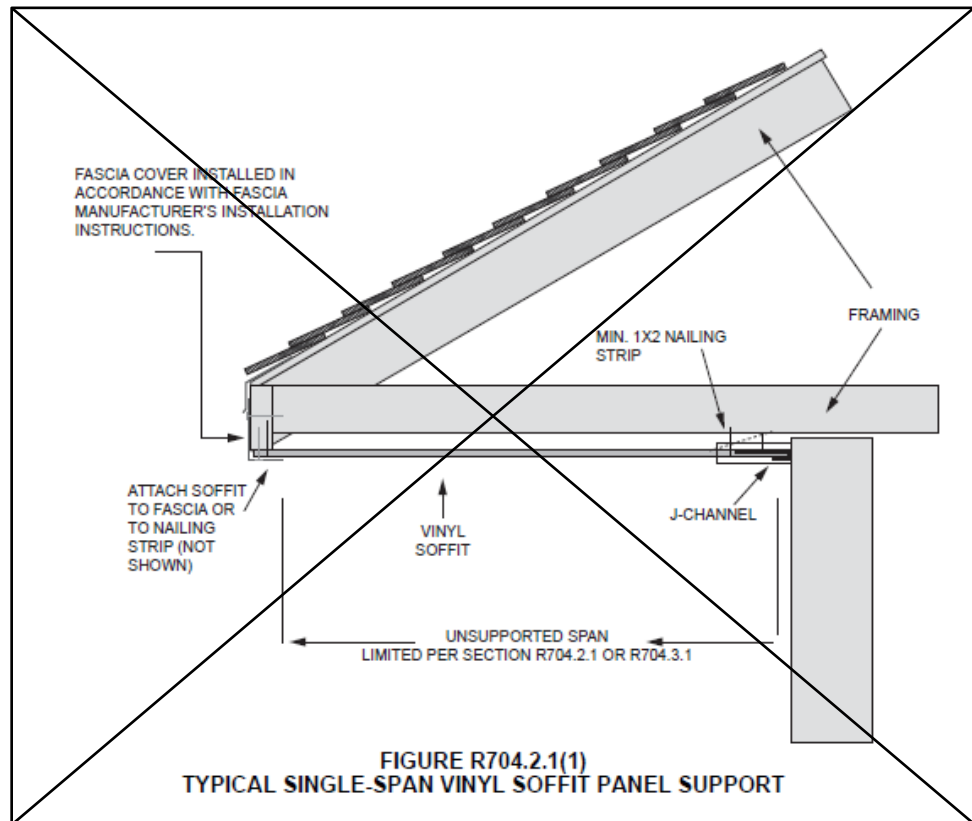
Where the design wind pressure is 30 pounds per square foot (1.44 kPa) or less, exterior soffit installation shall comply with Section R704.2.1, R704.2.2, R704.2.3 or R704.2.4. Soffit materials not addressed in Sections R704.2.1 through R704.2.4 shall be in accordance with the manufacturer's installation instructions.

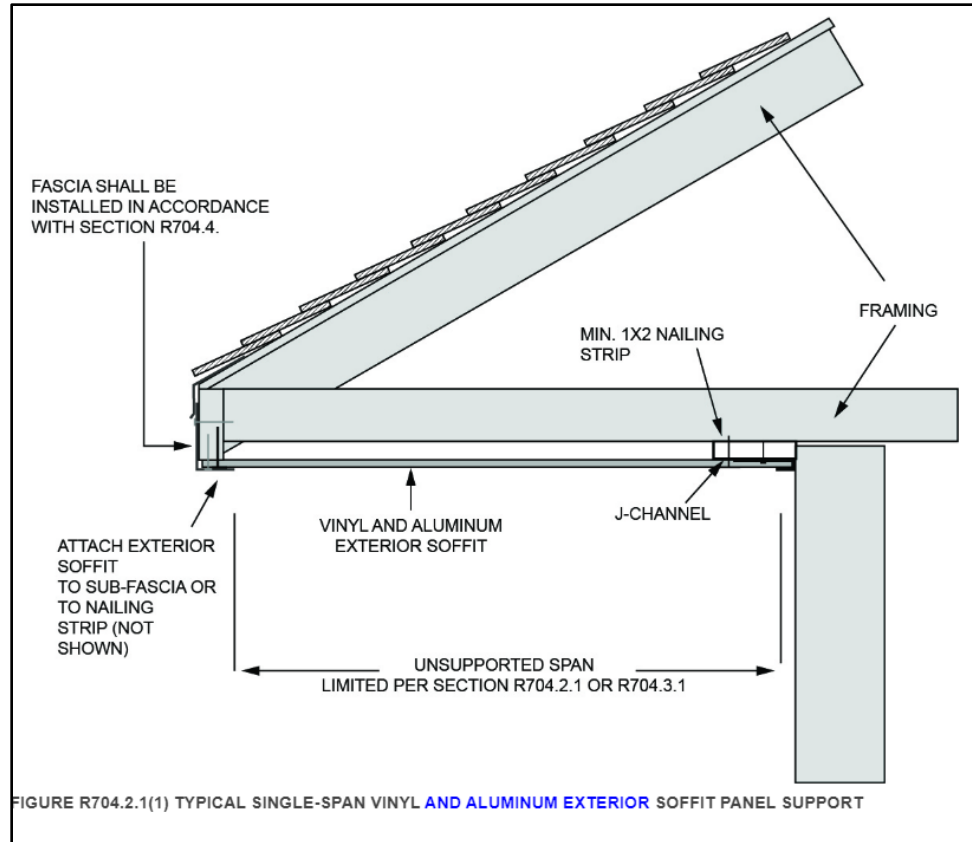
- Section R704.2.1 Vinyl and aluminum soffit panels (Previous Vinyl soffit panels), is adopted as follows:

~~***R704.2.1 Vinyl soffit panels.*** *Vinyl soffit panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or subfascia component in accordance with Figure R704.2.1(1). Where the unsupported span of soffit panels is greater than 16 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions.*~~

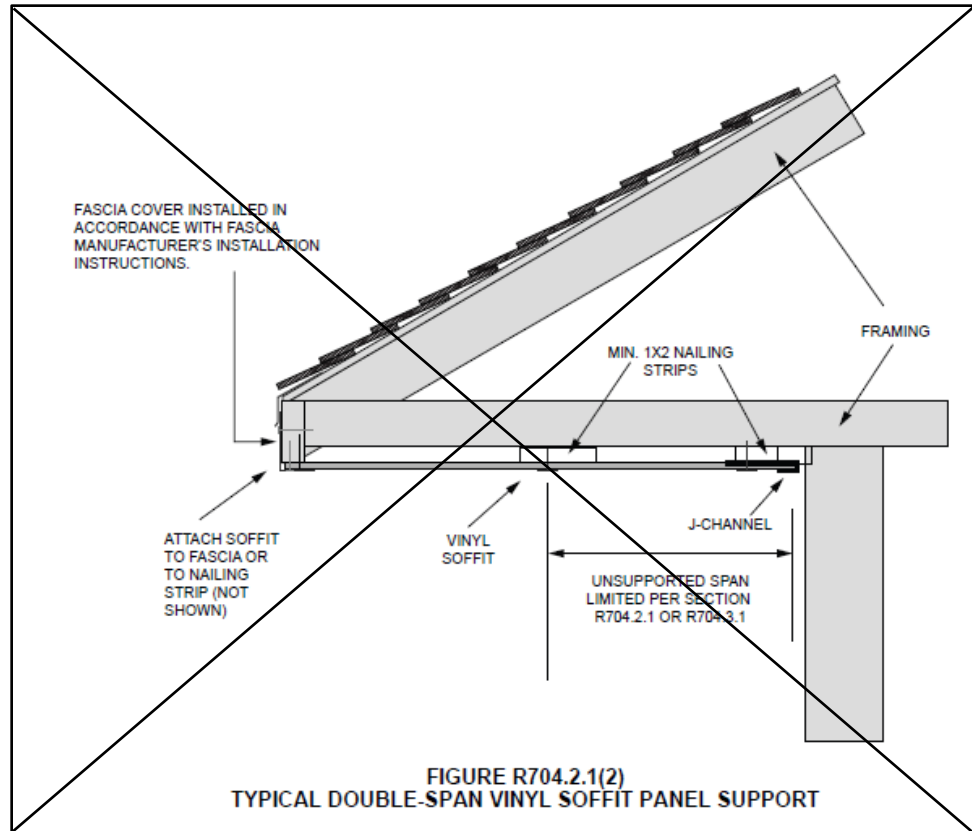
R704.2.1 Vinyl and aluminum soffit panels. *Vinyl and aluminum soffit panels shall be installed using aluminum, galvanized, stainless steel or rust-preventative coated nails or staples or other approved corrosion-resistant fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or sub-fascia component in accordance with Figure R704.2.1(1). Where the unsupported span of soffit panels is greater than 16 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl and aluminum soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions.*

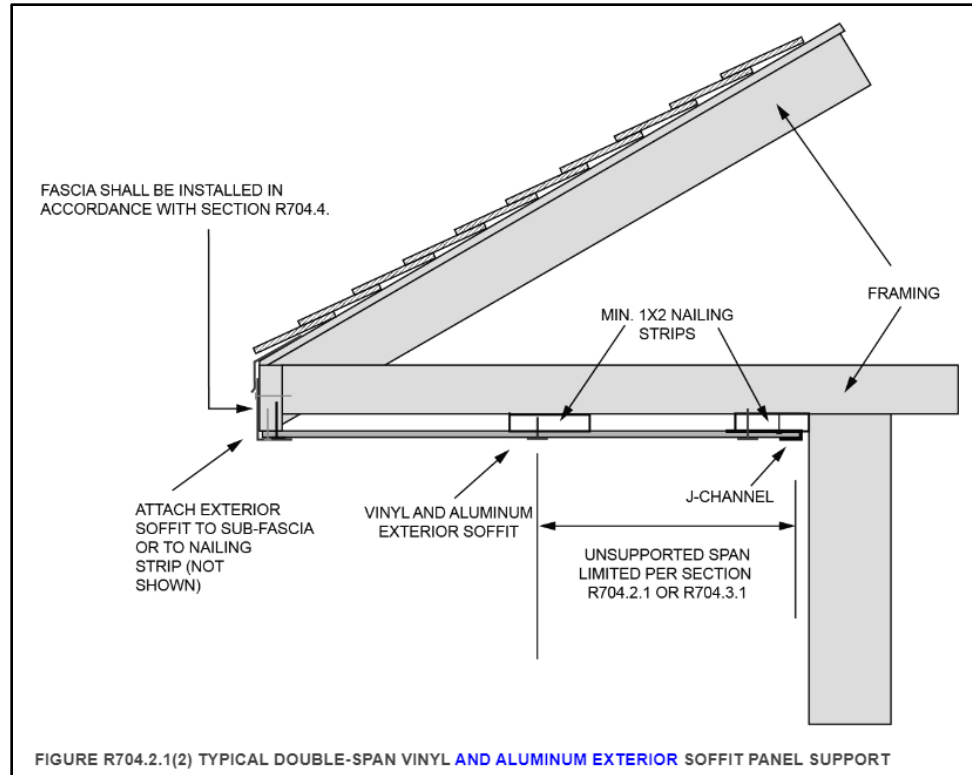
- FIGURE R704.2.1(1) TYPICAL SINGLE-SPAN VINYL AND ALUMINUM EXTERIOR SOFFIT PANEL SUPPORT (Previous TYPICAL SINGLE-SPAN VINYL SOFFIT PANEL SUPPORT), is adopted as follows:





- FIGURE R704.2.1(2) TYPICAL DOUBLE-SPAN VINYL AND ALUMINUM EXTERIOR SOFFIT PANEL SUPPORT (Previous TYPICAL DOUBLE-SPAN VINYL SOFFIT PANEL SUPPORT), is adopted as follows:





- Section R704.2.2 Fiber-cement exterior soffit panels (Previous Fiber-cement soffit panels), is adopted as follows:

~~R704.2.2 Fiber-cement soffit panels.~~ ~~Fiber-cement soffit panels shall be a minimum of 1/4 inch (6.4 mm) in thickness and shall comply with the requirements of ASTM C1186, Type A, minimum Grade II, or ISO 8336, Category A, minimum Class 2. Panel joints shall occur over framing or over wood structural panel sheathing. Soffit panels shall be installed with spans and fasteners in accordance with the manufacturer's installation instructions.~~

R704.2.2 Fiber-cement exterior soffit panels. Fiber-cement exterior soffit panels shall be a minimum of 1/4 inch (6.4 mm) in thickness and shall comply with the requirements of ASTM C1186, Type A, minimum Grade II, or ISO 8336, Category A, minimum Class 2. Panel joints shall occur over framing or over wood structural panel sheathing. Exterior soffit panels shall be installed with spans and fasteners in accordance with the manufacturer's installation instructions.

- Section R704.2.3 Hardboard exterior soffit panels (Previous Hardboard soffit panels), is adopted as follows:

~~R704.2.3 Hardboard soffit panels.~~ ~~Hardboard soffit panels shall be not less than 7/16 inch (11.11 mm) in thickness and shall be fastened to framing or nailing strips with 2 1/2 inch by 0.113 inch (64 mm by 2.9 mm) siding nails spaced not more than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.~~

R704.2.3 Hardboard exterior soffit panels. Hardboard exterior soffit panels shall be not less than 7/16 inch (11.11 mm) in thickness and shall be fastened to framing or nailing strips with 2-1/2-inch by 0.113-inch (64 mm by 2.9 mm) siding nails spaced not more than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.

- Section R704.2.4 Wood structural panel exterior soffit (Previous Wood structural panel soffit), is adopted as follows:

~~**R704.2.4 Wood structural panel soffit.** The minimum nominal thickness for wood structural panel soffits shall be 3/8 inch (9.5 mm) and shall be fastened to framing or nailing strips with 2 inch by 0.099 inch (51 mm by 2.5 mm) nails. Fasteners shall be spaced not less than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.~~

R704.2.4 Wood structural panel exterior soffit. The minimum nominal thickness for wood structural panel soffits shall be 3/8 inch (9.5 mm) and shall be fastened to framing or nailing strips with 2-inch by 0.099-inch (51 mm by 2.5 mm) nails. Fasteners shall be spaced not more than 6 inches (152 mm) on center at panel edges and 12 inches (305 mm) on center at intermediate supports.

- Section R704.3 Exterior soffit installation where the design wind pressure exceeds 30 psf (Previous Soffit installation where the design wind pressure exceeds 30 psf), is adopted as follows:

~~**R704.3 Soffit installation where the design wind pressure exceeds 30 psf.** Where the design wind pressure is greater than 30 psf, soffit installation shall comply with Section R704.3.1, R704.3.2, R704.3.3 or R704.3.4. Soffit materials not addressed in Sections R704.3.1 through R704.3.4 shall be in accordance with the manufacturer's installation instructions.~~

R704.3 Exterior soffit installation where the design wind pressure exceeds 30 psf. Where the design wind pressure is greater than 30 psf, exterior soffit installation shall comply with Section R704.3.1, R704.3.2, R704.3.3 or R704.3.4. Exterior soffit materials not addressed in Sections R704.3.1 through R704.3.4 shall be in accordance with the manufacturer's installation instructions.

- Section R704.3.1 Vinyl exterior soffit panels (Previous Vinyl soffit panels), is adopted as follows:

~~**R704.3.1 Vinyl soffit panels.** Vinyl soffit panels and their attachments shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2). Vinyl soffit panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or sub fascia component in accordance with Figure R704.2.1(1). Where the unsupported span of soffit panels is greater than 12 inches (305 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl soffit panels shall be installed in accordance with the manufacturer's installation instructions. Fascia covers shall be installed in accordance with the manufacturer's installation instructions.~~

R704.3.1 Vinyl exterior soffit panels. Vinyl exterior soffit panels and their attachments shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2). Vinyl exterior soffit panels shall be installed using fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or sub-fascia component in accordance with Figure R704.2.1(1). Where the unsupported span of exterior soffit panels is greater than 12 inches (305 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl exterior soffit panels shall be installed in accordance with the manufacturer's installation instructions.

- Section R704.3.2 Fiber-cement exterior soffit panels (Previous Fiber-cement soffit panels), is adopted as follows:

~~**R704.3.2 Fiber-cement soffit panels.** Fiber-cement soffit panels shall comply with Section R704.2.2 and shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).~~

R704.3.2 Fiber-cement exterior soffit panels. Fiber-cement exterior soffit panels shall comply with Section R704.2.2 and shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).

- Section R704.3.3 Hardboard exterior soffit panels (Previous Hardboard soffit panels), is adopted as follows:

~~**R704.3.3 Hardboard soffit panels.** Hardboard soffit panels shall comply with the manufacturer's installation instructions and shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).~~

R704.3.3 Hardboard exterior soffit panels. Hardboard exterior soffit panels shall comply with the manufacturer's installation instructions and shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2).

- Section Wood structural panel exterior soffit (Previous Wood structural panel soffit), is adopted as follows:

~~**R704.3.4 Wood structural panel soffit.** Wood structural panel soffits shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2). Alternatively, wood structural panel soffits shall be installed in accordance with Table R704.3.4.~~

R704.3.4 Wood structural panel exterior soffit. Wood structural panel exterior soffits shall be capable of resisting wind loads specified in Table R301.2.1(1) for walls using an effective wind area of 10 square feet (0.929 m²) and adjusted for height and exposure in accordance with Table R301.2.1(2). Alternatively, wood structural panel exterior soffits shall be installed in accordance with Table R704.3.4.

- TABLE R704.3.4 PRESCRIPTIVE ALTERNATIVE FOR WOOD STRUCTURAL PANEL SOFFIT^{b, c, d, e}, is adopted as follows:

TABLE R704.3.4 PRESCRIPTIVE ALTERNATIVE FOR WOOD STRUCTURAL PANEL SOFFIT ^{b, c, d, e}					
MAXIMUM DESIGN PRESSURE (+ or - psf)	MINIMUM PANEL SPAN RATING	MINIMUM PANEL PERFORMANCE CATEGORY	NAIL TYPE AND SIZE	FASTENER ^a SPACING ALONG EDGES AND INTERMEDIATE SUPPORTS	
				Galvanized Steel	Stainless Steel
30	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6 ^f	4
40	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6	4
50	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	4
			8d common (2½ × 0.131 × 0.281 head diameter)	6	6
60	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	3
			8d common (2½ × 0.131 × 0.281 head diameter)	6	4
70	24/16	7/16	8d common (2½ × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
80	24/16	7/16	8d common (2½ × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
90	32/16	15/32	8d common (2½ × 0.131 × 0.281 head diameter)	4	3
			10d box (3 × 0.128 × 0.312 head diameter)	6	4

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

a. Fasteners shall comply with Sections R703.3.2 and R703.3.3.

b. Maximum spacing of soffit framing members shall not exceed 24 inches.

c. Wood structural panels shall be of an exterior exposure grade.

d. Wood structural panels shall be installed with strength axis perpendicular to supports with not fewer than two continuous spans.

e. Wood structural panels shall be attached to soffit framing members with specific gravity of at least 0.42. Framing members shall be minimum 2 × 3 nominal with the larger dimension in the cross section aligning with the length of fasteners to provide sufficient embedment depths.

f. Spacing at intermediate supports shall be not greater than 12 inches on center.

Footnote modification:

e. Wood structural panels shall be attached to soffit framing members with specific gravity of at least 0.35. Where the specific gravity of the wood species used for soffit framing members is greater than or equal to 0.35 but less than 0.42 in accordance with AWC NDS, the fastener spacing shall be multiplied by 0.67 or the same fastener spacing as prescribed for galvanized steel nails shall be permitted to be used where RSRS-01 (2" x 0.099" x 0.266" head) nails replace 6d box nails and RSRS-03 (2-1/2" x 0.131" x 0.281" head) nails replace 8d common nails or 10d box nails. RSRS is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667. Framing members shall be minimum 2 × 3 nominal with the larger dimension in the cross section aligning with the length of fasteners to provide sufficient embedment depths.

- Chapter 8 Roof-Ceiling Construction, was adopted with the following modifications:

- Section R802.3 Ridge, is adopted as follows:

R802.3 Ridge. *A ridge board used to connect opposing rafters shall be not less than 1 inch (25 mm) nominal thickness and not less in depth than the cut end of the rafter. Where ceiling joist or rafter ties do not provide continuous ties across the structure as required by Section R802.5.2, the ridge shall be supported by a wall or ridge beam designed in accordance with accepted engineering practice and supported on each end by a wall, or column, or girder.*

- Section R806.1 Ventilation required, was modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R806.1 Ventilation required. *Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, perforated vinyl or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air ~~and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures.~~*

- Section R806.2 Minimum vent area, was not modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2015 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R806.2 Minimum vent area. *The minimum net free ventilating area shall be 1/150 of the area of the vented space.*

Exception: *The minimum net free ventilation area shall be 1/300 of the vented space provided one or more of the following conditions are met:*

1. *In Climate Zones 6, 7 and 8, a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.*
2. *Not less than 40 percent and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the required ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.*

- Section R806.3 Vent and insulation clearance, was modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

R806.3 Vent and insulation clearance. *Where eave or cornice vents are installed, ~~blocking, bridging and insulation~~ nothing shall not-block the free flow of air. Not less than a 1-inch (25 mm) space shall be provided between the insulation and the roof sheathing and at the location of the vent.*

- Chapter 10 Chimneys and Fireplaces, was adopted with the following modification:
 - Section R1005.8 Insulation shield, was not adopted was not adopted as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption and in the current Pennsylvania 2021 IRC adoption **without** the inclusion of Section R1005.8 Insulation shield
- Chapter 11 [RE] Energy Efficiency, was adopted with the following modifications:
 - Section N1101.13.5 (R401.2.5) Additional energy efficiency, was not adopted as part of the current Pennsylvania adoption of the 2021 IRC/IECC
 - TABLE N1102.1.2 (R402.1.2) MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS , is adopted as follows:

TABLE R1102.1.2 (R402.1.2)
MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC ^{c,d}	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	0.50	0.75	0.25	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.25	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.25	0.030	0.060	0.098	0.047	0.091	0.136
4 except Marine	0.30	0.55	0.40	0.026	0.060	0.098	0.047	0.059	0.065
5 and Marine 4	0.30	0.55	NR	0.026	0.051	0.082	0.033	0.050	0.055
6	0.30	0.55	NR	0.026	0.045	0.060	0.033	0.050	0.055
7 and 8	0.30	0.55	NR	0.026	0.045	0.057	0.028	0.050	0.055

- Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source.
- Mass walls shall be in accordance with Section N1102.2.5. Where more than half the insulation is on the interior, the mass wall *U*-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8.
- In warm-humid locations as defined by Figure R301.1 and Table R301.1, the basement wall *U*-factor shall not exceed 0.360.
- The SHGC column applies to all glazed fenestration.

Exception: In Climate Zones 0 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- There are no SHGC requirements in the Marine Zone.

- f. A maximum U-factor of 0.32 shall apply in Marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either:
1. Above 4,000 feet in elevation above sea level, or
 2. In windborne debris regions where protection of openings is required by Section R301.2.1.2.

- Table N1102.1.3 (R402.1.3) INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a, is adopted as follows:

TABLE N1102.1.3 (R402.1.3)
INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{c,*}	CEILING R-FACTOR	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13 + 5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10/13	10, 2ft	10/13
5 and Marine 4	0.30	0.55	NR	49	23 or 13 + 7.5 ^h or 20 + 3.8 ^h	13/17	30 ^e	15/19	10, 4ft or 15, 3ft	15/19
6	0.30	0.55	NR	49	20 + 5 ⁱ or 13 + 10 ^h	15/20	30 ^e	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5 ⁱ or 13 + 10 ^h	19/21	38 ^e	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

NR = Not Required.

- R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.
- The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with “15/19” shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
- R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- There are no SHGC requirements in the Marine Zone.
- Basement wall insulation shall not be required in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.
- Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19.
- The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, “13+5” means R-13 cavity insulation plus R-5 continuous insulation.
- Mass walls shall be in accordance with Section N1102.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

- Section N1103.3.5 (R403.3.5) Duct testing (Originally Section N1103.3.3 (R403.3.3) Duct testing, [2018 IRC/IECC]), was not modified as part of the Pennsylvania adoption of the 2021 IRC/IECC, and will remain as published in the 2018 IRC/IECC as follows:

N1103.3.5 (R403.3.5) Duct testing (Mandatory). Ducts shall be pressure tested to determine air leakage by one of the following methods:

1. *Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test.*
2. *Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.*

Exceptions:

1. *A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.*
2. *A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.*

A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

- Section N1103.3.6 (R403.3.6) Duct leakage (Originally Section N1103.3.4 (R403.3.4) Duct leakage, [2018 IRC/IECC]), was not modified as part of the Pennsylvania adoption of the 2021 IRC/IECC, and will remain as published in the 2018 IRC/IECC as follows:

N1103.3.6 (R403.3.6) Duct leakage (Prescriptive). The total leakage of the ducts, where measured in accordance with Section N1103.3.5, shall be as follows:

1. *Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.*
2. *Postconstruction test: Total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area.*

- Section N1103.3.7 (R403.3.7) Building cavities (Mandatory), (Originally Section N1103.3.5 (R403.3.5) Building cavities, [2015 and 2018 IRC/IECC]), was modified as part of the Pennsylvania 2015 IRC/IECC adoption. The national language was not modified in the 2018 IRC/IECC and the modified language was maintained in the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

***N1103.3.7 (R403.3.7) Building cavities (Mandatory).** Building framing cavities shall not be used as supply ducts.*

- Section N1103.5.1.1 (R403.5.1.1) Circulation systems, is adopted as follows:

***N1103.5.1.1 (R403.5.1.1) Circulation systems.** Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosyphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water. The controls shall limit the temperature of the water entering the cold water piping to not greater than 104°F (40°C).*

***Exception:** Where the entire hot water piping system (both supply and return) are insulated with a minimum R3 insulation, the stated controls shall not be required.*

- Section N1104.1 (R404.1) Lighting equipment, was not modified as part of the current Pennsylvania 2021 IRC/IECC adoption and remains the 2018 IRC/IECC language as follows:

***N1104.1 (R404.1) Lighting equipment (Mandatory).** Not less than 90 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.*

- Section N1104.1.1 (R404.1.1) Exterior lighting, was not modified as part of the current Pennsylvania 2021 IRC/IECC adoption and remains the 2018 IRC/IECC language as follows:

***N1104.1.1 (R404.1.1) Lighting equipment (Mandatory).** Fuel gas lighting systems shall not have continuously burning pilot lights.*

- Section N1104.1.2 (R404.1.2) Fuel gas lighting equipment, was not adopted as part of the current Pennsylvania 2021 IRC/IECC adoption.
- Section N1104.2 (R404.2) Interior lighting controls, was not adopted as part of the current Pennsylvania 2021 IRC/IECC adoption.
- Section N1104.3 (R404.3) Exterior lighting controls, was not adopted as part of the current Pennsylvania 2021 IRC/IECC adoption.

- TABLE N1105.2 (R405.2) REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE, was adopted as follows:

TABLE N1105.2 (R405.2) REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE	
SECTION*	TITLE
General	
N1101.13.5	Additional energy efficiency
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
N1102.5	Maximum fenestration <i>U</i> -factor and SHGC
Mechanical	
N1103.1	Controls
N1103.3, including N1103.3.1, except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation
N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls

a. Reference to a code section includes all the relative subsections except as indicated in the table.

- Section N1105.3.2 (R405.3.2) Compliance report, (Originally Section N1105.4.2 (R405.4.2) Compliance report, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1105.3.2 (R405.3.2) Compliance report. Compliance software tools shall generate a report that documents that the proposed design complies with Section N1105.4 (R405.4). A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the code official before a certificate of occupancy is issued. Batch sampling of buildings to determine energy code compliance for all buildings in the batch shall be prohibited.

Compliance reports shall include information in accordance with Sections N1105.4.2.1 (R405.4.2.1) and N1105.4.2.2 (R405.4.2.2). Where the proposed design of a building could be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst-case duct leakage. Such worst-case parameters shall be used as inputs to the compliance software for energy analysis.

- Section N1105.3.2.1 (R405.3.2.1) Compliance report for permit application, (Originally Section N1105.4.2.1 (R405.4.2.1) Compliance report for permit application, [2018 IRC/IECC]), was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1105.3.2.1 (R405.3.2.1) Compliance report for permit application. *A compliance report submitted with the application for building permit shall include the following:*

1. *Building street address, or other building site identification.*
2. *A statement indicating that the proposed design complies with Section N1105.4 (R405.4).*
3. *An inspection checklist documenting the building component characteristics of the proposed design as indicated in Table N1105.4.2(1) (R405.4.2(1)). The inspection checklist shall show results for both the standard reference design and the proposed design with user inputs to the compliance software to generate the results.*
4. *A site-specific energy analysis report that is in compliance with Section N1105.4 (R405.4).*
5. *The name of the individual performing the analysis and generating the report.*
6. *The name and version of the compliance software tool.*

- Section N1105.3.2.2 (R405.3.2.2) Compliance report for certificate of occupancy, is adopted as follows:

N1105.3.2.2 (R405.3.2.2) Compliance report for certificate of occupancy. *A compliance report submitted for obtaining the certificate of occupancy shall include the following:*

1. *Building street address, or other building site identification.*
2. *Declaration of the total building performance path on the title page of the energy report ~~and the title page of the building plans.~~*
3. *A statement, bearing the name of the individual performing the analysis and generating the report, indicating that the as-built building complies with Section N1105.3.*
4. *The name and version of the compliance software tool.*
5. *A site-specific energy analysis report that is in compliance with Section N1105.3. (R405.3)*
6. *A final confirmed certificate indicating compliance based on inspection, and a statement indicating that the confirmed rated design of the built home complies with Section N1105.3. The certificate shall report the energy features that were confirmed to be in the home, including component-level insulation R-values or U-factors; results from any required duct system and building envelope air leakage testing; and the type and rated efficiencies of the heating, cooling, mechanical ventilation and service water heating equipment installed.*

7. Where on-site renewable energy systems have been installed, the certificate shall report the type and production size of the installed system.

- TABLE N1105.4.2(1) (R405.4.2(1)) SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS (Originally Table N1105.5.2(1) (R405.5.2.1) SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS, [2018 IRC/IECC]), was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass where the proposed wall is a mass wall; otherwise wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE N1102.1.2	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Basement and crawl space walls	Type: same as proposed.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE N1102.1.2 with the insulation layer on the interior side of the walls.	As proposed
Above-grade floors	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE N1102.1.2	As proposed
Ceilings	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	U-factor: as specified in TABLE N1102.1.2	As proposed
Roofs	Type: composition shingle on wood sheathing.	As proposed
	Gross area: same as proposed.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Attics	Type: vented with an aperture of 1 ft ² per 300 ft ² of ceiling area.	As proposed
Foundations	Type: same as proposed.	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed
Opaque doors	Area: 40 ft ² .	As proposed
	Orientation: North.	As proposed
	U-factor: same as fenestration as specified in TABLE N1102.1.2	As proposed
Vertical fenestration other than opaque doors	Total area ^a =	As proposed
	(a) The proposed glazing area, where the proposed glazing area is less than 15 percent of the conditioned floor area.	
	(b) 15 percent of the conditioned floor area, where the proposed glazing area is 15 percent or more of the conditioned floor area.	
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed
	U-factor: as specified in TABLE N1102.1.2	As proposed
	SHGC: as specified in Table N1102.1.2 except for <i>climate zones</i> without an SHGC requirement, the SHGC shall be equal to 0.40.	As proposed
	Interior shade fraction: 0.92-(0.21 × SHGC for the standard reference design).	Interior shade fraction: 0.92-(0.21 × SHGC as proposed)
Skylights	External shading: none	As proposed
	None	As proposed
Thermally isolated sunrooms	None	As proposed

(continued)

TABLE N1105.4.2(1) [R405.4.2(1)]-continued SPECIFICATIONS FOR THE STANDARD REFERENCE DESIGN AND PROPOSED DESIGNS		
BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Air exchange rate	The air leakage rate at a pressure of 0.2 inch w.g. (50 Pa) shall be <i>Climate Zones 1 and 2:</i> 5 air changes per hour. <i>Climate Zones 3 through 8:</i> 3 air changes per hour. The mechanical ventilation rate shall be in addition to the air leakage rate and shall be the same as in the proposed design, but not greater than $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ where: CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms. Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate ^a . The mechanical ventilation rate ^b shall be in addition to the air leakage rate and shall be as proposed.
	Where mechanical ventilation is not specified in the proposed design: None Where mechanical ventilation is specified in the proposed design, the annual vent fan energy use, in units of kWh/yr, shall equal $(1/e_f) \times [0.0876 \times CFA + 65.7 \times (N_{br} + 1)]$ where: e_f = the minimum exhaust fan efficacy, as specified in Table R403.6.1, corresponding to a flow rate of $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms.	As proposed
Internal gains	IGain, in units of Btu/day per dwelling unit, shall equal $17,900 + 23.8 \times CFA + 4,104 \times N_{br}$ where: CFA = conditioned floor area, ft ² . N_{br} = number of bedrooms.	Same as standard reference design.
Internal mass	Internal mass for furniture and contents: 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element ^c but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs: 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air.	As proposed
	For masonry basement walls, as proposed, but with insulation as specified in TABLE N1102.1.3 located on the interior side of the walls.	As proposed
	For other walls, ceilings, floors, and interior walls: wood frame construction.	As proposed
Heating systems ^{d,e}	For other than electric heating without a heat pump: as proposed. Where the proposed design utilizes electric heating without a heat pump, the standard reference design shall be an air source heat pump meeting the requirements of Section C403 of the IECC—Commercial Provisions. Capacity: sized in accordance with Section N1103.7.	As proposed
Cooling systems ^{d,f}	As proposed. Capacity: sized in accordance with Section N1103.7.	As proposed
Service water heating ^{d,g,h}	As proposed. Use: same as proposed design.	As proposed Use, in units of gal/day = $30 + (10 \times N_{br})$ where: N_{br} = number of bedrooms.

(continued)

**TABLE N1105.4.2(1) [R405.4.2(1)]-continued
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Thermal distribution systems	Duct insulation: in accordance with Section N1103.3.1. A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. Exception: For nonducted heating and cooling systems that do not have a fan, the standard reference design thermal distribution system efficiency (DSE) shall be 1. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft² (9.29 m²) of <i>conditioned floor area</i> at a pressure of differential of 0.1 inch w.g. (25 Pa).	Duct insulation: as proposed. As tested or, where not tested, as specified in TABLE N1105.4.2(2)
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F.	Same as standard reference design.

For SF: 1 square foot = 0.93 m², 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m², 1 gallon (US) = 3.785 L, °C = (°F-32)/1.8, 1 degree = 0.79 rad.

a. Where required by the *building official*, testing shall be conducted by an *approved* party. Hourly calculations as specified in the ASHRAE *Handbook of Fundamentals*, or the equivalent, shall be used to determine the energy loads resulting from infiltration.

b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE *Handbook of Fundamentals*, page 26.24 and the "Whole-house Ventilation" provisions of 2001 ASHRAE *Handbook of Fundamentals*, page 26.19 for intermittent mechanical ventilation.

c. Thermal storage element shall mean a component that is not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element shall be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or shall be connected to such a room with pipes or ducts that allow the element to be actively charged.

d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.

e. For a proposed design without a proposed heating system, a heating system having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.

f. For a proposed design home without a proposed cooling system, an electric air conditioner having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.

g. For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater having the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

h. For residences with conditioned basements, R-2 and R-4 residences, and for townhouses, the following formula shall be used to determine glazing area:

$$AF = A_s \times FA \times F$$

where:

AF = Total glazing area.

A_s = Standard reference design total glazing area.

FA = (Above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 × below-grade boundary wall area).

F = (above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater.

and where:

Thermal boundary wall is any wall that separates conditioned space from unconditioned space or ambient conditions.

Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil.

Below-grade boundary wall is any thermal boundary wall in soil contact.

Common wall area is the area of walls shared with an adjoining dwelling unit. L and CFA are in the same units.

- TABLE N1106.2 (R406.2) REQUIREMENTS FOR ENERGY RATING INDEX, is adopted as follows:

TABLE N1106.2 (R406.2) REQUIREMENTS FOR ENERGY RATING INDEX	
SECTION ^a	TITLE
General	
N1101.13.5	Additional efficiency packages
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
Mechanical	
N1103.1	Controls
N1103.3 except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation
N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls
N1106.3	Building thermal envelope

a. Reference to a code section includes all of the relative subsections except as indicated in the table.

- Section N1106.3 (R406.3) Building thermal envelope, was not adopted as part of the Pennsylvania 2021 IRC/IECC adoption and is reserved
- Section N1106.3.1 (R406.3.1) On-site renewables are not included, was not adopted as part of the Pennsylvania 2021 IRC/IECC adoption
- Section N1106.3.2 (R406.3.2) On-site renewables are included, was not adopted as part of the Pennsylvania 2021 IRC/IECC adoption
- Section N1106.4 (R406.4) Energy Rating Index, (Originally Section N1106.3 (R406.3) Energy Rating Index, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1106.4 (R406.4) Energy rating index. *The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.*

- Section N1106.4.1 (R406.4.1) ERI referenced design, (Originally Section N1106.3.1 (R406.3.1) ERI referenced design, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1106.4.1 (R406.4.1) ERI reference design. *The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements. The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.*

- Section N1106.7.1 (R406.7.1) Compliance software tools, (Originally Section N1106.6.1 (R406.6.1) Compliance software tools, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1106.7.1 (R406.7.1) Compliance software tools. *Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.*

- Section N1106.8 (R406.8) Calculation software tools, (Originally Section N1106.7 (R406.7) Calculation software tools, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1106.8 (R406.8) Calculation software tools. *Calculation software, where used, shall be in accordance with Sections N1106.8.1 (R406.8.1) through N1106.8.3 (R406.8.3).*

- Section N1106.8.1 (R406.8.1) Minimum capabilities, (Originally Section N1106.7.1 (R406.7.1) Minimum capabilities, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

N1106.8.1 (R406.8.1) Minimum capabilities. *Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in Section N1106.3, and shall include the following capabilities:*

1. *Computer generation of the ERI reference design using only the input for the rated design.*

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. *Calculation of whole-building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section N1103.7 (R403.7).*

3. *Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air-conditioning equipment based on climate and equipment sizing.*
 4. *Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.*
- Section N1106.8.2 (R406.8.2) Specific approval, (Originally Section N1106.7.2 (R406.7.2) Specific approval, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

***N1106.8.2 (R406.8.2) Specific approval.** Performance analysis tools meeting the applicable sections of Section N1106 (R406) shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.*
 - Section N1106.8.3 (R406.8.3) Input values, (Originally Section N1106.7.3 (R406.7.3) Minimum capabilities, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and will remain as follows:

***N1106.8.3 (R406.8.3) Input values.** When calculations require input values not specified by Sections N1102 (R402), N1103 (R403), N1104 (R404) and N1105 (R405), those input values shall be taken from an approved source.*
 - Section N1106.7.5 (R406.7.5) Specific approval, (Originally Section N1106.6.4 (R406.6.4) Specific approval, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and is removed (redundant due to previous action and reorganization).
 - Section N1106.7.6 (R406.7.6) Input values, (Originally Section N1106.6.5 (R406.6.5) Input values, [2015 and 2018 IRC/IECC]), was not modified as part of the Pennsylvania 2018 IRC/IECC adoption. The language was not modified as part of the current Pennsylvania adoption of the 2021 IRC/IECC, and is removed (redundant due to previous action and reorganization).
 - Section N1108.1 (R408.1) Scope, is adopted as follows:

***N1108.1 (R408.1) Scope.** This section establishes additional efficiency package options to achieve additional energy efficiency ~~in accordance with Section N1101.13.5.~~*

- Section N1108.2 (R408.2) Additional efficiency package options, is adopted as follows:

***N1108.2 (R408.2) Additional efficiency package options.** Additional efficiency package options ~~for compliance with Section N1101.13.5~~ are set forth in Sections N1108.2.1 (R408.2.1) through N1108.2.5 (R408.2.5).*

- Chapter 13 General Mechanical System Requirements, was adopted with the following modification:

- Section M1305.1.3.2 Excavations (Previous Pit locations), was not modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption (2015 IRC language) and in the current Pennsylvania 2021 IRC adoption as follows:

***M1305.1.3.2 Excavations.** Excavations for appliance installations shall extend to a depth of 6 inches (152 mm) below the appliance and 12 inches (305 mm) on all sides, except that the control side shall have a clearance of 30 inches (762 mm).*

- Chapter 14 Heating and Cooling Equipment and Appliances, was adopted with the following modification:

- Section M1411.6.1 Refrigerant line insulation protection (Previous Refrigerant line insulation), was not modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption (2015 IRC language) and in the current Pennsylvania 2021 IRC adoption as follows:

***M1411.6.1 Refrigerant line insulation protection.** Refrigerant piping insulation shall be protected in accordance with Section N1103.4.1.*

- Chapter 15 Exhaust Systems, was adopted with the following modification:

- Section M1502.3.1 Exhaust termination outlet and passageway size, was not adopted as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such was **not** adopted

- Chapter 24 Fuel Gas, was adopted with the following modifications:

- Section G2427.2.2 (503.2.4) Appliances with integral vents, was adopted as follows:

***G2427.2.2 (503.2.4) Appliances with integral vents.** Appliances incorporating integral venting means shall be installed in accordance with Section G2427.8, ~~Items 1 and 2.~~*

- Section G2427.5.1 (503.5.1) Factory-built chimneys, is adopted as follows:

G2427.5.1 (503.5.1) Factory-built chimneys. *Factory-built chimneys shall be listed in accordance with UL 103 and installed in accordance with manufacturer's instructions. Factory-built chimneys used to vent appliances that operate at a positive vent pressure shall be listed for such application.*

- Section G2427.5.4 (503.5.5) Size of chimneys, is adopted as follows:

G2427.5.4 (503.5.5) Size of chimneys. *The effective area of a chimney venting system serving listed appliances with draft hoods, Category I appliances, and other appliances listed for use with Type B vents shall be determined in accordance with one of the following methods:*

1. *The provisions of Section G2428.*
2. *The effective areas of the vent connector and chimney flue of a venting system serving a single appliance with a draft hood shall be not less than the area of the appliance flue collar or draft hood outlet, nor greater than seven times the draft hood outlet area.*
3. *The effective area of a chimney flue or a venting system serving two appliances with draft hoods, shall be not less than the area of the larger draft hood outlet plus 50 percent of the area of the smaller draft hood outlet. Nor greater than seven times the smallest draft hood outlet.*
4. *Chimney venting systems using mechanical draft shall be sized in accordance with approved engineering methods.*
5. *Other approved engineering methods.*

- Section G2427.5.10 (503.5.11) Insulation shield, is adopted as follows:

G2427.5.10 (503.5.11) Insulation shield. *Where a factory-built chimney passes through insulated assemblies, an insulation shield constructed of steel having a thickness of not less than 0.0187 inch (0.475 mm) (nominal 26 gage) shall be installed to provide clearance between the chimney and the insulation material. The clearance shall be not less than the clearance to combustibles specified by the chimney manufacturer's installation instructions. Where chimneys pass through attic space, the shield shall terminate not less than 2 inches (51 mm) above the installation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a listed chimney system shall be installed in accordance with the manufacturer's installation instructions.*

- Chapter 29 Water Supply and Distribution, was adopted with the following modifications:

- Section P2903.5 Water hammer, was not modified as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain as adopted in the Pennsylvania 2018 IRC adoption (2015 IRC language) and in the current Pennsylvania 2021 IRC adoption as follows:

P2903.5 Water hammer. *The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. Water-hammer arrestors shall be installed in accordance with the manufacturer's instructions. Water-hammer arrestors shall conform to ASSE 1010.*

- Section P2905.3 Hot water supply to fixtures, was not adopted as part of the current Pennsylvania 2021 IRC adoption
- Section P2906.6.1 Saddle tap fittings, was not adopted as part of the Pennsylvania 2018 IRC adoption. The national language was not modified in the 2021 code, and as such will remain not adopted in the current Pennsylvania 2021 IRC adoption
- Chapter 36 Services, was adopted with the following modification:
 - Section E3601.8 Emergency disconnects, is adopted as follows

E3601.8 Emergency disconnects. *For one- and two-family detached dwelling units, all service conductors shall terminate in disconnecting means having a short-circuit current rating equal to or greater than the available fault current, installed in a readily accessible outdoor location. If more than one disconnect is provided, they shall be grouped. Each disconnect shall be one of the following:*

1. *Service disconnects marked as follows: EMERGENCY DISCONNECT, SERVICE DISCONNECT.*
2. *Meter disconnect switches that have a short-circuit current rating equal to or greater than the available fault current and all metal housings and service enclosures are grounded in accordance with Section E3908.7 and bonded in accordance with Section 3609. A meter disconnect switch shall be capable of interrupting the load served and shall be marked as follows: EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT.*
3. *Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are suitable for use as service equipment and marked as follows: EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT.*

Markings shall comply with Section E3404.12. [230.82 (3), 230.85]

- Chapter 39 Power and Lighting Distribution, was adopted with the following modifications:
 - Section E3901.4.2 Island countertop spaces, was not modified as part of the Pennsylvania 2021 IRC adoption, and as such will remain in the 2018 IRC as follows:

E3901.4.2 Island countertop spaces. *At least one receptacle outlet shall be installed at each island countertop space with a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. [210.52(C)(2)]*

- Section E3901.11 Foyers, was modified as part of the Pennsylvania 2015 IRC adoption. The national language was not modified in the 2018 code nor the 2021 code, and as such will remain as adopted in the Pennsylvania 2015 IRC adoption and in the current Pennsylvania 2021 IRC adoption as follows:

E3901.11 Foyers. *Foyers that are not part of a hallway in accordance with Section E3901.10 and that have an area that is greater than 60 ft² (5.57 m²) shall have a receptacle(s) located in each wall space that is ~~3 feet (914 mm)~~ 6 feet (1829 mm) or more in width, but a minimum of one receptacle. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered as wall space. [210.52(H)]*

- Section 3905.8 Boxes at fan outlets, is adopted as follows:

E3905.8 Boxes at fan outlets. *Outlet boxes and outlet box systems used as the sole support of ceiling-suspended fans (paddle) shall be marked by their manufacturer as suitable for this purpose and shall not support ceiling-suspended fans (paddle) that weigh more than 70 pounds (31.8 kg). For outlet boxes and outlet box systems designed to support ceiling-suspended fans (paddle) that weigh more than 35 pounds (15.9 kg), the required marking shall include the maximum weight to be supported.*

Outlet boxes mounted in the ceilings of habitable rooms ~~in a location acceptable~~ for the installation of a ceiling-suspended (paddle) fan shall comply with one of the following:

1. *Listed for sole support of ceiling-suspended (paddle) fans.*
2. *An outlet box complying with the applicable requirements of Section E3905.6 and providing access to structural framing capable of supporting of a ceiling-suspended (paddle) fan bracket or equipment. [314.27(C)]*

- Chapter 40 Receptacles, was adopted with the following modifications:

- Section E4002.11 Bathtub and shower space, was not modified as part of the Pennsylvania 2021 IRC adoption, and as such will remain in the 2018 IRC as follows:

E4002.11 Bathtub and shower space. *A receptacle shall not be installed within or directly over a bathtub or shower stall. [406.9(C)]*

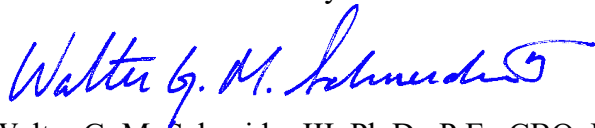
- Section 4004.5 Means of support, is adopted as follows:

E4004.5 Means of support. *Luminaires shall be permitted to be supported by outlet boxes or fittings installed as required by Sections E3905, and E3906. Outlet boxes complying with Section ~~E3906.12~~ E3905.6.3 shall be considered lighting outlets as required by Section E3903. [410.36(A)]*

If you or the Department would like clarification or interpretation of the information provided, please contact me.

Thank you for all of the Department's support during this process.

Respectfully submitted,
UCC Review and Advisory Council

A handwritten signature in blue ink, reading "Walter G. M. Schneider III". The signature is fluid and cursive, with a stylized "S" at the end.

Walter G. M. Schneider III, Ph.D., P.E., CBO, MCP, CFO, MIFireE, F.ASCE, FM, CPT
Committee Chair

File

CDL-1

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Independent Regulatory
Review Commission

September 10, 2025

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Secretary Nancy A. Walker
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BY: Adam J. Nelson

9/8/2025

DATE OF APPROVAL

(Chief Counsel, Independent Agency)
(Strike inapplicable title)

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approval or objection within 30 days after
submission.

NOTICE OF FINAL-OMITTED RULEMAKING

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
TITLE 34. LABOR AND INDUSTRY
PART XIV. UNIFORM CONSTRUCTION CODE**

**[34 Pa. Code, Chap. 401]
Uniform Construction Code Training
and Certification of Code Administrators**

**[34 Pa. Code, Chap. 405]
Administration**

Uniform Construction Code

FINAL-OMITTED RULEMAKING

Title 34 Labor and Industry
Part XIV. Uniform Construction Code
Chapters 401, 403
[34 Pa. Code, Part XIV, Chapters 401, 403]

In accordance with section 304 of the “Pennsylvania Construction Code Act,” the act of November 10, 1999, (P.L. 491, N. 45) (PCCA), *as amended*, 35 P.S. §§ 7210.101 - 7210.1103, the Department of Labor and Industry (Department) amends Chapter 401 (relating to Uniform Construction Code Training and Certification of Code Administrators) and Chapter 403 (relating to administration) to read as set forth in Annex A.

Statutory Authority

This final-omitted rulemaking is issued under the authority provided in sections 304(a)(1)(i) (35 P.S. § 7210.304(a)(1)(i)), and 304(a)(2) (35 P.S. § 7210.304(a)(2)), of the PCCA. Section 304(a)(1)(i) provides that, within 33 months after commencement of the review process, the Department “shall promulgate final-omitted regulations” adopting the revisions provided in a report issued by Uniform Construction Code (UCC) Review and Advisory Council (RAC) to the Secretary of Labor and Industry specifying the 2021 code revisions of the International Code Council (ICC) codes. The Department must adopt the RAC’s revisions “without change.” Section 304(a)(2) exempts the regulations from section 205 of the Commonwealth Documents Law, 45 P.S. § 1205, and sections 204(b) and 301(10) of the Commonwealth Attorneys Act (71 P.S. §§ 732-204(b) and 732-301(10)).

Background

In 1999, the Legislature established the PCCA and directed the Department to promulgate regulations adopting certain building codes as the UCC. *See* 35 P.S. §§ 7210.102(a)(3) and 7210.301. Since then, various codes issued by the ICC, including the International Building Code (IBC), the International Energy Conservation Code (IECC), the International Existing Building Code (IEBC), the International Fire Code (IFC), the International Fuel Gas Code (IFGC), International Mechanical Code (IMC), International Performance Code for Buildings and Facilities (ICCPC), International Plumbing Code (IPC), International Residential Code (IRC), International Swimming Pool and Spa Code (ISPSC) and International Wildland-Urban Interface Code (IWUIC) have been adopted, in whole or in part, by reference into the UCC. *See* 34 Pa. Code §§ 401.1 and 403.21. Every three years, the ICC publishes revisions to these codes.

In Act 106 of 2008, the General Assembly established the RAC whose members represent industry sectors that participate in the various aspects relating to building construction including building component design, construction, building code enforcement and local government representation. The RAC is charged to review the periodic changes to the revised ICC codes prior to adoption into the UCC. *See* 35 P.S. § 7210.107.

The UCC requires the RAC to begin its review 21 months following the publication of a new edition of the ICC Codes. 35 P.S. § 7210.108(a)(1)(i). The ICC published the 2021 ICC codes on January 31, 2021. In accordance with the PCCA, the RAC began its review of the new ICC codes on October 13, 2021.

In its review, the RAC was required to consider: 1) the impact that the section may have upon the health, safety and welfare of the public; 2) the economic and financial impact of the section, including impact on the end consumer; and 3) the technical feasibility of the section. 35 P.S. 7210.108(a)(2).

For the 2021 code review, the RAC was required to submit a report to the Secretary of Labor and Industry outlining the ICC codes that the RAC was adopting or modifying. 35 P.S. § 7210.108(b). The recommendations of the RAC must be adopted by the Department “without change,” 35 P.S. § 7210.304(a)(1), and are to be effective 33 months after the commencement of the code review. 35 P.S. §§ 7210.108(a)(1)(i) and 7210.304(a)(1)(i).

After its review of the 2021 ICC codes was complete, the RAC submitted its report to the Secretary on September 14, 2024, outlining its decisions on which ICC codes must be incorporated into the UCC. Pursuant to section 304(a)(1) of the PCCA, 35 P.S. § 7210.304(a)(1), the Department is required to promulgate final-omitted regulations adopting, “without change” the provisions of the ICC Codes outlined in the RAC’s September 14, 2024 report. These regulations will be effective **XXXXXX**. 35 P.S. § 7210.304(a)(1).

Compliance with Executive Order 1996-1, Regulatory Review and Promulgation

On November 15, 2021, the RAC opened public comment on the 2018 ICC Codes. This public comment period remained open for 120 days. The RAC received 94 individual comments which, in accordance with section 108(a)(3)(iii), 35 P.S. § 7210.108(a)(3)(iii), it assigned to the chairs of the Technical Advisory Committees (TAC) in charge of the ICC codes that received the comments.

The RAC held three public hearings on these regulations on February 1, February 29, and March 28, 2024. In addition to the public hearings, the RAC debated and adopted portions of the 2021 ICC codes at public meetings held on February 1, 2024, February 29, 2024, and March 28, 2024.

Purpose

The purpose of this final-omitted rulemaking is to amend 34 Pa. Code §§ 401.1, 403.1, 403.21, 403.23, 403.26, 403.27, 403.28, 403.42, 403.42a, 403.44, 403.45, 403.46, and 43.103 to adopt the revisions specified in the RAC’s September 14, 2024, report, as required by section 304(a)(1) of the PCCA, 35 P.S. § 7210.304(a)(1).

Summary of Proposed Rulemaking

34 Pa. Code § 401.1. Definitions.

The Department is amending the definition of the “International Building Code” (IBC) to remove reference to Chapter 11 and Appendix E of the IBC of 2021, which concerns accessibility regulations, as section 304(a)(3) of the PCCA, 35 P.S. § 7210.304(a)(3) grants the Department the sole authority to regulate the accessibility of structures. The Department also makes this amendment in compliance with the Commonwealth Court’s decision in *Pa. Builders Assoc., v. Dep’t of Labor & Indus.*, 284 A.3d 1287 (Pa. Cmwlth. 2022).”

The Department is amending the definition of the “International Existing Building Code” (IEBC) to remove reference to the “accessibility provisions” in the IEBC of 2021 as Section 304(a)(3) of the PCCA, 35 P.S. § 7210.304(a)(3) grants the Department the sole authority to regulate the accessibility of structures. The Department also makes this amendment in compliance with the Commonwealth Court’s decision in *Pa. Builders Assoc., v. Dep’t of Labor & Indus.*, 284 A.3d 1287 (Pa. Cmwlth. 2022).”.

34 Pa. Code § 403.1. Scope.

The Department is amending paragraph (g) to reflect the RAC’s vote and report to adopt the entirety of the IRC of 2021 with some exclusions and modifications.

34 Pa. Code § 403.21. Uniform Construction Code.

International Building Code (“IBC”)

The RAC voted to adopt chapters 2—10, 12—29 and 31—35 of the IBC of 2021 with some exclusions and modifications and memorialized this vote in their report. As such, the Department amended subparagraph (a)(1) to indicate these chapters of the IBC of 2021 are adopted with some exclusions and modifications.

The RAC voted to adopt section 3002.1 (relating to hoistway enclosure protection) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(A) to incorporate this addition.

The RAC voted to adopt section 3002.2 (relating to number of elevator cars in a hoistway) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(B) to incorporate this addition.

The RAC voted to adopt section 3002.4 (relating to elevator car to accommodate ambulance stretcher) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(C) to incorporate this addition.

The RAC voted to adopt section 3002.7 (relating to common enclosure with stairway) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained

subparagraph (a)(1)(ii)(D) to incorporate this addition.

The RAC voted to adopt section 3004.2.1 (relating to enclosure) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(E) to incorporate this addition.

The RAC voted to adopt section 3004.3.1 (relating to enclosure) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(F) to incorporate this addition.

The RAC voted to adopt section 3005.4 (relating to machine rooms, control rooms, machinery spaces, and control spaces) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(G) to incorporate this addition.

The RAC voted to adopt section 3006 (relating to elevator lobbies and hoistway opening protection) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(H) to incorporate this addition.

The RAC voted to adopt section 3007 (relating to fire service access elevators) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(I) to incorporate this addition.

The RAC voted to adopt section 3008 (relating to occupant evacuation elevators) of the IBC of 2021 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(ii)(J) to incorporate this addition.

The RAC voted to modify section 803.3 (relating to heavy-timber exemption) of the IBC of 2021 to add the phrase “In buildings equipped throughout with an automatic sprinkler system installed in accordance with section 903.3” before the word exposed and memorialized this vote in their report. As such, the Department modified subparagraph (a)(1)(iii) and added subparagraph (a)(1)(iii)(A) to incorporate this modification.

The RAC voted to modify section 903.3.1.2 (relating to NFPA 13R sprinkler systems) of the IBC of 2021 to change the second condition to clarify how the second condition applies to R-2 occupancies, as opposed to other occupancies, and memorialized this vote in their report. As such, the Department added subparagraph (a)(1)(iii)(B) to incorporate this modification.

The RAC voted to exclude section 426.1 (relating to buildings in which materials that produce combustible dusts are stored or handled) of the IBC of 2021 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(1)(iv)(A) to incorporate this modification.

The RAC voted to exclude section 704.2 (relating to column protection) of the IBC of 2021 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(1)(iv)(B) to incorporate this exclusion.

The RAC voted to exclude section 704.4.1 (relating to light frame construction) of the IBC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph

(a)(1)(iv)(C) to incorporate this exclusion.

The RAC voted to adopt section 704.2 (relating to column protection) of the IBC of 2015 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(v)(A) to incorporate this adoption.

The RAC voted to adopt section 704.4.1 (relating to light frame construction) of the IBC of 2015 and memorialized this vote in their report. As such, the Department retained subparagraph (a)(1)(v)(B) to incorporate this adoption.

The RAC voted to adopt section 426.1 (relating to buildings in which materials that produce combustible dusts are stored or handled) of the IBC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(1)(vi)(A) to incorporate this modification.

International Mechanical Code (“IMC”)

The RAC voted to adopt the International Mechanical Code of 2021 in its entirety and memorialized this vote in their report. As such, the Department is amending paragraph (a)(3) to incorporate the entirety of the IMC of 2021.

International Fuel Gas Code (“IFGC”)

The RAC voted to adopt the International Fuel Gas Code of 2021 in its entirety and memorialized this vote in their report. As such, the Department is amending paragraph (a)(4) to incorporate the entirety of the IFGC of 2021.

International Performance Code (“ICCPC”)

The RAC voted to adopt the International Performance Code for Buildings and Facilities of 2021 in its entirety and memorialized this vote in their report. As such, the Department is amending paragraph (a)(5) to incorporate the entirety of the ICCPC of 2021.

International Plumbing Code (“IPC”)

The RAC voted to adopt the International Plumbing Code of 2021 in its entirety and memorialized this vote in their report. As such, the Department is amending paragraph (a)(6) to incorporate the entirety of the IPC of 2021 with the exception of the provisions regarding accessibility. Section 304(a)(3) of the PCCA, 35 P.S. § 7210.304(a)(3) grants the Department the sole authority to regulate the accessibility of structures.

International Residential Code (“IRC”)

The RAC voted to adopt the IRC of 2021 with some exclusions and modifications and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7) to indicate the IRC of 2021 was adopted with some exceptions and modifications.

The RAC voted to exclude section R311.7.4 (relating to walkline) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(A) to incorporate this exclusion

The RAC voted to exclude section R314.4 (relating to interconnection) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(B) to incorporate this exclusion.

The RAC voted to exclude section R325.5 (relating to openness) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(C) to incorporate this exclusion.

The RAC voted to exclude section R703.7 (relating to exterior plaster (stucco)) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(D) to incorporate this exclusion.

The RAC voted to exclude section R806.2 (relating to minimum vent area) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(E) to incorporate this exclusion and provide the previously adopted language.

The RAC voted to exclude section R1005.8 (relating to insulation shield) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(F) to incorporate this exclusion.

The RAC voted to exclude section N1101.13.5 (relating to additional energy efficiency) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(G) to incorporate this exclusion.

The RAC voted to exclude section N1103.3.5 (relating to duct testing) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(H) to incorporate this exclusion.

The RAC voted to exclude section N1103.3.6 (relating to duct leakage) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(I) to incorporate this exclusion.

The RAC voted to exclude section N1103.7 (relating to building cavities) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(J) to incorporate this exclusion.

The RAC voted to exclude section N1104.1 (relating to lighting equipment) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(K) to incorporate this exclusion.

The RAC voted to exclude section N1104.1.1 (relating to exterior lighting) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph

(a)(7)(iii)(L) to incorporate this exclusion.

The RAC voted to exclude section N1104.1.2 (relating to fuel gas lighting equipment) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(M) to incorporate this exclusion.

The RAC voted to exclude section N1104.2 (relating to interior lighting controls) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(N) to incorporate this exclusion.

The RAC voted to exclude section N1104.3 (relating to exterior lighting controls) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(O) to incorporate this exclusion.

The RAC voted to exclude section N1105.3.2 (relating to compliance report) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(P) to incorporate this exclusion.

The RAC voted to exclude section N1105.3.2.1 (relating to compliance report for permit application) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(Q) to incorporate this exclusion.

The RAC voted to exclude table N1105.4.2(1) (relating to specifications for the standard references and proposed designs) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(R) to incorporate this exclusion.

The RAC voted to exclude section N1106.3 (relating to building thermal envelope) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(S) to incorporate this exclusion.

The RAC voted to exclude section N1106.3.1 (relating to on-site renewables that are not included) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(T) to incorporate this exclusion and provide the previously adopted language.

The RAC voted to exclude section N1106.3.2 (relating to on-site renewables that are included) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(U) to incorporate this exclusion and provide the previously adopted language.

The RAC voted to exclude section N1106.4 (relating to energy rating index) of the IRC of 2021 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iii)(V) to incorporate this exclusion.

The RAC voted to exclude section N1106.4.1 (relating to ERI referenced design) of the IRC of 2021 and memorialized the vote in their report. As such, the Department amended

subparagraph (a)(7)(iii)(W) to incorporate this exclusion.

The RAC voted to exclude section N1106.7.1 (relating to compliance software tools) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(X) to incorporate this exclusion.

The RAC voted to exclude section N1106.7.5 (relating to specific approval) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(Y) to incorporate this exclusion.

The RAC voted to exclude section N1106.7.6 (relating to input values) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(Z) to incorporate this exclusion.

The RAC voted to exclude section N1106.8 (relating to calculation software tools) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(AA) to incorporate this exclusion.

The RAC voted to exclude section N1106.8.1 (relating to minimum capabilities) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(BB) to incorporate this exclusion.

The RAC voted to exclude section N1106.8.2 (relating to specific approval) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(CC) to incorporate this exclusion.

The RAC voted to exclude section N1106.8.3 (relating to input values) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(DD) to incorporate this exclusion.

The RAC voted to exclude section M1305.1.3.2 (relating to pit locations) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(EE) to incorporate this exclusion.

The RAC voted to exclude section M1411.6.1 (relating to refrigerant line insulation protection) of the IRC of 2021 and memorialized this vote in the report. As such, the Department added subparagraph (a)(7)(iii)(FF) to incorporate this exclusion.

The RAC voted to exclude section M1502.3.1 (relating to exhaust termination outlet and passageway size) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(GG) to incorporate this exclusion.

The RAC voted to exclude section P2903.5 (relating to water hammer) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(HH) to incorporate this exclusion.

The RAC voted to exclude section P2905.3 (relating to hot water supply to fixtures) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(II) to incorporate this exclusion.

The RAC voted to exclude section P2906.6.1 (relating to saddle tap fittings) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(JJ) to incorporate this exclusion.

The RAC voted to exclude section E3901.4.2 (relating to island countertop spaces) of the IRC of 2021. As such, the Department added subparagraph (a)(7)(iii)(KK) to incorporate this exclusion.

The RAC voted to exclude section E3901.11 (relating to foyers) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(LL) to incorporate this exclusion.

The RAC voted to exclude section E4002.11 (relating to bathtub and shower space) of the IRC of 2021 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iii)(MM) to incorporate this exclusion.

The RAC voted to modify section R301.1.4 (relating to intermodal shipping containers) of the IRC of 2021 to add the following sentences: “Prior to permitting, the applicant shall have the unit certified as free from contaminants by a qualified 3rd party inspector approved by the AHJ. Any penetrations beyond those permitted in Section 3115 of the International Building Code shall be certified by a Pennsylvania Registered Design Professional” and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(A) to incorporate this modification.

The RAC voted to modify subsection 4 of Section R305.1 (relating to minimum height) of the IRC of 2021 to clarify that an exception applies to beams and girders spaced apart at “a minimum” of 36 inches (914 mm) “between projections” and which have a minimum clear ceiling height of 6 feet 6 inches (1981 mm) “from the finished floor” and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(B) to incorporate this modification.

The RAC voted to modify section R310.1 (relating to emergency escape and rescue opening required) of the IRC of 2021 by adding a fourth exception that reads: “Properties with in-fill lots that are sprinklered in accordance with Section 2904, and a minimum clear yard size of 80 sq ft (7.43 m2) shall, be allowed to have access to the public way provided by a shared easement that is a minimum of 30 in (762 mm) wide” and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(C) to incorporate this modification.

The RAC voted to modify section R326.3 (relating to story above grade plane) of the IRC of 2021 by deleting exceptions 3 and 4 (subsections 3 and 4) and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(D) to incorporate this modification.

The RAC voted to modify section R506.2.3 (relating to vapor retarder) of the IRC of 2021 to require a minimum 6 mil (0.006 inch; 152mm) polyethylene or approved vapor retarder be placed between concrete floor slab and the base course or prepared subgrade where a base course does not exist, instead of a 10 mil (0.010 inch; 0.25mm vapor retarder that conforms to ASTM E1745 Class A requirements, and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(E) to incorporate this modification.

The RAC voted to modify section R703.2 (relating to water-resistive barrier) of the IRC of 2021 to:

- Add the sentence “Where the water-resistive barrier also functions as a component of a continuous air barrier, the water-resistive barrier shall be installed as an air barrier in accordance with Section N1102.4.1.1,”
- Add that such barriers can comply with “Foam plastic insulating sheathing water-resistive barrier systems complying with Section R703.1.1 and installed in accordance with the manufacturer's installation instructions.
- Add an exception that explains that “A water-resistive barrier shall not be required in unconditioned detached tool sheds, playhouses, and other similar accessory structures provided all of the following requirements are met: 1. Exterior wall covering is limited to siding that is attached directly to the studs. 2. Exterior walls are uninsulated. 3. Interior side of exterior walls has no wall covering or wall finishes.

The RAC memorialized this vote in their report. As such, the Department is amending (a)(7)(iv)(F) to incorporate this modification.

The RAC voted to modify section R703.4.1 (relating to soffit installation) of the IRC of 2021 to rename the section as “Exterior soffit installation” and clarify that the section only applies to exterior soffits and memorialized this vote in the report. As such, the Department is amending subparagraph (a)(7)(iv)(G) to incorporate this modification.

The RAC voted to modify section R703.4.1 (relating to flashing installation at exterior window and door openings) of the IRC of 2021 to add a phrase that permits installation of flashing at exterior windows and door openings in accordance with the “water-resistive barrier manufacturer’s instructions” if the fenestration manufacturer’s installation and flashing instructions do not address such applications. As such, the Department is amending subparagraph (a)(7)(iv)(H) to incorporate this modification.

The RAC voted to modify section R704.1 (relating to general wind limitations) of the IRC of 2021 to clarify that soffits referenced are “exterior” soffits and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(I) to incorporate this modification.

The RAC voted to modify section R704.2 (relating to soffit installation where the design wind pressure is 30 psf or less) of the IRC of 2021 to rename the section “Exterior soffit installation where the design wind pressure is 30 psf or less” and to clarify the soffits referenced are “exterior”

soffits of the IRC of 2021 and memorialized this vote in their report. As such, the Department is amending subparagraph (a)(7)(iv)(J) to incorporate this modification.

The RAC voted to modify section R704.2.1 (relating to vinyl soffit panels) of the IRC of 2021 to rename the section “Vinyl and aluminum soffit panels,” to extend the section’s coverage to aluminum soffit panels, and to direct that vinyl and aluminum soffit panels “shall be installed using aluminum, galvanized, stainless steel or rust-preventative coated nails or staples or other approved corrosion-resistant fasteners specified by the manufacturer” and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(K) to incorporate this modification.

The RAC voted to modify Figure R704.2.1(1) (relating to typical single-span vinyl soffit panel support) by:

- Renaming the section “Typical single-span vinyl and aluminum exterior soffit panel support”;
- Replace the term “vinyl soffit” with the term “vinyl and aluminum exterior soffit”;
- Replace “fascia shall be installed in accordance with manufacturer’s instructions” with “fascia shall be installed in accordance with Section R704.4; and
- Replace “attach soffit to fascia or to nailing strip” with “attach exterior soffit to sub-fascia or to nailing strip (not shown).”

As such, the Department is adding subparagraph (a)(7)(iv)(L) to incorporate these modifications by providing the figure.

The RAC voted to modify figure R704.2.1(2) (relating to typical double-span vinyl soffit panel support) by:

- Renaming the section “Typical double-span vinyl and aluminum exterior soffit panel support”;
- Replace the term “vinyl soffit” with the term “vinyl and aluminum exterior soffit”;
- Replace “fascia shall be installed in accordance with manufacturer’s instructions” with “fascia shall be installed in accordance with Section R704.4; and
- Replace “attach soffit to fascia or to nailing strip” with “attach exterior soffit to sub-fascia or to nailing strip (not shown).”

As such, the Department is adding subparagraph (a)(7)(iv)(M) to incorporate these modifications by providing the figure.

The RAC voted to modify section R704.2.2 (relating to fiber-cement soffit panels) of the IRC of 2021 to rename the section “Fiber-cement exterior soffit panels” and to clarify that the section applies to “exterior” fiber-cement soffit panels and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(N) to incorporate this modification.

The RAC voted to modify section R704.2.3 (relating to hardboard soffit panels) of the IRC of 2021 to rename the section “Hardboard exterior soffit panels” and to clarify that the section applies to “exterior” hardboard soffit panels and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(O) to incorporate this modification.

The RAC voted to modify section R704.2.4 (relating to wood structural panel soffit) of the IRC of 2021 to rename the section “Wood structural panel exterior soffit” and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(P) to incorporate this modification.

The RAC voted to modify section R704.3 (relating to soffit installation where the design wind pressure exceeds 30 psf) of the IRC of 2021 to rename the section “Exterior soffit installation where the design wind pressure exceeds 30 psf” and to clarify that the section applies to “exterior” soffit and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(Q) to incorporate this modification.

The RAC voted to modify section R704.3.1 (relating to vinyl soffit panels) of the IRC of 2021 to rename the section “Exterior vinyl soffit panels,” to clarify that the section applies to “exterior” vinyl soffit, and to delete the sentence “Fascia covers shall be installed in accordance with the manufacturer’s installation instructions.” The RAC memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(R) to incorporate this modification.

The RAC voted to modify section R704.3.2 (relating to fiber-cement soffit panels) of the IRC of 2021 to rename the section “Exterior fiber-cement soffit panels” and to clarify that the section applies to “exterior” soffit and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(S) to incorporate this modification.

The RAC voted to modify section R704.3.3 (relating to hardboard soffit panels) of the IRC of 2021 to rename the section “Exterior hardboard soffit panels” and to clarify that the section applies to “exterior” soffit and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(T) to incorporate this modification.

The RAC voted to modify section R704.3.2 (relating to wood structural panel soffit) of the IRC of 2021 to rename the section “Exterior wood structural panel soffit” and to clarify that the section applies to “exterior” soffit and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(U) to incorporate this modification.

The RAC voted to replace footnote (e) of table 704.3.4 (relating to prescriptive alternative of wood structural panel soffit) of the IRC of 2021 with the following:

Wood structural panels shall be attached to soffit framing members with specific gravity of at least 0.35. Where the specific gravity of the wood species used for soffit framing members is greater than or equal to 0.35 but less than 0.42 in accordance with AWC NDS, the fastener spacing shall be multiplied by 0.67 or the same fastener spacing as prescribed for galvanized steel nails shall be permitted to be used where RSRS-01 (2" x 0.099" x 0.266" head) nails replace 6d box nails and RSRS-03 (2-1/2" x 0.131" x 0.281" head) nails replace 8d common nails or 10d box nails. RSRS is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667. Framing members shall be minimum 2 × 3 nominal with the larger dimension in the cross section aligning with the length of fasteners to provide

sufficient embedment depths

The RAC memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(V) to incorporate this modification by providing the modified table.

The RAC voted to modify section R802.3 (relating to ridge) of the IRC of 2021 to add the phrase “or girder” to the end of the section and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(W) to incorporate this modification.

The RAC voted to modify section R806.1 (relating to ventilation required) of the IRC of 2021 to strike the phrase “and shall be protected to prevent the entry of birds, rodents, snakes, and other similar creatures from the end of the section and memorialized this vote in their report. As such, the Department amended subparagraph (a)(7)(iv)(X) to incorporate this modification.

The RAC voted to modify section R806.3 (relating to vent and insulation clearance) of the IRC of 2021 to replace the phrase “blocking, bridging, and insulation shall not block” with “nothing shall block” in the first sentence and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(iv)(Y) to incorporate this modification.

The RAC voted to modify table N1102.1.2 (relating to maximum assembly U-factors and fenestration requirements) of the IRC of 2021 to:

- Strike references to “climate zone 0,” and any related footnotes
- For climate zone 2, renumber the ceiling U-factor as 0.030.
- For climate zone 3, renumber the fenestration U-factor as 0.30, and renumber the ceiling U-factor as 0.030.
- For climate zone 4 except Marine, renumber the ceiling U-factor as 0.026, and renumber the frame wall U-factor as 0.060.
- For climate zones 5 and Marine 4, remove the requirement for glazed fenestration SHGC, renumber the ceiling U-factor as 0.026, and renumber the frame wall U-factor as 0.051.
- For climate zones 6 through 8, renumber the ceiling U-factor as 0.026.

The RAC memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(Z) to incorporate this modification by providing the modified table.

The RAC voted to modify table N1102.1.3 (relating to insulation minimum R-values and fenestration requirements) of the IRC of 2021 to:

- Strike references to “climate zone 0,” and any related footnotes
- For climate zones 3 and 4 except Marine, renumber the fenestration U-factor to 0.32
- For climate zones 5 and Marine 4, remove the requirement for glazed fenestration SHGC
- For climate zones 2 and 3, renumber the ceiling R-factor to 38
- For climate zones 4 through 8, renumber the ceiling R-factor to 49
- For climate zones 1 and 2, renumber the wood frame wall R-value to 13
- For climate zones 3 and 4 except Marine, renumber the wood frame wall R-value

- to 20 or 13+5^h
- For climate zones 5 and Marine 4, renumber the wood frame wall R-value to 23 or 13+7.5^h or 20+3.8^h
- For climate zones 6 through 8, renumber the wood frame wall R-value to 20+5^h or 13+10^h.
- For climate zones 5, Marine 4, and 6, renumber the floor R-value to 30^h
- For climate zones 7 and 8, renumber the floor R-value to 38^h
- For climate zones 3, renumber the basement wall R-value to 5/13^f
- For climate zone 4 except Marine, renumber the basement wall R-value to 10/13
- For climate zones Marine 4 and 5 through 8, renumber the basement wall R-value to 15/19
- For climate zone 3, renumber the slab R-value to 0
- For climate zone 4 except Marine, renumber the slab R-value to 10, 2 ft
- For climate zones 5 and Marine 4, renumber the slab R-value to 10, 4ft or 15, 3ft
- For climate zones 6 through 8, renumber the slab R-value to 10, 4ft
- For climate zone 3, renumber the crawl space R-value to 5/13
- For climate zone 4 except Marine 4, renumber the crawl space R-value to 10/13
- For climate zones Marine 4 and 5 through 8, renumber the crawl space R-value to 15/19
- Modify footnote “c” to read:

“10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with “15/19” shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

- Modify footnote “g” to read:

Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19.

- Modify footnote “h” to read:

The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, “13+5” means R-13 cavity insulation plus R-5 continuous insulation.

- Modify footnote “i” to read:

Mass walls shall be in accordance with Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

The RAC memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(AA) to incorporate this modification by providing the modified table.

The RAC voted to modify section N1103.5.1 (relating to circulation system) of the IRC of 2021 to add the following exception:

Exception: Where the entire hot water piping system (both supply and return) are insulated with a minimum R3 insulation, the stated controls shall not be required.

The RAC memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(BB) to incorporate this modification.

The RAC voted to modify table N1105.2 (relating to total building performance) of the IRC of 2021 to remove reference to Section N1101.13.5 (relating to additional energy efficiency) from the list of requirements and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(CC) to incorporate this modification by providing the modified table.

The RAC voted to modify section N1105.3.2.2 (relating to compliance report for certificate of occupancy) of the IRC of 2021 to strike the phrase “and the title page of the building plans” from paragraph 2 and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(DD) to incorporate this modification.

The RAC voted to modify table N1106.2 (relating to requirements for energy rating index) of the IRC of 2021 to remove reference to Section N1101.13.5 (relating to additional energy efficiency) from the list of requirements and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(EE) to incorporate this modification by providing the modified table.

The RAC voted to modify section N1108.1 (relating to scope) of the IRC of 2021 to remove reference to Section 1101.13.5 (relating to additional energy efficiency) and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(FF) to incorporate this modification.

The RAC voted to modify section N1108.1 (relating to additional efficiency package options) of the IRC of 2021 to remove reference to Section 1101.13.5 (relating to additional energy efficiency) and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(GG) to incorporate this modification.

The RAC voted to modify section G2427.2.2 (relating to appliances with integral vents) of the IRC of 2021 to remove the phrase “Items 1 and 2” from the end of the section and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(HH) to incorporate this modification.

The RAC voted to modify Section G2427.5.1 (relating to factory-built chimneys) of the IRC of 2021 to add the requirement that such chimneys be installed “in accordance with

manufacturer's instructions" and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(II) to incorporate this modification.

The RAC voted to modify section G2427.5.4 (relating to size of chimneys) of the IRC of 2021 to add to subparagraph 3 that the effective area of a chimney flue or a venting system serving two appliances with draft hoods "shall be not less than the area of the larger draft hood outlet plus 50 percent of the area of the smaller draft hood outlet. Nor greater than seven times the smallest draft hood outlet" and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(JJ) to incorporate this modification.

The RAC voted to modify section G2427.5.10 (relating to insulation shield) of the IRC of 2021 to add the sentence "Insulation shields provided as part of a listed chimney system shall be installed in accordance with the manufacturer's installation instructions" to the end of the section and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(KK) to incorporate this modification.

The RAC voted to modify section E3601.8 (relating to emergency disconnects) of the IRC of 2021 to add the word "detached" to the first sentence of the section so as to clarify that it only applies to one- and two-family detached dwelling units and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(LL) to incorporate this modification.

The RAC voted to modify section E3905.8 (relating to boxes at fan outlets) of the IRC of 2021 to remove the phrase "in a location acceptable" and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(MM) to incorporate this modification.

The RAC voted to modify section E3905.8 (relating to means of support) of the IRC of 2021 to replace reference to section E3906.12 with E3905.6.3 and memorialized this vote in their report. As such, the Department is adding subparagraph (a)(7)(iv)(NN) to incorporate this modification.

As the RAC did not vote to keep in effect any portions of the IRC of 2009, the Department is reserving subparagraph (a)(7)(v).

The RAC voted to keep in effect section R314.4 (related to interconnection) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(A) to incorporate this provision.

The RAC voted to keep in effect section R325.5 (related to openness) of the IRC of 2015 as modified to replace "42 inches (1067 mm)" with "36 inches (914 mm), and to strike the second exemption, and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(B) to incorporate this provision.

The RAC voted to keep in effect section R806.2 (related to minimum vent area) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(C) to incorporate this provision.

The RAC voted to keep in effect section 1105.4.1 (related to compliance software tools) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(D) to incorporate this provision.

The RAC voted to keep in effect section N1105.4.2 (related to compliance report) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(E) to incorporate this provision.

The RAC voted to keep in effect section 1105.6 (related to calculation software tools) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(F) to incorporate this provision.

The RAC voted to keep in effect section N1105.6.1 (related to minimum capabilities) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(G) to incorporate this provision.

The RAC voted to keep in effect section 1105.6.2 (related to specific approval) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(H) to incorporate this provision.

The RAC voted to keep in effect section 1105.6.3 (related to input values) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(I) to incorporate this provision.

The RAC voted to keep in effect section N1106.3 (related to energy rating index) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(J) to incorporate this provision.

The RAC voted to keep in effect section N1106.3.1 (related to ERI reference design) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(K) to incorporate this provision.

The RAC voted to keep in effect section M1305.1.4.2 (relating to excavations) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(L) to incorporate this provision.

The RAC voted to keep in effect section M1411.6.1 (relating to refrigerant line insulation protection) of the IRC of 2015 and memorialized this vote in their report. As such, the Department modified subparagraph (a)(7)(vi)(M) to incorporate this provision.

The RAC voted to keep in effect section P2903.5 (relating to water hammer) of the IRC of 2015 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(vi)(N) to incorporate this provision.

The RAC voted to keep in effect section E3901.11 (relating to foyers) of the IRC of 2015 and memorialized this vote in their report. As such, the Department added subparagraph

(a)(7)(vi)(O) to incorporate this provision.

The RAC voted to keep in effect section R311.7.4 (relating to walkline) of the IRC of 2018, as modified, and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(A) to incorporate this provision and include the prior modification.

The RAC voted to keep in effect section R703.7 (relating to exterior plastic (stucco) of the IRC of 2018, as modified, and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(B) to incorporate this provision.

The RAC voted to keep in effect Section N1103.3.3 (relating to duct testing) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(C) to incorporate this provision.

The RAC voted to keep in effect section N1103.3.4 (relating to duct leakage) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(D) to incorporate this provision.

The RAC voted to keep in effect section N1104.1 (relating to lighting equipment (mandatory)) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(E) to incorporate this provision.

The RAC voted to keep in effect section N1104.1.1 (relating to lighting equipment (mandatory)) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(F) to incorporate this provision.

The RAC voted to keep in effect section N1104.1.2 (relating to fuel gas lighting equipment) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(G) to incorporate this provision.

The RAC voted to keep in effect section N1105.4.2.1 (relating to compliance report for permit application) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(H) to incorporate this provision.

The RAC voted to keep in effect table N1105.5.2(1) (relating to specifications for the standard reference and proposed designs) of the IRC of 2018, to reflect changes in section numbers between the 2018 and 2021 IRC codes and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(I) to incorporate this provision and provide the table.

The RAC voted to keep in effect section E3901.4.2 (relating to island countertop spaces) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(J) to incorporate this provision.

The RAC voted to keep in effect section E4002.11 (relating to bathtub and shower space) of the IRC of 2018 and memorialized this vote in their report. As such, the Department added subparagraph (a)(7)(viii)(K) to incorporate this provision.

International Fire Code (“IFC”)

The RAC voted to adopt the IFC of 2021 to the extent it is referenced by other ICC codes adopted in Chapter 403 and memorialized this vote in their report. As such, the Department amended subparagraph (a)(8) to incorporate this adoption.

International Energy Conservation Code (“IECC”)

The RAC voted to adopt the IECC of 2021 with some exclusions and modifications and memorialized this vote in their report. As such, the Department amended subparagraph (a)(9) to indicate that the IECC was adopted with some exceptions and modifications.

For readability and to distinguish between the commercial and residential parts of the IECC, the Department renumbered the subparagraphs and reserved subparagraphs (a)(9)(i), (ii), (iii), and (iv).

The RAC voted to modify section C105.2.6 (relating to final inspection) of the IECC of 2021 to read: “The building shall have a final inspection and not be occupied until approved.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(v)(A) to incorporate this modification.

The RAC voted to modify section C402.5.5 (relating to rooms containing fuel-burning appliances) of the IECC of 2021 to insert a new exception 1, which reads “[d]irect vent appliances with both intake and exhaust pipes installed continuous to the outside” and to renumber the existing exception as exception 2. The RAC memorialized these modification in their report. As such, the Department added subparagraph (a)(9)(v)(B) to incorporate this modification.

The RAC voted to modify section C405.11 (relating to automatic receptacle control) of the IECC of 2021 to replace “shall” with “may” in the first sentence and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(v)(C) to incorporate this modification.

The RAC voted to modify section C405.11.1 (relating to automatic receptacle control function) of the IECC of 2021 to replace “20 minutes” with “120 minutes” in subparagraphs 2.2 and 2.3 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(v)(D) to incorporate this modification.

The RAC voted to modify section R202 (relating to general definitions) of the IECC of 2021 to add the definition of “Framing Factor” as “The fraction of the total building component area that is structural framing.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(A) to incorporate this modification.

The RAC voted to exclude section R401.2.5 (relating to additional energy efficiency) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(B) to incorporate this exclusion.

The RAC voted to modify table 402.1.2 (relating to maximum assembly U-factors and fenestration requirements) of the IECC of 2021 to strike Climate Zone 0, which does not apply to Pennsylvania, and to make minor changes to the requirements throughout and memorialized these modifications in their report. As such, the Department added subparagraph (a)(9)(vi)(C) to incorporate this modification by providing the modified table.

The RAC voted to modify table 402.1.3 (relating to insulation minimum R-values and fenestration requirements by component) of the IECC of 2021 to strike Climate Zone 0, which does not apply to Pennsylvania, make minor changes to the requirements throughout, and to adjust corresponding footnotes b, c, g, h, and i. The RAC memorialized these modifications in their report. As such, the Department added subparagraph (a)(9)(vi)(D) to incorporate this modification by providing the modified table.

The RAC voted to modify section R403.3.5 (relating to duct testing) of the IECC of 2021 to:

- Rename the section “Duct testing (Mandatory)”
- Insert two exceptions, between paragraph 2 and the paragraph beginning “A written report,” which read:
 - 1. A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.
 - 2. A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.
- Replace term “code official” with “building official”
- Strike the last exception of this section

The RAC vote to memorialize these changes. As such, the Department added subparagraph (a)(9)(vi)(E) to incorporate these modifications.

The RAC voted to modify section R403.3.6 (relating to duct leakage) of the IECC of 2021 to amend the title to “Duct leakage (Prescriptive)” and to strike the third paragraph and memorialized these modifications in their report. As such, the Department added subparagraph (a)(9)(vi)(F) to incorporate this modification.

The RAC voted to modify section R403.3.7 (relating to building cavities) of the IECC of 2021 to read as “Building cavities (Mandatory). Building framing cavities shall not be used as supply ducts.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(G) to incorporate this modification.

The RAC voted to modify section R403.3.7 (relating to circulation systems) of the IECC of 2021 to add an exception to the end of the section that reads “Exception: Where the entire hot water piping system (both supply and return are insulated with a minimum R3 insulation, the

stated controls shall not be required.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(H) to incorporate this modification.

The RAC voted to modify section R404.1 (relating to lighting equipment) of the IECC of 2021 to read as “Lighting equipment (Mandatory). Not less than 90 percent of the permanently installed lighting fixtures shall contain only high-efficiency lamps.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(I) to incorporate this modification.

The RAC voted to modify section R404.1.1 (relating to exterior lighting) of the IECC of 2021 to read as “Lighting equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.” The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(J) to incorporate this modification.

The RAC voted to exclude section R404.1.2 (relating to gas lighting equipment) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(K) to incorporate this exclusion.

The RAC voted to exclude section R404.2 (relating to interior lighting controls) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(L) to incorporate this exclusion.

The RAC voted to exclude section R404.3 (relating to exterior lighting controls) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(M) to incorporate this exclusion.

The RAC voted to modify table 402.1.3 (relating to requirements for total building performance) of the IECC of 2021 to strike row R401.2.5 (relating to additional energy efficiency) and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(N) to incorporate this modification by providing the modified table.

The RAC voted to modify section R405.3.2 (relating to compliance report) of the IECC of 2021 to read:

Compliance report. Compliance software tools shall generate a report that documents that the proposed design complies with Section R405.2. A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the code official before a certificate of occupancy is issued. Batch sampling of buildings to determine energy code compliance for all buildings in the batch shall be prohibited.

Compliance reports shall include information in accordance with Sections R405.3.2.1 and R405.3.2.2. Where the proposed design of a building could be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application

for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst case duct leakage. Such worst-case parameters shall be used as inputs to the compliance software for energy analysis.

The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(O) to incorporate this modification.

The RAC voted to modify section R405.3.2.1 (relating to compliance report for permit application) of the IECC of 2021 to replace numbered paragraphs 2 through 6 with the following:

2. A statement indicating that the proposed design complies with Section R405.4.
3. An inspection checklist documenting the building component characteristics of the proposed design as indicated in Table R405.4.2(1). The inspection checklist shall show results for both the standard reference design and the proposed design with user inputs to the compliance software to generate the results.
4. A site-specific energy analysis report that is in compliance with Section R405.4.
5. The name of the individual performing the analysis and generating the report.
6. The name and version of the compliance software tool.

The RAC memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(P) to incorporate this modification.

The RAC voted to modify section R405.3.2.2 (relating to compliance report for certificate of occupancy) of the IECC of 2021 to strike “and the title page of the building plans” from paragraph 2 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(Q) to incorporate this modification.

The RAC voted to modify table 405.4.2(1) (relating to specifications for the standard reference and proposed design) of the IECC of 2021 to:

- Strike and replace the row governing building component air exchange rate
- Strike and replace the row governing building component service water heating
- Strike and replace the row governing building component thermal distribution systems
- Strike the row governing building component demuidistat
- Strike footnote “i”

The RAC memorialized these modifications in their report. As such, the Department added subparagraph (a)(9)(vi)(R) to incorporate this modification by providing the modified table.

The RAC voted to modify table 406.2 (relating to requirements for energy rating index) of the IECC of 2021 to strike row R401.2.5 (relating to additional energy efficiency) and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(S) to incorporate this modification.

The RAC voted to exclude section R406.3 (relating to building thermal envelope) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(T) to incorporate this exclusion.

The RAC voted to exclude section R406.3.1 (relating to on-site renewables are not included) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(U) to incorporate this exclusion.

The RAC voted to exclude section R406.3.2 (relating to on-site renewables are included) of the IECC of 2021 and memorialized this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(V) to incorporate this exclusion.

The RAC voted to modify section R406.4 (relating to energy rating index) of the IECC of 2021 to read “Energy rating index. The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.” The RAC memorialized this vote in their report. As such, the Department added subparagraph (a)(9)(vi)(W) to incorporate this modification.

The RAC voted to add, as section R406.4.1 (relating to ERI reference design), which reads:

ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements. The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.

The RAC voted to memorialize this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(X) to incorporate this addition.

The RAC voted to modify section R406.7.1 (relating to compliance software tools) of the IECC of 2021 to read “Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.” The RAC memorialized this vote in their report. As such, the Department added subparagraph (a)(9)(vi)(Y) to incorporate this modification.

The RAC voted to exclude section R406.7.5 (relating to specific approval) of the IECC of 2021 and memorialized this exclusion in their report. As such, the Department added subparagraph (a)(9)(vi)(Z) to incorporate this exclusion.

The RAC voted to exclude section R406.7.6 (relating to input values) of the IECC of 2021 and memorialized this exclusion in their report. As such, the Department added subparagraph (a)(9)(vi)(AA) to incorporate this exclusion.

The RAC voted to add, as section R406.8 (relating to calculation software tools), which reads: “Calculation software tools. Calculation software, where used, shall be in accordance with section 406.8.1 through R406.8.3.” The RAC voted to memorialize this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(BB) to incorporate this addition.

The RAC voted to add, as section R406.8.1 (relating to minimum capabilities), which reads:

Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in Section R406.3, and shall include the following capabilities:

1. Computer generation of the ERI reference design using only the input for the rated design.

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. Calculation of whole-building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section R403.7.

3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air conditioning equipment based on climate and equipment sizing.

4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.

The RAC voted to memorialize this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(CC) to incorporate this addition.

The RAC voted to add, as section R406.8.2 (relating to specific approval), which reads:

Specific Approval. Performance analysis tools meeting the applicable sections of Section R406 (N1106) shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope.

The RAC voted to memorialize this modification in their report. As such, the Department added subparagraph (a)(9)(vi)(DD) to incorporate this addition.

The RAC voted to add, as section R406.8.3 (relating to input values), which reads: “Input values. When calculations require input values not specified by Sections R402, R403, R404 and

R405, those input values shall be taken from an approved source.” The RAC memorialized this vote in their report. As such, the Department added subparagraph (a)(9)(vi)(EE) to incorporate this addition.

The RAC voted to modify section R408.1 (relating to scope) of the IECC of 2021 to strike the phrase “in accordance with Section R401.2.5” and memorialized this vote in their report. As such, the Department added subparagraph (a)(9)(vi)(FF) to incorporate this modification.

The RAC voted to modify section R408.2 (relating to scope) of the IECC of 2021 to strike the phrase “for compliance with Section R401.2.5” and memorialized this vote in their report. As such, the Department added subparagraph (a)(9)(vi)(GG) to incorporate this modification.

International Existing Building Code (“IEBC”)

The RAC voted to adopt the IEBC of 2021 with some exclusions and modifications and memorialized this vote in their report. As such, the Department amended subparagraph (a)(10) to indicate the IEBC of 2021 was adopted with some exceptions and modifications. This does not include the accessibility provisions of the IEBC of 2021, as indicated in the Department’s amendment of subparagraph (a)(10)(i). Section 304(a)(3) of the PCCA, 35 P.S. § 7210.304(a)(3) grants the Department the sole authority to regulate the accessibility of structures.

The RAC voted to exclude section 1106 (relating to storm shelters) of the IEBC of 2021 and memorialized this vote in their report. As such, the Department is retaining subparagraph (a)(10)(ii) to incorporate this exclusion.

International Wildland-Urban Interface Code (“IWUIC”)

The RAC voted to adopt the IWUIC of 2021 in its entirety and memorialized this vote in their report. As such, the Department is amending paragraph (a)(11) to incorporate the entirety of the IWUIC of 2021.

International Swimming Pool and Spa Code (“ISPSC”)

The RAC voted to adopt the ISPSC of 2021 with some exclusions and modifications and memorialized this vote in their report. As such, the Department amended subparagraph (a)(14) to indicate the ISPSC of 2021 was adopted with some exceptions and modifications. This does not include the accessibility provisions of the ISPSC of 2021. Section 304(a)(3) of the PCCA, 35 P.S. § 7210.304(a)(3) grants the Department the sole authority to regulate the accessibility of structures.

The RAC voted to exclude Section [A] 108.2 (relating to schedule of permit fees) of the ISPSC of 2021 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(i)(A) to incorporate this exclusion.

The RAC voted to exclude Section [A] 108.3 (relating to permit valuations) of the ISPSC of 2021 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(i)(B) to incorporate this exclusion.

The RAC voted to exclude Section [A] 108.4 (relating to work commencing prior to permit insurance) of the ISPSC of 2021 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(i)(C) to incorporate this exclusion and include the previously adopted language.

The RAC voted to exclude Section [A] 108.5 (relating to related fees) of the ISPSC of 2021 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(i)(D) to incorporate this exclusion.

The RAC voted to keep in effect Section [A] 105.6.1 (relating to work commencing before permit issuance) of the ISPSC of 2018 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(ii)(A) to incorporate this retention.

The RAC voted to keep in effect Section [A] 105.6.2 (relating to fee schedule) of the ISPSC of 2018 and memorialized this vote in the report. As such, the Department is adding subparagraph (a)(14)(ii)(B) to incorporate this retention.

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The Department is amending paragraph (b) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending paragraph (c) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending paragraph (d)(1) to reflect the RAC's vote and report to adopt the entirety of the IECC of 2021 with some exclusions and modifications.

The Department is amending paragraph (d)(2) to reflect the RAC's vote and report to adopt the entirety of the IECC of 2021 with some exclusions and modifications.

The Department is amending paragraph (f) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.23. Child day care facilities.

The Department is amending paragraph (d) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.26. Swimming pools.

The Department is amending paragraphs (a) and (b) to reflect the RAC's vote and report to adopt the entirety of the ISPSC of 2021 with some exclusions and modifications.

§ 403.27. Applicability and use of standards.

The Department is amending subparagraph (a)(1) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending subparagraph (a)(2) to reflect the RAC's vote and report to adopt the entirety of the IRC of 2021 with some exclusions and modifications.

The Department is amending subparagraph (a)(3) to reflect the RAC's vote and report to adopt the entirety of the IPC of 2021.

The Department is amending subparagraph (a)(4) to reflect the RAC's vote and report to adopt the entirety of the IMC of 2021.

The Department is amending paragraph (b) to reflect the RAC's vote and report to adopt the entirety of the IEBC of 2021 with some exclusions and modifications and the IRC of 2021 with some exclusions and modifications.

The Department is amending paragraph (f) to reflect the RAC's vote and report to adopt the entirety of the IMC of 2021.

§ 403.28. Uncertified buildings.

The Department is amending subparagraph (b)(1) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending subparagraph (b)(2) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending subparagraph (b)(4) to reflect the RAC's vote and report to adopt the entirety of the IEBC of 2021 with some exclusions and modifications.

The Department is amending subparagraph (c)(1) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications and the IEBC of 2021 with some exclusions and modifications.

§ 403.42. Permit requirements and exemptions.

The Department is amending subparagraph (c)(1)(xi) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.42a. Permit application.

The Department is amending subparagraph (f)(3)(ii) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending paragraph (i) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

The Department is amending paragraph (k) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.44. Alternative construction materials and methods.

The Department is amending paragraph (c) to reflect the RAC's vote and report to adopt the entirety of the IPFC of 2021 with some exclusions and modifications. The Department also added quotation marks to indicate the title of the ICC code.

§ 403.45. Inspections.

The Department is amending paragraph (f) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.46. Certificate of occupancy.

The Department is amending subparagraphs (b)(6) and (b)(7) to reflect the RAC's vote and report to adopt the entirety of the IBC of 2021 with some exclusions and modifications.

§ 403.103. Municipalities electing not to enforce the Uniform Construction Code.

The Department is amending paragraph (c) to reflect the RAC's vote and report to adopt the entirety of the IPFC of 2021.

The Department is amending paragraph (d) to reflect the RAC's vote and report to adopt the entirety of the IRC of 2021 with some exclusions and modifications.

Affected Persons

This regulation will affect all builders and contractors in the construction industry and all building code officials who enforce the regulations.

Fiscal Impact

All building code officials, including the Department, will need to own the applicable 2009, 2015, 2018 and 2021 ICC code books to enforce these regulations. The Department already possesses all applicable 2009, 2015, 2018 and 2021 ICC code books to enforce the current regulations and presumably building code officials will possess some of those same ICC code books.

Builders and contractors will have to absorb some costs to comply with the updated standards. The Department does not possess specific data on any increase of costs to builders or contractors.

Reporting, Recordkeeping and Paperwork Requirements

This Department will have to update the following forms: Accessibility Advisory Board Petition, Application for Building Permit, and Special Inspections and Observation Statement. There are no additional reporting, record keeping or paperwork requirements.

Sunset Date

There is no sunset date for these regulations. The PCCA requires referenced standards to be reviewed every three years following publication of the triennial revisions to the ICC codes.

Effective Date

This final-omitted regulation will take effect on **XXXXXX**.

Contact Person

The contact person is Joseph P. Marchioni, Jr., Acting Director, Bureau of Occupational and Industrial Safety, Department of Labor & Industry, 651 Boas Street, Room 1613, Harrisburg, Pennsylvania, 17121, (717) 783-6304; jmarchioni@pa.gov.

Regulatory Review

Under section 5.1(c) of the Regulatory Review Act (71 P.S. § 745.5a(c)), on **DATE**, the Department submitted a copy of this final-omitted rulemaking to the Chairpersons of the Senate Committee on Labor and Industry and the House Committee on Housing and Community Development and to the Independent Regulatory Review Commission (IRRC). In addition to submitting the final-omitted rulemaking, the Department has provided the Committees and IRRC with a copy of a detailed Regulatory Analysis Form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5.1(j.2) of the Regulatory Review Act, these final-omitted regulations were deemed approved by the Committees on **DATE**. IRRC met on **DATE** and approved the regulations in accordance with section 5.1(e) of the Regulatory Review Act.

Findings

The Department finds that:

(a) This final-omitted rulemaking is authorized by sections 304(a)(1), 35 P.S. § 7210.304(a)(1), and 304(a)(2), 35 P.S. § 7210.304(a)(2), of the PCCA.

Order

The Department, acting under authorizing statute, orders that:

(a) The regulations of the Department, 34 Pa. Code, Chapter 401 is amended by amending

§ 401.1, and Chapter 403 is amended by amending §§ 403.1, 403.21, 403.23, 403.26, 403.27, 403.28, 403.42, 403.42a, 403.44, 403.45, 403.46, and 43.103 to read as set forth in Annex A.

(b) The Department submitted these regulations to the Independent Regulatory Review Commission, the Senate Committee on Labor and Industry, and the House Committee on Housing and Community Development.

(c) The Secretary of the Department shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(d) This order shall become effective on **DATE**.

A handwritten signature in cursive script, reading "Nancy A. Walker".

Nancy A. Walker
Secretary

Annex A

TITLE 34. LABOR AND INDUSTRY

PART XIV UNIFORM CONSTRUCTION CODE

CHAPTER 401. UNIFORM CONSTRUCTION CODE TRAINING AND CERTIFICATION OF CODE ADMINISTRATORS

§ 401.1. Definitions

* * * * *

International Building Code--An International Building Code issued by the ICC. [**Chapter 11 and Appendix E of the “International Building Code 2021 issued by the ICC.”**] The term includes all errata issued by the ICC.

International Energy Conservation Code--An International Energy Conservation Code issued by the ICC. The term includes all errata issued by the ICC.

International Existing Building Code--An International Existing Building Code for Buildings and Facilities issued by the ICC. [**The accessibility provisions in the “International Existing Building Code for Buildings 2021 issued by the ICC.”**] The term includes all errata issued by the ICC.

* * * * *

CHAPTER 403. ADMINISTRATION

§403.1. Scope.

* * * * *

(g) Coal-fired boilers installed in residential buildings must be designed, constructed and tested in accordance with the requirements of Chapter 20, section M2001.1.1 of the “International Residential Code of [2018] 2021,” except for the ASME stamping requirement.

§ 403.21. Uniform Construction Code.

(a) The Department adopts and incorporates by reference the following codes as the Uniform Construction Code:

(1) The provisions of Chapters 2—10, 12—29 and 31—35 of the “International Building Code of [2018] 2021,” except:

- (i) In occupancies in Use Group R-3 and within dwelling units in occupancies in Use Group R-2 the maximum riser height shall be 8 1/4 inches (210 mm) and the minimum tread depth shall be 9 inches (229 mm). A 1-inch (25 mm) nosing shall be provided on stairways with solid risers.
- (ii) The following provisions of Chapter 30 are adopted:
 - (A) Section 3002.1 (relating to hoistway enclosure protection).
 - (B) Section 3002.2 (relating to number of elevator cars in a hoistway).
 - (C) Section 3002.4 (relating to elevator car to accommodate ambulance stretcher).
 - (D) Section 3002.7 (relating to common enclosure with stairway).
 - (E) Section 3004.2.1 (relating to enclosure).
 - (F) Section 3004.3.1 (relating to enclosure).
 - (G) Section 3005.4 (relating to machine rooms, control rooms, machinery spaces, and control spaces).

- (H) Section 3006 (relating to elevator lobbies and hoistway opening protection).
- (I) Section 3007 (relating to fire service access elevators).
- (J) Section 3008 (relating to occupant evacuation elevators).
- (iii) **[Section 803.3 (relating to heavy-timber exemption) is modified to add the phrase: “In buildings equipped throughout with an automatic sprinkler system installed in accordance with section 903.3” before the word exposed.]The following provisions are modified:**
 - (A) Section 803.3 (relating to heavy-timber exemption) is modified to add the phrase: “In buildings equipped throughout with an automatic sprinkler system installed in accordance with section 903.3” before the word exposed.**
 - (B) Section 903.3.1.2 (relating to NFPA 13R sprinkler systems) is modified by changing the second condition to read:**
 - 2. For other than R-2 occupancies, the floor level of the highest story is 30 feet (9144 mm) or less above the lowest level of fire department vehicle access.**
 - For R-2 occupancies, the roof assembly is less than 45 feet (13716 mm) above the lowest level of fire department vehicle access. The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the**

exterior wall, or the top of the highest parapet, whichever yields the greatest distance.

(iv) The following provisions are excluded:

(A) **[Section 704.2 (relating to column protection).]Section 426.1 (relating to buildings in which materials that produce combustible dusts are stored or handled).**

(B) **[Section 704.4.1 (relating to light frame construction).]Section 704.2 (relating to column protection).**

(C) Section 704.4.1 (relating to light frame construction).

(v) The following **previously adopted** provisions of the “International Building Code of 2015” **[are adopted]remain in effect:**

(A) Section 704.2 (relating to column protection).

(B) Section 704.4.1 (relating to light frame construction).

(vi) The following previously adopted provision of the “International Building Code of 2018” remains in effect:

(A) Section 426.1 (relating to buildings in which materials that produce combustible dusts are stored or handled).

(2) **[Chapter 11 of the “International Building Code of 2021.”] {Reserved}.**

(3) The “International Mechanical Code of [2018] **2021.**”

(4) The “International Fuel Gas Code of [2018] **2021.**”

(5) The “International Performance Code for Buildings and Facilities of [2018] **2021.**”

(6) The “International Plumbing Code of [2018] **2021**” except:

- (i) A municipality within a county of the second class may not administer and enforce the “International Plumbing Code” adopted under this chapter.
 - (ii) A municipality within a county of the second class that has adopted a plumbing code and accompanying rules and regulations under the Local Health Administration Law (16 P.S. §§ 12001—12028), shall retain the authority to promulgate and enforce this plumbing code and to make any changes it deems necessary if the changes meet the Uniform Construction Code’s minimum requirements.
 - (iii) **[The accessibility provisions contained in the following sections of the “International Plumbing Code of 2021” are adopted:**
 - (A) Section 403.4 (relating to signage).**
 - (B) Section 403.5 (relating to drinking fountain location).**
 - (C) Section 404 (relating to accessible plumbing facilities).**
 - (D) Section 405.3.1 (relating to water closets, urinals, lavatories and bidets).] {Reserved}.**
- (7) The “International Residential Code of **[2018] 2021**,” except that:
- (i) The provisions of R314.4 requiring interconnected smoke alarms do not apply to one-family and two-family dwellings undergoing alterations, repairs or additions. Noninterconnected battery operated smoke alarms shall be installed in these dwellings.
 - (ii) The following specifications apply to residential stairway treads and risers.
 - (A) The maximum riser height is 8 1/4 inches. There may be no more than a 3/8 inch variation in riser height within a flight of stairs. The

riser height is to be measured vertically between leading edges of the adjacent treads.

- (B) The minimum tread depth is 9 inches measured from tread nosing to tread nosing.
- (C) The greatest tread depth within any flight of stairs may not exceed the smallest by more than 3/8 inch.
- (D) Treads may have a uniform projection of not more than 1 1/2 inches when solid risers are used.
- (E) Stairways may not be less than 3 feet in clear width and clear headroom of 6 feet 8 inches shall be maintained for the entire run of the stair.
- (F) Handrails may project from each side of a stairway a distance of 3 1/2 inches into the required width of the stair.

(iii) The following provisions are excluded:

- (A) **[Section R302.5.1 (relating to opening protection).]Section R311.7.4 (relating to walkline).**
- (B) **[Section R322.2.1 (relating to elevation requirements for flood hazard areas).]Section R314.4 (relating to interconnection).**
- (C) **[Section R322.3.2 (relating to elevation requirements for coastal high hazard areas).]Section 325.5 (relating to openness).**
- (D) **[Exception 2 of section R325.5 (relating to openness).] Section R703.7 (relating to exterior plaster, stucco).**

- (E) [Section R703.7.1 (relating to lath).]Section R806.2 (relating to minimum vent required).
- (F) [Section R703.7.2 (relating to plaster).]Section R1005.8 (relating to insulation shield).
- (G) [Section R703.7.3 (relating to water-resistive barriers).]Section N1101.13.5 (relating to additional energy efficiency).
- (H) [Section R806.2 (relating to minimum vent area).]Section N1103.3.5 (relating to duct testing).
- (I) [Section R1005.8 (relating to insulation shield).]Section N1103.3.6 (relating to duct leakage).
- (J) [Section N1101.4 (relating to above code programs).]Section N1103.3.7 (relating to building cavities).
- (K) [Section N1103.3.5 (relating to building cavities).]Section N1104.1 (relating to lighting equipment).
- (L) [Section N1105.3.2 (relating to compliance report).]Section N1104.1.1 (relating to exterior lighting).
- (M) [Section N1106.3 (relating to energy rating index).]Section N1104.1.2 (relating to fuel gas lighting equipment).
- (N) [Section N1106.6.1 (relating to compliance software tools).]Section N1104.2 (relating to interior lighting controls).
- (O) [Section N1106.6.4 (relating to specific approval).]Section N1104.3 (relating to exterior lighting controls).

- (P) [Section N1106.6.5 (relating to input values).]Section N1105.3.2 (relating to compliance report).
- (Q) [Section N1108.1.1.2 (relating to heating and cooling systems).]Section N1105.3.2.1 (relating to compliance report for permit application).
- (R) [Section N1109.1.2 (relating to heating and cooling systems).]Table N1105.4.2(1) (relating to specifications for the standard reference and proposed designs).
- (S) [Section M1305.1.3.2 (relating to pit locations).]Section N1106.3 (relating to building thermal envelope).
- (T) [Section M1502.3.1 (relating to exhaust termination outlet and passageway size).]Section N1106.3.1 (relating to on-site renewables are not included).
- (U) [Section P2503.5.1 (relating to rough plumbing).]Section N1106.3.2 (relating to on-site renewables are included).
- (V) [Section P2903.5 (relating to water hammer).] Section N1106.4 (relating to energy rating index).
- (W) [Section P2906.6.1 (relating to saddle tap fittings).] Section N1106.4.1 (relating to ERI referenced design).
- (X) Section N1106.7.1 (relating to compliance software tools).
- (Y) Section N1106.7.5 (relating to specific approval).
- (Z) Section N1106.7.6 (relating to input values).
- (AA) Section N1106.8 (relating to calculation software tools).

- (BB) Section N1106.8.1 (relating to minimum capabilities).**
- (CC) Section N1106.8.2 (relating to specific approval).**
- (DD) Section N1106.8.3 (relating to input values).**
- (EE) Section M1305.1.3.2 (relating to pit locations).**
- (FF) Section M1411.6.1 (relating to refrigerant line insulation).**
- (GG) Section M1502.3.1 (relating to exhaust termination outlet and passageway size).**
- (HH) Section P2903.5 (relating to water hammer).**
- (II) Section P2905.3 (relating to hot water supply to fixtures).**
- (JJ) Section P2906.6.1 (relating to saddle tap fittings).**
- (KK) Section E3901.4.2 (relating to island countertop spaces).**
- (LL) Section E3901.11 (relating to foyers).**
- (MM) Section E4002.11 (relating to bathtub and shower space).**

(iv) The following provisions are modified:

- (A) [Section R311.7.4 (relating to walkline) is amended by adding figure R311.7.4 (relating to winder tread and landing detail).

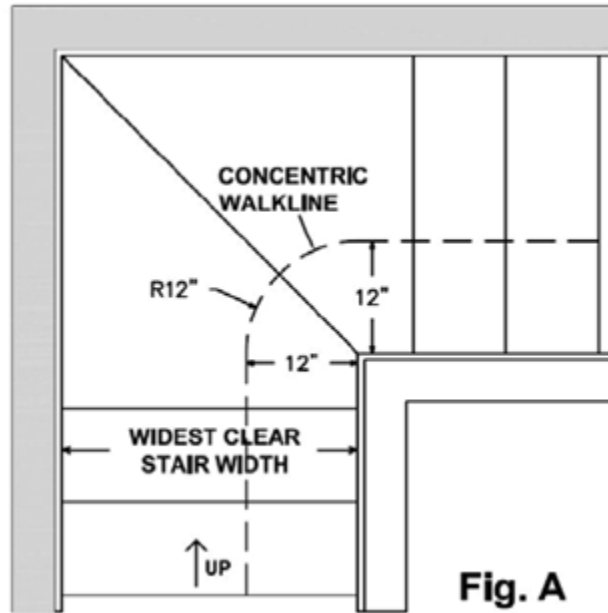


Fig. A

]Section R301.1.4

(relating to intermodal shipping containers) is amended by adding the following language at the end of the section:

Prior to permitting, the applicant shall have the unit certified as free from contaminants by a qualified 3rd party inspector approved by the AHJ. Any penetrations beyond those permitted in Section 3115 of the International Building Code shall be certified by a Pennsylvania Registered Design Professional.

(B) [Section R325.6 (relating to habitable attic) is amended by removing subsection 4.]Section R305.1 (relating to minimum height) is modified by amending exception 4 to read :

4. Beams and girders spaced apart a minimum of 36 inches (914 mm) in clear finished width between projections, and shall have a minimum clear ceiling

height of 6 feet 6 inches (1981 mm) from the finished floor directly under the beam.

- (C) [Subsection 2.4 of section R408.3 (relating to unvented crawl space) is amended to read as follows: “Dehumidification sized in accordance with manufacturer’s specifications.”]Section R310.1 (relating to emergency escape and rescue opening required) is amended to add the following fourth exemption after exemption 3:

4. Properties with in-fill lots that are sprinklered in accordance with Section 2904, and a minimum clear yard size of 80 sq ft (7.43 m²) shall, be allowed to have access to the public way provided by a shared easement that is a minimum of 30 in (762 mm) wide.

- (D) [Section R702.7.3 (relating to minimum clear airspaces and vented openings for vented cladding) is amended by adding a comma after the word “vinyl” in subsection 1.]Section R326.3 (relating to story above grade plane) is modified by striking exceptions 3 and 4.

- (E) [Section R703.7 (relating to exterior plaster (stucco)) is amended by requiring compliance with ASTM standards C926-2018B and C1063-2018B.]Section R506.2.3 (relating to vapor retarders) is modified by striking “10 mil (0.010 inch:

0.25 mm) vapor retarder conforming to ASTM E1745 Class A requirements” and inserting “6 mil (0.006 inch: 152 mm).”

- (F) [The last sentence of section R806.1 (relating to ventilation required) is amended to read as follows: “Required ventilation openings shall open directly to the outside air.”]Section R703.2 (relating to water-resistive barriers) is modified to read as follows:

R703.2 Water-resistive barrier. Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls with flashing as indicated in Section R703.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. The water-resistive barrier material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. Where the water-resistive barrier also functions as a component of a continuous air barrier, the water-resistive barrier shall be installed as an air barrier in accordance with Section N1102.4.1.1. Water-resistive barrier materials shall comply with one of the following:

1. No. 15 felt complying with ASTM D226, Type 1.

2. ASTM E2568, Type 1 or 2.

3. Foam plastic insulating sheathing water-resistive barrier systems complying with Section R703.1.1 and installed in accordance with the manufacturer's installation instructions.

4. ASTM E331 in accordance with Section R703.1.1.

5. Other approved materials in accordance with the manufacturer's installation instructions.

No.15 asphalt felt and water-resistive barriers complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).

Exception: A water-resistive barrier shall not be required in unconditioned detached tool sheds, playhouses, and other similar accessory structures provided all of the following requirements are met:

1. Exterior wall covering is limited to siding that is attached directly to the studs.

2. Exterior walls are uninsulated.

3. Interior side of exterior walls has no wall covering or wall finishes.

- (G) [The first sentence of section R806.3 (relating to vent and insulation clearance) is amended to read as follows: “Where eave or cornice vents are installed, nothing shall block the free flow of air.”]Section R703.3.1 (relating to soffit installation) is (1) re-titled “Exterior soffit installation[;] and (2) the term “soffits” is changed to “exterior soffits[.]”
- (H) [The Fenestration U-Factor in Climate Zone 3 for Table N1102.1.2 (relating to insulation and fenestration requirements by Component) is amended to 0.35.] Section R703.4.1 (relating to flashing installation at exterior window and door openings) is modified to read as follows:

R703.4.1 Flashing installation at exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to a water-resistive barrier complying with Section 703.2 for subsequent drainage. Air sealing shall be installed around all window and door openings on the interior side of the rough opening gap. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:

1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing or water-resistive barrier manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides.

2. In accordance with the flashing design or method of a registered design professional.

3. In accordance with other approved methods.

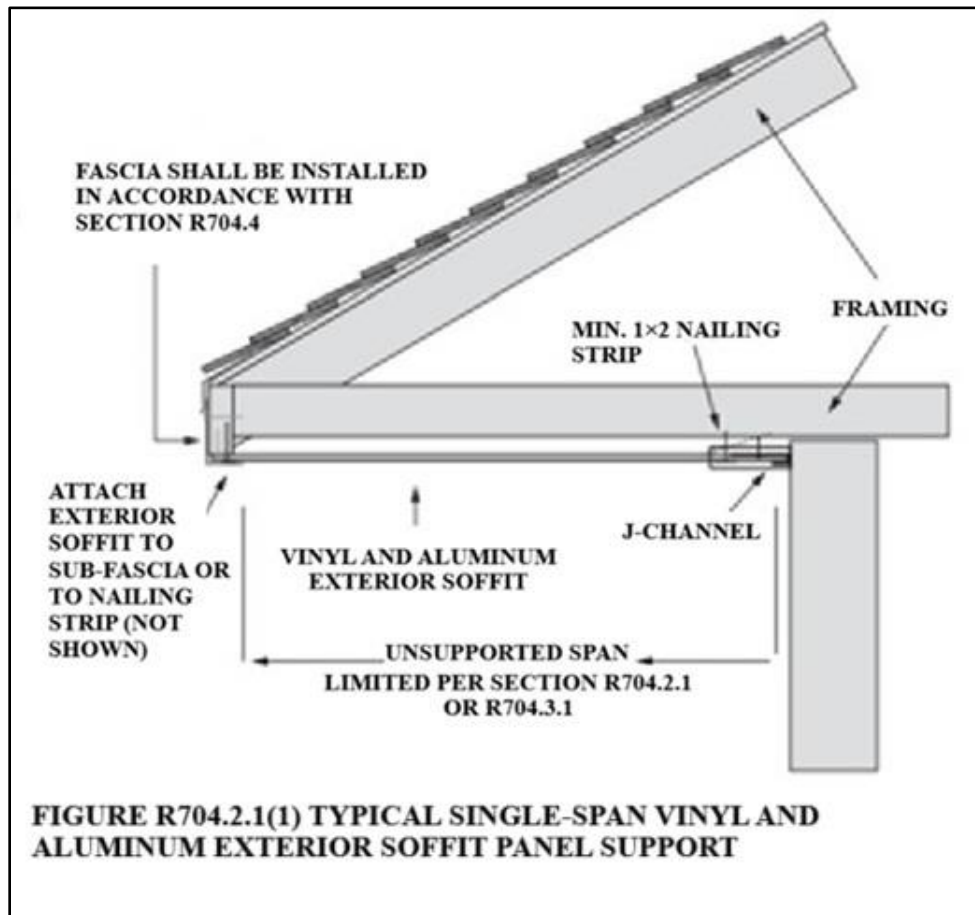
- (I) [Section N1105.2 (relating to mandatory requirements) is amended to require compliance with the mandatory provisions of section N1102.4.1.2 (relating to testing).]Section R704.1 (relating to general wind limitations) is modified by changing each of the three "soffits" therein to "exterior soffits[.]"
- (J) [Section E3901.11 (relating to foyers) is amended by replacing 3 feet (914 mm) with 6 feet (1829 mm) and a minimum of one receptacle.]Section R704.2 (relating to soffit installation where

the design wind pressure is 30 psf or less) is (1) re-titled “Exterior soffit installations where the design pressure is 30 psf or less)[;|” and (2) the term “soffit” in the first sentence is changed to “exterior soffit[.]” The second sentence is not modified.

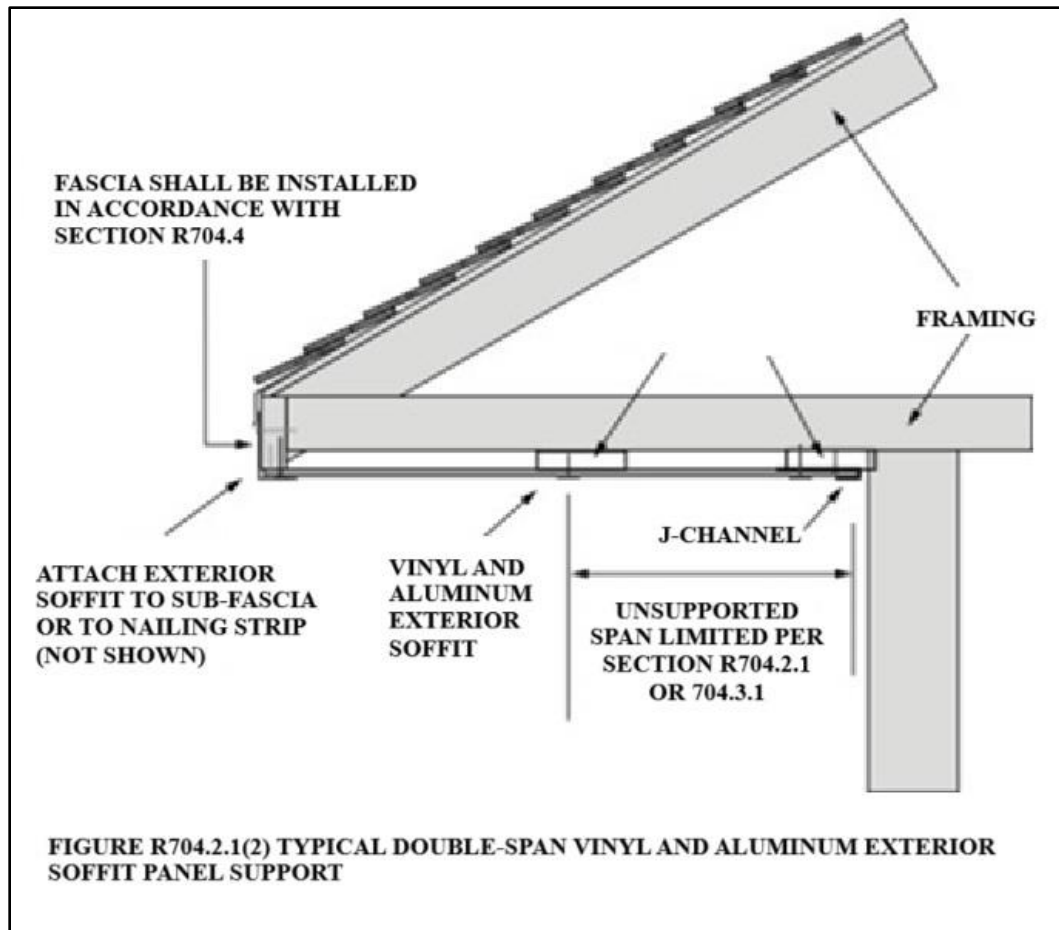
(K) Section R704.2.1 (relating to vinyl soffit panels) is modified to read:

R704.2.1 Vinyl and aluminum soffit panels. Vinyl and aluminum soffit panels shall be installed using aluminum, galvanized, stainless steel or rust-preventative coated nails or staples or other approved corrosion-resistant fasteners specified by the manufacturer and shall be fastened at both ends to a supporting component such as a nailing strip, fascia or sub-fascia component in accordance with Figure R704.2.1(1). Where the unsupported span of soffit panels is greater than 16 inches (406 mm), intermediate nailing strips shall be provided in accordance with Figure R704.2.1(2). Vinyl and aluminum soffit panels shall be installed in accordance with the manufacturer’s installation instructions. Fascia covers shall be installed in accordance with the manufacturer’s installation instructions.

(L) **Figure R704.2.1(1) (relating to typical single-span vinyl soffit panel support)** is modified to read as follows:



(M) **Figure R704.2.1(2) (relating to typical double-span vinyl soffit panel support)** is modified to read as follows:



- (N)** **Section R704.2.2 (relating to fiber-cement soffit panels) is (1) re-titled “Fiber-cement exterior soffit panels[;]” and (2) references to “soffit panels” therein are changed to “exterior soffit panels[.]”**
- (O)** **Section R704.2.3 (relating to hardboard soffit panels) is (1) re-titled “Hardboard exterior soffit panels[;]” and (2) the term “soffit panel” therein is changed to “exterior soffit panel[.]”**
- (P)** **Section R704.2.4 (relating to wood structural panel soffit) is re-titled “Wood structural panel exterior soffit[.]”**

- (Q) Section R704.3 (relating to wood structural panel soffit) is (1) re-titled “Exterior soffit installation where the design wind pressure exceeds 30 psf[;]” and (2) the term “soffit” is changed to “exterior soffit” throughout.**
- (R) Section R704.3.1 (relating to vinyl soffit panels) is (1) re-titled “Vinyl exterior soffit panels[;]” (2) all references to “soffit panels” therein are changed to “exterior soffit panels[;]” and (3) the final sentence beginning “[f]ascia covers” is struck in its entirety.**
- (S) Section R704.3.2 (relating to fiber-cement soffit panels) is (1) re-titled “Fiber-cement exterior soffit panels[;]” and (2) the term “soffit panels” therein is changed to “exterior soffit panels[.]”**
- (T) Section R704.3.3 (relating to hardboard soffit panels) is (1) re-titled “Hardboard exterior soffit panels[;] and (2) the term “soffit panels” therein is changed to “exterior soffit panels[.]”**
- (U) Section R704.3.4 (relating to wood structural panel soffits) is (1) re-titled “Wood structural panel exterior soffit[;]” and (2) the term “panel soffits” therein is changed to “panel exterior soffits[.]”**
- (V) Table R704.3.4 (relating to prescriptive alternative for wood structural panel soffit) is modified to read as follows:**

TABLE R704.3.4 PRESCRIPTIVE ALTERNATIVE FOR WOOD STRUCTURAL
--

PANNEL SOFFIT ^{b, c, d, e}					
MAXIMUM DESIGN PRESSURE (+ or - psf)	MINIMUM PANEL SPAN RATING	MINIMUM PANEL PERFOR- MANCE CATEGORY	NAIL TYPE AND SIZE	FASTENER ^a SPACING ALONG EDGES AND INTERMEDIATE SUPPORTS	
				Galvanized Steel	Stainless Steel
30	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6 ^f	4
40	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	6	4
50	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	4
			8d common (2 ¹ / ₂ × 0.131 × 0.281 head diameter)	6	6
60	24/0	3/8	6d box (2 × 0.099 × 0.266 head diameter)	4	3
			8d common (2 ¹ / ₂ × 0.131 × 0.281 head diameter)	6	4
70	24/16	7/16	8d common (2 ¹ / ₂ × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
80	24/16	7/16	8d common (2 ¹ / ₂ × 0.131 × 0.281 head diameter)	4	4
			10d box (3 × 0.128 × 0.312 head diameter)	6	4
90	32/16	15/32	8d common (2 ¹ / ₂ × 0.131 × 0.281 head diameter)	4	3

			10d box (3 × 0.128 × 0.312 head diameter)	6	4
For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa - Fasteners shall comply with Sections R703.3.2 and R703.3.3. - Maximum spacing of soffit framing members shall not exceed 24 inches. - Wood structural panels shall be of an exterior exposure grade. - Wood structural panels shall be installed with strength axis perpendicular to supports with not fewer than two continuous spans. - Wood structural panels shall be attached to soffit framing members with specific gravity of at least 0.35. Where the specific gravity of the wood species used for soffit framing members is greater than or equal to 0.35 but less than 0.42 in accordance with AWC NDS, the fastener spacing shall be multiplied by 0.67 or the same fastener spacing as prescribed for galvanized steel nails shall be permitted to be used where RSRS-01 (2" x 0.099" x 0.266" head) nails replace 6d box nails and RSRS-03 (2-1/2" x 0.131" x 0.281" head) nails replace 8d common nails or 10d box nails. RSRS is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667. Framing members shall be minimum 2 × 3 nominal with the larger dimension in the cross section aligning with the length of fasteners to provide sufficient embedment depths. - Spacing at intermediate supports shall not be greater than 12 inches on center.					

(W) **Section R802.3 (relating to ridge) is modified by striking “or column.” at the end of the second sentence and inserting “column, or girder.”**

(X) **Section R806.1 (relating to ventilation required) is modified by striking “and shall be protected to prevent the entry of birds, rodents, snakes and other similar creatures” from the end of the section.**

(Y) **Section R806.3 (relating to vent and insulation clearance) is modified by striking “blocking, bridging and insulation shall not block” and inserting “nothing shall block” in the first sentence.**

(Z) Table N1102.1.2 (relating to maximum assembly U-factors and fenestration requirements) is modified to read as follows:

TABLE N1102.1.2 MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS									
CLIMATE ZONE	FENESTRATION U-FACTOR ^f	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC ^{d,e}	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	0.50	0.75	0.25	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.25	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.25	0.030	0.060	0.098	0.047	0.091 ^c	0.136
4 except Marine	0.30	0.55	0.40	0.026	0.060	0.098	0.047	0.059	0.065
5 and Marine 4	0.30	0.55	NR	0.026	0.051	0.082	0.033	0.050	0.055
6	0.30	0.55	NR	0.026	0.045	0.060	0.033	0.050	0.055
7 and 8	0.30	0.55	NR	0.026	0.045	0.057	0.028	0.050	0.055

a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.

b. Mass walls shall be in accordance with Section R402.2.5. Where more than half the insulation is on the interior, the mass wall U-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8.

c. In warm-humid locations as defined by Figure R301.1 and Table R301.1, the basement wall U-factor shall not exceed 0.360.

d. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 0 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.

e. There are no SHGC requirements in the Marine Zone.

f. A maximum U-factor of 0.32 shall apply in Marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either:

1. Above 4,000 feet in elevation above sea level, or
2. In windborne debris regions where protection of openings is required by Section R301.2.1.2. of the International Residential Code.

(AA) Table N1102.1.3 (relating to insulation minimum R-values and fenestration requirements by component) is modified to read as follows:

TABLE N1102.1.3
INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY
COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-FACTOR	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13 + 5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10/13	10, 2ft	10/13
5 and Marine 4	0.30	0.55	NR	49	23 or 13 + 7.5 ^h or 20 + 3.8 ^h	13/17	30 ^g	15/19	10, 4ft or 15, 3ft	15/19
6	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	15/20	30 ^g	15/19	10, 4ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	19/21	30 ^g	15/19	10, 4ft	15/19

For SI: 1 foot = 304.8 mm

NR = Not required

- R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.
- The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with “15/19” shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
- R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- There are no SHGC requirements in the Marine Zone.

- f. Basement wall insulation shall not be required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- g. Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19.
- h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, “13+5” means R-13 cavity insulation plus R-5 continuous insulation.
- i. Mass walls shall be in accordance with Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

(BB) Section N1103.5.1.1 (relating to circulation systems) is modified to add the following exception:

Exception: Where the entire hot water piping system (both supply and return) are insulated with a minimum R3 insulation, the stated controls shall not be required.

(CC) Table N1105.2 (relating to requirements for total building performance) is modified to read as follows:

TABLE N1105.2 REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE	
SECTION^a	TITLE
General	
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
N1102.5	Maximum fenestration <i>U</i> -factor and SHGC
Mechanical	
N1103.1	Controls
N1103.3, including N1103.3.1, except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation

N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls
a. Reference to a code section includes all the relative subsections except as indicated in the table.	

(DD) Section N1105.3.2.2 (relating to compliance report for certificate of occupancy) is modified by striking “and the title page of the building plans” from paragraph 2.

(EE) Table N1106.2 (relating to requirements for energy rating index) is modified to read as follows:

TABLE N1106.2 REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE	
SECTION^a	TITLE
General	
N1101.14	Certificate
Building Thermal Envelope	
N1102.1.1	Vapor retarder
N1102.2.3	Eave baffle
N1102.2.4.1	Access hatches and doors
N1102.2.10.1	Crawl space wall insulation installation
N1102.4.1.1	Installation
N1102.4.1.2	Testing
Mechanical	
N1103.1	Controls
N1103.3, except Sections N1103.3.2, N1103.3.3 and N1103.3.6	Ducts
N1103.4	Mechanical system piping insulation

N1103.5.1	Heated water circulation and temperature maintenance systems
N1103.5.3	Drain water heat recovery units
N1103.6	Mechanical ventilation
N1103.7	Equipment sizing and efficiency rating
N1103.8	Systems serving multiple dwelling units
N1103.9	Snow melt system controls
N1103.10	Energy consumption of pools and spas
N1103.11	Portable spas
N1103.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
N1104.1	Lighting equipment
N1104.2	Interior lighting controls
N1106.3	Building thermal envelope
a. Reference to a code section includes all the relative subsections except as indicated in the table.	

(FF) Section N1108.1 (relating to scope) is modified by striking “in accordance with Section N1101.13.5[.]”

(GG) Section N1108.2 (relating to additional efficiency package options) is modified to strike “for compliance with Section N1101.13.5[.]”

(HH) Section G2427.2.2 (relating to appliances with integral vents) is modified to strike the phrase “Items 1 and 2” from the end of the sentence.

(II) Section G2427.5.1 (relating to factory-built chimneys) is modified by inserting “and installed in accordance with manufacturer’s instructions” after “UL 103[.]”

(JJ) Section G2427.5.4 (relating to size of chimneys) is modified with respect to method 3 by inserting “shall be not less than the area of the larger draft hood outlet plus 50 percent of the

area of the smaller draft hood outlet, nor greater than seven times the smallest draft hood outlet” after “draft hoods[.]”

(KK) Section G2427.5.10 (relating to insulation shield) is modified by adding the following sentence at the end of the section:
“Insulation shields provided as part of a listed chimney system shall be installed in accordance with the manufacturer’s installation instructions.”

(LL) Section E3601.8 (relating to emergency disconnects) is modified with respect to its first sentence by inserting “detached” between “two-family” and “dwelling units[.]”

(MM) Section E3905.8 (relating to boxes at fan outlets) is modified by striking “in a location that is acceptable” from the third sentence.

(NN) Section E4004.5 (relating to means of support) is modified by replacing “E3906.12” with “E3905.6.3[.]”

(v) The following provisions of the International Residential Code of 2009 are adopted:

- (A) [Section R302.5.1 (relating to opening protection).] {Reserved}.
- (B) [Section R322.2.1 (relating to elevation requirements for flood hazard areas).] {Reserved}.
- (C) [Section R322.3.2 (relating to elevation requirements for coastal high hazard areas).] {Reserved}.

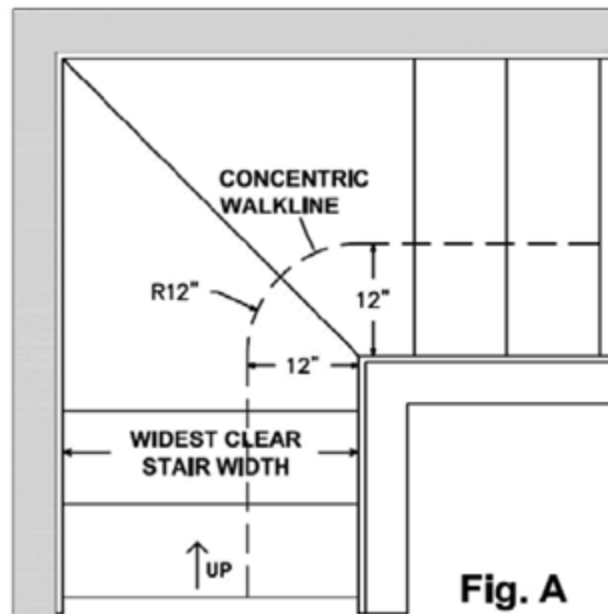
- (D) [Section N1101.8 (relating to above code programs).]
{Reserved}.
 - (E) [Section N1103.2.3 (relating to building cavities).] {Reserved}.
 - (F) [Section P2503.5.1 (relating to rough plumbing).] {Reserved}.
 - (G) [Reserved].
- (vi) The following **previously adopted** provisions of the “International Residential Code of 2015” [are adopted]**remain in effect as follows**:
- (A) [Section R806.2 (relating to minimum vent area).]**Section R314.4 (relating to interconnection).**
 - (B) [Section N1105.4.2 (relating to compliance report).]**Section R325.5 (relating to openness) as modified by (1) striking “42 inches (1067 mm)” and inserting “36 inches (914 mm)”;** and (2)
striking the second exemption.
 - (C) [Section N1106.3 (relating to energy rating index).]**Section R806.2 (relating to minimum vent area).**
 - (D) [Section N1106.3.1 (relating to ERI reference design).]Section
N1105.4.1 (relating to compliance software tools).
 - (E) [Section N1106.6.1 (relating to compliance software tools).]
Section 1105.4.2 (relating to compliance report).
 - (F) [Section N1106.7 (relating to calculation software tools).]
Section N1105.6 (relating to calculation software tools).
 - (G) [Section N1106.7.1 (relating to minimum capabilities).]**Section N1105.6.1 (relating to minimum capabilities).**

- (H) [Section N1106.7.2 (relating to specific approval).] Section N1105.6.2 (relating to specific approval).
- (I) [Section N1106.7.3 (relating to input values).] Section N1105.6.3 (relating to input values).
- (J) [Section N1108.1.1.2 (relating to heating and cooling systems).] Section N1106.3 (relating to energy rating index).
- (K) [Section N1109.1.2 (relating to heating and cooling systems).] Section N1106.3.1 (relating to ERI reference design).
- (L) Section M1305.1.4.2 (relating to excavations).
- (M) [Section P2903.5 (relating to water hammer).] Section M1411.6.1 (relating to refrigerant line insulation protection).
- (N) Section P2903.5 (relating to water hammer).
- (O) Section E3901.11 (relating to foyers) as modified by replacing “3 feet (914 mm)” with “6 feet (1829 mm)” and requiring a minimum of one receptacle.
- (vii) [The following provisions of the “International Residential Code of 2021” are adopted:
 - (A) Section R703.7.1 (relating to lath).
 - (B) Section R703.7.1.1 (relating to furring).
 - (C) Section R703.7.2 (relating to plaster).
 - (D) Section R703.7.3 (relating to water-resistive barriers).
 - (E) Section R703.7.3.1 (relating to dry climates).
 - (F) Section R703.7.3.2 (relating moist or marine climates).

(G) Section M1411.6.1 (relating to refrigerant line insulation protection).] {Reserved}.

(viii) The following previously adopted provisions of the “International Residential Code of 2018” remain in effect as follows:

(A) Section R311.7.4 (relating to walkline) as modified by adding figure R311.7.4 (relating to winder tread and landing detail).



(B) Section R703.7 (relating to exterior plastic, stucco) as modified by striking “ASTM C926, ASTM C1063” and inserting “ASTM C926-2018B, ASTM C1063-2018B[.]”

(C) Section N1103.3.3 (relating to duct testing).

(D) Section N1103.3.4 (relating to duct leakage).

(E) Section N1104.1 (relating to lighting equipment, mandatory).

(F) Section N1104.1.1 (relating to lighting equipment, mandatory).

(G) Section N1104.1.2 (relating to fuel gas lighting equipment).

(H) Section N1105.4.2.1 (relating to compliance report for permit application).

(I) Table N1105.5.2(1) (relating to specifications for the standard reference and proposed designs), is adopted to read as follows, citations therein correspond to provisions in the “International Residential Code of 2021”:

TABLE N1105.5.2(1) SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS		
BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass where the proposed wall is a mass wall; otherwise wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE N1102.1.2.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Basement and crawl space walls	Type: same as proposed.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE N1102.1.2, with the insulation layer on the interior side of the walls.	As proposed
Above-grade floors	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE N1102.1.2.	As proposed
Ceilings	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE N1102.1.2.	As proposed
Roofs	Type: composition shingle on wood sheathing.	As proposed
	Gross area: same as proposed.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Attics	Type: vented with an aperture of 1 ft ² per 300 ft ² of ceiling area.	As proposed
Foundations	Type: same as proposed.	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed
Opaque doors	Area: 40 ft ² .	As proposed
	Orientation: North.	As proposed
	<i>U</i> -factor: same as fenestration as specified in TABLE N1102.1.2.	As proposed
Vertical fenestration other than opaque doors	Total area ^b = (a) The proposed glazing area, where the proposed glazing area is less than 15 percent of the conditioned floor area. (b) 15 percent of the conditioned floor area, where the proposed glazing area is 15	As proposed

	percent or more of the conditioned floor area.	
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed
	U-factor: as specified in TABLE N1102.1.2.	As proposed
	SHGC: as specified in TABLE N1102.1.2 except for climate zones without an SHGC requirement, the SHGC shall be equal to 0.40.	As proposed
	Interior shade fraction: $0.92 - (0.21 \times \text{SHGC for the standard reference design})$.	Interior shade fraction: $0.92 - (0.21 \times \text{SHGC as proposed})$
	External shading: none.	As proposed
Skylights	None.	As proposed
Thermally isolated sunrooms	None.	As proposed
Air exchange rate	The air leakage rate at a pressure of 0.2 inch w.g. (50 Pa) shall be Climate Zones 1 and 2: 5 air changes per hour. Climate Zones 3 through 8: 3 air changes per hour. The mechanical ventilation rate shall be in addition to the air leakage rate and shall be the same as in the proposed design, but not greater than $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ where: CFA = conditioned floor area, ft². N_{br} = number of bedrooms. Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate^a. The mechanical ventilation rate^b shall be in addition to the air leakage rate and shall be as proposed.
Mechanical ventilation	Where mechanical ventilation is not specified in the proposed design: None. Where mechanical ventilation is specified in the proposed design, the annual vent fan energy use, in units of kWh/yr, shall equal $(1/e_f) \times [0.0876 \times CFA + 65.7 \times (N_{br} + 1)]$ where: e_f = the minimum exhaust efficiency, as specified in Table R403.6.1, corresponding to a flow rate of $0.01 \times CFA + 7.5 \times (N_{br} + 1)$. CFA = conditioned floor area, ft². N_{br} = number of bedrooms.	As proposed
Internal gains	IGain, in units of Btu/day per dwelling unit, shall equal $17,900 + 23.8 \times CFA + 4,104 \times N_{br}$ where: CFA = conditioned floor area, ft². N_{br} = number of bedrooms.	Same as standard reference design.
Internal mass	Internal mass for furniture and contents: 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element ^c but not integral to the building envelope or structure.

Structural mass	For masonry floor slabs: 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air.	As proposed
	For masonry basement walls, as proposed, but with insulation as specified in TABLE N1102.1.3, located on the interior side of the walls.	As proposed
	For other walls, ceilings, floors, and interior walls: wood frame construction.	As proposed
Heating systems ^{d, e}	For other than electric heating without a heat pump: as proposed. Where the proposed design utilizes electric heating without a heat pump, the standard reference design shall be an air source heat pump meeting the requirements of Section C403 of the IECC - Commercial Provisions. Capacity: sized in accordance with Section N1103.7.	As proposed
Cooling systems ^{d, f}	As proposed. Capacity: sized in accordance with Section N1103.7.	As proposed
Service water heating ^{d, e, f, g}	As proposed. Use: same as proposed design.	As proposed Use, in units of gal/day = $30 + (10 \times N_{br})$ where: N_{br} = number of bedrooms.
Thermal distribution systems	Duct insulation in accordance with Section N1103.3.1. A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. Exception: For nonducted heating and cooling systems that do not have a fan, the standard reference design thermal distribution system efficiency (DSE) shall be 1. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft ² (9.29 m ²) of conditioned floor area at a pressure of differential of 0.1 inch w.g. (25 Pa).	Duct insulation: as proposed. As tested or, where not tested, as specified in TABLE N1105.4.2(2).
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F.	Same as standard reference design.
For SI: 1 square foot = 0.93 m², 1 British thermal unit 1055 J, 1 pound per square foot = 4.88 kg/ m², 1 gallon (US) = 3.785 L, °C = (°F - 32)1.8, 1 degree = 0.79 rad. a. Where required by the building official, testing shall be conducted by an approved party. Hourly calculations as specified in the ASHRAE <i>Handbook of Fundamentals</i>, or the equivalent, shall be used to determine the energy loads resulting from infiltration. b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE <i>Handbook of Fundamentals</i>, page 26.24 and the “Whole-house Ventilation” provisions of 2001 ASHRAE <i>Handbook of Fundamentals</i>, page 26.19 for intermittent mechanical ventilation. c. Thermal storage element shall mean a component that Is not part of the floors, walls, or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element shall be in the same room as fenestration		

that faces within 15 degrees (0.26 rad) of true south, or shall be connected to such a room with pipes or ducts that allow the element to be actively charged.

- d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.
- e. For a proposed design without a proposed heating system, a heating system having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed designs.
- f. For a proposed design home without a proposed cooling system, an electric air conditioner having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.
- g. For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater having the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.
- h. For residences with conditioned basements, R-2 and R-4 residences, and for townhouses, the following formula shall be used to determine glazing area: $AF = A_S \times FA \times F$
where:

AF = Total glazing area.

A_S = Standard reference design total glazing area.

FA = (above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 × below-grade boundary wall area)

F = (above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater.

and where:

Thermal boundary wall is any wall that separates conditioned space from unconditioned space or ambient conditions.

Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil.

Below-grade boundary wall is any thermal boundary wall in soil contact.

Common wall area is the area of walls shared with an adjoining dwelling unit. L and CFA are in the same units.

(J) Section E3901.4.2 (relating to island countertop spaces).

(K) Section E4002.11 (relating to bathtub and shower space).

- (8) The “International Fire Code of [2018”][2021” only] to the extent it is referenced by other ICC codes adopted in this chapter.

- (9) The “International Energy Conservation Code of [2018” **except that:**[2021” is adopted as follows:

- (i) [The following provisions are excluded:] **{Reserved}**.

(A) [Section R102.1.1 (relating to above code programs).] **{Reserved}**.

(B) [Section C105.2.6 (relating to final inspection).] **{Reserved}**.

- (C) [Section R403.3.5 (relating to building cavities (mandatory)).] **{Reserved}**.
- (D) [Section C402.2.1 (relating to roof assembly).] **{Reserved}**.
- (E) [Section R405.4.2 (relating to compliance report).] **{Reserved}**.
- (F) [Section R406.3 (relating to energy rating index).] **{Reserved}**.
- (G) [Section R406.6.1 (relating to compliance software tools).] **{Reserved}**.
- (H) [Section R406.6.4 (relating to specific approval).] **{Reserved}**.
- (I) [Section R406.6.5 (relating to input values).] **{Reserved}**.
- (J) [Section R502.1.1.2 (relating to heating and cooling systems).] **{Reserved}**.
- (K) [Section R503.1.2 (relating to heating and cooling systems).] **{Reserved}**.
- (ii) [The following provisions are modified:] **{Reserved}**.
 - (A) [Chapter RE 2 is amended by adding the definition of “framing factor” as the fraction of the total building component area that is structural framing.] **{Reserved}**.
 - (B) [Table R402.1.2 (relating to insulation and fenestration requirements by component) is amended by modifying the Fenestration U-Factor in Climate Zone 3 to 0.35.] **{Reserved}**.
 - (C) [Section R405.2 (relating to mandatory requirements) is amended to require compliance with the mandatory provisions of section R402.4.1.2 (relating to testing).] **{Reserved}**.

- (D) [Reserved].
- (E) [Reserved].
- (iii) [The following provisions of the “International Energy Conservation Code of 2009” are adopted:] **{Reserved}**.
 - (A) [Section 102.1.1 (relating to above code programs).] **{Reserved}**.
 - (B) [Section 104.3 (relating to final inspection).] **{Reserved}**.
 - (C) [Section 403.2.3 (relating to building cavities).] **{Reserved}**.
- (iv) [The following provisions of the “International Energy Conservation Code of 2015” are adopted:] **{Reserved}**.
 - (A) [Section C402.2.2 (relating to roof assembly).] **{Reserved}**.
 - (B) [Exception 1 of section C402.5.3 (relating to rooms containing fuel-burning appliances).] **{Reserved}**.
 - (C) [Section R405.4.2 (relating to compliance report).] **{Reserved}**.
 - (D) [Section R406.3 (relating to energy rating index).] **{Reserved}**.
 - (E) [Section R406.3.1 (relating to ERI reference design).] **{Reserved}**.
 - (F) [Section R406.6.1 (relating to compliance software tools).]
{Reserved}.
 - (G) [Section R406.7 (relating to calculation software tools).]
{Reserved}.
 - (H) [Section R406.7.1 (relating to minimum capabilities).]
{Reserved}.
 - (I) [Section R406.7.2 (relating to specific approval).] **{Reserved}**.
 - (J) [Section R406.7.3 (relating to input values).] **{Reserved}**.

(K) [Section R502.1.1.2 (relating to heating and cooling systems).]
{Reserved}.

(L) [Section R503.1.2 (relating to heating and cooling systems).]
{Reserved}.

(v) With respect to the Commercial Provisions -

(A) Section C105.2.6 (relating to final inspection) is modified to read: “C105.2.6 Final inspection. The building shall have a final inspection and not be occupied until approved.”

(B) Section C402.5.5 (relating to rooms containing fuel-burning appliances) is modified by (1) Inserting exception number 1 to read: “Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.”; and (2) designating the provided exception as exception number 2.

(C) Section C405.11 (relating to automatic receptacle control) is modified by changing “shall” to “may” in the first sentence.

(D) Section C405.11.1 (relating to automatic receptacle control function) is modified by changing “20 minutes” to “120 minutes” in subparagraphs 2.2 and 2.3.

(vi) With respect to the Residential Provisions,

(A) Section R202 is amended by inserting the following definition: “Framing Factor. The fraction of the total building component area that is structural framing.”

(B) Section R401.2.5 (relating to additional energy efficiency) is excluded.

(C) Table R402.1.2 (relating to maximum assembly U-factors and fenestration requirements) is modified to read as follows:

TABLE R402.1.2 MAXIMUM ASSEMBLY U-FACTORS^a AND FENESTRATION REQUIREMENTS									
CLIMATE ZONE	FENESTRATION U-FACTOR ^f	SKYLIGHT U-FACTOR	GLAZED FENESTRATION SHGC ^{d,e}	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	0.50	0.75	0.25	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.25	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.25	0.030	0.060	0.098	0.047	0.091 ^c	0.136
4 except Marine	0.30	0.55	0.40	0.026	0.060	0.098	0.047	0.059	0.065
5 and Marine 4	0.30	0.55	NR	0.026	0.051	0.082	0.033	0.050	0.055
6	0.30	0.55	NR	0.026	0.045	0.060	0.033	0.050	0.055
7 and 8	0.30	0.55	NR	0.026	0.045	0.057	0.028	0.050	0.055
a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source. b. Mass walls shall be in accordance with Section R402.2.5. Where more than half the insulation is on the interior, the mass wall U-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8. c. In warm-humid locations as defined by Figure R301.1 and Table R301.1, the basement wall U-factor shall not exceed 0.360. d. The SHGC column applies to all glazed fenestration. Exception: In Climate Zones 0 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30. e. There are no SHGC requirements in the Marine Zone. f. A maximum U-factor of 0.32 shall apply in Marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either: 1. Above 4,000 feet in elevation above sea level, or									

2. In windborne debris regions where protection of openings is required by Section R301.2.1.2. of the International Residential Code.

(D) Table R402.1.3 (relating to insulation minimum R-values and fenestration requirements by component) is modified to read:

TABLE R402.1.3 INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a										
CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, c}	CEILING R-FACTOR	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13 + 5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10/13	10, 2ft	10/13
5 and Marine 4	0.30	0.55	NR	49	23 or 13 + 7.5 ^h or 20 + 3.8 ^h	13/17	30 ^g	15/19	10, 4ft or 15, 3ft	15/19
6	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	15/20	30 ^g	15/19	10, 4ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	19/21	30 ^g	15/19	10, 4ft	15/19

For SI: 1 foot = 304.8 mm
NR = Not required

- R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.
- The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.
- “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with “15/19” shall be R-

13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

- d. R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs. as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation shall not be required in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- g. Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19.
- h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, “13+5” means R-13 cavity insulation plus R-5 continuous insulation.
- i. Mass walls shall be in accordance with Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

(E) Section R403.3.5 (relating to duct testing) is modified as follows:

(I) The section is re-titled “Duct testing (Mandatory)[];”

(II) Two exceptions are inserted between paragraph 2 and the paragraph beginning “A written report” to read as follows:

Exceptions:

1. A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

2. A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.

- (III) The term “code official” is replaced with “building official”; and**
- (IV) The exception at the end of the section is struck.**
- (F) Section R403.3.6 (relating to duct leakage) is modified as by re-titling the section “Duct leakage (Prescriptive)”; and striking the third paragraph.**
- (G) Section R403.3.7 (relating to building cavities) is modified to read: “R403.3.7 Building cavities (Mandatory). Building framing cavities shall not be used as supply ducts.”**
- (H) Section R403.5.1.1 (relating to circulation systems) is modified to add the following exception at the end of the section: “Exception: Where the entire hot water piping system (both supply and return are insulated with a minimum R3 insulation, the stated controls shall not be required.”**
- (I) Section R404.1 (relating to lighting equipment) is modified to read: “R404.1 Lighting equipment (Mandatory). Not less than 90 percent of the permanently installed lighting fixtures shall contain only high-efficiency lamps.”**
- (J) Section R404.1.1 (relating to exterior lighting) is modified to read: “R404.1.1 Lighting Equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.”**

(K) Section R404.1.2 (relating to fuel gas lighting equipment) is excluded.

(L) Section R404.2 (relating to interior lighting controls) is excluded.

(M) Section R404.3 (relating to exterior lighting controls) is excluded.

(N) Table R405.2 (relating to requirements for total building performance) is modified to read as follows:

TABLE R405.2 REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE	
SECTION^a	TITLE
General	
R401.3	Certificate
Building Thermal Envelope	
R402.1.1	Vapor retarder
R402.2.3	Eave baffle
R402.2.4.1	Access hatches and doors
R402.2.10.1	Crawl space wall insulation installation
R402.4.1.1	Installation
R402.4.1.2	Testing
R402.5	Maximum fenestration <i>U</i> -factor and SHGC
Mechanical	
R403.1	Controls
R403.3, including R403.3.1, except Sections R403.3.2, R403.3.3 and R403.3.6	Ducts
R403.4	Mechanical system piping insulation
R403.5.1	Heated water circulation and temperature maintenance systems
R403.5.3	Drain water heat recovery units
R403.6	Mechanical ventilation
R403.7	Equipment sizing and efficiency rating
R403.8	Systems serving multiple dwelling units
R403.9	Snow melt system controls
R403.10	Energy consumption of pools and spas
R403.11	Portable spas
R403.12	Residential pools and permanent residential spas

Electrical Power and Lighting Systems	
R404.1	Lighting equipment
R404.2	Interior lighting controls
a. Reference to a code section includes all the relative subsections except as indicated in the table.	

(O) Section R405.3.2 (relating to compliance report) is modified to read as follows:

R405.3.2 Compliance report. Compliance software tools shall generate a report that documents that the proposed design complies with Section R405.2. A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the code official before a certificate of occupancy is issued. Batch sampling of buildings to determine energy code compliance for all buildings in the batch shall be prohibited.

Compliance reports shall include information in accordance with Sections R405.3.2.1 and R405.3.2.2. Where the proposed design of a building could be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst case duct leakage. Such worst-case

parameters shall be used as inputs to the compliance software for energy analysis.

(P) Section R405.3.2.1 (relating to compliance report for permit application) is modified by striking and replacing numbered paragraphs 2 through 6 with the following:

2. A statement indicating that the proposed design complies with Section R405.4.

3. An inspection checklist documenting the building component characteristics of the proposed design as indicated in Table R405.4.2(1). The inspection checklist shall show results for both the standard reference design and the proposed design with user inputs to the compliance software to generate the results.

4. A site-specific energy analysis report that is in compliance with Section R405.4.

5. The name of the individual performing the analysis and generating the report.

6. The name and version of the compliance software tool.

(Q) Section R405.3.2.2 (relating to compliance report for certificate of occupancy) is modified by striking “and the title page of the building plans” from paragraph 2.

(R) Table R405.4.2(1) (relating to specifications for the standard reference and proposed designs) is modified to read as follows:

TABLE R405.4.2(1) SPECIFICATIONS FOR THE STANDARD REFERENCE DESIGN AND PROPOSED DESIGNS		
BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass where the proposed wall is a mass wall; otherwise wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE R402.1.2.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Basement and crawl space walls	Type: same as proposed.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE R402.1.2, with the insulation layer on the interior side of the walls.	As proposed
Above-grade floors	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE R402.1.2.	As proposed
Ceilings	Type: wood frame.	As proposed
	Gross area: same as proposed.	As proposed
	<i>U</i> -factor: as specified in TABLE R402.1.2.	As proposed
Roofs	Type: composition shingle on wood sheathing.	As proposed
	Gross area: same as proposed.	As proposed
	Solar absorptance = 0.75.	As proposed
	Emittance = 0.90.	As proposed
Attics	Type: vented with an aperture of 1 ft ² per 300 ft ² of ceiling area.	As proposed
Foundations	Type: same as proposed.	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed
Opaque doors	Area: 40 ft ² .	As proposed
	Orientation: North.	As proposed
	<i>U</i> -factor: same as fenestration as specified in TABLE R402.1.2.	As proposed
Vertical fenestration other than opaque doors	Total area ^b = (c) The proposed glazing area, where the proposed glazing area is less than 15 percent of the conditioned floor area. (d) 15 percent of the conditioned floor area, where the proposed glazing area is 15 percent or more of the conditioned floor area.	As proposed
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed
	<i>U</i> -factor: as specified in TABLE R402.1.2.	As proposed
	SHGC: as specified in TABLE N1102.1.2 except for climate zones without an SHGC requirement, the SHGC shall be equal to 0.40.	As proposed
	Interior shade fraction: 0.92 - (0.21 × SHGC for the standard reference design).	Interior shade fraction: 0.92 - (0.21 × SHGC as proposed)
	External shading: none.	As proposed
Skylights	None.	As proposed

Thermally isolated sunrooms	None.	As proposed
Air exchange rate	The air leakage rate at a pressure of 0.2 inch w.g. (50 Pa) shall be Climate Zones 1 and 2: 5 air changes per hour. Climate Zones 3 through 8: 3 air changes per hour. The mechanical ventilation rate shall be in addition to the air leakage rate and shall be the same as in the proposed design, but not greater than $0.01 \times CFA + 7.5 \times (N_{br} + 1)$ where: CFA = conditioned floor area, ft². N_{br} = number of bedrooms. Energy recovery shall not be assumed for mechanical ventilation.	The measured air exchange rate^a. The mechanical ventilation rate^b shall be in addition to the air leakage rate and shall be as proposed.
Mechanical ventilation	Where mechanical ventilation is not specified in the proposed design: None. Where mechanical ventilation is specified in the proposed design, the annual vent fan energy use, in units of kWh/yr, shall equal $(1/e_f) \times [0.0876 \times CFA + 65.7 \times (N_{br} + 1)]$ where: e_f = the minimum exhaust efficiency, as specified in Table R403.6.1, corresponding to a flow rate of $0.01 \times CFA + 7.5 \times (N_{br} + 1)$. CFA = conditioned floor area, ft². N_{br} = number of bedrooms.	As proposed
Internal gains	IGain, in units of Btu/day per dwelling unit, shall equal $17,900 + 23.8 \times CFA + 4,104 \times N_{br}$ where: CFA = conditioned floor area, ft². N_{br} = number of bedrooms.	Same as standard reference design.
Internal mass	Internal mass for furniture and contents: 8 pounds per square foot of floor area.	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element ^c but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs: 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air.	As proposed
	For masonry basement walls, as proposed, but with insulation as specified in TABLE R402.1.3, located on the interior side of the walls.	As proposed
	For other walls, ceilings, floors, and interior walls: wood frame construction.	As proposed
Heating systems ^{d, e}	For other than electric heating without a heat pump: as proposed. Where the proposed design utilizes electric heating without a heat pump, the standard reference design shall be an air source heat pump meeting the requirements of Section C403 of the IECC - Commercial Provisions.	As proposed

	Capacity: sized in accordance with Section N1103.7.	
Cooling systems ^{d, f}	As proposed. Capacity: sized in accordance with Section N1103.7.	As proposed
Service water heating ^{d, e, f, g}	As proposed. Use: same as proposed design.	As proposed Use, in units of gal/day = $30 + (10 \times N_{br})$ where: N_{br} = number of bedrooms.
Thermal distribution systems	Duct insulation in accordance with Section N1103.3.1. A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. Exception: For nonducted heating and cooling systems that do not have a fan, the standard reference design thermal distribution system efficiency (DSE) shall be 1. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft ² (9.29 m ²) of conditioned floor area at a pressure of differential of 0.1 inch w.g. (25 Pa).	Duct insulation: as proposed. As tested or, where not tested, as specified in TABLE R405.4.2(2).
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F.	Same as standard reference design.
For SI: 1 square foot = 0.93 m², 1 British thermal unit 1055 J, 1 pound per square foot = 4.88 kg/m², 1 gallon (US) = 3.785 L, °C = (°F - 32)1.8, 1 degree = 0.79 rad. - Where required by the building official, testing shall be conducted by an approved party. Hourly calculations as specified in the ASHRAE <i>Handbook of Fundamentals</i>, or the equivalent, shall be used to determine the energy loads resulting from infiltration. - The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE <i>Handbook of Fundamentals</i>, page 26.24 and the “Whole-house Ventilation” provisions of 2001 ASHRAE <i>Handbook of Fundamentals</i>, page 26.19 for intermittent mechanical ventilation. - Thermal storage element shall mean a component that is not part of the floors, walls, or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element shall be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or shall be connected to such a room with pipes or ducts that allow the element to be actively charged. - For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present. - For a proposed design without a proposed heating system, a heating system having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed designs. - For a proposed design home without a proposed cooling system, an electric air conditioner having the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design. - For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater having the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.		

h.	For residences with conditioned basements, R-2 and R-4 residences, and for townhouses, the following formula shall be used to determine glazing area: $AF = A_S \times FA \times F$ where: AF = Total glazing area. A_S = Standard reference design total glazing area. FA = (above-grade thermal boundary gross wall area)/(above-grade boundary wall area + 0.5 × below-grade boundary wall area) F = (above-grade thermal boundary wall area)/(above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater. and where: Thermal boundary wall is any wall that separates conditioned space from unconditioned space or ambient conditions. Above-grade thermal boundary wall is any thermal boundary wall component not in contact with soil. Below-grade boundary wall is any thermal boundary wall in soil contact. Common wall area is the area of walls shared with an adjoining dwelling unit. L and CFA are in the same units.
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(S) Table R406.2 (relating to requirements for energy rating index) is modified to read as follows:

TABLE R406.2 REQUIREMENTS FOR ENERGY RATING INDEX	
SECTION^a	TITLE
General	
R401.3	Certificate
Building Thermal Envelope	
R402.1.1	Vapor retarder
R402.2.3	Eave baffle
R402.2.4.1	Access hatches and doors
R402.2.10.1	Crawl space wall insulation installation
R402.4.1.1	Installation
R402.4.1.2	Testing
Mechanical	
R403.1	Controls
R403.3, except Sections R403.3.2, R403.3.3 and R403.3.6	Ducts
R403.4	Mechanical system piping insulation
R403.5.1	Heated water circulation and temperature maintenance systems
R403.5.3	Drain water heat recovery units
R403.6	Mechanical ventilation
R403.7	Equipment sizing and efficiency rating
R403.8	Systems serving multiple dwelling units
R403.9	Snow melt system controls
R403.10	Energy consumption of pools and spas
R403.11	Portable spas

R403.12	Residential pools and permanent residential spas
Electrical Power and Lighting Systems	
R404.1	Lighting equipment
R404.2	Interior lighting controls
R406.3	Building thermal envelope
a. Reference to a code section includes all the relative subsections except as indicated in the table.	

(T) Section R406.3 (relating to building thermal envelope) is excluded.

(U) Section R406.3.1 (relating to on-site renewables are not included) is excluded.

(V) Section R406.3.2 (relating to on-site renewables are included) is excluded.

(W) Section R406.4 (relating to energy rating index) is modified to read:

R406.4 Energy rating index. The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1 percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building.

(X) The following provision is added as Section R406.4.1:

R406.4.1 ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements. The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design.

(Y) Section R406.7.1 (relating to compliance software tools) is modified to read:

R406.7.1 Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official.

(Z) Section R406.7.5 (relating to specific approval) is excluded.

(AA) Section R406.7.6 (relating to input values) is excluded

(BB) The following section is added as Section R406.8:

R406.8 Calculation Software Tools. Calculation software, where used, shall be in accordance with section R406.8.1 through R406.8.3.

(CC) The following previously adopted section is added as Section R406.8.1:

R406.8.1 Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of

calculating the ERI as described in Section R406.3, and shall include the following capabilities:

1. Computer generation of the ERI reference design using only the input for the rated design.

The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.

2. Calculation of whole-building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section R403.7.

3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air conditioning equipment based on climate and equipment sizing.

4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings.

(DD) The following section is added as Section R406.8.2:

R406.8.2 Specific Approval. Performance analysis tools meeting the applicable sections of Section R406 (N1106) shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code

official shall approve tools for a specified application or limited scope.

(EE) The following section is added as Section R406.8.3:

R406.7.3 (N1106.7.3) Input values. When calculations require input values not specified by Sections R402, R403, R404 and R405, those input values shall be taken from an approved source.

(FF) Section R408.1 (relating to scope) is modified by striking “in accordance with Section R401.2.5[.].”

(GG) Section R408.2 (relating to additional efficiency package options) is modified by striking “for compliance with Section R401.2.1[.].”

(10) The “International Existing Building Code of [2018] **2021**” except:

- (i) The accessibility provisions contained in the following sections of the “International Existing Building Code of 2021” are **[adopted] excluded:**
 - (A) Section 301.5 (relating to compliance with accessibility).
 - (B) Section 305 (relating to accessibility for existing buildings).
 - (C) Section 1101.2 (relating to creation or extension of nonconformity).
 - (D) Appendix B (relating to supplementary accessibility requirements for existing buildings and facilities).
- (ii) Section 1106 (relating to storm shelters) is excluded.

- (iii) [The second sentence in section 106.2.5 is modified to read as follows:
“The manufacturer’s installation instructions shall be available to the
code official during inspection as a deferred submittal.”]
{Reserved}.

- (11) The “International Wildland-Urban Interface Code of [2018] 2021.”
(12) Appendix E of the “International Building Code of [2021]2018.”
(13) Appendix H of the “International Building Code of 2009.”
(14) The “International Swimming Pool and Spa Code of [2018.]” 2021,” except:

(i) The following provisions are excluded:

- (A) Section [A] 108.2 (relating to schedule of permit fees).**
(B) Section [A] 108.3 (relating to permit valuations).
**(C) Section [A] 108.4 (relating to work commencing before permit
issuance).**
**(D) Section [A] 108.5 (regarding payment of fees related to
permits).**

**(ii) The following provisions of the “International Swimming Pool and
Spa Code of 2018” remain in effect:**

- (A) Section [A] 105.6.1 (relating to work commencing before
permit issuance).**
(B) Section [A] 105.6.2 (fee schedule).

* * * * *

- (b) The code adopted under subsection (a)(8) is part of the Uniform Construction Code to the
extent that it is referenced in Chapter 35 of the “International Building Code of [2018]

2021” under section 302(a)(1) of the act (35 P.S. § 7210.302(a)(1)). The provisions of the Uniform Construction Code apply if there is a difference between the Uniform Construction Code and the codes or standards adopted in subsection (a). This chapter’s administrative provisions govern under § 403.27(e) (relating to applicability and use of standards) if there is a conflict with the provisions of the codes relating to administration incorporated under subsection (a).

- (c) Appendices to a code or standard listed in subsection (a) are not adopted in the Uniform Construction Code except for the appendices and resource information found in the “International Existing Building Code of **[2018] 2021**” and the appendices found in subsection (a)(12) and (13).
- (d) A permit applicant may utilize one of the following prescriptive methods to demonstrate compliance with the energy conservation requirements of the Uniform Construction Code. The standards are those listed for the climatic zone of this Commonwealth where the building or structure is located:
 - (1) The prescriptive methods for detached residential buildings contained in the “International Energy Conservation Code of **[2018] 2021**” compliance guide containing State maps, prescriptive energy packages and related software published by the United States Department of Energy, Building Standards and Guidelines Program (REScheck™) or “Pennsylvania’s Alternative Residential Energy Provisions.”
 - (2) The prescriptive methods for all other buildings or structures contained in the “International Energy Conservation Code of **[2018] 2021**” compliance guide containing State maps, prescriptive packages and related software published by

the United States Department of Energy, Building Standards and Guidelines
Program (COMcheck™).

- (e) Construction of individual sewage disposal systems is governed under 25 Pa. Code Chapter 73 (relating to standards for onlot sewage treatment facilities).
- (f) The repair, alteration, change of occupancy, addition and relocation of existing buildings must comply with Chapter 34 of the “International Building Code of [2018] 2021” or with the “International Existing Building Code of [2018] 2021.”

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§ 403.23. Child day care facilities.

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- (d) All other child day care facilities shall be classified under Chapter 3 of the “International Building Code of [2018] 2021.” The facilities shall meet all Uniform Construction Code standards for these occupancy classifications.

§ 403.26. Swimming pools.

- (a) A swimming pool, hot tub and spa which is accessory to a one-family or two-family dwelling must comply with the “International Swimming Pool and Spa Code of [2018] 2021.”
- (b) A swimming pool, hot tub or spa that is not accessory to a one-family or two-family dwelling must comply with the Public Bathing Law (35 P.S. § § 672—680d) and the “International Swimming Pool and Spa Code of 2018.” [The accessibility provisions contained in section 307.1.4 (relating to general design requirements) of the “International Swimming Pool and Spa Code of 2021” are adopted.]

§ 403.27. Applicability and use of standards.

- (a) Portions of this chapter designate and incorporate portions of the following ICC copyrighted works:
- (1) The “International Building Code of **[2018] 2021**.”
 - (2) The “International Residential Code of **[2018] 2021**.”
 - (3) The “International Plumbing Code of **[2018] 2021**.”
 - (4) The “International Mechanical Code of **[2018] 2021**.”
- (b) The “International Residential Code of **[2018] 2021**” and the “International Existing Building Code of **[2018] 2021**” apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and multiple single-family dwellings no more than three stories in height with a separate means of egress and their accessory structures.

* * * * *

- (f) A provision of the “International Mechanical Code of **[2018] 2021**” does not apply if the provision conflicts with the Boiler and Unfired Pressure Vessel Law (35 P.S. § § 1331.1—1331.9).

§ 403.28. Uncertified buildings.

- (a) Under section 902(b)(6) of the act (35 P.S. § 7210.902(b)(6)), an uncertified building that was built before April 27, 1927, is deemed to be legally occupied until the owner proposes to renovate, add an addition, alter or change the occupancy of the building. The renovation, addition, alteration or change in occupancy must comply with the Uniform Construction Code.

- (b) Under section 902(b) of the act, uncertified buildings within the Department's jurisdiction must meet the following requirements which do not apply to uncertified buildings under subsection (a):
- (1) Maximum story height, minimum allowable construction type based on floor area, vertical opening and shaft protection requirements, means of egress requirements pertaining to minimum number of exits, maximum travel distances to exits, means of egress illumination, minimum egress widths and heights for exit doors, exit stairs, exit ramps and exit corridors requirements under the "International Building Code of **[2018] 2021**."
 - (2) Fire safety requirements in the "International Building Code of **[2018] 2021**" for fire alarms, fire extinguishers, heat and smoke detectors, automatic sprinkler systems and occupancy and incidental use separations. The following also apply:
 - (i) If construction began on a building before May 19, 1984, the installation of automatic sprinkler systems is not required.
 - (ii) If construction began on a building after May 19, 1984, automatic sprinklers are only required if the building is classified in use groups E (educational), H (high-hazard), I (institutional), or R-1 or R-2 (residential) or if the building has occupied floors more than 75 feet above lowest level of fire department access. Buildings in use groups R-1 and R-2 which do not have occupied floors more than 75 feet above lowest level of fire department access may, instead of installing automatic sprinkler systems, install hard-wired interconnected heat and smoke detectors in all rooms or spaces, whether they are occupied or unoccupied.

- (iii) If construction of a building began after May 18, 1984, automatic sprinkler installation shall be completed by December 22, 2010, or any certificate of occupancy issued shall be invalid.
- (3) Accessibility requirements are applicable as follows:
 - (i) If construction of an uncertified building began before September 1, 1965, accessibility requirements will not be imposed by the Department.
 - (ii) If construction of a building began after August 31, 1965, and before February 18, 1989, and if the building is a State-owned building, a restaurant or a retail commercial establishment, the building must have at least one accessible main entrance, an accessible route from the accessible entrance to any public spaces on the same level as the accessible entrance and, if toilet rooms are provided, the building must have at least one toilet room for each sex or a unisex toilet room complying with the accessibility requirements of the “International Building Code of **[2021] 2018**.”
 - (iii) If construction of the building began after February 17, 1989, all accessibility requirements of the “International Building Code of **[2021] 2018**” shall be met.
- (4) Structural requirements will not be imposed unless the Department determines that the building or a portion of the building has defects that are defined as dangerous in section 202 of the “International Existing Building Code of **[2018] 2021**.” If the building is dangerous, the Department may impose only those requirements minimally necessary to remove danger to the building’s occupants.

- (5) A construction code official may deny the issuance of a certificate of occupancy if the official deems that a building is unsafe because of inadequate means of egress, inadequate lighting and ventilation, fire hazards or other dangers to human life or to public welfare.
- (c) The following apply to uncertified buildings where the Department does not have jurisdiction and which are not governed under subsection (a):
- (1) A construction code official shall issue a certificate of occupancy to an uncertified building if it meets the requirements of the latest version of the “International Existing Building Code of [2018] 2021” or Chapter 34 of the “International Building Code of [2018] 2021.” The construction code official shall utilize the code for the municipality which best applies, in the official’s professional judgment.

* * * * *

§ 403.42. Permit requirements and exemptions.

* * * * *

- (x) Swings and other playground equipment accessory to one- or two-family dwellings.
- (xi) Window awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support of group R-3 as applicable in the “International Building Code of [2018] 2021,” and Group U occupancies.
- (xii) Movable cases, counters and partitions that are not over 5 feet 9 inches in height.

* * * * *

§ 403.42a. Permit application.

* * * * *

- (2) The construction documents for occupancies other than Groups R-2 and R-3 shall contain designation of the number of occupants to be accommodated on every floor and in all rooms and spaces.
- (3) The permit applicant shall submit shop drawings for a fire protection system that indicates conformance with the Uniform Construction Code in accordance with the following:
 - (i) The shop drawings shall be approved by the building code official before the start of the system installation.
 - (ii) The shop drawings must contain the information required by the referenced installation standards contained in Chapter 9 of the “International Building Code of **[2018] 2021**.”
- (g) Construction documents shall contain the following information related to the exterior wall envelope:
 - (1) Description of the exterior wall envelope indicating compliance with the Uniform Construction Code.
 - (2) Flashing details.
 - (3) Details relating to intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves, or parapets, means of drainage, water-resistive membrane and details around openings.

- (h) Construction documents shall contain a site plan that is drawn to scale. The building code official may waive or modify the following site plan requirements if the permit application is for an alteration or repair or if waiver or modification is warranted. Site plan requirements include all of the following:
- (1) The size and location of new construction and existing structures on the site.
 - (2) Accurate boundary lines.
 - (3) Distances from lot lines.
 - (4) The established street grades and the proposed finished grades.
 - (5) If the construction involves demolition, the site plan shall indicate construction that is to be demolished and the size and location of existing structures and construction that will remain on the site or plot.
 - (6) Location of parking spaces, accessible routes, public transportation stops and other required accessibility features.
- (i) A permit applicant shall submit certifications required in the “International Building Code of [2018] 2021” for construction in a flood hazard area to the building code official.
- (j) A permit applicant shall identify, on the application, the name and address of the licensed architect or engineer in responsible charge. The permit applicant shall notify the building code official in writing if another licensed architect or engineer assumes responsible charge.
- (k) The permit applicant shall describe an inspection program, identify a person or firm who will perform special inspections and structural observations if section 1704 and 1705 of the “International Building Code of [2018] 2021” requires special inspections or structural observations for the construction.

* * * * *

§ 403.44. Alternative construction materials and methods.

* * * * *

- (c) A new building or remodeling, alteration, addition or change of use and occupancy of an existing building which complies with the “International Performance Code of [2018] 2021” shall also be in compliance with the Uniform Construction Code.

§ 403.45. Inspections.

* * * * *

- (f) A code administrator may act in place of a lumber grading or inspection agency to satisfy the requirements under section 2303.1.1 of the “International Building Code of [2018] 2021” or its successor code.

* * * * *

§ 403.46. Certificate of occupancy.

- (a) A building, structure or facility may not be used or occupied without a certificate of occupancy issued by a building code official.
- (b) A building code official shall issue a certificate of occupancy within 5 business days after receipt of a final inspection report that indicates compliance with the Uniform Construction Code. The certificate of occupancy shall contain the following information:

* * * * *

- (6) The use and occupancy classification under Chapter 3 (Use and Occupancy Classification) of the “International Building Code of [2018] 2021,” when designated.

- (7) The type of construction defined in Chapter 6 (Types of Construction) of the “International Building Code of **[2018] 2021**,” when designated.

* * * * *

§ 403.103. Municipalities electing not to enforce the Uniform Construction Code.

* * * * *

- (c) A building code official shall approve an alternative material, design or method of construction if the proposed design is satisfactory and complies with the intent of the Uniform Construction Code and the offered material, method or work is equivalent to Uniform Construction Code requirements for its intended purpose. The building code official shall accept compliance with the “International Performance Code of **[2018] 2021**” as an alternative to compliance with the Uniform Construction Code.
- (d) A building code official shall determine the climatic and geographic design criteria contained in Table R301.2(1) of the “International Residential Code of **[2018] 2021**” for residential construction.

* * * * *



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY

September 10, 2025

Chairman George D. Bedwick
Independent Regulatory Review Commission
333 Market Street, 14th Floor
Harrisburg, PA 17101

Re: Notice of Final-Omitted Rulemaking
Department of Labor and Industry
34 Pa. Code, Chapters 401 and 405

Dear Chairman Bedwick:

Enclosed is a proposed final-omitted rulemaking package consisting of a Face Sheet, Preamble, Annex A, Regulatory Analysis Form, September 14, 2024 UCC Review and Advisory Council Report, and the following updated forms:

- Application for UCC Alterations – Level 1 Permit
- Application for UCC Building Permit
- UCC Accessibility Advisory Board Petition
- Special Inspections and Observations Statement

The Department of Labor & Industry (Department) is submitting this rulemaking to update the Uniform Construction Code (UCC) by adopting nearly all provisions of the 2021 International Code Council (ICC) codes, as directed by the UCC Review and Advisory Council (RAC).

The Department's staff will provide your staff with any assistance required to facilitate your review of this proposal.

Sincerely,

A handwritten signature in cursive script that reads "Nancy A. Walker".

Nancy A. Walker
Secretary,
Department of Labor and Industry

cc w/encl: The Honorable Akbar Hossain, Secretary of Policy and Planning
William L. Trusky, Executive Deputy Secretary
Christopher S. Hallock, Deputy Secretary, Safety and Labor-Management
Relations
Joshua Towzey, Director of Legislative Affairs
Kristen M. Bentz, Policy Director
Benjamin C. Holt, Chief Counsel
Justin T. Romano, Deputy Chief Counsel
Joseph P. Marchioni, Jr., Acting Director, Bureau of Occupational and Industrial
Safety

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From: [Updegraff, Cathy](#)
To: [Mueller, Janet \(LI-OCC\)](#)
Subject: RE: L&I Final-Omitted Rulemaking 12-125
Date: Wednesday, September 10, 2025 10:54:31 AM
Attachments: [image001.png](#)

Independent Regulatory
Review Commission
September 10, 2025

Received.

Thank you,

Cathy

Cathy L. Updegraff
Executive Assistant / Scheduler
Senator John I. Kane
458 Main Capitol Building
Harrisburg PA 17120
(717)787-4712
cathy.updegraff@pasenate.com

From: Mueller, Janet (LI-OCC) <jamueller@pa.gov>
Sent: Wednesday, September 10, 2025 10:43 AM
To: Updegraff, Cathy <cathy.updegraff@pasenate.com>
Subject: L&I Final-Omitted Rulemaking 12-125
Importance: High

EXTERNAL EMAIL

Good morning,

Attached is the Final-Omitted Rulemaking #12-125, Uniform Construction Code Training and Certification of Code Administrators

Please respond to this email that you have received delivery.

Thank you!



Jan Mueller | Legal Office Administrator 1
PA Department of Labor & Industry | Office of Chief Counsel
651 Boas Street, 10th Floor
Harrisburg, PA 17121
Phone: 717.772.8291 | Fax: 717.787.1303
www.pa.gov

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Subject: RE: L&I Final-Omitted Rulemaking 12-125
Date: Wednesday, September 10, 2025 10:57:01 AM
Attachments: [image001.png](#)

Hi Jan,

I have received it. Thanks.

Jim Dawes

Executive Director (D)
House Housing & Community Development Committee
Rep. Brandon Markosek, Chairman
305 Irvis Office Building
Phone: 717-772-0036

From: Mueller, Janet (LI-OCC) <jamueller@pa.gov>
Sent: Wednesday, September 10, 2025 10:37 AM
To: Dawes, James <JDawes@pahouse.net>
Subject: L&I Final-Omitted Rulemaking 12-125

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Independent Regulatory
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September 10, 2025

Received. Thanks, Jan!

-Jonas

From: Mueller, Janet (LI-OCC) <jamueller@pa.gov>
Sent: Wednesday, September 10, 2025 10:41 AM
To: Jonas Ricci <Jricci@pahousegop.com>; Jessica Smith <Jasmith@pahousegop.com>
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Date: Wednesday, September 10, 2025 1:17:41 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Received. Thanks Jan.

Best,
Eric

Eric Kratz

Executive Director | Senate Labor and Industry Committee
Office of Senator Devlin Robinson
171 Main Capitol | Harrisburg, PA 17120
Phone: 717.783.6832 | Cell: 717.215.1259
ekratz@pasen.gov
www.senatorrobinson.com



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