An Ordinance of the City of Plano, Texas repealing City of Plano Ordinance No. 2018-11-16 codified as Article XX, Residential Code, of Chapter 6 of the Code of Ordinances; and adopting the 2021 Edition of the International Residential Code with certain additions, deletions, and amendments, as the Residential Code of the City of Plano; and providing a repealer clause, a severability clause, a savings clause, a penalty clause, a publication clause and an effective date.

WHEREAS, on November 26, 2018, by Ordinance No. 2018-11-16, the City Council of the City of Plano amended Ordinance No. 2016-3-12 to reflect changes to the International Residential Code, and such were codified as Article XX, Residential Code, of Chapter 6 of the Code of Ordinances of the City of Plano ("City"); and

WHEREAS, on November 16, 2021, the Building Standards Commission held a public hearing to discuss the adoption of the 2021 Edition of the International Residential Code, a publication of the International Code Council (I.C.C.), and to receive input from the general public and all persons who may be affected by the proposed adoption; and

WHEREAS, for regulatory purposes due to changes in state law, the City Council is of the opinion that Section 6-710, Chapter 3, Section R325 of Article XX of Chapter 6 of the City Code of Ordinances regarding Automatic Sprinkler Systems, originally established by Ordinance No. 2008-4-39 and retained in the City's Residential Code since that time, should be retained as codified in the City Code of Ordinances and that all remaining provisions of Ordinance No. 2018-11-16 should be repealed; and

WHEREAS, upon recommendation of the Building Standards Commission and upon full review and consideration of all matters attendant and related thereto, the City Council is of the opinion that the 2021 Edition of the International Residential Code, and the local amendments thereto, should be approved and adopted as the Residential Code of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PLANO, TEXAS, THAT:

Section I. Ordinance No. 2018-11-16, duly passed and approved by the City Council of the City of Plano on November 26, 2018, is repealed with the exception of the below referenced section which is hereby explicitly retained and shall remain codified in its entirety:

Section 6-710, Chapter 3, Section R325 of Article XX of Chapter 6 of the City of Plano Code of Ordinances established by Ordinance No. 2008-4-39 regarding Automatic Sprinkler Systems as follows:

"**Section R325, Automatic Sprinkler Systems.** An automatic sprinkler system shall be installed in all new buildings 6,000 square feet and greater, and in all existing buildings that are enlarged to be 6,000 square feet or greater, and in building greater than 6,000 square feet which are enlarged. Only gross floor area within the exterior walls shall be used to calculate the building area.

Exception:

a. The floor areas of covered patios and porches open entirely on at least one side, except for guardrails, need not be included in the calculation of the area of the building."

Section II. A new Article XX, Residential Code, of Chapter 6 of the Code of Ordinances is hereby adopted and shall read in its entirety as follows:

"**ARTICLE XX. RESIDENTIAL CODE**

DIVISION 1. GENERALLY

Sec. 6-708. Penalty.

Any person, firm or corporation found to be violating any term or provision of this Ordinance, shall be subject to a fine in accordance with Section 1-4(a) of the City Code of Ordinances for each offense. Every day a violation continues shall constitute a separate offense.

Sec. 6-709. Adopted.

The 2021 Edition of the International Residential Code, a publication of the International Code Council (I.C.C.), is hereby adopted and designated as the Residential Code of the City of Plano to the same extent as if such Code were copied verbatim in this Article, subject to deletions, additions, and amendments prescribed in this Article. A copy of the 2021 Edition of the International Residential Code is on file in the office of the City Secretary.

DIVISION 2. AMENDMENTS

Section 6-710. Deletions, Additions, Amendments.

The following deletions, additions, and amendments to the International Residential Code adopted herein are hereby approved and adopted:

Section R101.1; *change the section to read as follows:*

R101.1 Title. These regulations shall be known as the *Residential Code for One- and Two-family Dwellings* of the City of Plano, Texas hereinafter referred to as "this *code*."

Section R102.4; *change to read as follows:*

R102.4 Referenced codes and standards. The *codes*, when specifically adopted, and standards referenced in this *code* shall be considered part of the requirements of this *code* to the prescribed extent of each such reference and as further regulated in Sections R102.4.1 and R102.4.2. Whenever amendments have been adopted to the referenced *codes* and standards, each reference to said *code* and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the *Electrical Code* shall mean the *Electrical Code* as adopted.

Section R103 and R103.1*; change to read as follows [Sections R103.2 and R103.3 to remain unchanged]:*

SECTION R103
BUILDING INSPECTIONS DEPARTMENT

R103.1 Creation of enforcement agency. The Building Inspections Department is hereby created and the official in charge thereof shall be known as the *building official*.

Section R104.10.1 Flood Hazard areas; *delete this section.*

Section R105.2; *change the Building category to read as follows (all other provisions and text of Section 105.2 to remain unchanged):*

Building:

1. One-*story* detached *accessory structures*, provided that the floor area does not exceed 120 square feet.
2. *[Deleted.]*
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. *[Deleted.]*
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet (18.58 m^2) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a dwelling and do not serve the exit door required by Section R311.4.

Section R105.3; *change Section R105.3 "Application for a permit" by adding the following at the end of the section to read as follows:*

Registration: To obtain a permit, the applicant shall be registered as a contractor.

1. Registration requirements: Contractors may register by making application on forms provided by the *building official*.

2. Licenses and insurance: Electrical, irrigation, mechanical, and plumbing contractors shall provide proof of required State of Texas licenses and insurance.

3. Revocation/suspension: A contractor's registration may be suspended for the following causes:

    a. The contractor fails to finalize permits by obtaining the required, approved inspections.

b. The contractor allows use or occupancy of a structure for which a permit was obtained without first obtaining the required authorization.

c. Expiration, suspension or revocation of required license, bond or insurance.

Exception: Homeowners may obtain permits to do work at their residence without being registered.

Section R105.3.1; *change to read as follows:*

R105.3.1 Action on application. 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 thereof. 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* therefor as soon as practicable.

A demolition permit may be withheld for any building or structure within the Plano Historic Building and Site Survey, as designated in the Preservation Plan, for a period not exceeding thirty (30) days pending review by the Heritage Commission.

Section R105.3.1.1; *delete this section in its entirety.*

Section R105.10; *change Section R105 by adding a new Section R105.10 to read as follows:*

R105.10 Withdrawn permits. Permits may be withdrawn by the applicant if no work has commenced on the project. Permit fees exceeding $100.00 may be partially refunded. Where applicable, fees will be refunded at 80 percent of their original value, excluding the plan review and fire protection plan review deposits.

Permits for which work has commenced may not be withdrawn unless a subsequent permittee has obtained a permit to complete the work, or when work has started unless an inspection has been made and the *building official* has determined that the existing work has created no violation of any code or ordinance.

Expired permits may be withdrawn if determined by the *building official* that no work has commenced

Withdrawn permits with fees of less than one hundred ($100) dollars are nonrefundable.

Section R106.1; *change to add the following new paragraphs at the end of the section to read as follows:*

Foundation plans and braced wall plans shall be submitted with each application. These plans shall be designed by an engineer licensed by the State of Texas and shall bear that engineer's seal, signature, and date. Braced wall design plans may be approved by the building official.

All structural plans, 6,000 square feet and greater under roof, shall be designed by an engineer licensed by the State of Texas and shall bear that engineer's seal, signature, and date.

Section R106.1.3; *change to read as follows:*

R106.1.3 Information on braced wall design. For buildings and structures utilizing braced wall design, and where required by the *building official*, *braced wall lines* shall be identified on the *construction documents* and shall be designed by an engineer licensed by the State of Texas. Pertinent information including, but not limited to, bracing methods, location and length of *braced wall panels* and foundation requirements of *braced wall panels* at top and bottom shall be provided.

Section R106.1.4; *delete this section in its entirety.*

Section R106.3.1; *change to read as follows:*

R106.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved, in writing, or by a stamp which states "APPROVED and APPROVED AS NOTED BY THE BUILDING OFFICIAL." One set of *construction documents* so reviewed shall be retained by the *building official*. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the *building official* or a duly authorized representative.

Section R107; *change by adding a new Section R107.2.1 to read as follows:*

R107.2.1 Adequate toilet facilities. In partially completed phased subdivisions or projects, more than one permanent or temporary toilet may be required, but not less than one shall be provided and at least one permanent or temporary toilet facility shall be maintained in each subdivision or project for the employees or subcontractors of each builder holding a permit for a building in that subdivision or project. A toilet facility must be provided by each builder as long as the builder holds an active building permit in the subdivision or project.

Permanent toilet facility is defined as a room in an existing building or in the building being constructed with a water closet installed in such a room that conforms to the Plumbing Code and is continuously available to all workers involved in a construction project. Temporary toilet facility is defined as a portable, fully enclosed, chemically sanitized toilet, which is serviced and cleaned at least once each week.

A Stop Work Order may be issued for any project not in compliance with this section.

Section R108; *change by adding a new Section 108.7 to read as follows*:

R108.7 Re-inspection fee. A re-inspection fee may be charged but not be limited to the following:

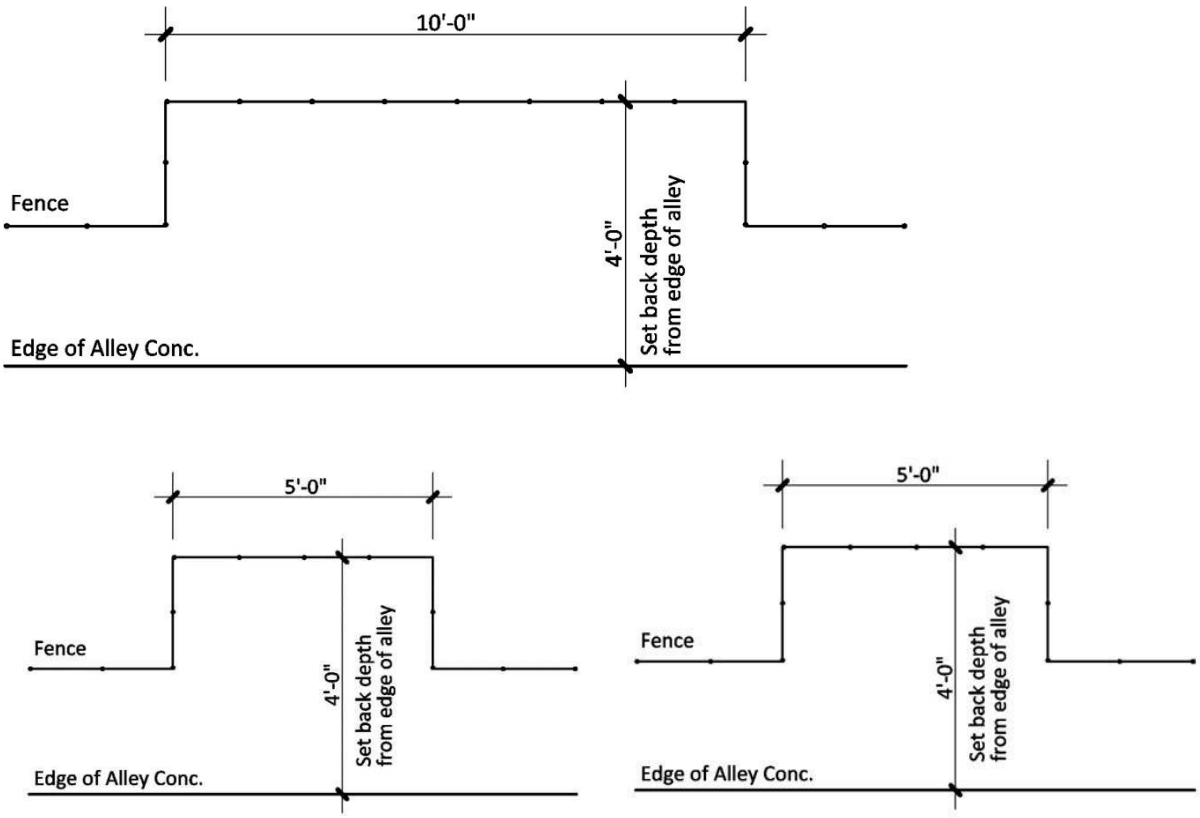
1. The inspection called for is not ready when the inspector arrives.
2. No building address or permit card is clearly posted.

3. Approved plans are not on the job site available to the inspector.
4. The building is locked or work otherwise not available for inspection when called.
5. The job site is red-tagged twice for the same item.
6. Violations exist on the property including failure to maintain erosion control, trash control or tree protection.

Section R109.1.5; *change to add a new Section 109.1.5.2 and Figure R109.1.5.2 to read as follows:*

R109.1.5.2 Fences with rolling gates. Where a fence with a rolling gate is constructed, a trash dumpster service access pad shall be installed. The trash dumpster service access pad shall be a ten foot by four foot (10x4) space, setback four (4) feet from the edge of the alley, or shall be two (2) five foot by four foot (5x4) spaces, setback four (4) feet from the edge of the alley. *See Figure 109.1.5.2.*

FIGURE R 109.1.5.2 - FENCE LAYOUTS FOR ROLLING GATES



Section R110*;* *delete Section R110 is its entirety.*

Section R112; *change the title of the section to read as follows:*

SECTION R112
BUILDING STANDARDS COMMISSION

Section R112.3; *delete in its entirety.*

Section R114; *change section by adding a new Section R114.5 to read as follows:*

R114.5 Construction debris.

1. Whenever work is being done that is authorized by a permit, and construction debris from that work is not confined to a container or to a site on the property approved by the *building official* or his designee, and such construction debris poses a threat to public health, safety and comfort so that it constitutes a nuisance, the *building official* or his designee may order the work stopped and the contractor shall clean up the construction debris within thirty-six (36) hours of receiving notice of the violation. After the expiration of the thirty-six (36) hour period, contractor shall pay the city a re-inspection fee to off-set costs incurred by the city due to the necessary re-inspection before the stop work order is lifted.

2. As used herein, the term "construction debris" shall include all materials utilized in the construction process, including all litter and debris deposited and left remaining upon the premises of a job site by a contractor, subcontractor, and their employees, agents, and assigns.

3. As used herein "costs" shall mean all expense incurred by the city for the cleaning of the job site and the amount of any unpaid municipal court fine.

Section R202; *change the definition of "Townhouse" to read as follows:*

TOWNHOUSE. A single-family dwelling unit separated by property lines in a townhouse that extends from foundation to roof and that has a *yard* or *public way* on at least two sides.

Section R202; *add definitions of "Floor Area, Gross" and "Recreation Room" to read as follows:*

FLOOR AREA, GROSS. The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns, or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts

RECREATION ROOM. A room in a dwelling unit, which is intended for such uses as viewing television or films, listening to recordings, or participating in video or similar games. The area of this room is not to exceed one-tenth of the floor area of the habitable space of the dwelling unit.

Table R301.2 (1); *change to read as follows:*

TABLE R-301.2
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
	SPEED[d] (MPH)	Topographic Effects[k]	Special Wind Region[L]	Windborne Debris Zone[m]		Weathering[a]	Frost Line Depth[b]	Termite[c]					
5 lb/ft	115 (3 sec-gust)/ 76 fastest mile	No	No	No	A	Moderate	6"	Very Heavy	22^0 F	No	Local Code	150	64.9^0 F

Delete remainder of table Manual J Design Criteria and footnote N

Section R302.1; *change by adding an Exception 6 to read as follows:*

6. Open non-combustible carport structures may be constructed when also approved within adopted ordinances.

Section R302.3; change by *adding an Exception 3 to read as follows:*

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

Section R302.2.6; *change by deleting Exception 6 (remainder of section and exceptions unchanged).*

Section R302.5.1; *change to read as follows:*

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than $1^{3/8}$ inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than $1^{3/8}$ inches (35 mm) thick, or 20-minute fire-rated doors.

Section R303.3; *change the exception to read as follows:*

Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust rates shall be determined in accordance with Section M1505. Exhaust air from the space shall be exhausted directly to the outdoors. Spaces containing only a water closet or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

Section R307; *change by adding new Sections R307.2.1 and R307.3 and new Figures 307.4 and 307.5 to read as follows:*

R307.2.1 Blocking locations. Required at one toilet at grade level. Blocking per Section R307.3 and Figure 307.4, shall be installed at a rear wall and one wall adjacent to toilet at the lowest living level where toilet is provided. Blocking shall also be provided per Figure 307.5 at one tub or shower at the lowest living level where a tub or shower is provided.

R307.3 Wall blocking. Blocking may be ½" plywood let in flush with wall or 2 x solid wood blocking flush with wall.

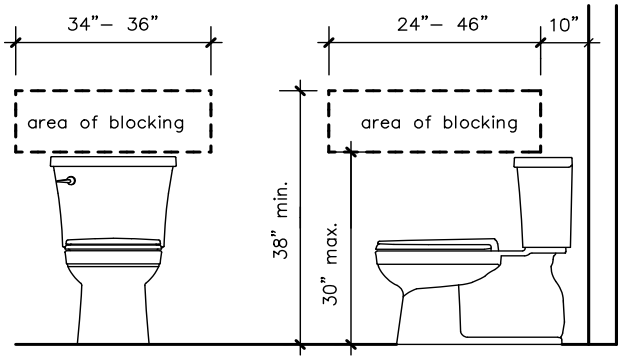


Figure 307.4

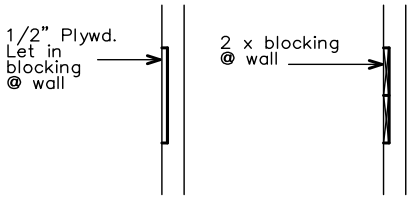


Figure 307.4

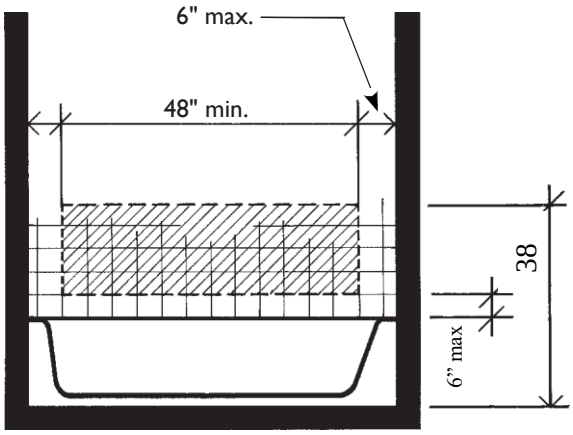


Figure 307.5

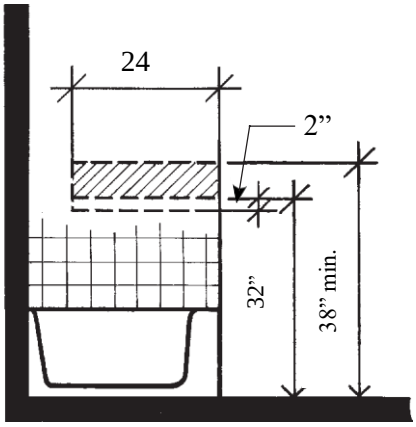


Figure 307.5

Section R313.2; *delete Sections R313.2, Exception, and R313.2.1 in their entirety.*

Section R315.2.2; *change to read as follows:*

R315.2.2 Alterations, repairs and additions. Where *alterations*, *repairs* or *additions* requiring a *permit* occur, the individual *dwelling unit* shall be equipped with carbon monoxide alarms located as required for new *dwellings*.

Exception:

1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
2. Installation, *alteration* or repairs of plumbing systems.
3. Installation, alteration or repairs of all electrically powered mechanical systems or plumbing appliances.

Section R319.1; *change to read as follows:*

R319.1 Address identification. Buildings shall be provided with *approved* address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property, and from rear alleyways adjacent to the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) in height with a stroke width of not less than 0.5 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional *approved* locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the *public way*, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

Section R322; *delete the section in its entirety.*

Section R326; *delete the section in its entirety.*

Section R327.1; *change by adding a new Section R327.1.1 to read as follows:*

R327.1.1 Adjacency to structural foundation. Depth of the swimming pool and spa shall maintain a ratio of 1:1 from the nearest building foundation or footing of a retaining wall.

Exception: A sealed engineered design drawing of the proposed new structure shall be submitted for approval.

Section R401.2, *change to read as follows.*

R401.2. Requirements. Foundation construction shall be capable of accommodating all loads in accordance with Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

Section R602.6; *change to read as follows.*

R602.6 Drilling and notching of studs. Drilling and notching of studs shall be in accordance with the following:

1. Notching. A stud in an exterior wall or bearing partition shall not be cut or notched to a depth exceeding 25 percent of its depth. Studs in nonbearing partitions shall not be notched to a depth exceeding 40 percent of a single stud depth. Studs that are drilled or notched for plumbing pipes shall be 2x6 or larger.

2. Boring. The diameter of bored holes on studs shall not exceed 60 percent of the stud depth, the edge of the hole shall not be less than 5/8 inch (16 mm) from the edge of the stud, and the hole shall not be located in the same section as a cut or notch. Where the diameter of a bored hole in a stud located in exterior walls or bearing partitions is over 40 percent, such stud shall be doubled and not more than two successive doubled studs shall be so bored. See Figures R602.6(1) and R606.6(2).

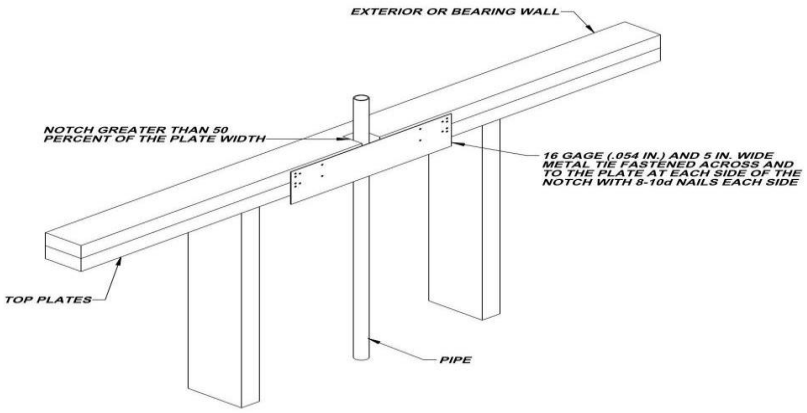
   Exception: Where approved, stud shoes are installed in accordance with the manufacturer's instructions.

Section R602.6.1; *change to read as follows:*

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and 5 inches (127 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. Fasteners will be offset to prevent splitting of the top plate material. The metal tie must extend a minimum of 6 inches past the opening. See figure R602.6.1.

Exception: Where the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

Figure R602.6.1; *delete the figure and insert the following figure:*



Section R703.8.4.1; *change by adding a Section R703.8.4.1.2 to read as follows:*

R703.8.4.1.2 Veneer Ties for Wall Studs. In stud framed exterior walls, all ties may be anchored to studs as follows:

1. When studs are 16 in (407 mm) o.c., stud ties shall be spaced no further apart than 24 in (737 mm) vertically starting approximately 12 in (381 mm) from the foundation; or

2. When studs are 24 in (610 mm) o.c., stud ties shall be spaced no further apart than 16 in (483 mm) vertically starting approximately 8 in (254 mm) from the foundation.

Section R902.1; *change to read as follows:*

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Class A, B, or C roofing shall be installed. Class A, B and C roofing required by this section to be *listed* shall be tested in accordance with ASTM E108 or UL 790.

Exceptions:

1. Class A *roof assemblies* include those with coverings of brick, masonry and exposed concrete *roof* deck.

2. Class A *roof assemblies* include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.

3. Class A *roof assemblies* include minimum 16 ounces per square foot (4.882 kg/m^2) copper sheets installed over combustible decks.

4. Class A *roof assemblies* include slate installed over *underlayment* over combustible decks.

5. Non-classified roof coverings shall be permitted on one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet.

Chapter 11 [RE]; *delete the chapter in its entirety and insert the following:*

CHAPTER 11 [RE]
Refer to the 2021 International Energy and Conservation Code for energy code provisions and recommended amendments.

Section M1305.1.2; *change to read as follows:*

M1305.1.2 Appliances in attics. Attics containing *appliances* shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest *appliance*, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the

appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the *appliance* where access is required. The clear access opening dimensions shall be not less than 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest *appliance*. At a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull-down stair with a minimum 300 lb. (136 kg) capacity.
3. An access door from an upper floor level.

*[**Exceptions and Section M1305.1.2.1 Electrical requirements** to remain unchanged.]*

Section M1411.3; *change to read as follows:*

M1411.3 Condensate disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to a sanitary sewer through a trap, by means of a direct or indirect drain. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other area where it would cause a nuisance.

Section M1411.3.1; *change by revising the text of Items 3 and 4 to read as follows:*

3. An auxiliary drain pan without a separate drain line shall be installed under the coils on which condensation will occur. This pan shall be equipped with a water level detection device conforming to UL 508 that will shut off the *equipment* served prior to overflow of the pan. The pan shall be equipped with a fitting to allow for drainage. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section. A waterlevel detection device may be installed only with prior approval of the *building official*.

4. A water level detection device conforming to UL 508 shall be installed that will shut off the *equipment* served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line or the *equipment*-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan. A water level detection device may be installed only with prior approval of the *building official*.

Section M1411.3.1.1; *change to read as follows:*

M1411.3.1.1 Water-level monitoring devices. On down-flow units and other coils that do not have secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the *equipment* served in the event that the primary drain becomes restricted. Devices shall not be installed in the drain line. A water level detection device may be installed only with prior approval of the *building official.*

Section M1503.6; *change section and exception to read as follows (Sections M1503.6.1 and M1503.6.2 remain unchanged):*

M1503.6 Makeup air required. Where one or more gas, liquid or solid fuel-burning appliance that is neither direct-vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier, each exhaust system capable of exhausting in excess of 400 cubic feet per minute (0.19 m^3/s) shall be mechanically or passively provided with makeup air at a rate approximate to the difference between exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with not fewer than one damper complying with Section M1503.6.2.

> **Exception***:* Makeup air is not required for exhaust systems installed for the exclusive purpose of space cooling and intended to be operated only when windows or other air inlets are open**.** Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute (0.28m3/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m3/s) shall be provided with a makeup air at a rate approximately to the difference between the exhaust air rate and 600 cubic feet per minute.

Section M2005.2; *change to read as follows:*

M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that *combustion air* will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the *International Energy Conservation Code* and equipped with an *approved* self-closing device. Installation of direct-vent water heaters within an enclosure is not required.

Section G2408.3 (305.5); *delete section in its entirety.*

Section G2415.2 (404.2); *change to read as follows:*

G2415.2.1 (404.2) CSST. CSST piping systems shall be installed in accordance with the terms of their approval, the conditions of listing, the manufacturer's instructions and this code. Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an *approved* tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

> "WARNING: 1/2 to 5 psi gas pressure - Do Not Remove"

Sections G2415.12 (404.12) and **G2415.12.1 (404.12.1);** *change sections to read as follows:*

G2415.12 (404.12) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of 18 inches (457 mm) below grade.

G2415.12.1 (404.12.1) Individual outdoor appliances; *deleted in its entirety.*

Section G2417.1 (406.1); *change to read as follows:*

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *piping* installations shall be inspected and *pressure tested* to determine that the materials, design, fabrication, and installation practices comply with the requirements of this *code*. The *permit* holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.5 to determine compliance with the provisions of this *code*. The *permit* holder shall give reasonable advance notice to the *building official* when the *piping system* is ready for testing. The *equipment*, material, power and labor necessary for the inspections and test shall be furnished by the *permit* holder and the *permit* holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

Section G2417.4; *change to read as follows:*

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a monometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made.

Section G2417.4.1; *change to read as follows:*

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 3 psig (20 kPa gauge), or at the discretion of the code official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge. For tests requiring a pressure of 3 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one half inches (3 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing.

Section G2417.4.2; *change to read as follows:*

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the *building official*, but in no case for less than fifteen (15) minutes. For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure

(3.48 kPa), the test duration shall be held for a length of time satisfactory to the *building official*, but in no case for less than thirty (30) minutes.

Section G2420.1 (406.1); *change by adding Section G2420.1.4 to read as follows:*

G2420.1.4 Valves in CSST installations. Shutoff *valves* installed with corrugated stainless steel (CSST) *piping systems* shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the *valves*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the *valve*. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's *piping*, fittings, and *valves* between anchors. All *valves* and supports shall be designed and installed so they will not be disengaged by movement of the supporting *piping*.

Section G2420.5.1 (409.5.1); *add text to read as follows:*

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve shall be located in the same room as the *appliance*. The shutoff valve shall be within 6 feet (1829 mm) of the *appliance*, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff *valves* shall be provided with *access*. Shutoff valves serving movable *appliances*, such as cooking *appliances* and clothes dryers, shall be considered to be provided with access where installed behind such *appliances*. *Appliance shutoff valves* located in the firebox if a *fireplace* shall be installed in accordance with the *appliance* manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if *appliance* shutoff is located in the firebox.

Section G2421.1 (410.1); *change text to read as follows:*

G2421.1 (410.1) Pressure regulators. A line *pressure regulator* shall be installed where the *appliance* is designed to operate at a lower pressure than the supply pressure. *Line gas pressure regulators* shall be *listed* as complying with ANSI Z21.80. *Access* shall be provided to *pressure regulators*. *Pressure regulators* shall be protected from physical damage. *Regulators* installed on the exterior of the building shall be *approved* for outdoor installation. Access to *regulators* shall comply with the requirements for access to *appliances* as specified in Section M1305.

> **Exception:** A passageway or level service space is not required when the *regulator* is capable of being serviced and removed through the required *attic* opening.

Section G2422.1.2.3 (411.1.3.3) Prohibited locations and penetrations; *delete Exceptions 1 and 4.*

Section G2445.2 (621.2); *change to read as follows:*

G2445.2 (621.2) Prohibited use. One or more *unvented room heaters* shall not be used as the sole source of comfort heating in a *dwelling unit*.

Exception: Existing *approved unvented room heaters* may continue to be used in *dwelling units*, in accordance with the *code* provisions in effect when installed, when *approved* by the *building official* unless an unsafe condition is determined to exist as described in Section 108.7 of the *International Fuel Gas Code*.

Section G2448.1.1 (624.1.1); *change to read as follows:*

G2448.1.1 (624.1.1) Installation requirements. The requirements for *water heaters* relative to access, sizing, *relief valves*, drain pans and scald protection shall be in accordance with this *code.*

Section P2603.3; *change to read as follows:*

P2603.3 Protection against corrosion. Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or cinder walls and floors or other masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing shall have a thickness of not less than 0.008 inch (8 mil) (0.203 mm) and the sheathing shall be made of approved material. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.

Section P2603.5.1; *change to read as follows:*

P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 12 inches (304 mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

Section P2604.2.1; add to read as follows:

P2604.2.1 Plastic sewer and DWV piping installation. Plastic sewer and DWV piping installed underground shall be installed in accordance with the manufacturer's installation instructions. Trench width shall be controlled to not exceed the outside the pipe diameter plus 16 inches or in a trench which has a controlled width equal to the nominal diameter of the piping multiplied by 1.25 plus 12 inches. The piping shall be bedded in 4 inches of granular fill and then backfilled compacting the side fill in 6-inch layers on each side of the piping. The compaction shall be to minimum of 85 percent standard proctor density and extend to a minimum of 6 inches above the top of the pipe.

Section P2801.6; *change to read as follows:*

P2801.6 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other *approved* materials.

Section P2801.6.1; *change to read as follows:*

Section P2801.6.1 Pan size and drain. The pan shall be not less than 1 1/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table P2906.5.

Multiple pan drains may terminate to a single discharge piping system when *approved* by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions. Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation.

Section P2801.7; *change the exception to read as follows:*

Exception: Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition-resistant. In addition, electric water heaters.

Section P2804.6.1; *change to read as follows:*

Section P2804.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.

2. Discharge through an air gap.

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

   Exception: Multiple relief devices may be installed to a single T & P discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

5. Discharge to an approved location or to the outdoors.

6. Discharge in a manner that does not cause personal injury or structural damage.

7. Discharge to a termination point that is readily observable by the building occupants.

8. Not be trapped.

9. Be installed to flow by gravity.

10. Terminate not more than 6 inches (152 mm) and not less than two times the discharge pipe diameter above the floor or waste receptor flood level rim.

11. Not have a threaded connection at the end of the piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials indicated in Section P2906.5 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

14. Be one nominal size larger than the size of the relief-valve outlet, where the relief-valve discharge piping is installed with insert fittings. The outlet end of such tubing shall be fastened in place.

Section P2902.5.3; *change to read as follows:*

P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a double-check assembly or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Section P3111 Combination waste and vent systems; *delete section in its entirety.*

Section P3112.2 Vent Collection; *delete and replace with the following:*

P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to the drain shall be maintained. The return bend used under the drain-board shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent."

Section III. All provisions of the Code of Ordinances of the City of Plano in conflict with the provisions of this Ordinance are hereby repealed, and all other provisions of the Code of Ordinances of the City of Plano, not in conflict with the provisions of this Ordinance, shall remain in full force and effect.

Section IV. It is the intention of the City Council that this Ordinance, and every provision thereof, shall be considered severable, and the invalidity or unconstitutionality of any section, clause, provision or portion of this Ordinance shall not affect the validity or constitutionality of any other portion of this Ordinance.

Section V. The repeal of any Ordinance or part of Ordinances effectuated by the enactment of this Ordinance shall not be construed as abandoning any action now pending under or by virtue of such Ordinance or as discontinuing, abating, modifying or altering any penalty accruing or to accrue, or as affecting any rights of the municipality under any section or provisions of any Ordinances at the time of passage of this Ordinance.

Section VI. Any violation of the provisions or terms of this ordinance by any person, firm or corporation shall be a misdemeanor offense and shall be subject to a fine in accordance with Section 1-4(a) of the City Code of Ordinances for each offense. Every day a violation continues shall constitute a separate offense.

Section VII. This Ordinance shall become effective February 1, 2022 and after its passage and publication as required by law.

DULY PASSED AND APPROVED this, the 24th day of January, 2022.

_____
John B. Muns, MAYOR

ATTEST:

_____
Lisa C. Henderson, CITY SECRETARY

APPROVED AS TO FORM:

_____
Paige Mims, CITY ATTORNEY