City of Tucson Amendments to the 2018 International Residential Code

Section R101.1 Title. INSERT: **[NAME OF JURISDICTION]** as "City of Tucson, AZ".

Chapter 1 SCOPE AND ADMINSTRATION.
REVISE Chapter by DELETING in their entirety **SECTION R102 APPLICABILITY** and **PART 2-ADMINISTRATION AND ENFORCEMENT.** (Deleted sections are administered by 2018 IBC, Chapter 1)

Table R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA. REVISE table by INSERTING into row below specific headings as follows:

GROUND SNOW LOAD	0 psf
Topographic effects	As Required
Speed (mph)(wind)	115 mph 3 second gust
SEISMIC DESIGN CATEGORY	Category B
Weathering	Negligible
Frost line depth	0
Termite	Moderate to Heavy
WINTER DESIGN TEMP	Refer to N1101.09.1
FLOOD HAZARDS	NFIP: August 2, 1982 FIRM: June 2011

Section R302.1 Exterior walls. REVISE Section by DELETING all text and tables **(TABLE R302.1(1) EXTERIOR WALLS and TABLE R302.1(2) EXTERIOR WALLS-DWELLINGS WITH FIRE SPRINKLERS)** and REPLACING with the following:
Exterior walls with a fire separation distance less than 3 feet (914mm) shall have not less than a one-hour fire-resistive rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance. Projections extending into the fire separation distance shall have not less than one-hour fire-resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

Exceptions:
1. Detached garages accessory to a dwelling located within 2 feet of a lot line may have roof eave projections not exceeding 4 inches.
2. Tool and storage sheds, playhouses, ramadas and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

ADD new Section R302.1.1 as follows:
Section R302.1.1 Openings. Openings shall not be permitted in the exterior wall of a dwelling with a fire separation distance less than 3 feet. This distance shall be measured perpendicular to the line used to determine the fire separation distance.
Exception:

1. Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.
2. Foundation vents installed in compliance with this code are permitted.

Section R303.5.1 Intake openings. REVISE Section by ADDING **Exception 4** to read:
4. Replacement of existing evaporative coolers where the building official determines that the replacement does not constitute a high degree of hazard.

Section R303.10 Required heating. REVISE Section by ADDING an **Exception** to read:
Exception: Spaces able to maintain 60ºF at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms over a 48 hour period as demonstrated by Section N1105 Simulated Performance Alternative.

Section R309.5 Fire sprinklers. DELETE Section in its entirety.

Section R313 AUTOMATIC FIRE SPRINKLER SYSTEMS. DELETE Section in its entirety.

Section R802.11.1 Uplift resistance. REVISE Section by DELETING Section in its entirety and ADDING the following:
Uplift resistance to minimize microburst effects shall be determined by either method 1 or 2 below:

1. Design-based wind uplift criteria
Wind uplift requirements shall be determined by using the design wind value of 115 mph within Table R802.11 for the continuous load path transmitting the uplift forces from the rafter or truss ties to the foundation.

2. Prescriptive-based wind uplift criteria
(Please note that the requirements of this Section are in addition to those required for the structural connection of wood members).

2.1. Conventionally-framed wood or cold-formed steel structures
All bearing wall vertical connections shall be clipped with either approved structural sheathing or approved clips to provide a continuous load path from the joist or truss through the ledger or top plate to the bottom wall plate. Where clips are used, they shall be minimum Simpson H2.5 (A34 at ledger), or equivalent load capacity, of configuration to match connection and spaced at intervals not to exceed 24". At openings, lower cripple studs do not require clipping but king/trimmer studs require double clips at bottom and upper cripples require both full clipping to header as well as header to king stud. All platform framing requires either strapping listed for the purpose or continuous sheathing over rim joist from stud to stud vertically at each floor level. All non-bearing exterior walls shall be clipped as above except that the spacing may be extended not to exceed every other stud.

2.2. Masonry or concrete structures
If lateral design requires larger anchors or more conservative spacing, these may be used in lieu of those called out in this Section.

2.2.1. Roof bearing on wall top plate
Top plates shall be secured to masonry or concrete walls with minimum 0.5" embedded anchor bolts spaced at intervals not to exceed 48". Each joist or truss shall be clipped to plate at bearing with minimum Simpson H2.5 or equivalent load

capacity and of configuration to match connection. Gable end joists or trusses shall also be clipped at intervals not to exceed 48".

2.2.2. Roof bearing on wall ledger
Joists or trusses bearing on a wall ledger shall be secured to masonry or concrete walls with minimum Simpson PAI23 purlin anchors or equal with equivalent load capacity listed for the application and embedded into wall per listing at intervals not to exceed 48". Nonbearing roof diaphragm edges shall have the outermost joist or truss likewise anchored to the wall through blocking.

2.3. Structural steel structures
Structural steel buildings shall have roof members attached by either welds, bolts, screws or other similarly approved connections at intervals not to exceed 48". Ledger designs shall connect to roof trusses with strapping listed for the purpose at intervals not to exceed 48" on all diaphragm sides. If lateral design requires larger anchors or more conservative spacing, these may be used in lieu of those called out in this Section.

Section N1101.4 (R102.1.1) Above code programs. REVISE Section by ADDING the following at the end of the paragraph:
"Compliance with the Net-Zero Energy Standard shall be deemed to comply with this code."

ADD new Section N1101.9.1 (R302.2) as follows:
Section N1101.9.1 (R302.2) Exterior design conditions.

Table N1101.9.1
EXTERIOR DESIGN CONDITIONS

CONDITION		
Winter	Design Dry Bulb Temp	35° F
Summer	Design Dry Bulb Temp	105° F
	Design Wet Bulb Temp	66° F
Climate zone		2B

Table N1102.1.4 (R402.1.4) *U*-factor alternative. REVISE Section by ADDING the following to the end of footnote b:
In climate zone 2, an un-insulated earth mass wall with a maximum U-factor of 0.14 shall be deemed in compliance (for computing the U-factor, an R value of 0.3 per inch shall be used for adobe and rammed earth).

Section N1102.4.1.2 (R402.4.1.2) Testing. REVISE Section by DELETING the third sentence which reads "Where required by the *building official*, testing shall be conducted by an *approved* third party," and REPLACING with the following:
Testing shall be conducted by individuals holding current certification for such testing from Residential Energy Services Network (RESNET), Building Performance Institute (BPI) or other *approved* agencies.

Section M1411.3 Condensate disposal. REVISE Section by ADDING the following at the end of the paragraph:
Condensate disposal shall be allowed to terminate as follows:
1. Into an approved fixture tailpiece, funnel drain, waste air gap fitting, floor sink, slop sink

and laundry tray.
2. At or below grade outside the building in an area capable of absorbing the condensate flow without surface drainage.
3. Over roof drains or gutters or downspouts that connect to drainage pipes, provided they terminate at or above grade in an area capable of absorbing the condensate flow without surface drainage.

ADD new Section M1413.2 as follows:
Section M1413.2 Water conservation. Evaporative cooling systems shall be provided with a recirculating water system. Any bleed off rate used by the system shall be limited to that recommended by the manufacturer. Once-through evaporative cooling systems using potable water shall not be permitted.

ADD new Section P2601.2.1 as follows:
Section P2601.2.1 Gray water piping.
1. All new residential dwelling units shall include piping to allow separate discharge of gray water for direct irrigation in accordance with Table 2601.2. When feasible, all gray water discharge piping shall be installed to allow for gravity distribution.
2. All gray water systems shall be designed and operated according to the provisions of the applicable permit authorized by ADEQ under the Arizona Administrative Code, Title 18, Chapter 9.

Table P2601.2
MINIMUM GRAY WATER FIXTURE REQUIREMENTS

Available Distribution Area[a] (Square feet)	Gray Water Fixtures[b]
Less than 200	Optional
200 to 400	1
Greater than 400	At least one plus all bathing fixtures with drainage piping above grade[c] plus all clothes washing machines[d]

a. Available distribution area is the area of the parcel excluding areas within ten (10) feet of load-bearing foundations, two (2) feet of property lines, utility or drainage easements, driveways, and not covered by permanent impervious surfaces such as parking pads and patios.
b. For purposes of this Section, gray water fixtures are defined as bathing fixtures (such as bathtubs and showers) and clothes washing machines.
c. For purposes of this Section, fixtures roughed in below a slab on grade are considered below grade, regardless of the soil elevation on the perimeter of the structure.
d. Clothes washing machines located in rooms on grade, with no walls common to the exterior of the structure are not required to be supplied with gray water piping.

Section P2603.5.1 Sewer depth. INSERT **[NUMBER]** as "12" in both locations.

Section P2804.6.1 Requirements for discharge pipe. REVISE Section by DELETING item number 2.

Section P2902.5.4 Connection to automatic fire sprinkler systems. REVISE Section by

DELETING all text therein and REPLACING it with the following:
The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow in accordance with ARS § 41-2168.

Table 2903.1 REQUIRED CAPACITIES AT POINT OF OUTLET DISCHARGE. REVISE Table by DELETING the column titled "**FLOW PRESSURE (psi)**" in its entirety.

Section P2904.1.1 Required sprinkler locations. REVISE Section by DELETING the first sentence which reads "Sprinklers shall be installed to protect all areas of a *dwelling unit*" and REPLACING with the following:
Sprinklers are not required within dwelling units that meet fire-flow requirements of the *International Fire Code*. This Section serves as a guide for voluntary installation or to allow for a fire separation reduction within Sections R302.2 and R302.3.

Section P3008.1 Where required. REVISE Section by DELETING entire paragraph and ADDING new text as follows:
Where the finish floor elevation is less than 12 inches above the elevation of the next upstream manhole cover in the sewer, a backwater valve shall be installed in the building drain or branch of the building drain serving that floor. Floors discharging from above that reference point shall not discharge through the same back water valve.

Section P3009 SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS. DELETE Section in its entirety.

ADD new Section E3703.8 as follows:
Section E3703.8 Dishwasher and garbage disposer branch circuits – Dwelling units. In residential occupancies, dishwasher and garbage disposer may be on the same 20-ampere branch circuit.

ADD new Section E3802.9 as follows:
Section E3802.9 Earthen material wiring method. Type UF Cable shall be permitted to be used in mortar joints of adobe construction in occupancies where the use of Nonmetallic Sheathed Cable is permitted by this code.

ADOPT Appendices H (Patio Covers) **Q** (Tiny Houses) **R** (Light Straw-clay Construction) **S** (Strawbale Construction) **T** (Solar-ready Provisions).

Section AQ103.1 Minimum Ceiling Height. REVISE Section by ADDING the following after the first sentence:
For rooms with sloped ceilings, at least 50 percent of the floor area of the room must have a ceiling height of at least 6 feet 8 inches (2032 mm) and no portion of the floor area of the room may have a ceiling height of less than 5 feet (1524 mm).

Section T103.1 General. REVISE Section by DELETING phrase fragment"oriented between 90 degrees and 270 degrees of true north".

Section T103.4 (RA103.4) Obstructions. REVISE Section by REPLACING the word "vent" with the word "exhaust".

Section T103.6 Capped roof penetrations sleeve. DELETE Section in its entirety.

Section T103.10 (RA 103.8) Construction documentation certificate. DELETE Section in its entirety.