

MINUTES OF THE BOARD OF APPEALS OF THE CITY OF CHANDLER, ARIZONA, held on Thursday, August 29, 2024, at 7:00 a.m., in the Development Services Building – South Atrium Conference Room, 215 E. Buffalo Street, Chandler, Arizona.

Members Present

Jeff Cullumber, Chair
David Love, Vice Chair
Heather Mattisson, Board Member
Michael Quinn, Board Member
Michael McElhany, Board Member

Guests

Chandni Bhakta, Arizona Multi-housing Association
James Ashley, Director of Municipal Affairs, Home Builders Association of Central Arizona

Staff Present

Shicheng Tao, Building Official
LeeRay Hanly, Building Plan Review Administrator
Bob Graffius, Building Inspection Administrator
Nick Ruscito, Building Inspection Supervisor

Absent

Catherine Flores, Sr. Management Analyst
Aaron Huckstep, Fire Marshal

1. **CALL TO ORDER / ROLL CALL** Quorum was established and the meeting was called to order at 7:00 a.m.
2. **UNSCHEDULED PUBLIC APPEARANCES - None**
(Members of the audience may address any item not on the agenda. State Statute prohibits the Board of Appeals from discussing an item not on the agenda, but the Board of Appeals does listen to your concerns and has staff to follow up on any questions you raise.)

CONSENT AGENDA

3. APPROVAL OF MINUTES

Minutes of August 15, 2024

Motion made by Board Member Heather Mattisson to approve the Board of Appeals Meeting Minutes for August 15, 2024, Motion seconded by Vice Chair David Love. Approved (5-0)

4. BOARD OF APPEALS BUSINESS MEETING

Bob Graffius presented Significant Changes to the 2024 International Residential Code to the Board of Appeals.

- **Significant Changes to the 2024 International Residential Code**
 - Proposed Adoption Dates 07/01/2025
 - City Council Hearing Dates, 11/04/2024, 11/07/24 & 12/12/2024
 - Board of Appeals Review 09/12/24.

- Proposed Amendments to the 2024 International Residential Code
- Subsection R101.1 Title. These regulations shall be known as the Residential Code for One- and Two-family Dwellings of the City of Chandler, Arizona hereinafter referred to as “this code”.
- Subsection R102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state, or federal law.
The following provisions are added to the end thereof:
 - Additionally, the building official will enforce the provisions of such other laws when mandated by state or federal law.
- Subsection R102.6 Existing structures.
 - Delete reference to the International Property Maintenance Code.
 - The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, or the International Fire Code, or as is deemed necessary by the Building Official for the general safety and welfare of the occupants and the public.
- (NEW) Subsection 103.1 Creation of agency.
 - The Development Services Department is hereby created and the official in charge thereof shall be known as the Building Official. The function of the agency shall be the implementation, administration, and enforcement of the provisions of this code.
- (NEW) Subsection R105.2 Work exempt from permit.
 - Electrical: Add items 6 & 7
 - 6. Repair or replacement of motors, transformers, overcurrent devices or equipment affixed to a Group R-3 occupancy where the replaced or repaired equipment is of the same rating as the existing equipment, is placed in the same location as the existing equipment and is labeled as defined in this code.
 - 7. Special cases as allowed by the Building Official for work of a similar nature and complexity as those items listed above.
- Subsection R105.3.1 Action on application. The last sentence is added to the end of the paragraph.
 - The *building official* shall examine or cause to be examined applications for *permits* and amendments thereto within a reasonable time after filing. If the application or the *construction documents* do not conform to the requirements of pertinent laws, the *building official* shall reject such application in writing stating the reasons, therefore. If the *building official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *building official* shall issue a *permit* therefore as soon as practicable. A permit may be issued solely after the applicant has satisfied all applicable City of Chandler ordinance and requirements.
- Subsection R105.5 Expiration.

- Every *permit* issued shall become invalid unless the work authorized by such *permit* commenced within 180 days after its issuance or after commencement of work if more than 180 days pass between inspections. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.
- A new subsection R105.5.1 is added to read as follows:
 - *105.5.1 Reinstatement.* The Building Official is authorized to reinstate a permit that has expired upon payment of a reinstatement fee provided:
 1. The permit has not been expired for more than one year and,
 2. Code requirements that would affect the project have not changed.
- Subsection R108.2 Schedule of permit fees.
 - Delete in its entirety and replace with a new subsection 109.2 as follows:
 - R108.2 Schedule of permit fees. Permit fees, if any, shall be adopted by the City by resolution.
- (NEW) Subsection R110.1 Use and Change of Occupancy, Subsection R110.2 Certificate Issued and Subsection R110.3 Temporary occupancy.
 - The city has no proposed amendment to these subsections. When the new code is adopted then it will go into the City Code as written.
- Subsection R309.2 One- and Two-Family Dwellings Automatic Sprinkler Systems
 - Delete section in its entirety.
- Subsection N1101.4(R104.1.1) Above Code programs. The code official or the authority having jurisdiction shall be permitted to deem a national, state, or local energy-efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy-efficiency program shall be in compliance with this code. The requirements identified in Table N1105.2...
- (NEW) Subsection N1101.13 (R401.2) Application.
 - Proposed amendment is to delete this amendment from the city code.
- (NEW) Subsection N1101.13.5 (R401.2.5) Additional energy efficiency.
 - Proposed amendment is to delete this amendment from the city code.
- (NEW) Table N1102.1.3 (R402.1.3) Insulation Minimum R-Values and Fenestration requirements by component.
 - Proposed amendment is to delete this amendment from the city code.
- (NEW) N1110.2.5 (R502.2.5) Additional efficiency credit requirements for additions.
 - Proposed amendment is to delete the section in its entirety.
- (NEW) N1111.1.5 (R503.1.5) Additional efficiency credit requirements for substation improvements.

- Proposed amendment is to delete the section in its entirety.
- Subsection E3902.2 Garage and Accessory Building Receptacles.
 - 125-volt through 250-volt receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(2)]
 - Add an exception as follows: Receptacles that are not readily accessible.
- (NEW) Subsection E3902.14 Outdoor Outlets
 - All outdoor outlets, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection....
 - Exceptions 3. GFCI protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026. [210.8(F)]
 - Proposed amendment is to strike out the 2nd sentence from Exception 3.
 - a. Exception 3. GFCI protection shall not be required for listed HVAC equipment. [201.8(F)]
- Section R103/R112 – Code Compliance Agency/Mean of Appeals
 - R103 – The term “Department of Building Safety” was changed to “Code Compliance Agency”.
 - R112 – The title “Board of Appeals” was changed to “Mean of Appeals”.
 - In Section R112, only the title of the section was changed, the Board of Appeals title remains.
- Table R302.6 – Dwelling Unit Garage Separation
 - The wording changed in this table from “habitable rooms above the garage” to from “portions of the dwelling unit above the garage”.
 - This means that if there is any portion of a dwelling unit above a garage it will require 5/8” Type X drywall.
 - Only the walls and ceiling separating only an attic will be able to use ½” drywall.
- Section R-13 Sleeping Lofts
 - Section R315.1 through R315.5.2 were added addressing “spaces designated for sleeping on an intermediate level or levels between the floor and ceiling of a story”.
 - These new sections address size, ceiling heights, egress, stairways, landings, and ladders.
- Section R330.8.1 ESS Vehicle Impact Protection
 - Sections R330.8.1 through R330.8.3 were added addressing the protection of energy storage systems installed in garages.
 - These new sections address location, construction, size, and height of these barriers.
 - Previously in 2021 code it only stated, “ESS installed in a location subject to vehicle damage shall be protected by approved barriers”.
- Section R330.8.1 ESS Vehicle Impact Protection.

- Section Table N1102.1.2/R402.1.2 & Table N1102.1.3/R402.1.3
 - Insulation criteria for insulation installed entirely above the roof deck added.
 - Decreased ceiling R-Value from R-49 to R-30.
 - Updated criteria added for windows and skylights. U-Factors for skylights increased from .75 to .60.
 - Every code cycle we see more energy efficiency added with this year's one exception where the ceiling R-Value was lowered.
- Section R403.5.5 Demand Responsive Water Heating
 - (They tried) to make this a new requirement for demand responsive controls for electric storage water heaters.
 - This was a controversial code change and has been removed from the body of the code and moved to the appendix which we WILL NOT be adopting.
- Section N1103.13/R403.13 Gas Fireplaces
 - This is a new section.
 - It removes the option for installation of a gas fireplace that utilizes a continuous pilot light.
 - Gas fireplaces need to be the ones with electronic ignitions.
- Section R404.5 Electrical Readiness
 - Installation of new branch circuits required near cooking products, household clothes dryers and water heaters that currently use fuel gas or liquid fuel.
 - This is (was) also found in N1104.5 of the IECC.
 - This was a controversial code and has been removed from the body of the code and moved to the appendix which we WILL NOT be adopting.
- Section 404.6 Solar Readiness
 - This section would have required new homes to have infrastructure installed during construction to make the home "ready" for a solar installation.
 - This was also in the 2024 IECC Section N1104.7.
 - This is a controversial code and has been removed from the body of the code and moved to the appendix which we WILL NOT be adopting.
- Section 404.7 Electric Vehicle Infrastructure
 - We previously amended this section and did not require it.
 - This (would) require all new homes to have EV chargers installed.
 - This is a controversial code and has been removed from the body of the code and moved to the appendix which we WILL NOT be adopting.
- Section E3601.8 Emergency Disconnects
 - This section was modified, and wording was added requiring the "Emergency DISCONNECT, SERVICE DISCONNECT" marking be on the outside front of the enclosure and have white text with red background and have at least ½" lettering.

- This section also requires that labeling complies with E3404.12 which requires labeling to be durable, permanently affixed and can withstand the environment involved.
 - This expands on a change from the 2021 cycle requiring the disconnect label.
- Section E3702.3 Ten Ampere Branch Circuit
 - A new section was added addressing and introducing ten ampere circuits to the code.
 - A ten-ampere branch circuit can supply lighting outlets, exhaust fans or a gas fireplace.
 - Ten-ampere circuits shall not supply receptacle outlets, fixed appliances (with exception), garage door openers and laundry equipment.
- Section E3702.14 Electric Vehicle Branch Circuit
 - There was a change to this section now requiring an individual branch circuit for electric vehicle car chargers if they are over 16 amps or over 120 volts.
 - Previously, code required an individual branch circuit for all electric vehicle care chargers.
 - This same change is found in the 2023 NEC Article 625.40
- Section E3706.2 Panel Board Circuit Identification
 - Another code section that has evolved over the years.
 - Previously code stated circuits had to be identified.
 - Then it evolved so they had to be identified to their clear, evident and specific use.
 - Then it required each circuit to be distinguished from others (labeling each one individually).
 - Now a sentence was added requiring a directory that clearly explains abbreviations and symbols if abbreviations and symbols are used.
- Section E3909.1.4.2 Island and Peninsular Counter Tops
 - Wording changed no longer requiring receptacles at islands and peninsulas.
 - The wording now states "Receptacle outlets, if installed".
 - This newly worded section also states if a receptacle is not provided at an island or peninsula, provisions shall be provided for the future addition for a receptacle.
- Section E3902.12 Specific Appliance Outlets
 - This section was renamed and reformatted and requires GFCI protection to specific appliances rated 150 volts or less and 60 amp or less.
 - Drinking water coolers, high pressure spray machines, sump pumps, dishwashers, electric ranges, wall mounted ovens, counter-mounted cooking unites, clothes dryers and microwave ovens.
 - Significance: We would now require GFCI protection on ranges, stove tops, and microwave ovens unless they were over 60 amps.
- Section E4203.1.4 GFCI Protection

- An addition to this section now requiring GFCI protection at all receptacles rated 125 volts through 250 volts, 60 amperes or less that are located within 20 feet of the inside wall of pools or spas.
- Previously it was required at all 15 and 20 ampere, single phase, 125-volt receptacles within 20 feet.
- Significance: More GFCI locations to look for.

Nick Ruscito presented Significant Changes to the 2024 International Energy Conservation Code to the Board of Appeals.

- **Significant Changes to the 2024 IECC**
- Code Adoption
 - Proposed Adoption Date 07/1/2025
 - City Council Hearing Dates 11/04/2024, 11/07/2024, & 12/12/2024
 - Board of Appeals Review 09/12/2024.
- City Amendments – Administrative proposals for commercial requirements
- Subsection C101.1 Title. These regulations shall be known as the Energy Conservation Code of the City of Chandler, Arizona hereinafter referred to as “this code”.
- Subsection C101.4 Compliance
 - Add the following exception after the C101.4 Compliance paragraph.
 - Exception: Group R-2, when defined as a Commercial Building by section C202, shall have the option of complying under the Residential Provisions of this code, regardless of height. Once defined as such on the submittal documents, all components of the Residential Provision shall be followed.
- (NEW) Subsection C102.2 Other laws.
 - The provisions of this code shall not be deemed to nullify any provisions of local, state, or federal law.
 - Proposed amendment is to add the following provisions to the end thereof:
Additionally, the Building Official will enforce the provisions of such other laws when mandated by state or federal law.
- (NEW) Subsection C104.1 Creation of enforcement agency.
 - The Development Services Department is hereby created and the official in charge thereof shall be known as the authority having jurisdiction (AHJ). The function of the agency shall be the implementation, administration, and enforcement of the provision of this code.
- Subsection C106.2 Schedule of Permit Fees.
 - Delete in its entirety and replace with a new subsection C106.2 as follows:
Schedule of Permit Fees. Permit fees, if any, shall be adopted by the City by resolution.
- Proposed Amendments to commercial section of code body.

- Subsection C405.12 Automatic receptacle control and Subsection C405.12.1 Automatic receptacle control function.
 - Delete in their entirety.
- (NEW) Subsection C405.15 Renewable Energy Systems
 - Proposed amendments are to delete the subsection in its entirety.
- Subsection C501.2 Compliance.
 - Additions, alterations, repairs, and changes of occupancy to, or relocation of, existing buildings and structures shall comply with Sections C502, C503, C504 and C505 of this code, as applicable, and with the provisions of alterations, repairs, additions and changes of occupancy or relocation, respectively, in the International Building Code, International Existing Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, and NFPA 70. Changes where unconditioned space is changed to conditioned space shall comply with Section C502.
 - Exception: Additions, alterations, repairs, or changes of occupancy complying with ANSI/ASHRAE/IES 90.1.
- Administrative proposals for residential requirements
- Subsection R101.1 Title. These regulations shall be known as the Energy Conservation Code of the City of Chandler, Arizona hereinafter referred to as "this code".
- Subsection R101.4 Compliance
 - Add exception R101.4
 - Exception: Group R-2, when defined as a Commercial Building by section C202, shall have the option of complying under the Residential Provisions of this code, regardless of height. Once defined as such on the submittal documents, all components of the Residential Provisions shall be followed.
- (NEW) Subsection R102.2 Other laws.
 - The provision of this code shall not be deemed to nullify any provisions of local, state, or federal law.
 - Proposed amendments are to add the following provisions to the end thereof:
Additionally, the Building Official will enforce the provisions of such other laws when mandated by state or federal laws.
- (NEW) Subsection R103.1 Creation of enforcement agency.
 - The Development Services Department is hereby created and the official in charge thereof shall be known as the authority having jurisdiction (AHJ). The function of the agency shall be the implementation, administration, and enforcement of the provision of this code.
- Subsection R106.2 Schedule of permits fees.

- Delete in its entirety and replace with a new subsection R106.2 as follows:
R106.2 Schedule of permit fees. Permit fees, if any, shall be adopted by the City by resolution.
- Subsection R104.1.1 Above code program.
 - The code official or other authority having jurisdiction shall be permitted to deem a national, state, or local energy-efficiency program to exceed the energy efficiency required by this code....
 - Add a new Subsection R104.1.2 as follows:
 - R104.1.2 RESNET testing and inspection protocol. The Residential Energy Services Network (RESNET) Mortgage Industry National Home Energy Rating System Standards Protocols for third party testing and inspections shall be deemed to meet the requirements of section R402.5.1, R402.5.1.2 and R403.3.6 and shall meet the following conditions.
 - 1. Third party testing and inspections shall be completed by RESNET certified raters or rating field inspectors and shall be subject to RESNET quality assurance field review procedures.
 - 2. Sampling in accordance with Chapter 6 of the RESNET standards shall be performed by raters or rating field inspectors working under a RESNET accredited sampling provider.
 - 3. Third party testing is required for the following items:
 - R402.5.1 – Building Envelope – Thermal and air barrier checklist.
 - R402.5.1.2 – Testing – Air leakage rate
 - R403.3.6 – Sealing – Duct tightness
 - 4. The other requirements identified as “mandatory” in Chapter 4 shall be met.
 - 5. Alternate testing and inspection programs and protocols shall be allowed when approved by the Building Official.
- Proposed amendments to residential section of code body.
- (NEW) Subsection R401.2 Application
 - Proposed amendment is to delete this amendment from the city code.
- (NEW) Subsection R401.2.5 Additional Energy Efficiency
 - Proposed amendments are to delete this amendment from the city code.
- (NEW) Table R402.1.3 Insulation Minimum R-Value and Fenestration Requirements by Component.
 - Proposed amendment is to delete this amendment from the city code.
- Subsection R403.3.7 Duct system testing. Each duct system shall be tested for air leakage in accordance with ANSI/RESNET/ICC 380 or ASTM E1554...
- Add one new exception to read as follows:

- A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelop.
- Subsection R405.3 Compliance documentation
 - The following compliance reports, which document that the performance of the proposed design complies with the requirements of Section R405, shall be submitted to the code official.
 - 1. A compliance report, in accordance with Section R405.5.4.1, shall be submitted with the application for the building permit.
 - 2. Upon completion of the building, a confirmed compliance report, in accordance with Section R405.5.4.2, based on the confirmed condition of the building shall be submitted to the building owner.
- Subsection R406.5 ERI- based compliance
 - Compliance based on an ERI analysis requires that the rated design and each confirmed as-built dwelling unit be shown to have an ERI less than or equal to the applicable value indicated in Table R406.5 were compared to the ERI reference design...
 - Replace Energy Rating Index of "51" with "57" in climate zone 2.
- Section R408 Additional Efficiency requirements
 - Delete the section in its entirety.
- Subsection R501.2 Compliance
 - Additions, alterations, repairs or changes of occupancy to, or relocation of, an existing building, building system or portion thereof shall comply with Section R502,R503,R504 or R505, respectively, in this code the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in the International Residential Code, International Building Code, International Existing Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, and NFPA 70 as applicable. Changes where unconditioned space is changed to condition space shall comply with Section R501.6.
- (NEW) Subsection R502.2.5 Additional efficiency credit requirements for additions.
 - Proposed amendment is to delete the subsection in its entirety.
- (NEW) Subsection R503.1.5 Additional efficiency credit requirements for substantial improvements.
 - Proposed amendment is to delete the subsection in its entirety.
- Preface – Replacement of Margins with QR Codes
 - Solid vertical lines for new text, arrows for deletions and asterisks for relocations have been removed and replaced with a QR code.
 - A QR code is placed at the beginning of any section that has undergone a technical revision. (No QR code means there were no changes).
 - To see the changes, scan the QR code with a smart device or enter the 7-digit code beneath the QR code @ qr.iccsafe.org.
- Section Table C402.1.2/C402.1.3

- Insulation criteria for insulation installed entirely above the roof deck added.
- Decreased ceiling R-Value from R-49 to R-30.
- Updated criteria added for windows and skylights. U-Factors for skylights increased from .75 to .60.
- Every code cycle we see more energy efficiency added with this year's one exception where the ceiling R-Value was lowered.
- Section C403.4.6 Demand Responsive Water Heating
 - (They tried) to make this a new requirement for demand responsive controls for electric storage water heaters.
 - This was a controversial code change and has been removed from the body of the code and moved to the appendix which we WILL NOT be adopting.
- Section C403.7.8 Occupant Sensor for Ventilation
 - New Requirement – Occupied standby controls shall be required for each of the following zones and the ventilation air is allowed to be reduced to zero when the space is not occupied (occupied standby mode).
 - 2.1 Post secondary classrooms/lecture/training rooms
 - 2.2 Conference/meeting/multipurpose rooms
 - 2.3 Lounges/breakrooms
 - 2.4 Enclosed offices
 - 2.5 Open plan office areas
 - 2.6 Corridors
 - Significance: This code section was created to reduce energy consumption in the above listed zones when the spaces are unoccupied.
- Section C405.14 Electric Vehicle Infrastructure
 - We previously amended this section and did not require it.
 - This (would) require all new homes to have EV chargers installed.
 - This is a controversial code and has been removed from the body of the code and moved to the appendix which WE WILL not be adopting.
- Section C405.15 On-Site Renewable Energy Generation
 - New requirement for buildings to be provided with on-site renewable electricity generation systems.
 - Direct current (DC) nameplate power rating will need to be not less than .75W per square foot multiplied by the sum of the gross conditioned floor area of all floors, not to exceed the combined gross conditioned floor area of the three largest floors.
 - This is informational only – the City of Chandler is recommending to amend this out of the code.
- Section 405.16 On-site Energy Storage

- This code section required each building to provide ESS (Energy Storage Systems) or have the infrastructure to accommodate future electrical storage.
- This is a controversial code requirement and has been removed from the body of the code and moved to the appendix, which we WILL NOT be adopting.

ACTION AGENDA

a. None

5. BRIEFING ITEMS

Bob Graffius, Building Inspection Administrator and Nick Ruscito, Building Inspection Supervisor spoke on the Code Amendment and Significant Changes Presentation. It was discussed that the board members will be briefed by staff concerning the building code editions in the upcoming meetings.

James Ashley, Director of Municipal Affairs, Home Builders Association of Central Arizona, appreciated the City of Chandler and the Board of Appeals in leading the way of adopting the most current construction codes every 3 years. He recognized and appreciated the city staff being approachable and expressed his gratitude to have opportunities to exchange information, share thoughts, and open discuss proposed amendments with the city staff.

6. MEMBER COMMENTS/ANNOUNCEMENTS

7. CALENDAR

a. Next meeting is scheduled Thursday, September 12, 2024, @ 7:00 a.m.

8. ADJOURN

Board Member Michael McElhany motioned for the meeting to adjourn. Motion seconded by Board Member Michael Quinn.

The meeting was adjourned at 8:05 a.m.

Jeff Cullumber, Chairman

Shicheng Tao, Secretary