CITY OF TUCSON
PLANNING & DEVELOPMENT SERVICES

Exhibit G

City of Tucson Amendments to the 2024 International Residential Code

Section R101.1 Title. INSERT: [name of jurisdiction] as "City of Tucson, AZ".

Chapter 1 Scope and administration. REVISE Chapter by DELETING Section R102 Applicability and Part 2 – Administration and Enforcement. (Deleted sections are administered by 2024 IBC, Chapter 1)

Table R301.2(1) Climatic and geographic design criteria. INSERT as follows:

Ground Snow Load	0 psf
Topographic Effects	As Required
Wind Speed	~~115 mph~~ 105 mph (168.981 kph) 3 second gust
Seismic Design	Category B
Weathering	Negligible
Frost Line Depth	0
Termite	Moderate to Heavy
Winter Design Temperature	Refer to N1101.09.1
Flood Hazards	NFIP: ~~August 2, 1982~~ February 2005 FIRM: ~~June 16, 2011~~ September 28, 2012

Section R302.1 Exterior walls. REVISE Section by DELETING text and tables and REPLACING with the following:
Exterior walls with a fire separation distance less than 3 feet (914 mm) 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 (610 mm) of a lot line may have roof eave projections not exceeding 4 inches (102 mm).
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 (914 mm). 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 ~~R313~~ R309 Automatic fire sprinkler systems. DELETE Section in its entirety.

Section ~~R309.5~~ R317.5 Fire sprinklers. DELETE Section in its entirety.

Section R325 Light, ventilation and heating. REVISE Section title by replacing the word 'heating' with the words 'temperature control.'

Section ~~R303.5.1~~ R325.4.1 Intake openings. REVISE Section by ADDING **Exception 4** to read:
Replacement of existing evaporative coolers where the building official determines that the replacement does not constitute a high degree of hazard.

Section ~~R303.10~~ R325.8 Required heating. REVISE Section by ADDING ~~an~~ Exceptions 1 and 2 to read:

Exceptions:

1. Interior spaces where the primary purpose is not associated with human comfort.
2. Interior spaces able to maintain 60ºF (15.6ºC) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms over a 48 hour period as demonstrated by Section N1105 Simulated Performance Alternative.

ADD new Section R325.9 to read:
Section R325.9 Required cooling. Dwelling units and sleeping units located in Climate Zones 0, 1, 2, 3, 4, 5A, and 5B, where the summer dry-bulb temperature is greater than 85º F (29.4º C), shall be provided with cooling systems capable of maintaining an indoor temperature at or below 80ºF (26.7º C) in the occupied space. Where permanently installed fans are capable of generating 120 fpm (0.6 m/s) air speed inside the occupied space, the required cooling system shall be capable of maintaining indoor temperature at or below 85º F (29.4º C). The installation of one or more portable systems shall not be used to achieve compliance with this section.
Exception: Interior spaces where the primary purpose is not associated with human comfort.

Section R506.3.3 Vapor retarder. REVISE Section by DELETING Exception #4 and REPLACE with the following:

4. Where designed by a qualifying *registered design professional*, based on soil conditions and floor finishing such as exposed concrete surfaces.

Section R606.6.4.2.1 Roof structures. REVISE Section by DELETING Section in its entirety and REPLACING with the following:
Masonry walls with ledgers shall be anchored to roof structures with metal strap purlin anchors of 800 lb minimum capacity (ASD) installed in accordance with the manufacturer's installation requirements, and at intervals not to exceed 48 inches (1219 mm).

Section R606.4.2.2 Floor diaphragms. REVISE Section by DELETING Section in its entirety and REPLACING with the following:
Masonry walls with ledgers shall be anchored to floor structures with metal strap purlin anchors of 800 lb minimum capacity (ASD) installed in accordance with the manufacturer's installation requirements, and at intervals not to exceed 48 inches (1219 mm).

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~~ 110 mph (177.028 kph) 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~~ connected ~~with either~~ by an approved structural sheathing or approved ~~clips~~ metal connector to provide a continuous load path from the joist, rafter, or truss through the ledger or top plate to the bottom wall plate. Where ~~clips~~ connectors are used, they shall ~~be minimum Simpson H2.5 (A34 at ledger), or equivalent~~ have a minimum uplift load capacity of 500 lbs, of configuration to match connection and spaced at intervals not to exceed 24 inches (610 mm). At openings, lower cripple studs do not require ~~clipping~~ connectors, but king/trimmer studs require double ~~clips~~ connectors at bottom and upper cripples require both ~~full clipping~~ connectors 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~~ connected 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 inch (13 mm) ~~embedded~~ anchor bolts embedded minimum 7 inches (180mm) and spaced at intervals not to exceed 48 inches (1219 mm). Each joist, rafter, or truss shall be ~~clipped~~ connected to the plate at each bearing location with metal connectors with a minimum ~~Simpson H2.5 or equivalent~~ uplift load capacity of 500 lbs and of configuration to match connection. Gable end joists or trusses shall also be clipped at intervals not to exceed 48 inches (1219 mm).

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~~ metal strap purlin anchors ~~or equal with equivalent load capacity listed for the application and~~ of 800 lb minimum capacity (ASD) installed in accordance with the manufacturer's installation requirements, and ~~embedded into wall per listing~~ at intervals not to exceed 48~~"~~ inches (1219 mm). Nonbearing roof diaphragm edges shall ~~have the outermost joist or truss likewise anchored to the wall through blocking~~ likewise be anchored to the wall using metal strap purlin anchors connected to one framing bay or 24 inches (610 mm) minimum length of blocking, whichever is greater.

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~~"~~ inches (1219 mm). Ledger designs shall connect to roof trusses with strapping listed for the purpose at intervals not to exceed 48~~"~~ inches (1219 mm) on all diaphragm sides. If lateral design requires larger anchors or more conservative spacing, ~~these may be~~ the lateral design requirements shall be used in lieu of those called out in this Section.

Section N1101.4 (~~R102.1.1~~ R104.1.1) 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 and table ~~N1101.9.1~~ N1101.11.1 (R302.2) as follows:
Section ~~N1101.9.1~~ N1101.11.1 (R302.2) Exterior design conditions.

Table N1101.11.1
Exterior Design Conditions

CONDITION		
Winter	Design Dry Bulb Temp	~~35° F~~ 36° F (2.22° C)
Summer	Design Dry Bulb Temp	~~105° F~~ 107° F (41.67° C)
	Design Wet Bulb Temp	~~66° F~~ 69° F (20.56° C)
Climate zone		2B

Table ~~N1102.1.4 (R402.1.4~~ N1102.1.2 (R402.1.2) Maximum assembly U-factors and fenestration requirements ~~Alternative~~. REVISE ~~Section~~ Table 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)~~ N1102.5.1.2 (R402.5.1.2) Air leakage testing. REVISE Section by DELETING the third sentence 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~~ M1411.9 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" (305 mm) 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 P2903.2 Maximum flow and water consumption. DELETE Section P2903.2 and REPLACE with the following: The maximum water consumption flow rates and quantities for plumbing fixtures and fixture fittings shall be in accordance with Table P2903.2 and such fixtures and fixture fittings shall be Environmental Protection Agency (EPA) WaterSense Certified fixtures or within the maximum flow or quantity required of WaterSense Certified fixtures, excluding fixture types that are not included under the WaterSense Program.
Exception: Replacement of existing fixtures that do not require a permit.

Table P2903.2 REVISE Table by DELETING the Table in its entirety and REPLACING with the following:

Maximum flow rates and consumption for plumbing fixtures and fixture fittings[b]

Plumbing fixture or fixture fitting	Maximum flow rate or quantity[b]
Lavatory faucet	1.5 gpm at 60 psi
Shower head[a]	2.0 gpm at 80 psi
Sink faucet	1.8 gpm at 60 psi
Water closet	1.28 gallon per flushing cycle

For SI: 1 gallon per minute = 3.785L/m, 1 pound per square inch = 6.895 kPa
a. A hand-held shower spray shall be considered to be a shower head
b. Consumption tolerances shall be determined from referenced standards.

Section P2904.1.1 Required sprinkler locations. REVISE Section by DELETING the first sentence 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 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.**~~ **Graywater soil absorption systems.** DELETE Section in its entirety. Graywater systems shall comply with Arizona Administrative Code Title 18, Chapter 9.

Section E3705.2 Correction factor for ambient temperatures. REVISE Section by ADDING the following:
The ambient temperature for application of Table 3705.2 [310.15 B(1)] for outdoor installations shall be not less than 45° C (113° F)

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**~~ **E3802.10** as follows:
Section ~~**E3802.9**~~ **E3802.10 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 ~~**Q**~~ **BB** (Tiny Houses), ~~**H**~~ **BF** (Patio Covers), ~~**R**~~ **BI** (Light Straw-clay Construction), ~~**S**~~ **BJ** (Strawbale Construction), **BK** (Cobb Construction), **BM** 3D-printed Construction, ~~**T**~~ **NB** (Solar-ready Provisions), **NE** (Electric Vehicle Charging Infrastructure).

Section ~~**AQ103.1**~~ **BB103.1 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**~~ **NB103.1 General.** REVISE Section by DELETING "oriented between 90 degrees and 270 degrees of true north".

Section ~~**T103.4**~~ **NB103.4 Obstructions.** REVISE Section by REPLACING the word "vent" with the word "exhaust".

Section ~~**T103.6**~~ **NB103.6 Capped roof penetrations sleeve.** DELETE Section in its entirety.

Section ~~**T103.10**~~ **NB103.10 Construction documentation certificate.** DELETE Section in its entirety.

Section ~~**N1101.6**~~ **NE101.1 Definitions. EV Ready Space**. DELETE Definition in its entirety and REPLACE with the following:
A designated parking space which is provided with one 40-ampere minimum 208-volt or 240-volt dedicated single phase branch circuit for EVSE servicing Electric Vehicles. The circuit shall terminate in a suitable termination point such as a NEMA 14-50R receptacle or an EVSE and be located within 10 feet of the proposed location of the EV parking space(s). The ampere and volt minimums described above can be modified with administrative approval to allow for advances in industry standards.

Section ~~N1104.2~~ NE101.2 Electric vehicle power transfer infrastructure. REVISE Section by DELETING the Section in its entirety and REPLACE with the following:
New construction shall facilitate future installation and use of Electric Vehicle Supply Equipment (EVSE) in accordance with Sections NE101.2.1 through NE101.3 and NFPA-70, National Electrical Code as adopted."

Section ~~N1104.2.1~~ NE101.2.1 Quantity. DELETE Section in its entirety and REPLACE with the following:
For each new one- and two-family dwelling and townhouse unit, provide at least one EV Ready Space. The branch circuit shall be identified as "EV Ready" in the service panel or subpanel directory, and the termination location shall be marked as "EV Ready."
Exception: EV Ready Spaces are not required where no on-site parking spaces are provided.

Section NE101.2.3 EV ready spaces. DELETE Section in its entirety.

Section NE101.2.4 EVSE spaces. DELETE Section in its entirety.

ADD new Section NE101.3 as follows:
Section ~~N1104.2.2~~ NE101.3 Documentation. Construction documents shall indicate the EVSE location and shall provide information on wiring methods, circuiting and electrical load calculations which demonstrate that the premises electrical system has load capacity to accommodate the EV charging load.