ORDINANCE NO. 26

Series 2022

AN ORDINANCE AMENDING THE BUILDING CODE PERTAINING TO ENERGY EFFICIENCY OF RESIDENTIAL CONSTRUCTION AND REPEALING OUTDATED PROVISIONS.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF BRECKENRIDGE, COLORADO:

Section 1. That paragraph 43 of section 8-1-5 A of "Amendments to the International Residential Code" 2018 is hereby repealed to read as follows:

Reserved.

Section 2. That paragraph 46 is hereby repealed from section 8-1-5 A of "Amendments to the International Residential Code" 2018 to read as follows.

Reserved.

Section 3. That paragraph 73 is hereby repealed from section 8-1-5 A and reserved in the "Amendments to the International Residential Code" 2018 to read as follows:

Reserved.

Section 4. That new paragraphs 76 through 78 j. be added to A of section 8-1-5 of the "Amendments to the International Residential Code" of 2018 to read as follows:

76. Section N1101.4. Above Code Programs. All new structures defined as a Residential Building under Section N1101.6 (R202) of the 2018 International Residential Code shall be designed and comply with section 8-1-5 A. paragraph 45 and either the Department of Energy Zero Energy Ready Home National Program; or, one of the options set forth below:

1. 2021 IECC Prescriptive Option:

- Forced air-furnace system, minimum 97% AFUE.
- Radiant heating system, minimum 95% AFUE.
- Heat pump minimum efficiency, Heating Seasonal Performance Factor (HSPF) 10
- High-efficacy LED lights, minimum 100%.
- Energy efficient water heater.
  - Electric, minimum 0.95 energy factor
  - Gas, minimum 0.76 energy factor.
- Provide an electrical car charging rough in, including a blanked electrical box, and a raceway terminating in the electrical panel per Article 625 of the 2020 NEC.
- Provide PV ready construction including a metal raceway from the electrical panel to the roof location where the panels will be installed, including a roof jack, a #8 copper ground, a 2 pull blank in the electrical panel and an electrical conduit from the electrical panel out to the electric meter.
- WaterSense fixtures throughout.

- HRV/ ERV, 65% sensible heat recovery efficiency, meeting minimum airflow rates per IRC installed.
- Maximum 30% of exterior walls to be fenestrations.
- Programmable thermostats.

Thermal envelope requirements:

Roof/ ceiling:	R60, or R49 uncompressed over the top plate
Above grade walls:	R30 cavity or R20 cavity, R5 continuous insulation (ci) or R13 cavity, R10 ci or R20 ci
Slabs, including slab edge:	R10
Fenestrations:	Max U 0.32
Floor R-value:	R38
Basement wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Mass Wall:	R19 ci or R21 cavity
Crawl space wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Blower Door:	ACH 2.7 at a pressure 0.2 inches w.g. (50 Pascals)

These specifications are based on the 2021 Edition of the International Energy Conservation Code, thermal envelope requirements as described in Table R402.1.2, which should be referred to for interpretation reasons.

Or;

2. PV Prescriptive Option
    - Forced air-furnace system, minimum 97% AFUE.
    - Radiant heating system, minimum 95% AFUE.
    - Heat pump efficiency, Heating Seasonal Performance Factor (HSPF) 10
    - High-efficacy LED lights, minimum 100%.
    - Energy efficient water heater.
        - Electric, minimum 0.95 energy factor
        - Gas, minimum 0.76 energy factor.
    - Provide an electrical car charging rough in, including a blanked electrical box, and a raceway terminating in the electrical panel per Article 625 of the 2020 NEC.
    - WaterSense fixtures throughout.

- HRV/ ERV, 65% sensible heat recovery efficiency, meeting minimum airflow rates per IRC installed.
- Maximum 30% of exterior walls to be fenestrations.
- Programmable thermostats.

Thermal envelope requirements:

Roof/ ceiling:	R49
Above grade walls:	R23 cavity or R20 cavity, R5 continues insulation (ci)
Slabs, including slab edge:	R10
Fenestrations:	Max U 0.35
Floor R-value:	R38
Basement wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Mass Wall:	R19 ci or R21 cavity
Crawl space wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Blower Door:	ACH 3.0 at a pressure 0.2 inches w.g. (50 Pascals)

PV system: Provide an onsite PV system sized to provide 25% of the total annual energy use determined through an engineered solar calculator approved by the Town of Breckenridge Building Department. The PV system will be limited by the allowable maximum size as determined by the electrical service provider. *Residences over 4,000 sq. ft. must have an estimated annual electrical consumption evaluation stamped by a Colorado state licensed electrical engineer, to be submitted with PV permit application.*

*If either of the prescriptive options are chosen, no substitutions are allowed. If substitutions are needed, utilize the performance based DOE ZERH option.

77. Table N1102.1.2 (IECC R402.1.2) Insulation and Fenestration Requirements by Component Fenestration U-Factor column is amended to add 0.32 for replacement fenestrations or new fenestrations being installed in 60% or less of the existing rough openings in additions, alterations or repairs for Climate Zone 7 and 8.

78. Table N1102.1.2 (IECC R402.1.2) Insulation and Fenestration Requirements by Component is amended to add Footnote j. to read as follows:

j. R23 blown in bibs are permitted to be installed in walls in lieu of the R20+5. If utilizing the R23, the roof/ceiling insulation reductions detailed in N1102.2.1 and N1102.2.2 of the IRC are not allowed. This footnote is only applicable for alterations or remodels with a square footage of 1500sf or less.

Section 5. That paragraph 3 and paragraph 5 are hereby repealed from section 8-1-9 A "Amendments to the International Energy Conservation Code;" of 2018 to read as follows:

3. Reserved.

5. Reserved.

Section 6. That paragraph 6 of 8-1-9 A of "Amendments to the International Energy Conservation Code" 2018 is amended by deleting the language stricken to read as follows:

A. The following sections of the International Energy Conservation Code, 2018 Edition, are amended to read as follows:

6. Section C101 Scope and General Requirements is amended by adding a new section C101.6 to read as follows:

C101.6 Commercial SSBC. All new structures defined as a Commercial Building in Chapter 2 except structures defined under C101.6.1 of this code shall comply with amended Sections C401.2, C404.11, and C405.10.

Section 7. That a new paragraph 20 be added to A of section 8-1-9 of the "Amendments to the International Energy Conservation Code;" of 2018 to read as follows:

20. Section R101.5 Compliance is amended by adding section 8-1-9 A 15 (R101.5.2) to read as follows:

All new structures defined as Residential Buildings under Section N1101.6 (R202) of the 2018 International Residential Code shall be designed and comply either the Department of Energy Zero Energy Ready Home National Program; or, one of the options set forth below:

1. 2021 IECC Prescriptive Option:
    - Forced air-furnace system, minimum 97% AFUE.
    - Radiant heating system, minimum 95% AFUE.
    - Heat pump minimum efficiency, Heating Seasonal Performance Factor (HSPF) 10
    - High-efficacy LED lights, minimum 100%.
    - Energy efficient water heater.
        - Electric, minimum 0.95 energy factor
        - Gas, minimum 0.76 energy factor.
    - Provide an electrical car charging rough in, including a blanked electrical box, and a raceway terminating in the electrical panel per Article 625 of the 2020 NEC.
    - Provide PV ready construction including a metal raceway from the electrical panel to the roof location where the panels will be installed, including a roof jack, a #8 copper ground, a 2 pull blank in the

electrical panel and an electrical conduit from the electrical panel out to the electric meter.

- WaterSense fixtures throughout.
- HRV/ ERV, 65% sensible heat recovery efficiency, meeting minimum airflow rates per IRC installed.
- Maximum 30% of exterior walls to be fenestrations.
- Programmable thermostats.

Thermal envelope requirements:

Roof/ ceiling:	R60, or R49 uncompressed over the top plate
Above grade walls:	R30 cavity or R20 cavity, R5 continuous insulation (ci) or R13 cavity, R10 ci or R20 ci
Slabs, including slab edge:	R10
Fenestrations:	Max U 0.32
Floor R-value:	R38
Basement wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Mass Wall:	R19 ci or R21 cavity
Crawl space wall:	R15 ci or R19 cavity or R13 cavity, R5 ci
Blower Door:	ACH 2.7 at a pressure 0.2 inches w.g. (50 Pascals)

These specifications are based on the requirements of the 2021 Edition of the International Energy Conservation Code, thermal envelope requirements as described in Table R402.1.2, which should be referred to for interpretation reasons.

Or;

2. PV Prescriptive Option

- Forced air-furnace system, minimum 97% AFUE.
- Radiant heating system, minimum 95% AFUE.
- Heat pump efficiency, Heating Seasonal Performance Factor (HSPF) 10
- High-efficacy LED lights, minimum 100%.
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Thermal envelope requirements:

Roof/ ceiling:	R49
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*If either of the prescriptive options are chosen, no substitutions are allowed. If substitutions are needed, utilize the performance based DOE ZERH option.

Section 8. That chapter 4 of title 8 entitled “Sustainable Building Code” of 2008 series is hereby repealed.

Section 9. The Town Council hereby finds, determines and declares that this ordinance is necessary and proper to provide for the safety, preserve the health, promote the prosperity, and improve the order, comfort and convenience of the Town of Breckenridge and the inhabitants thereof.

Section 10. This ordinance shall be published and become effective as provided by Section 5.9 of the Breckenridge Town Charter.

INTRODUCED, READ ON FIRST READING, APPROVED AND ORDERED PUBLISHED IN FULL this 26th day of July, 2022.

This ordinance was published in full on the Town of Breckenridge website on July 31, August 1, August 2, August 3 and August 4, 2022.

This ordinance was continued on August 9th, 2022 with a vote of 7-0. A public hearing on this ordinance was held on August 23, 2022.

READ, ADOPTED ON SECOND READING AND ORDERED PUBLISHED IN FULL ON THE TOWN’S WEBSITE this 23rd day of August, 2022. A copy of this Ordinance is available for inspection in the office of the Town Clerk.

ATTEST: TOWN OF BRECKENRIDGE

_____/s/_____ _____/s/_____

Helen Cospolich, CMC, Town Clerk Eric S. Mamula, Mayor

APPROVED IN FORM

_____/s/_____

Town Attorney Date

This Ordinance was published on the Town of Breckenridge website on August 24, August 25, August 26, August 27 and August 28, 2022. This ordinance shall become effective on September 27, 2022.