

ORDINANCE NO. O2023.54

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, ADDING A NEW ARTICLE XI, INTERNATIONAL GREEN CONSTRUCTION CODE, TO CHAPTER 8, BUILDINGS AND BUILDING REGULATIONS, OF THE TEMPE CITY CODE AND AMENDING CHAPTER 8, ARTICLE I, TEMPE CITY CODE RELATING TO ADMINISTRATION BY AMENDING SECTIONS 101.4, 102.9 THROUGH 102.10, AND ADDING 101.4.10 THROUGH 101.4.10.3.5.

WHEREAS, under the Arizona Constitution, a city with a population of more than 3,500 people is entitled to establish a charter for its government and is granted autonomy over matters of local interests;

WHEREAS, Tempe voters established the Tempe City Charter in 1964 vesting policymaking authority in the Tempe City Council;

WHEREAS, the City of Tempe is committed to high-quality construction, greenhouse gas reduction, and resilience to extreme heat;

WHEREAS, in November 2019, the City Council adopted the Climate Action Plan which recommended the use of the International Green Construction Code in City operations and as an option in private development;

WHEREAS, this Ordinance and its actions are for the benefit of persons living, working, or visiting in the City of Tempe;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, as follows:

Section 1. That Chapter 8, Buildings and Building Regulations, Article I, of the Tempe City Code is hereby amended by amending Section 101.4 as follows (with additions in caps and underline and deletions in strikethrough):

101.4 The Technical Codes shall include all the codes listed in Sections 101.4.1 THROUGH 101.4.10 applied as indicated, the codes and standards referenced in the Technical Codes shall be considered part of the requirements of the Technical Codes to the prescribed extent of each such reference.

Section 2. That Chapter 8, Buildings and Building Regulations, Article I, of the Tempe City Code is hereby amended by adding Section 101.4.10 through 101.4.10.3.5 as follows (with additions in caps and underline and deletions in strikethrough):

101.4.10 GREEN CONSTRUCTION CODE THE ADOPTED PROVISIONS OF THE INTERNATIONAL GREEN CONSTRUCTION CODE AND AMENDMENTS THERETO SHALL 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 (TOWNHOUSES) NOT MORE THAN THREE STORIES ABOVE GRADE PLANE IN HEIGHT WITH SEPARATE MEANS OF EGRESS AND THEIR ACCESSORY STRUCTURES.

101.4.10.1 PURPOSE THE PURPOSE OF THIS CODE IS TO PROVIDE MINIMUM REQUIREMENTS FOR THE SITING, DESIGN, CONSTRUCTION, AND PLANS FOR OPERATION OF HIGH-PERFORMANCE GREEN BUILDINGS TO: REDUCE EMISSIONS FROM BUILDINGS AND BUILDING SYSTEMS; ENHANCE BUILDING OCCUPANT HEALTH AND COMFORT; CONSERVE WATER RESOURCES; PROTECT LOCAL BIODIVERSITY AND ECOSYSTEM SERVICES; PROMOTE SUSTAINABLE AND REGENERATIVE MATERIALS CYCLES; ENHANCE BUILDING QUALITY; ENHANCE RESILIENCE TO NATURAL, TECHNOLOGICAL, AND HUMAN-CAUSED HAZARDS; AND SUPPORT THE GOAL OF DEVELOPMENT THAT MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS.

101.4.10.1.1 VOLUNTARY CODE THIS GREEN CONSTRUCTION CODE IS INTENDED TO PROVIDE THE TECHNICAL BASIS OF A *VOLUNTARY* BUILDING CODE AND REGULATION FOR HIGH-PERFORMANCE GREEN BUILDINGS THAT ARE BROADLY ADOPT-ABLE BY NATIONAL AND LOCAL JURISDICTIONS.

101.4.10.2 SCOPE

101.4.10.2.1 THIS CODE CONTAINS REQUIREMENTS THAT ADDRESS SITE SUSTAINABILITY, WATER USE EFFICIENCY, ENERGY EFFICIENCY, INDOOR ENVIRONMENTAL QUALITY (IEQ), MATERIALS AND RESOURCES, AND CONSTRUCTION AND PLANS FOR OPERATION. THIS CODE APPLIES ONLY TO THE FOLLOWING BUILDING PROJECTS:

1. NEW BUILDINGS AND THEIR SYSTEMS.
2. NEW PORTIONS OF BUILDINGS AND THEIR SYSTEMS.
3. NEW SYSTEMS AND EQUIPMENT IN EXISTING BUILDINGS.
4. RELOCATED EXISTING BUILDINGS AND TEMPORARY STRUCTURES WHERE SPECIFIED IN THIS CODE.

101.4.10.2.2 THE PROVISIONS OF THIS CODE ARE VOLUNTARY AND DO NOT APPLY TO THE FOLLOWING:

1. SINGLE-FAMILY DWELLINGS.
2. MULTIFAMILY DWELLINGS OF THREE STORIES OR FEWER ABOVE GRADE.
3. MANUFACTURED HOUSES (MOBILE HOMES).
4. MANUFACTURED HOUSES (MODULAR).
5. BUILDING PROJECTS THAT USE NONE OF THE FOLLOWING:
 1. ELECTRICITY.
 2. FOSSIL FUELS.
 3. WATER.

101.4.10.2.3 THE REQUIREMENTS IN THIS CODE SHALL NOT BE USED TO CIRCUMVENT ANY APPLICABLE SAFETY, HEALTH, OR ENVIRONMENTAL REQUIREMENTS.

101.4.10.3 APPLICATION

101.4.10.3.1 GENERAL BUILDING PROJECTS SHALL COMPLY WITH CHAPTERS 5 THROUGH 11. WITHIN EACH OF THESE CHAPTERS, BUILDING PROJECTS SHALL COMPLY WITH ALL MANDATORY PROVISIONS (X.3) AND, WHERE OFFERED, EITHER THE:

1. PRESCRIPTIVE OPTION (X.4) OR
2. PERFORMANCE OPTION (X.5).

101.4.10.3.2 REFERENCED STANDARDS THE STANDARDS REFERENCED IN THIS CODE AND LISTED IN CHAPTER 11 SHALL BE CONSIDERED TO BE PART OF THE REQUIREMENTS OF THIS CODE TO THE PRESCRIBED EXTENT OF SUCH REFERENCE. WHERE DIFFERENCES EXIST BETWEEN PROVISIONS OF THIS CODE AND A REFERENCED STANDARD, THE PROVISIONS OF THIS CODE SHALL APPLY. INFORMATIVE REFERENCES IN INFORMATIVE APPENDIX G ARE CITED TO ACKNOWLEDGE SOURCES AND ARE NOT PART OF THIS CODE.

101.4.10.3.3 NORMATIVE APPENDICES THE NORMATIVE APPENDICES TO THIS CODE ARE CONSIDERED TO BE INTEGRAL PARTS OF THE MANDATORY REQUIREMENTS OF THIS CODE, WHICH FOR REASONS OF CONVENIENCE ARE PLACED APART FROM ALL OTHER NORMATIVE ELEMENTS.

101.4.10.3.4 INFORMATIVE APPENDICES THE INFORMATIVE APPENDICES TO THIS CODE, AND INFORMATIVE NOTES LOCATED WITHIN THIS CODE, CONTAIN ADDITIONAL INFORMATION AND ARE NOT MANDATORY OR PART OF THIS CODE.

101.4.10.3.5 REFERENCED STANDARD REPRODUCTION ANNEXES THE REFERENCED STANDARD REPRODUCTION ANNEXES CONTAIN MATERIAL THAT IS CITED IN THIS CODE BUT THAT IS CONTAINED IN ANOTHER STANDARD. THE REFERENCE STANDARD REPRODUCTION ANNEXES ARE NOT PART OF THIS CODE BUT ARE INCLUDED IN ITS PUBLICATION TO FACILITATE ITS USE.

Section 3. That Chapter 8, Buildings and Building Regulations, Article I, of the Tempe City Code is hereby amended by amending Section 102.9 through 102.11 as follows (with additions in caps and underline and deletions in strikethrough):

102.9 MIXED OCCUPANCY BUILDINGS. IN MIXED OCCUPANCY BUILDINGS, EACH PORTION OF A BUILDING SHALL COMPLY WITH THE SPECIFIC REQUIREMENTS OF THIS CODE APPLICABLE TO EACH SPECIFIC OCCUPANCY.

Section 102.10-102.11 shall be amended as follows changing the sub section number

102.0910 Moved buildings. Buildings, structures and their building service equipment moved into or within this jurisdiction shall comply with the provisions of this code and the Technical Codes for new buildings or structures and their building service equipment.

102.1011 Historic buildings. Repairs, alterations and additions necessary for the preservation, restoration, rehabilitation or continued use of a building, structure, or its building service equipment may be made without conforming to the requirements of the Technical Codes when authorized by the Technical Code Advisory Board of Appeals, provided:

1. The building or structure has been designated by official action of the legally constituted authority of this jurisdiction as having special historical or architectural significance, and
2. Unsafe conditions as described in this code are corrected, and
3. The restored building or structure and its building service equipment will be no more hazardous based on life safety, fire-safety and sanitation than the existing building as determined by the building official.

Section 4. That Chapter 8, Article XI, International Green Construction Code, is hereby adopted as follows:

ARTICLE XI. INTERNATIONAL GREEN CONSTRUCTION CODE.

SEC. 8-1100. ADOPTED; WHERE FILED.

THAT CERTAIN DOCUMENT KNOWN AS “THE INTERNATIONAL GREEN CONSTRUCTION CODE, 2018 EDITION,” WHICH HAS BEEN PUBLISHED AS A CODE IN BOOK FORM BY THE INTERNATIONAL CODE COUNCIL (ICC), CHAPTERS 1 THROUGH 11, APPENDIX CHAPTERS A THROUGH K, AND ANNEX 1 INCLUSIVE, AND THIS SAME CODE, APPENDICES, ANNEX, AND AMENDMENTS ARE HEREBY REFERRED TO, ADOPTED, AND MADE A PART HEREOF, AS IF FULLY SET FORTH IN THIS ARTICLE AND AMENDED AS FOLLOWS:

CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 101 – 109 shall be repealed in its entirety

SECTION 101 shall be amended to read SEE THE TEMPE ADMINISTRATIVE CODE

CHAPTER 5 SITE SUSTAINABILITY

SECTION 501.3.1 – 501.3.1.2 shall be repealed in its entirety

SECTION 501.3.3 – 501.3.3.2 shall be repealed in its entirety

SECTION 501.3.4 is repealed in its entirety and shall be replaced as follows

501.3.4 STORMWATER MANAGEMENT STORMWATER MANAGEMENT SYSTEMS, INCLUDING, BUT NOT LIMITED TO INFILTRATION, EVAPOTRANSPIRATION; RAINWATER HARVESTING, COLLECTION AND USE SHALL COMPLY WITH CURRENT TEMPE DEVELOPMENT CODE.

SECTION 501.3.4.1-- 501.3.4.6 shall be repealed in its entirety

SECTION 501.3.5.2 shall be repealed in its entirety

SECTION 501.3.5.3 shall be amended as follows

501.3.5.3 Roofs This section applies to the building and covered parking roof surfaces for building projects in Climate Zones 0, 1, 2, and 3, ~~A minimum of 75% of the roof surface shall be covered with products that:~~ SHALL COMPLY WITH SECTION C402.3 OF THE CITY ENERGY CODE (IECC).

~~a. have a minimum three-year aged SRI of 64 in accordance with Section 501.3.5.4 (5.3.5.4) for roofs with a slope of less than or equal to 2:12.~~

~~b. have a minimum three-year aged SRI of 25 in accordance with Section 501.3.5.4 (5.3.5.4) for roofs with a slope of more than 2:12.~~

~~The area occupied by one or more of the following shall be excluded from the calculation to determine the roof surface area required to comply with this section:~~

~~a. Roof penetrations and associated equipment.~~

~~b. On-site renewable energy systems, including photovoltaics, solar thermal energy collectors, and required access around the panels or collectors.~~

~~c. Portions of the roof used to capture heat for building energy technologies.~~

~~d. Roof decks and rooftop walkways.~~

e. ~~Vegetated terrace and roofing systems complying with Section 501.3.5.5 (5.3.5.5).~~

Exceptions:

~~1. Building projects where an annual energy analysis simulation demonstrates that the total annual building energy cost and total annual CO₂e, as calculated in accordance with Section 701.5.2 (7.5.2), are both a minimum of 2% less for the proposed roof than for a roof material complying with the SRI requirements of Section 501.3.5.3 (5.3.5.3).~~

~~2. Roofs used to shade or cover parking and roofs over semiheated spaces, provided that they have a minimum initial SRI of 29. A default SRI value of 35 for new concrete without added color pigment is allowed to be used instead of measurements.~~

SECTION 501.3.5.4 – 501.3.5.5 shall be repealed in its entirety

SECTION 501.3.5.3 shall be amended as follows

SECTION 501.3.6.1 shall be amended as follows

~~501.3.6.1 Exterior lighting systems shall comply with ANSI/ASHRAE/IES Standard 90.1, Sections 9.1, 9.4.1.4, 9.4.2, 9.4.3, and 9.7, and with Sections 501.3.6.2 (5.3.6.2) and 501.3.6.3 (5.3.6.3) of this code. REDUCTION OF LIGHT POLLUTION SHALL COMPLY WITH TEMPE ZONING DEVELOPMENT CODE.~~

SECTION 501.3.6.2 – 501.3.6.3 shall be repealed in its entirety

TABLE 501.3.6.2A – 501.3.6.2B shall be repealed in its entirety

TABLE 501.3.6.6 shall be repealed in its entirety

SECTION 501.2.7.2.2 – 501.3.7.2.6 shall be repealed in its entirety

SECTION 501.3.7.3 shall be amended as follows

501.3.7.3 Site Vehicle Provisions Where parking is provided for a building that has MORE THAN 50 PARKING STALLS, A MINIMUM AMOUNT OF PARKING SPACES SHALL BE DESIGNATED AS EV CHARGING STATION, EV CAPABLE, EV-READY SPACES BASED ON THE TABLE BELOW:

TABLE 501.3.7.3 shall be repealed in its entirety and replaced with

TABLE 501.3.7.3 (TABLE 5.3.7.3) NUMBER OF SPACES REQUIRED

<u>USE</u>	<u>EV CHARGING STATION</u>	<u>EV CAPABLE SPACES</u>	<u>EV-READY SPACES</u>
<u>MULTIFAMILY</u>	<u>2%</u>	<u>10%</u>	<u>25%</u>
<u>HOTELS</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>
<u>HIGHER EDUCATION</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>
<u>HOSPITAL HEALTH</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>
<u>OFFICE</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>

<u>PARKING GARAGES</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>
<u>MANUFACTURING</u>	<u>N/A</u>	<u>N/A</u>	<u>1 SPOT</u>
<u>RESAURANTS</u>	<u>N/A</u>	<u>N/A</u>	<u>1 SPOT</u>
<u>RETAIL</u>	<u>N/A</u>	<u>N/A</u>	<u>1 SPOT</u>
<u>WAREHOUSE</u>	<u>N/A</u>	<u>N/A</u>	<u>1 SPOT</u>
<u>FIRESTAIONS/POLICE</u>	<u>N/A</u>	<u>N/A</u>	<u>1 SPOT</u>
<u>ALL OTHER</u>	<u>2%</u>	<u>10%</u>	<u>20%</u>
<u>PARKING USED < 6 HOURS</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>

EV CHARGING STATION: ARE THE CONDUCTORS, INCLUDING THE UNGROUNDED, GROUNDED, AND EQUIPMENT GROUNDING CONDUCTORS, AND THE ELECTRIC VEHICLE CONNECTORS, ATTACHMENT PLUGS, AND ALL OTHER FITTINGS, DEVICES, POWER OUTLETS, OR APPARATUS INSTALLED SPECIFICALLY FOR THE PURPOSE OF TRANSFERRING ENERGY BETWEEN THE PREMISES WIRING AND THE ELECTRIC VEHICLE.

EV CAPABLE: A DESIGNATED PARKING SPACE OR SPACES THAT ARE PROVIDED WITH CONDUIT FROM THE PARKING SPACE TO A BUILDING ELECTRICAL ROOM WITH SUFFICIENT PHYSICAL SPACE IN THE ELECTRICAL ROOM TO ACCOMMODATE THE FUTURE INSTALLATION OF TYPE 2 CHARGING EQUIPMENT (EVSE) TO THOSE PARKING SPACES. THE AMPERE AND VOLT MINIMUMS DESCRIBED ABOVE CAN BE MODIFIED WITH ADMINISTRATIVE APPROVAL TO ALLOW FOR ADVANCES IN INDUSTRY STANDARDS.

EV READY: MEANS A DESIGNATED PARKING SPACE WHICH IS PROVIDED WITH ELECTRICAL PANEL CAPACITY AND SPACE TO SUPPORT A MINIMUM 40-AMPERE, 208/240-VOLT BRANCH CIRCUIT , AND THE INSTALLATION OF RACEWAYS, BOTH UNDERGROUND AND SURFACE MOUNTED, TO SUPPORT THE FUTURE INSTALLATION OF EVSE TO SERVE THE PARKING SPACE. THE AMPERE AND VOLT MINIMUMS DESCRIBED ABOVE CAN BE MODIFIED WITH ADMINISTRATIVE APPROVAL TO ALLOW FOR ADVANCES IN INDUSTRY STANDARDS.

TABLE 501.3.7.7 – 501.3.6.3 shall be repealed in its entirety

SECTION 501.3.8 – 501.3.8.1 shall be repealed in its entirety

CHAPTER 6 WATER USE EFFICIENCY

SECTION 601.3.1.1 shall be amended as follow

601.3.1.1 Landscape Design. LANDSCAPE DESIGN SHALL COMPLY WITH THE TEMPE ZONING DEVELOPMENT CODE ~~A minimum of 60% of the area of the improved landscape shall be in biodiverse planting of native plants and rainfall-ET_c compatible plants.~~

Exceptions:

1. ~~The area of dedicated athletic fields, golf courses, driving ranges, and areas dedicated for production of food for human consumption, shall be excluded from the calculation of the improved landscape for schools, residential common areas, or public recreational facilities.~~
2. ~~Landscape areas irrigated solely with alternate on-site sources of water shall be exempt from these requirements.~~

SECTION 601.3.1.2 shall be repealed in its entirety

SECTION 601.3.1.2.1 shall be amended as follows

601.3.1.2.1 Irrigation System Design. The design of the irrigation system shall be performed by an accredited or certified irrigation professional and shall be in accordance with the following:

- a. Irrigation systems:
 1. Shall be based on *hydrozones*. *Turfgrass* areas shall be on their own *irrigation stations*.
 2. Shall have backflow prevention in accordance with the CITY'S ADOPTED plumbing code (~~Informative note: e.g., *International Plumbing Code*~~).
- b. Irrigation emission devices shall comply with ASABE/ICC 802, *Landscape Irrigation Sprinkler and Emitter Standard*.
- c. Irrigation sprinklers:
 1. Shall not spray water directly on buildings or *hardscape* area.
 2. Shall have matched precipitation rate nozzles within an *irrigation station*.
 3. Shall be prohibited on landscape areas having any dimension less than 4 ft (1220 mm).
 4. Shall have an application rate less than or equal to 0.75 in. (19 mm) per hour on slopes greater than 1 unit vertical in 4 units horizontal.
 5. Shall be limited to use with *turfgrass* or *ground cover* areas with vegetation maintained at 8 in. (203 mm) or less in height.
 6. ~~Where of the pop-up configuration, shall have a pop-up height of not less than 4 in (100 mm).~~

SECTION 601.3.1.2.3 shall be repealed in its entirety

SECTION 601.3.2.2 shall be amended as follow

601.3.2.2 Plumbing Fixtures and Fittings

- a. *Clothes washers* and *dishwashers* installed within *dwelling units* shall comply with the ENERGY STAR® Program Requirements for Clothes Washers and ENERGY STAR Program Requirements for Dishwashers. ~~Maximum water use shall be as follows:~~
 1. ~~*Clothes washers* Maximum water factor (*WF*) of 5.4 gal/ft³ of drum capacity (0.72 L/L of drum capacity).~~
 2. ~~*Dishwashers* Standard size dishwashers shall have a maximum *WF* of 3.8 gal/full operating cycle (14.3 L/full operating cycle). Compact sizes shall have a maximum *WF* of 3.5 gal/full operating cycle (13.2 L/full operating cycle). Standard and compact size shall be defined by ENERGY STAR criteria. [See also the energy efficiency requirements in Section 701.4.7.3 (7.4.7.3).]~~
- b. ~~*Clothes washers* installed in publicly accessible spaces (*Informative Note: e.g., multifamily and hotel common areas*), and coin and card operated clothes washers of any size used in laundromats, shall have a maximum *WF* of 4.0 gal/ft³ of drum capacity normal cycle (0.53 L/L of drum capacity normal cycle). [See also the energy efficiency requirements in Sections 701.4.7.3 (7.4.7.3).]~~

- e. Commercial dishwashers in commercial food-service facilities shall meet all ENERGY STAR requirements as listed in the ENERGY STAR Program Requirements for Commercial Dishwashers, Version 2.0.

SECTION 601.3.2.4 – 601.3.2.6 shall be repealed in its entirety

SECTION 601.3.4 shall be repealed in its entirety

TABLE 601.3.4.1B shall be repealed in its entirety

SECTION 601.3.7 – 601.3.8.1 shall be repealed in its entirety

CHAPTER 7 ENERGY EFFICIENCY

SECTION 701.3.1.1 shall be repealed in its entirety

SECTION 701.3.1.2 shall be amended as follows

701.3.2 On-Site Renewable Energy Systems *Building project* design shall show allocated *space* and pathways for future installation of *on-site renewable energy systems* and associated infrastructure that provide the annual energy production equivalent of not less than 1.75 kWh/ ft² for single-story buildings and not less than 3.0 kWh/ ft² multiplied by the *gross roof area* in feet squared (metres squared) for all other buildings.

SECTION 701.3.1.1 shall be repealed in its entirety

SECTION 701.3.3.1 shall be amended as follows

701.3.3.1 Consumption Management Measurement devices with remote communication capability shall be provided to collect energy consumption data for each energy supply source to the building (including gas, electricity, and district energy) that exceeds the thresholds listed in Table 701.3.3.1A (7.3.3.1A). The measurement devices shall have the capability to automatically communicate the energy consumption data to a data acquisition system.

~~For all buildings that exceed the threshold in Table 701.3.3.1A (7.3.3.1A), subsystem measurement devices with remote capability (including current sensors or flowmeters) shall be provided to measure energy consumption data of each subsystem for each use category that exceeds the thresholds listed in Table 701.3.3.1B (7.3.3.1B).~~

~~The energy consumption data from the subsystem measurement devices shall be automatically communicated to the data acquisition system.~~

TABLE 701.3.3.1B shall be repealed in its entirety

SECTION 701.3.3.2 – 701.3.4.3 shall be repealed in its entirety

SECTION 701.4.1.1 shall be amended as follows

701.4.1.1 On-Site Renewable Energy Systems *Building projects* shall comply with either the Standard Renewables Approach in Section 701.4.1.1.1 (7.4.1.1.1) or the Alternate Renewables Approach in Section 701.4.1.1.2 (7.4.1.1.2). ALL BUILDING PROJECTS SHALL COMPLETE AN ON-SITE RENEWABLE

ENERGY ECONOMIC FEASIBILITY STUDY. THIS STUDY SHALL INCLUDE THE FOLLOWING ELEMENTS:

1. CALCULATED TOTAL AVAILABLE ROOF AREA FOR RENEWABLE SYSTEMS. THIS AREA SHALL INCLUDE AREAS NOT SHADED BY PARAPETS, FREE FROM MECHANICAL EQUIPMENT, AND REQUIRED WALKWAYS.
2. ECONOMIC FEASIBILITY OF MAXIMUM RENEWABLE SYSTEM ON AVAILABLE ROOF
3. ECONOMIC FEASIBILITY OF MINIMUM RENEWABLE SYSTEM ON AVAILABLE ROOF
 - a. MINIMUM SYSTEM SIZE IS BASED ON ANNUAL ENERGY PRODUCTION EQUIVALENT OF NOT LESS THAN 1.75 KWH/ FT² MULTIPLIED BY THE HORIZONTAL PROJECTION OF THE GROSS ROOF AREA IN FEET SQUARED (METRES SQUARED) FOR SINGLE-STORY BUILDINGS, AND NOT LESS THAN 3.0 KWH/ FT² MULTIPLIED BY THE HORIZONTAL PROJECTION OF THE GROSS ROOF AREA IN FEET SQUARED (METRES SQUARED) FOR ALL OTHER BUILDINGS.

ALL BUILDINGS WITH AN ON-SITE RENEWABLE ENERGY ECONOMIC FEASIBILITY STUDY THAT SHOWS THE MINIMUM SYSTEM IS FEASIBLE SHALL INSTALL A SYSTEM OF EQUIVALENT SIZE.

EXCEPTIONS:

1. A COMMITMENT TO PURCHASE RENEWABLE ELECTRICITY PRODUCTS COMPLYING WITH THE GREEN-E ENERGY NATIONAL STANDARD FOR RENEWABLE ELECTRICITY PRODUCTS, OF AT LEAST 7 KWH/FT²(75 KWH/M²) OF CONDITIONED SPACE EACH YEAR UNTIL THE CUMULATIVE PURCHASE TOTALS 70 KWH/FT²(750 KWH/M²) OF CONDITIONED SPACE
2. PROJECT INSTALL AN EQUIVALENT SYSTEM ON A SIMILAR PROJECT IN THE JURISDICTION
3. PROJECT UTILIZES ENERGY PERFORMANCE APPROACH AND SHOWS ENERGY EFFICIENT MEASURES THAT OFF SET ENERGY EQUIVALENT TO THE PROPOSED SYSTEM.

SECTION 701.4.1.1.1 – 701.4.1.1.2 shall be repealed in its entirety

SECTION 701.4.3.1 – 701.4.3.1.1 shall be repealed in its entirety

SECTION 701.4.3.5 – 701.4.3.6.2 shall be repealed in its entirety

TABLE 701.4.3.3 shall be repealed in its entirety

SECTION 701.4.3.7 – 701.4.3.8.2 shall be repealed in its entirety

SECTION 701.4.3.10 shall be repealed in its entirety

TABLE 701.4.3.8.1 shall be repealed in its entirety

SECTION 701.4.3.10.1 – 701.4.3.10.5 shall be repealed in its entirety

SECTION 701.4.4.1 shall be repealed in its entirety

SECTION 701.4.6.1.2 shall be repealed in its entirety

SECTION 701.4.6.3 – 701.4.6.4 shall be repealed in its entirety

TABLE 701.4.6.1.2 shall be repealed in its entirety

SECTION 701.4.3.7 – 701.4.3.8.2 shall be repealed in its entirety

SECTION 701.4.6.4.1 – 701.4.6.5 shall be repealed in its entirety

SECTION 701.4.7.1 shall be repealed in its entirety

SECTION 701.4.7.3.2 shall be repealed in its entirety

SECTION 701.4.7.5 shall be repealed in its entirety

SECTION 701.4.7.5 shall be amended as follows

701.4.7.5 Refrigerated Display Cases ~~All open refrigerated display cases shall be covered by using field-installed strips, curtains, or doors.~~ BASELINE BUILDING PERFORMANCE = THE BASELINE BUILDING PERFORMANCE IN SOURCE KBTU FOR A BASELINE BUILDING AND ITS SITE CALCULATED IN ACCORDANCE WITH SECTION 602.2.1.52 = A FIXED VALUE REPRESENTING THE PERFORMANCE OF A BASELINE BUILDING DESIGNED TO COMPLY WITH ASHRAE STANDARD 90.1- 2013.

SECTION 701.4.7.5 shall be amended as follows

701.5.2 Annual Carbon Dioxide Equivalent (CO₂e) *The proposed design shall have an annual CO₂e equal to or less than the annual CO₂e of the base-line building design multiplied by the building performance factor (BPF) target determined from Table 701.5.2A (7.5.2A) using the Performance Rating Method in ANSI/ASHRAE/IES Standard 90.1, Normative Appendix G.* ~~To determine the annual CO₂e for each energy source in the baseline building design and proposed design, the energy consumption shall be multiplied by the CO₂e emission factors from Table 701.5.2B (7.5.2B).~~

TABLE 701.5.2A shall be repealed in its entirety

CHAPTER 8 INDOOR ENVIRONMENTAL QUALITY (IEQ)

SECTION 801.3.1.1 shall be repealed in its entirety

SECTION 801.3.1.2.2 shall be amended as follows:

801.3.1.2.2 Monitoring Requirements Each mechanical ventilation system shall have a *permanently installed* device to measure the *minimum outdoor airflow* ~~that meets the following requirements:~~

- a. ~~The device shall employ methods described in ANSI/ASHRAE Standard 111.~~

~~b. The device shall have an accuracy of $\pm 10\%$ of the *minimum outdoor airflow*. Where the *minimum outdoor airflow* varies, as in *demand control ventilation (DCV)* systems, the device shall maintain this accuracy over the entire range of occupancy and system operation.~~

~~e. The device shall be capable of notifying the building operator, either by activating a local indicator or sending a signal to a building monitoring system, whenever an *outdoor air fault condition* exists. This notification shall require manual reset.~~

~~**Exception:** Constant-volume air supply systems that do not employ DCV and that use an indicator to confirm that the intake damper is open to the position needed to maintain the design minimum outdoor airflow as determined during system startup and balancing.~~

SECTION 801.3.1.3 shall be amended as follows:

801.3.1.3 Filtration and Air Cleaner Requirements

a. **Particulate Matter.** The following requirements shall apply in all buildings.

Exceptions: In health care facilities, the particulate filter requirements of ASHRAE/ ASHRAE Standard 170 shall apply.

1. **Wetted Surfaces.** Particulate matter filters or air cleaners having a minimum efficiency reporting value (MERV) of not less than 8 when rated in accordance with ANSI/ASHRAE Standard 52.2 shall be provided upstream of all cooling coils or other devices with wetted surfaces through which air is supplied to an *occupiable space*. These requirements supersede the requirements in ASHRAE Standard 62.1, Section 5.8.

2. **Particulate Matter Smaller than 10 Micrometers (PM10).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section 6.2.1.1, with the following modification. Such filters or air cleaners shall have a MERV of not less than 8 when rated in accordance with ASHRAE Standard 52.2.

3. **Particulate Matter Smaller than 2.5 Micrometers (PM2.5).** Particulate matter filters or air cleaners shall be provided in accordance with Standard 62.1, Section 6.2.1.2, with the following modification. Such filters or air cleaners shall have a MERV of not less than 13 when rated in accordance with ASHRAE Standard 52.2.

~~b. **Ozone.** Air cleaning devices for ozone shall be provided for buildings located in an area that is designated "non attainment" in an area that exceeds the National Ambient Air Quality Standards (NAAQS) for ozone, as determined by the *authority having jurisdiction (AHJ)*. Such air cleaning devices shall have an ozone removal efficiency of no less than 40% where installed, operated, and maintained in accordance with the manufacturer's recommendations. Such air cleaning devices shall be operated whenever the outdoor ozone level is expected to exceed the NAAQS. This requirement supersedes the requirements of ASHRAE Standard 62.1, Section 6.2.1.3. This requirement applies to all buildings, including health care facilities covered by ASHRAE/ASHRAE Standard 170.~~

~~e. **Sealing.** Where particulate matter filters or air cleaners are required by Section 801.3.1.3 (8.3.1.3), filter tracks, filter supports, filters, and access doors shall be sealed in accordance with the following:~~

~~1. Where filter track and filter support systems incorporate multiple filters, the gap between each filter shall be sealed with a gasket, and the gap between the filter and its track or support shall be sealed using gaskets that expand when the filter is removed. Filter support systems shall include a filter to support gasket *permanently installed* on the filter support, except for filter track and filter support systems that seal around the filter by means of a friction fit.~~

~~2. Filter tracks and filter supports shall be sealed to the HVAC equipment housing and ducts by a sealant or other sealing method.~~

~~3. Filter access doors shall be sealed to minimize filter bypass and air leakage into or out of the system.~~

~~4. Gaskets and seals used to comply with the requirements of this section shall be capable of effecting a seal for the anticipated life of the equipment, and the system shall be designed such that the seals are readily accessible.~~

~~5. Field or shop fabricated spacers shall not be installed for the purpose of replacing the intended size filter with a smaller size filter.~~

SECTION 801.3.1.4 - 801.3.4.2 including table shall be repealed in its entirety

SECTION 801.3.6 - 801.3.8 shall be repealed in its entirety

SECTION 801.4.1.3 shall be amended as follows

801.4.1.3 Shading for Offices For office spaces 250 ft²(23 m²) and larger, EAST WEST AND SOUTH each façade shall be designed with a shading projection/actor (PF) ~~on the first floor level~~. The PF shall not be less than 0.5 for the first story above grade and 0.25 for other above-grade stories. ~~Shading is allowed to be external or internal using the interior PF. Shading devices shall be limited to the following:~~

~~a. Louvers, sun shades, light shelves, and any other permanent device. Any vertical fenestration that employs a combination of interior and external shading is allowed to be separated into multiple segments for compliance purposes. Each segment shall comply with the requirements for either external or interior PF.~~

~~b. Building self shading through roof overhangs or recessed windows.~~

Exceptions:

1. Facades facing within 45 degrees of true north in the northern hemisphere or facades facing 45 degrees from true south in the southern hemisphere.

2. Translucent panels and glazing systems with a measured haze value greater than 90% when tested according to ASTM D1003 or other test method approved by the AHJ, and that are entirely 8 ft (2.5 m) above the floor do not require external shading devices.

3. Where equivalent shading of the vertical fenestration is provided by buildings, structures, geological formations, or permanent exterior projections that are not horizontal, as determined by sun-angle studies at the peak solar altitude on the summer solstice and three hours before and after the peak solar altitude on the summer solstice.

4. Vertical fenestration with automatically controlled shading devices in compliance with Exception (2) of Section 701.4.2.5 (7.4.2.5).

5. Vertical fenestration with automatically controlled dynamic glazing in compliance with Exception (3) of Section 701.4.2.5 (7.4.2.5).

6. Existing buildings undergoing alteration, repair, relocation, or a change in occupancy.

SECTION 801.4.2.5 – 801.4.2.5.2 shall be repealed in its entirety

SECTION 801.4.3 shall be repealed in its entirety

SECTION 801.5.1.2 shall be repealed in its entirety

SECTION 801.5.2 shall be amended as follows

801.5.2 Materials The emissions of all the materials listed below and used within the building (defined as inside of the weatherproofing system and applied on-site) shall be modeled for individual VOC concentrations. The sum of each individual VOC concentration from the materials listed below shall be shown to be in compliance with the limits as listed in CDPH/EHLB/Standard Method V1.1 (commonly referred to as California Section 01350), Section 4.3, and shall be compared to 100% of its corresponding

listed limit. In addition, the modeling for the building shall include, at a minimum, the criteria listed in Normative Appendix D of this code. Emissions of materials used for modeling VOC concentrations shall be obtained in accordance with the testing procedures of CDPH/EHLB/Standard Method V1.1 unless otherwise noted below.

- a. Tile, strip, panel, and plank products, including vinyl composition tile, resilient floor tile, linoleum tile, wood floor strips, parquet flooring, laminated flooring, and modular carpet tile.
 - b. Sheet and roll goods, including broadloom carpet, sheet vinyl, sheet linoleum, carpet cushion, wallcovering, and other fabric.
 - c. Rigid panel products, including gypsum board, other *wall* paneling, insulation board, oriented strand board, medium density fiber board, wood structural panel, acoustical ceiling tiles, and particleboard.
 - d. Insulation products.
 - e. Containerized products, including adhesives, sealants, paints, other coatings, primers, and other “wet” products.
 - f. Cabinets, shelves, and worksurfaces that are permanently attached to the building before occupancy. Emissions of these items shall be obtained in accordance with the ANSI/BIFMA M7.1.
 - ~~g. Office furniture systems and seating installed prior to initial occupancy. Emissions of these items shall be obtained in accordance with the BIFMAM7.1.~~
- ~~**Exception:** Salvaged materials that have not been refurbished or refinished within one year prior to installation.~~

SECTION 801.5.3 shall be repealed in its entirety

CHAPTER 9 MATERIALS AND RESOURCES

SECTION 901.3.1.2 shall be repealed in its entirety

SECTION 901.3.2 shall be repealed in its entirety

SECTION 901.3.4.2 shall be repealed in its entirety

CHAPTER 10 CONSTRUCTION AND PLANS FOR OPERATION

SECTION 1001.1 shall be amended as follows

1001.1 SCOPE THIS SECTION SPECIFIES REQUIREMENTS FOR CONSTRUCTION AND PLANS FOR OPERATION, INCLUDING COMMISSIONING, FUNCTIONAL PERFORMANCE TESTING, METERING, AND REPORTING.

~~This section specifies requirements for construction and plans for operation, including the *commissioning (Cx) process, building functional and performance testing (FPT), measurement and verification (M&V), energy use reporting, durability, transportation management, erosion and sediment control, construction, and indoor air quality (IAQ) during construction.*~~

SECTION 1001.2 shall be amended as follows

1001.2 Compliance All of the provisions of Chapter 10 (Section 10) are mandatory provisions CONSTRUCTION AND PLANS FOR OPERATION OF COMMERCIAL BUILDINGS SHALL

COMPLY WITH SECTION C408 OF THE CITY ENERGY CODE (IECC), MAINTENANCE INFORMATION AND SYSTEM COMMISSIONING.

SECTION 1001.3 – 1001.3.2.4.3 including tables shall be repealed in its entirety

Section 5. Pursuant to Tempe City Charter section 2.12, ordinances are effective thirty (30) days after adoption. This Ordinance applies to all building permits applied for after the Ordinance's effective date but does not apply to building permits applied for but not yet issued as of the effective date.


Section 6. If any section, subsection, sentence clause, phrase, or portion of this ordinance or any part of the code adopted herein is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions thereof.

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA,
this 30th day of November, 2023.



Corey D. Woods, Mayor

ATTEST:



Kara A. DeArrastia, City Clerk

APPROVED AS TO FORM:



Sonia M. Blain, City Attorney