

ARTICLE X. - ENERGY CONSERVATION CODE

The city council approves and adopts the recommendations of the mayor's sustainable task force:

The city supports the adoption and implementation of energy provisions that result in energy savings of 15% or greater than the currently adopted code in 2008 (IECC 2000 with 2001 supplement and ASHRAE 90.1 1999), the goal of 30% energy savings in 2012 over the currently adopted code in 2008 (IECC 2000 with 2001 supplement and ASHRAE 90.1 1999), the goal of net-zero carbon by 2030 with the intent to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy and to reduce greenhouse gas and ozone precursor emissions in the city and which is not intended to abridge safety, health, or environmental requirements contained in other applicable codes or ordinances.

The city approves the goals of the following recommendations of the sustainable building task force:

- (1) *That the development services department, office of public utilities within finance, and the office of sustainability coordinate with CPS Energy and San Antonio Water System (SAWS) to evaluate a new construction residential and commercial financial incentive program to include the provision of specific rebates or other incentives, with an ultimate goal of achieving net zero carbon by 2030 and be designed to reward improved performance in a scaled fashion, within the current limitations of all applicable laws and regulations.*
- (2) *That CPS Energy and SAWS provide existing rebate and incentive information to the city to coordinate and promote incentives to provide one-stop information.*
- (3) *That the office of sustainability provide information on sustainable building practices and incentives to encourage residential and commercial developers to exceed minimum code requirements and serve as a clearinghouse for green building information from a wide and ever-increasing variety of sources.*
- (4) *That the city office of sustainability coordinate education awareness with other agencies or organizations that include workshops, trainings, and seminars which will provide sustainable building practices for residential and commercial buildings that exceed minimum code requirements.*
- (5) *That the city office of sustainability promote an annual San Antonio Green Leadership awards program to recognize all new residential and commercial builders, architects, and others that significantly exceed the minimum code and to post those names on the city's website and through additional public media outlets.*
- (6) *That CPS Energy and SAWS evaluate incentives and rebates to support energy and water conservation for programs that exceeds code and include such programs in a unified city-wide promotion.*
- (7) *That energy incentives be provided to achieve 30% or greater savings above the currently adopted energy code; and*
- (8) *That the Building-Related and Fire Codes Appeals and Advisory Board (BRFCAAB) review the city's current energy code as needed but not less often than every three years and recommend changes to make periodic progress toward the goal of net-zero carbon by 2030.*
- (13) *That the city office of sustainability would monitor the implementation of the recommendations of the mayor's task force on sustainable buildings, review COSA sustainability energy policies and goals, and measure periodic progress toward the goal of net-zero carbon by 2030.*
- (14) *That the city office of sustainability would recommend the establishment or modification of interim goals to attain agreed long-term goals and make recommendations to city management, City Council, and the BRFCAAB as needed but not less often than every three years. Interim and*

long-term goals would be evaluated and recommended for amendment as required on the basis of sustainable environmental and community benefits, return on investment and practical impact on the regulated community.

Sec. 10-91. - Adoption of *International Energy Conservation Code* (2018~~2021~~).

The 2018~~2021~~ edition of the *International Energy Conservation Code*, promulgated by the International Code Council, Chapters 2[CE] through 5[CE], Chapters 2[RE] through 5[RE] and both the commercial and residential Chapters 6 (referenced standards), is adopted and incorporated in this article by reference as if fully set forth, except as it is amended by the following provisions of section 10-92. Provisions of this article are in addition to the provisions of the *International Energy Conservation Code*. The following provisions coinciding with the provisions of the *International Energy Conservation Code* supersede, repeal, or delete, when indicated, the corresponding provisions of the *International Energy Conservation Code*.

All references within the model codes to any building, electrical, fuel gas, mechanical, plumbing, energy conservation, ~~or existing building, or swimming pool~~ code shall be construed to be a reference to the respective building, electrical, fuel gas, mechanical, plumbing, energy conservation, ~~or existing building, or swimming pool~~ code specifically adopted by reference in articles II through XIV~~II~~ of this chapter.

Sec. 10-92. - Amendments to the adopted chapters of the *International Energy Conservation Code* (2018~~2021~~).

Additions to the *International Energy Conservation Code* (IECC) are shown as underlined text. Deletions of the IECC are shown as bracketed [~~strikethroughs~~].

Section C402.3, Roof solar reflectance and thermal emittance, is amended to read as follows (exceptions are unchanged):

C402.3 Roof solar reflectance and thermal emittance. Low-sloped roofs, with a slope less than or equal to 2 units vertical per 12 units horizontal, directly above cooled conditioned spaces in *Climate Zones 0 through 3* ~~1, 2 and 3~~ shall comply with one or more of the options in Table C402.3. Roof surfaces with a slope greater than 2 units vertical per 12 units horizontal, directly above cooled conditioned spaces shall have a minimum reflectance of 0.35 or a minimum Solar Reflective Index of ~~29~~.

Section C402.4.2, Minimum skylight fenestration area, Exception is amended by adding a sixth exception as follows. All other language in Section C402.4.2 remains:

Exception: Skylights above *daylight* zones of enclosed spaces are not required in:

1. Buildings in *Climate Zones* 6 through 8.
2. Spaces where the designed *general lighting power* densities are less than 0.5 W/ft² (5.4 W/m²).
3. Areas where it is documented that existing structures or natural objects block direct beam sunlight on not less than half of the roof over the enclosed area for more than 1,500 daytime hours per year between 8 a.m. and 4 p.m.
4. Spaces where the *daylight zone* under rooftop monitors is greater than 50 percent of the enclosed space floor area.
5. Spaces where the total area minus the area of ~~sidelight~~ *daylight zones* is less than 2,500 square feet (232 m²), and where the lighting is controlled in accordance with Section C405.2.3.
6. Spaces designed as storm shelters complying with ICC 500.

76. In warehouses protected by Early Suppression Fast Response (ESFR) fire sprinklers where vertical wall fenestration is provided with a minimum areas equal to that determined by Section C402.4.2.

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Section C404.6.1, *Circulation systems*, is amended to read as follows:

C404.6.1 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 thermo-syphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall automatically turn off the pump when the water in circulation loop is at the desired temperature and when there is not a 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), comply with one of the following:

1. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is not a demand for hot water.
2. Controls for circulating hot water system pumps shall include a timer clock switch operating pumps based on time of day/night. Controls shall also include a return water temperature sensor switch to pause the re-circulating pump whenever the return water is hot.

Section C405.~~65~~, *Dwelling electrical meter* ~~(Mandatory)~~, is modified to read as follows:

C405.~~5-6~~ Dwelling electrical meter ~~(Mandatory)~~. Each dwelling unit located in a Group R-2 multi-family building shall have a separate electrical meter.

Section C405.12, *Energy monitoring*, is modified to read as follows with remaining text to remain as written:

C405.12 Energy monitoring. New buildings with a gross conditioned floor area of ~~[25,000]~~ 100,000 square feet or larger shall be equipped to measure, monitor, record and report energy consumption data in compliance with Sections C405.12.1 through C405.12.5

Exception: R-2 occupancies and individual tenant spaces in other occupancies are not required to comply with this section provided that the space has its own utility services and meters and has less than ~~[5,000]~~ 10,000 square feet of conditioned floor area.

SECTION C409, *ELECTRIC VEHICLE (EV) CAPABLE*, and Section C409.1, *Electric vehicle power supply*, and Section C409.2, *Number of parking spaces*, are added as follows:

SECTION C409 **ELECTRIC VEHICLE (EV) CAPABLE**

This section applies to all buildings not included in SECTION R410.

C409.1 Electric vehicle power supply. The main electrical service panel shall have the capacity to support the required number of spaces detailed in C409.2. The property owner will designate which branch panel(s) will be utilized for future EV charging. The designated branch panel(s) shall reserve the space and capacity to support one future 40-ampere breaker for every 2 spaces required. The designated breaker spaces may be located in multiple branch panels as long as the total number space and capacity is met. The reserved space(s) in the designated branch panel(s) shall be labeled "For Future EV". The Director may increase the number of spaces per 40-ampere breaker or lower the breaker's ampere size as smart charging technology is developed.

C409.2 Number of parking spaces. The reserved capacity shall be capable to support 3% of the total required parking spaces.

Section C501.~~56~~, *Historic buildings*, is amended to read as follows:

C501.56 Historic buildings. Provisions of this code relating to the construction, *repair, alteration, restoration and movement of structures, and change of occupancy* shall not be mandatory for *historic buildings*. [~~provided a report has been submitted to the code official and signed by a registered design professional or a representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building.~~]

Section C503.~~23~~.1, *Roof replacement*, is amended to read as follows:

C503.~~23~~.1 Roof replacement. *Roof replacements* shall comply with Section C402.1.3, C402.1.4, C402.1.5 or C407 where the existing roof assembly is part of the *building thermal envelope* and contains insulation entirely above the roof deck. In no case shall the R-value of the roof insulation be reduced or the U-Factor of the roof assembly be increased as part of the roof replacement. New skylights are not required to be provided as part of a roof replacement where the existing building did not have skylights. Where new skylights are installed at the option of the owner as part of the roof replacement, they shall meet Section C503.~~23~~.3.

Section R402.4.1.1, *Installation*, is amended to read as follows:

R402.4.1.1 Installation. The components of the *building thermal envelope* as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria indicated in Table R402.4.1.1, as applicable to the method of construction. [~~Where required by the code official, an~~] An approved third party shall inspect all components and verify compliance. Insulation letters shall not be submitted to the Building Official prior to the inspection being performed and shall be submitted on a form approved by the Building Official.

Section R402.4.1.2, *Testing*, is amended by amending the first paragraph to read as follows. All other language in Section R402.4.1.2 remains:

R402.4.1.2 Testing. The *building* or dwelling unit shall be tested ~~for air leakage. The maximum air leakage rate for any building or dwelling unit under any compliance path shall not exceed 5.0 air changes per hour or 0.28 cubic feet per minute (CFM) per square foot [0.0079m³/(s × m²)] of dwelling unit enclosure area. Testing shall be conducted in accordance with ANSI/and verified as having an air leakage rate not exceeding five air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals).~~ [~~Where required by the code official, testing~~] Testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the Building Official [code official]. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope have been sealed.

Section R402.4.6, *Electrical and communication outlet boxes (air-sealed boxes)*, is amended as follows.

R402.4.6 Electrical and communication outlet boxes (air-sealed boxes). Electrical and communication outlet boxes installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces[. Electrical and communication] or outlet boxes shall be tested in accordance with NEMA OS 4, *Requirements for Air-Sealed Boxes for Electrical and Communication Applications*, and shall have an air leakage rate of not greater than 2.0 cubic feet per minute (0.944 L/s) at a pressure differential of 1.57 psf (75 Pa). Electrical and communication outlet boxes shall be marked "NEMA OS 4" or "OS 4" in accordance with NEMA OS 4. Electrical and communication outlet boxes shall be installed per the manufacturer's instructions and with any supplied components required to achieve compliance with NEMA OS 4.

Section R402.6, *Radiant Barrier*, is added to read as follows:

R402.6 Radiant Barrier. In new dwellings, a roof radiant barrier with an emittance of 0.10 or less as tested in accordance with ASTM C-1371 or ASTM E-408 is required above conditioned spaces. The radiant barrier shall be installed according to the manufacturer's instructions.

Exceptions:

1. Roofs covered with materials that have a solar reflectance of 0.4 or greater.
2. Residential buildings with sealed attics such as foam type insulation or similar.
3. Residential buildings with all mechanical equipment and all ductwork located wholly within the conditioned space.

R403.3.1, ~~Insulation (Prescriptive), Ducts located outside conditioned space,~~ is amended by adding an ~~second~~ exception as follows.

R403.3.1 ~~Insulation (Prescriptive) Ducts located outside conditioned space.~~ Supply and return ducts ~~in attics~~ located outside conditioned space shall be insulated to an R-value of not less than R-8 for ducts 3 inches (76 mm) in diameter and larger and not less than R-6 for ducts smaller than 3 inches (76 mm) in diameter. Ducts buried beneath a building shall be insulated as required per this section or have an equivalent thermal distribution efficiency. Underground ducts utilizing the thermal distribution efficiency method shall be listed and labeled to indicate the R-value equivalency. Supply and return ducts in other portions of the building shall be insulated to not less than R-6 for ducts 3 inches (76 mm) in diameter and not less than R-4.2 for ducts smaller than 3 inches (76 mm) in diameter.

Exceptions:

- ~~1. Ducts or portions thereof located completely inside the building thermal envelope.~~
2. Supply and return ducts in attics shall be insulated to an R-value of not less than R-6 for ducts 3 inches (76 mm) in diameter and larger, where the ~~seasonal energy efficiency ratio (SEER)~~ of the installed cooling equipment is higher than the minimum required by federal law for climate zone 2.

Section R403.5.1.1, Circulation systems, is amended to read as follows:

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 thermo-siphon 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) comply with one of the following:

1. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls 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.
2. Controls for circulating hot water system pumps shall include a timer clock switch operating pumps based on time of day/night. Controls shall also include a return water temperature sensor switch to pause the re-circulating pump whenever the return water is hot.

Section R403.6.3, Testing, is repealed in its entirety.

Section R404, ELECTRICAL POWER AND LIGHTING SYSTEMS, is repealed in its entirety.

Section R404.1, Lighting equipment (Mandatory), is amended to read as follows:

~~**R404.1 Lighting equipment (Mandatory).** Not less than 75 [90] percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps. Starting 18 months after adoption of this code, not less than 90 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.~~

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Table R406.~~54~~, Maximum energy Rating Index, is amended as follows:

TABLE R406.~~54~~
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
0-1	57-52
2	63-59 [527]
3	57-51
4	62-54
5	61-55
6	61-54
7	58-53
8	58-53

~~Sections R501.6, Historic buildings, is amended to read as follows:~~

~~Section~~SECTION R409, Photovoltaic~~PHOTOVOLTAIC (PV) capable~~CAPABLE, and ~~Section R409.1, Electrical service reserved space, is~~are added as follows:

Section~~SECTION~~ **R409**
PHOTOVOLTAIC (PV) CAPABLE

This section applies to detached one- and two- family dwellings and townhouses three stories or less in height above grade plane.

R409.1 Electrical service reserve space. The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

~~SECTION R410, ELECTRIC VEHICLE (EV) CAPABLE, and Section R410.1, Electric vehicle capable, are added as follows:~~

SECTION R410
ELECTRIC VEHICLE (EV) CAPABLE

This section applies to detached one- and two- family dwellings and townhouses three stories or less in height above grade plane.

R410.1 Electric vehicle capable. One- and two- family dwellings, townhouses three stories or less with a garage shall have a dedicated 20amp/110volt single receptacle for EV use.

Exception: Properties without a garage.

Section R501.6, Historic buildings, is amended to read as follows:

R501.6 Historic buildings. Provisions of this code relating to the construction, *repair, alteration*, restoration and movement of structures, and change of occupancy shall not be mandatory for *historic buildings*. [~~provided that a report has been submitted to the code official and signed by the owner, a registered design professional, or a representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building.~~]

Secs. 10-93—10-95 - Reserved.

Secs. 10-93—10-100. —Reserved.

ARTICLE XI. – SWIMMING POOL AND SPA CODE

Sec. 10-96. - Adoption of *International Pool and Spa Code 2021*

The 2021 edition of the *International Pool and Spa Code*, promulgated by the International Code Council, hereby adopted and incorporated in this article by reference as if fully set forth, except as it is amended by the following provisions of section 10-94. Provisions of this article are in addition to the provisions of the *International Pool and Spa Code*. The following provisions coinciding with the provisions of the *International Pool and Spa Code* supersede, repeal, or delete, when indicated, the corresponding provisions of the *International Pool and Spa Code*.

All references within the model code to any building, electrical, fuel gas, mechanical, plumbing, energy conservation, existing building, or swimming pool code shall be construed to be a reference to the respective building, electrical, fuel gas, mechanical, plumbing, energy conservation, existing building or swimming pool code specifically adopted by reference in articles II through XIV of this chapter.

Sec. 10-97. - Amendments to the adopted chapters of the *International Swimming Pool and Spa Code 2021*.

Additions to the *International Swimming Pool and Spa Code (ISPSC)* are shown as underlined text. Deletions to the ISPSC are shown as bracketed [~~strikethroughs~~].

Section 102.9, Other laws, is amended to read as follows:

Section 102.9 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law, nor shall any conflicts with state law this code supersede any state law, to include but not limited to;

1. Texas Department of State Health Services (TDSHS); Standards for Public Pools and Spas; ~~2865.181~~ 181 through § ~~2865.20811~~, (TDSHS rules do not apply to pools located on one- and two-family dwellings or townhouses lots).