



**City of Bedford**  
Building Inspections  
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**CURRENTLY ADOPTED BUILDING CODES:**

- INTERNATIONAL BUILDING CODE, 2018 EDITION
- INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION
- INTERNATIONAL MECHANICAL CODE, 2018 EDITION
- INTERNATIONAL PLUMBING CODE, 2018 EDITION
- INTERNATIONAL FUEL GAS CODE, 2018 EDITION
- INTERNATIONAL ENERGY CONSERVATION CODE, 2018 EDITION
- INTERNATIONAL SWIMMING POOL/SPA CODE, 2018 EDITION
- INTERNATIONAL FIRE CODE, 2018 EDITION
- NATIONAL ELECTRICAL CODE, 2017 EDITION

**Sec. 22-51- International Building Code Adopted.**

The International Building Code, 2018 Edition and appendix chapters G and J as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec. 22-52 - Amendments to the 2018 International Building Code.**

1. *Section 101.1; Insert: City of Bedford, Texas*

2. *\*\*Section 101.4; change to read as follows:*

**101.4 Referenced codes.** The other codes listed in Sections 101.4.1 through 101.4.8 and referenced elsewhere in this code, when specifically adopted, shall be considered part of the requirements of this code to the prescribed extent of each such reference. 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 to NFPA 70 or the Electrical Code shall mean the Electrical Code as adopted.

3. *\*\*Section 101.4.8; add the following:*

**101.4.8 Electrical.** The provisions of the Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

4. *\*\* Section 103 and 103.1; amend to insert the Department Name*

**103.1 Creation of enforcement agency.** The City of Bedford, Development Department, Inspections Division is hereby created and the official in charge thereof shall be known as the *building official*.

5. *\*\*Section 105.2 Work exempt from permit; under sub-title entitled "Building" change items 1 and 2, remainder items unchanged.*

Section 105.2 (1): Playhouses, tool storage and similar uses, provided the floor area does not exceed 50 square feet.

Section 105.2 (2.); Delete

6. **\*\*Section 109; add Section 109.7 to read as follows:**

**109.7 Re-inspection Fee. A fee as established by city council resolution may be charged when:**

- (1) The inspection called for is not ready when the inspector arrives;**
- (2) No building address or permit card is clearly posted;**
- (3) City 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) The original red tag has been removed from the job site.**
- (7) Failure to maintain erosion control, trash control or tree protection.**

**Any re-inspection fees assessed shall be paid before any more inspections are made on that job site.**

7. **\*\*Section 109; add Section 109.8, 109.8.1, 109.8.2 and 109.9 to read as follows:**

**109.8 Work without a permit.**

**109.8.1 Investigation. Whenever work for which a permit is required by this code has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work.**

**109.8.2 Fee. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code or the city fee schedule as applicable. The payment of such investigation fee shall not exempt the applicant from compliance with all other provisions of either this code or the technical codes nor from penalty prescribed by law.**

**109.9 Unauthorized cover up fee. Any work concealed without first obtaining the required inspection in violation of Section 110 shall be assessed a fee as established by the city fee schedule.**

8. **\*\*\*Section 110.3.5; Lath, gypsum board and gypsum panel product inspection; Delete exception**

***Exception : Gypsum board and gypsum panel products that are not part of a fire resistance rated assembly or a shear assembly.***

9. **\*\*Section 113; delete entire section and change to read as follows:**

**Section 113 Board of Appeals; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.**

10. **\*\*\* Section 114.2; amend to read as follows:**

Section 114.2 Notice of violation; citation. The *building official* is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The *building official* is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code.

11. *Section 114.3 shall be deleted in its entirety.*

12. **\*\*\*Section 202; amend definition of Ambulatory Care Facility as follows:**

**AMBULATORY CARE FACILITY.** Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation by the services provided ~~or staff has accepted responsibility for care recipients already incapable.~~ This group may include but not be limited to the following:

- Dialysis centers

- Sedation dentistry

- Surgery centers

- Colonic centers

- Psychiatric centers

13. **\*\*Section 202; add definition of Assisting Living Facilities to read as follows.**

**ASSISTED LIVING FACILITIES.** *A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff.*

14. **\*\*Section 202; change definition of "Atrium" as follows:**

**ATRIUM.** An opening connecting ~~two~~ three or more stories... *{Balance remains unchanged}*

15. **\*\*\*Section 202; ~~add~~-amend definition of "Repair Garage" as follows:**

**REPAIR GARAGE.** A building, structure or portion thereof used for servicing or repairing motor vehicles. This occupancy shall also include garages involved in minor repair, modification and servicing of motor vehicles for items such as lube changes, inspections, windshield repair or replacement, shocks, minor part replacement and other such minor repairs.

16. **\*\*Section 202; amend definition of SPECIAL INSPECTOR to read as follows:**

**SPECIAL INSPECTOR.** A qualified person employed or retained by an approved agency who shall prove to the satisfaction of the registered design professional in responsible charge and ~~approved by~~ the Building Official as having the competence necessary to inspect a particular type of construction requiring special inspection.

17. **\*\*Section 202; amend definition to read as follows:**

**Option B-HIGH-RISE BUILDING.** A building with an occupied floor located more than ~~75~~ 55 feet (22 860 mm) (16 764 mm) above the lowest level of fire department vehicle access.

18. \*\*\*Section 303.1.3; add a sentence to read as follows:

303.1.3 Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy, Except when applying the assembly requirements of Chapters 10 and 11.

19. \*\*Section 304.1; add the following to the list of occupancies:

Fire stations

Police stations with detention facilities for 5 or less

20. \*\*Section 307.1.1; add the following sentence to Exception 4:

(4). Cleaning establishments... {Text unchanged} ...with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711 or both. See also IFC Chapter 21, Dry Cleaning Plant provisions.

21. \*\*Section 403.1, Exception 3; change to read as follows:

(3) The open air portion of a building [remainder unchanged]

22. \*\*Section 403.3, Exception; delete item 2.

23. \*\*Section 403.3.2; change to read as follows:

403.3.2 Water supply to required fire pumps. In buildings that are more than ~~420~~ 120 feet (36.5 m) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: {No change to exception.}

24. \*\*Section 404.5; delete Exception.

25. \*\*Section 406.3.3.1 Carport separation; add sentence to read as follows:

A fire separation is not required between a Group R-2 and U carport provided that the carport is entirely open on all sides and that the distance between the two is at least 10 feet (3048 mm).

26. Section 502.1 Address Identification; Change 502.1 to read as follows:

Section 502.1 Address Identification;

- (1) New and existing 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.
- (2) Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each building number and letter shall be not less than eight (8) inches high with a minimum one (1) inch stroke width. Each suite and apt number and letter shall be not less than four (4) inches high with a minimum one-half (1/2) inch stroke width. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response.
- (3) Where access is by means of a private road and the building address identification required in section 502.1 cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure.
- (4) R-3 Single Family occupancies shall have approved numerals of a minimum (4) inches high with a minimum one-half (1/2) inch stroke width and a color contrasting

with the background clearly visible and legible from the street fronting the property and rear alleyway where such alleyway exists.

**24. Section 502.1: add Section 502.1.1 Multi-family Complex; Supplemental Addresses to be installed as follows:**

**502.1.1 Multi-Family Complex Supplemental Addresses:**

- (1) Reflective supplemental building addresses shall be installed in conjunction with fire lane marking at all multi-family occupancies in excess of 4 dwelling units including club rooms and offices where a single street address number is used to designate the buildings official address.
- (2) The marking shall be a minimum of 24 inches by 12 inches red rectangle painted on the pavement, in conjunction to the red fire lane markings.
- (5) The red rectangle shall have white reflective numbers that indicate the street address of the building.
- (6) Numbers shall be in bold font, measuring a minimum of 10 inches in height, easily readable from a moving vehicle.
- (7) Supplemental building addresses shall only be installed on private property, near the center of the building. Where the front and end of the building, or any part of the front or end of the building border a fire lane, the numbers shall be required on each side. Maintenance of the supplemental numbers shall be the same as required for fire lanes.

**25. \*\*\*Table 506.2; delete sentence from table**

- I. ~~The maximum allowable area for a single-story non-sprinklered Group U greenhouse is permitted to be 9000 square feet or the allowable area shall be permitted to comply with Table C102.1 of Appendix C.~~

**26. \*\*Section 506.3.1; add sentence to read as follows:**

**506.3.1 Minimum percentage of perimeter. [Existing Text remains]**

**In order to be considered as accessible, if not in direct contact with a street or fire lane, a minimum 10-foot wide pathway meeting fire department access from the street or approved fire lane shall be provided.**

**27. \*\*\*Section 602.1.1; add sentence to read as follows:**

**602.1.1 Minimum Requirements. [Existing Text to remain]**

**Where a building contains more than one distinct type of construction, the building shall comply with the most restrictive area, height, and stories, for the lesser type of construction or be separated by fire walls.**

**28. \*\*\*Section 708.4.2; change sentence to read as follows:**

**708.4.2 Fireblocks and draftstops in combustible construction. [Body of text unchanged]**

**Exceptions:**

1. Buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, or in accordance with Section 903.3.1.2 provided that sprinkler protection is provided in the space between the top of the fire partition and the underside of the floor or roof sheathing, deck or slab above as required for systems complying with Section 903.3.1.1. **Portions of buildings containing concealed spaces filled with noncombustible insulation as permitted for sprinkler omission shall not apply to this exception for draftstopping. [Remainder unchanged]**

29. \*\*\*Section 718.3; change sentence to read as follows:

718.3 Draftstopping in floors. *[Body of text unchanged]*

Exceptions: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. and provided that in combustible construction, sprinkler protection is provided in the floor space.

30. \*\*\*Section 718.4; change sentence to read as follows:

718.4 Draftstopping in attics. *[Body of text unchanged]*

Exceptions: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and provided that in combustible construction, sprinkler protection is provided in the attic space.

31. \*\*Section 901.6.1; add Section 901.6.1.1 to read as follows:

901.6.1.1 Standpipe Testing. Building owners/managers must maintain and test standpipe systems as per NFPA 25 requirements. The following additional requirements shall be applied to the testing that is required every 5 years:

- (1) The piping between the Fire Department Connection (FDC) and the standpipe shall be backflushed or inspected by approved camera when foreign material is present or when caps are missing, and also hydrostatically tested for all FDC's on any type of standpipe system. Hydrostatic testing shall also be conducted in accordance with NFPA 25 requirements for the different types of standpipe systems.
- (2) For any manual (dry or wet) standpipe system not having an automatic water supply capable of flowing water through the standpipe, the tester shall connect hose from a fire hydrant or portable pumping system (as approved by the fire code official) to each FDC, and flow water through the standpipe system to the roof outlet to verify that each inlet connection functions properly. Confirm that there are no open hose valves prior to introducing water into a dry standpipe. There is no required pressure criteria at the outlet. Verify that check valves function properly and that there are no closed control valves on the system.
- (3) Any pressure relief, reducing, or control valves shall be tested in accordance with the requirements of NFPA 25. All hose valves shall be exercised.
- (4) If the FDC is not already provided with approved caps, the contractor shall install such caps for all FDC's as required by the fire code official.
- (5) Upon successful completion of standpipe test, place a blue tag (as per Texas Administrative Code, Fire Sprinkler Rules for Inspection, Test and Maintenance Service (ITM) Tag) at the bottom of each standpipe riser in the building. The tag shall be check-marked as "Fifth Year" for Type of ITM, and the note on the back of the tag shall read "5 Year Standpipe Test" at a minimum.
- (6) The procedures required by Texas Administrative Code Fire Sprinkler Rules with regard to Yellow Tags and Red Tags or any deficiencies noted during the testing, including the required notification of the local Authority Having Jurisdiction (fire code official) shall be followed.
- (7) Additionally, records of the testing shall be maintained by the owner and contractor, if applicable, as required by the State Rules mentioned above and NFPA 25.
- (8) Standpipe system tests where water will be flowed external to the building shall not be conducted during freezing conditions or during the day prior to expected night time freezing conditions.
- (9) Contact the fire code official for requests to remove existing fire hose from Class II and III standpipe systems where employees are not trained in the utilization of this firefighting equipment. All standpipe hose valves must remain in place and be provided with an approved cap and chain when approval is given to remove hose by the fire code official.

32. **\*\*Section 903.1.1; change to read as follows:**

903.1.1 Alternative Protection. Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted ~~instead of~~ in addition to automatic sprinkler protection where recognized by the applicable standard ~~and, or as approved~~ by the *fire code official*.

33. **Add Section 903.1.2 to read as follows:**

903.1.2 Residential sprinklers. Unless specifically allowed by this Code, residential sprinkler systems installed in accordance with NFPA 13D or NFPA 13R shall not be granted exemptions or reductions, commonly known as “trade-offs” permitted by other requirements of this Code. Additionally, residential sprinkler systems installed in accordance with NFPA 13R must include attic protection.

34. **\*\*Section 903.2; add paragraph to read as follows and delete the exception:**

Automatic Sprinklers shall not be installed in elevator machine rooms, elevator machine spaces, and elevator hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances. Storage shall not be allowed within the elevator machine room. Signage shall be provided at the entry doors to the elevator machine room indicating “ELEVATOR MACHINERY – NO STORAGE ALLOWED.”

35. **\*\*Section 903.2; delete the exception.**

36. **\*\*Section 903.2.9; add Section 903.2.9.3 to read as follows:**

903.2.9.3 Self-Service Storage Facility. An automatic sprinkler system shall be installed throughout all self-service storage facilities.

37. **\*\*Section 903.2.11; change 903.2.11.3 and add 903.2.11.7, 903.2.11.8, and 903.2.11.9 as follows:**

**Option B**

903.2.11.3 Buildings ~~55 35~~ feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories ~~with an occupant load of 30 or more, other than penthouses in compliance with Section 1510 of the *International Building Code*, located 55 35 feet (16-764 10 668 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.~~

**Exceptions:**

(1) Open parking structures in compliance with Section 406.5 of the *International Building Code*, having no other occupancies above the subject garage.

~~(2) Occupancies in Group F-2.~~

903.2.11.7 High-Piled Combustible Storage. For any building with a clear height exceeding 12 feet (4572 mm), see Chapter 32 to determine if those provisions apply.

903.2.11.8 Spray Booths and Rooms. New and existing spray booths and spraying rooms shall be protected by an approved automatic fire-extinguishing system.

903.2.11.9 Buildings Over 6,000 sq. ft. 903.2.11.9 Buildings Over 6,000 sq.ft. An automatic sprinkler system shall be installed throughout all buildings and any portion of a building that meet any one of the following criteria listed below:

(1) A building area 6,000 sq. ft. or greater

(2) A tenant space 6,000 sq. ft or greater

(3) An existing building that is enlarged to be 6,000 sq. ft. or greater

(4) A tenant space within an existing building that is enlarged to be 6,000 sq. ft. or greater

For the purpose of this provision, fire walls shall not define separate buildings.

Exception: Open parking garages in compliance with Section 406.3 of the International Building Code, provided fire department standpipes and connections are installed in such a way that no portion of the garage is more than 100 feet, unobstructed hose lay from the connection.

38. **\*\*Section 903.3.1.1.1; change to read as follows:**

903.3.1.1.1 Exempt Locations. When approved by the fire code official, automatic sprinklers shall not be required in the following rooms or areas where such *...{text unchanged}...* because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms, under the direct control of a public utility, separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
- ~~4. In rooms or areas that are of noncombustible construction with wholly noncombustible contents.~~
5. Fire service access-Elevator machine rooms, and machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.
6. {Delete.}

39. **\*\*\*Section 903.3.1.2.3; delete sections and replace as follows:**

Section 903.3.1.2.3 Attached Garages and Attics. Sprinkler protection is required in attached garages, and in the following attic spaces:

(1) [Remainder Unchanged]

(2) [Remainder Unchanged]

(3) Attic spaces of buildings that are two or more stories in height above grade plane or above the lowest level of fire department vehicle access.

(4) Group R-4, Condition 2 occupancy attics not required by Item 1 or 3 to have sprinklers shall comply with one of the following:

[Remainder Unchanged]

40. **\*\*Section 903.3.1.3; change to read as follows:**

903.3.1.3 NFPA 13D Sprinkler Systems. *Automatic sprinkler systems* installed in one- and two-family *dwelling*s; Group R-3; Group R-4, Condition 1; and *townhouses* shall be permitted to be installed throughout in accordance with NFPA 13D or in accordance with state law.

41. **\*\*Section 903.3.1.4; add to read as follows:**

903.3.1.4 Freeze protection. Freeze protection systems for automatic fire sprinkler systems shall be in accordance with the requirements of the applicable referenced NFPA standard and this section.

903.3.1.4.1 Attics. Only dry-pipe, preaction, or listed antifreeze automatic fire sprinkler systems shall be allowed to protect attic spaces.

Exception: Wet-pipe fire sprinkler systems shall be allowed to protect non-ventilated attic spaces where:

1. The attic sprinklers are supplied by a separate floor control valve assembly to allow ease of draining the attic system without impairing sprinklers throughout the rest of the building, and
2. Adequate heat shall be provided for freeze protection as per the applicable referenced NFPA standard, and
3. The attic space is a part of the building's thermal, or heat, envelope, such that insulation is provided at the roof deck, rather than at the ceiling level.

903.3.1.4.2 Heat trace/insulation. Heat trace/insulation shall only be allowed where approved by the fire code official for small sections of large diameter water-filled pipe.

42. **\*\*Section 903.3.5; add a second paragraph to read as follows:**

Water supply as required for such systems shall be provided in conformance with the supply requirements of the respective standards; however, every water-based fire protection system shall be designed with a 10 psi safety factor. Reference Section 507.4 for additional design requirements.

43. **\*\*Section 903.4; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

44. **\*\*Section 903.4.2; add second paragraph to read as follows:**

The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

45. **\*\*Section 905.2; change to read as follows:**

905.2 Installation Standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.

46. **\*\*\*Section 905.3; add Section 905.3.9 and exception to read as follows:**

905.3.9 Buildings Exceeding 10,000 sq. ft. In buildings exceeding 10,000 square feet in area per story and where any portion of the building's interior area is more than 200 feet (60960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access, Class I automatic wet or manual wet standpipes shall be provided.

Exceptions:

1. Automatic dry, semi-automatic dry, and manual dry standpipes are allowed as provided for in NFPA 14 where approved by the fire code official.
2. R-2 occupancies of four stories or less in height having no interior corridors.

47. **\*\*Section 905.4, change Item 1, 3, and 5, and add Item 7 to read as follows:**

(1) In every required interior exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at the main floor landing between stories, unless otherwise approved by the fire code official.

(2) {No change.}

(3) In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from an interior exit stairway hose connection by a {No change to rest.}

(4) {No change.}

(5) Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a two-way a-hose connection shall be located to serve the roof or at the highest landing of an interior exit stairway with stair access to the roof provided in accordance with Section 1011.12.

(6) {No change.}

(7) When required by this Chapter, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

48. **\*\*Section 905.9; add a second paragraph after the exceptions to read as follows:**

Sprinkler and standpipe system water-flow detectors shall be provided for each floor tap to the sprinkler system and shall cause an alarm upon detection of water flow for more than 45 seconds. All control valves in the sprinkler and standpipe systems except for fire department hose connection valves shall be electrically supervised to initiate a supervisory signal at the central station upon tampering.

49. **\*\*Section 907.1; add Section 907.1.4 to read as follows:**

907.1.4 Design Standards. Where a new fire alarm system is installed, the devices shall be addressable. Fire alarm systems utilizing more than 20 smoke detectors shall have analog initiating devices.

50. **\*\*Section 907.2.1; change to read as follows:**

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the having an occupant load due to the assembly occupancy is of 300 or more persons, or where the ~~Group A~~ occupant load is more than 100 persons above or below the *lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *International Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: {No change.}

Activation of fire alarm notification appliances shall:

(1) Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level, and

(2) Stop any conflicting or confusing sounds and visual distractions.

51. **\*\*Section 907.2.3; change to read as follows:**

907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall

be installed in Group E educational occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. An approved smoke detection system shall be installed in Group E day care occupancies. Unless separated by a minimum of 100' open space, all buildings, whether portable buildings or the main building, will be considered one building for alarm occupant load consideration and interconnection of alarm systems.

Exceptions:

1. {No change.}

1.1. Residential In-Home day care with not more than 12 children may use interconnected single station detectors in all habitable rooms. (For care of more than five children 2 1/2 or less years of age, see Section 907.2.6.) {No change to remainder of exceptions.}

52. **\*\*Section 907.2.12, Exception 3; change to read as follows:**

(3) Open air portions of buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants, and similarly enclosed areas.

53. **\*\*Section 907.4.2; add Section 907.4.2.7 to read as follows:**

907.4.2.7 Type. Manual alarm initiating devices shall be an approved double action type.

54. **\*\*Section 907.6.1; add Section 907.6.1.1 to read as follows:**

907.6.1.1 Wiring Installation. All fire alarm systems shall be installed in such a manner that a failure of any single initiating device or single open in an initiating circuit conductor will not interfere with the normal operation of other such devices. All signaling line circuits (SLC) shall be installed in such a way that a single open will not interfere with the operation of any addressable devices (Class A). Outgoing and return SLC conductors shall be installed in accordance with NFPA 72 requirements for Class A circuits and shall have a minimum of four feet separation horizontal and one foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device may be wired Class B, provided the distance from the interface device to the initiating device is ten feet or less.

55. **\*\*Section 907.6.3; delete all four Exceptions.**

56. **\*\*Section 907.6.6; add sentence at end of paragraph to read as follows:**

See 907.6.3 for the required information transmitted to the supervising station.

57. **\*\*Section 910.2; change Exception 2 and 3 to read as follows:**

(2) Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers. Automatic smoke and heat removal is prohibited.

(3) Only manual smoke and heat removal shall ~~not~~ be required in areas of buildings equipped with control mode special application sprinklers with a response time index of  $50(m^*S)^{1/2}$  or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. Automatic smoke and heat removal is prohibited.

58. **\*\*Section 910.2; add subsections 910.2.3 with exceptions to read as follows:**

910.2.3 Group H. Buildings and portions thereof used as a Group H occupancy as follows:

(1) In occupancies classified as Group H-2 or H-3, any of which are more than 15,000 square feet (1394 m<sup>2</sup>) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

(2) In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a high-hazard commodity classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

59. **\*\*Section 910.3; add section 910.3.4 to read as follows:**

910.3.4 Vent Operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

910.3.4.1 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically.

The automatic operating mechanism of the smoke and heat vents shall operate at a temperature rating at least 100 degrees F (approximately 38 degrees Celsius) greater than the temperature rating of the sprinklers installed.

Exception: Manual only systems per Section 910.2.

910.3.4.2 Nonsprinklered Buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heat-responsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Listed gravity-operated drop out vents.

60. **\*\*Section 910.4.3.1; change to read as follows:**

910.4.3.1 Makeup Air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m<sup>2</sup> per 0.4719 m<sup>3</sup>/s) of smoke exhaust.

61. **~~\*\*Section 912.2; add Section 912.2.3 to read as follows:~~**

~~912.2.3 Hydrant Distance. An approved fire hydrant shall be located within 100 feet of the fire department connection as the fire hose lays along an unobstructed path.~~

62. **\*\*\*Section 913.2.1; add Section 913.2.1.1 and exception to read as follows:**

913.2.1.1 Fire Pump Room Access. When located on the ground level at an exterior wall, the fire pump room shall be provided with an exterior fire department access door that is not less than 3 ft. in width and 6 ft. – 8 in. in height, regardless of any interior doors that are provided. A key box shall be provided at this door, as required by IFC Section 506.1.

Exception: When it is necessary to locate the fire pump room on other levels or not at an exterior wall, the corridor leading to the fire pump room access from the exterior of the building shall be provided with equivalent fire resistance as that required for the pump room, or as approved by the fire code official. Access keys shall be provided in the key box as required by IFC Section 506.1.

63. **\*\*Section 1006.2.2.7; add Section 1006.2.2.7 as follows:**

1006.2.2.7 Electrical Rooms. For electrical rooms, special exiting requirements may apply. Reference the electrical code as adopted.

64. **\*\*Section 1009.8; add the following Exception 7:**

**1009.8 Two Way Communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator required to be accessible on each accessible floor that is one or more stories above or below the level of exit discharge.**

Exceptions:

**(7) Buildings regulated under State Law and built in accordance with State registered plans, including variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009 and chapter 11.**

65. **\*\*Section 1010.1.9.5 Bolt Locks; amend exceptions 3 and 4 as follows:**

Exceptions:

**(3) Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F, M or S occupancy. (remainder unchanged)**

**(4) Where a pair of doors serves a Group A, B, F, M or S occupancy (remainder unchanged)**

66. **\*\*Section 1020.1 Construction; add exception 6 to read as follows:**

**6. In group B occupancies, corridor walls and ceilings need not be of fire-resistive construction within a single tenant space when the space is equipped with approved automatic smoke-detection within the corridor. The actuation of any detector must activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors must be connected to an approved automatic fire alarm system where such system is provided.**

67. **\*\*Section 1029.1.1.1 Spaces under grandstands and bleachers; delete this section.**

68. **\*\*Section 1101.1 Scope; add exception to Section 1101.1 as follows:**

**Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of Licensing and Regulation shall be deemed to be in compliance with the requirements of this chapter.**

69. **Section 1404.14; amend to end of paragraph to read as follows:**

**(Existing language unchanged). Vinyl siding shall not be an approved material for wall covering installation on new and/or existing Groups R-2, I-1, I-2, I-3 and I-4 occupancies.**

70. **Section 1612.2; add Section 1612.2.1 as follows:**

**Section 1612.2.1 Minimum Design and Construction. The minimum finish floor elevation shall be two feet above the fully developed 100-year water surface elevation. In addition, minimum finished floor certificates in accordance with FEMA may be required by the Director of Public Works.**

71. **Section 1612.2; add Section 1612.2.2 as follows:**

**Section 1612.2.2 Construction in Easements Dedicated for Drainage, Water and Sewer.**

**(1) "No construction or filling, without the written approval of the City of Bedford shall be allowed within any drainage easement, and then only after detailed engineering plans and studies show that no flooding will result, that no obstruction to the natural flow of water will result, and subject to all owners of the property affected by such construction becoming a party to the request. When construction is permitted, all**

finished floor elevations shall be a minimum of two feet above the ultimate 100-year flood elevation."

- (2) "No portion of a structure (including, but not limited to, walls, foundations, porches/patios and porch/patio covers, canopies, roof extensions/overhangs, chimneys, fire flues, etc.) shall encroach over or into any easement, except that wall attached window awnings, "bay" style windows, and roof eaves shall be allowed to encroach into an easement a maximum of 24 inches upon approval of the Director of Public Works ."
- (3) Easements shall be dedicated for exclusive use for water and sanitary facilities and shall be shown on the final plat for the specific purpose intended. When it is necessary for additional utilities to be placed within an easement, additional width shall be provided, and the easement shall be labeled for its intended purpose on the final plat

72. \*\*\*\*Section 1612.3; Insert: City of Bedford; 09/25/2009

73. \*\*\*\*Section 2304.12.5; amend to end of paragraph to read as follows:

*(Existing language unchanged)*. Creosote or similarly-treated wood products such as utility poles and railroad ties are not permitted.

74. \*\*Section 2901.1; add a sentence to read as follows:

2901.1 Scope. {existing text to remain} The provisions of this Chapter are meant to work in coordination with the provisions of Chapter 4 of the International Plumbing Code. Should any conflicts arise between the two chapters, the Building Official shall determine which provision applies.

75. \*\*Section 2902.1; add a second paragraph to read as follows:

In other than E Occupancies, the minimum number of fixtures in Table 2902.1 may be lowered, if requested in writing, by the applicant stating reasons for a reduced number and approved by the Building Official.

76. \*\*Table 2902.1; add footnote g to read as follows:

(g) Drinking fountains are not required in M Occupancies with an occupant load of 100 or less, B Occupancies with an occupant load of 25 or less, and for dining and/or drinking establishments.

77. \*\*Add new Section 2902.1.4 to read as follows:

2902.1.4 Additional fixtures for food preparation facilities. In addition to the fixtures required in this Chapter, all food service facilities shall be provided with additional fixtures set out in this section.

2902.1.4.1 Hand washing lavatory. At least one hand washing lavatory shall be provided for use by employees that is accessible from food preparation, food dispensing and ware washing areas. Additional hand washing lavatories may be required based on convenience of use by employees.

2902.1.4.2 Service sink. In new or remodeled food service establishments, at least one service sink or one floor sink shall be provided so that it is conveniently located for the cleaning of mops or similar wet floor cleaning tool and for the disposal of mop water and similar liquid waste. The location of the service sink(s) and/or mop sink(s) shall be approved by the Tarrant County Public Health Department.

78. \*\*\*Section 3001.2 Emergency Elevator Communication Systems for the deaf, hard of hearing and speech impaired; delete this section.

79. \*\*\*Section 3002.1 Hoistway Enclosure Protection required. Add exceptions to Section 3002.1 as follows:

Exceptions:

(4) Elevators completely located within atriums shall not require hoistway enclosure protection.

(5) Elevators in open or enclosed parking garages that serve only the parking garage, shall not require hoistway enclosure protection.

80. \*\*Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces; delete text as follows:

~~Elevator machine rooms, control rooms, control spaces and machinery spaces outside of but attached to a hoistway that have openings into the hoistway shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.~~

Revise text to read:

Elevator machine rooms, control rooms, control spaces and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both.

(Remainder unchanged)

81. \*\*\*Section 3005.4 Machine rooms, control rooms, machinery spaces and control spaces;

Delete exceptions and add two new exceptions to Section 3005.4 as follows:

Exceptions:

(1) Elevator machine rooms, control rooms, machinery spaces and control spaces completely located within atriums shall not require enclosure protection.

(2) Elevator machine rooms, control rooms, machinery spaces and control spaces in open or enclosed parking garages that serve only the parking garage, shall not require enclosure protection.

82. \*\*Section 3005.7 add a Section 3005.7 as follows:

3005.7 Fire Protection in Machine rooms, control rooms, machinery spaces and control spaces.

3005.7.1 Automatic sprinkler system. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3005.7.2.1.

3005.7.2.1 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoistways.

3005.7.2.2 Sprinkler system monitoring. The sprinkler system shall have a sprinkler control valve supervisory switch and water-flow initiating device provided for each floor that is monitored by the building's fire alarm system.

3005.7.3 Water protection. An approved method to prevent water from infiltrating into the hoistway enclosure from the operation of the automatic sprinkler system outside the elevator lobby shall be provided.

3005.7.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed.

83. \*\*Section 3005.8; add Section 3005.8 as follows:

**3005.8 Storage. Storage shall not be allowed within the elevator machine room, control room, machinery spaces and or control spaces. Provide approved signage at each entry to the above listed locations stating: "No Storage Allowed.**

**84. Section 3006.2, Hoistway opening protection required;**

**Revise text as follows:**

**Option B – # (5) The building is a high rise and the elevator hoistway is more than ~~75 feet (22 860 mm)~~ 55 feet (16 764 mm) in height. The height of the hoistway shall be measured from the lowest floor at or above grade to the highest floors served by the hoistway."**

**Sec. 22-53 International Residential Code Adopted.**

The International Residential Code, 2018 Edition and appendix chapter G and J as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec. 22-54 Amendments to the 2018 International Residential Code.**

**1. \*\*\*Section R101.1; Insert jurisdiction name as follows:**

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

**2. \*\*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.**

**3. \*\* Section R103 and R103.1 amend to insert the Department Name**

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

**4. \*\*Section R105.2 Work exempt from permit; change to read as follows:**

**Section R105.2 (1): Playhouses, tool storage and similar uses, provided the floor area does not exceed 50 square feet.**

**Section R105.2 (2.); Delete**

**5. \*\*Section R110 (R110.1 through R110.5); delete the section.**

**6. \*\*Section R112; delete entire section and change to read as follows:**

**Section R112 Board of Appeals; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.**

**7. \*\*Section 113.2; amend to read as follows:**

**Section 113.2 Notice of violation; citation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or**

structure in violation of the provisions of this code, or in violation of a detail statement or a plan approved thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The building official is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code.

8. **\*\*Section 113.3 shall be deleted in its entirety.**

9. **\*\*Section R202; change definition of "Townhouse" to read as follows:**

**TOWNHOUSE.** A single-family dwelling unit constructed in a group of three or more attached units separated by property lines in which each unit extends from foundation to roof and with a yard or public way on at least two sides.

10. **\*\*\*Table R301.2 (1); fill in as follows:**

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMPE	ICE BARRIER UNDER-LAYMENT <sup>h</sup>	FLOOD HAZARD <sup>g</sup>	AIR FREEZING INDEX <sup>i</sup>	MEAN ANNUAL TEMP <sup>j</sup>
	SPEED <sup>d</sup> (MPH)	Topographic Effect <sup>k</sup>	Special Wind Region <sup>L</sup>	Windborne Debris Zone <sup>m</sup>		Weathering <sup>a</sup>	Frost Line Depth <sup>b</sup>	Termite <sup>c</sup>					
5 lb/ft	115 (3 sec-gust) / 76 fastest mile	No	No	No	A	Moderate	6"	Very Heavy	220 F	No	Local Code	150	64.90 F

**Delete remainder of table Manual J Design Criteria and footnote N**

11. **\*\*Section R302.1; add exception #6 to read as follows:**

Exceptions: {previous exceptions unchanged}

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

12. **\*\*Section R302.3; add Exception #3 to read as follows:**

Exceptions:

**(1) {existing text unchanged}**

**(2) {existing text unchanged}**

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

13. **\*\*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 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors. ~~Equipped with a self-closing or automatic-closing device.~~

14. **\*\*Section R303.3, Exception; amend to read as follows:**

Exception: {existing text unchanged} **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.**

15. **\*\*Section R313.2 One and Two Family Dwellings; Delete this section and subsection in their entirety.**

16. \*\*\*Section R315.2.2 Alterations, repairs and additions; amend to read as follows:

Exception:

(1) [existing text remains]

(2) Installation, alteration or repairs of all electrically powered mechanical systems or plumbing appliances.

17. Section R322.1.3; add Section R322.1.3.1 as follows:

Section R322.1.3.1 Minimum Flood-Resistant Construction. The minimum finish floor elevation shall be (2') two feet above the fully developed 100-year water surface elevation. In addition, minimum finished floor certificates in accordance with FEMA may be required by the Director of Public Works.

18. Section R322.1.3; add Section R322.1.3.2 as follows:

Section R322.1.3.2 Construction in Easements Dedicated for Drainage, Water and Sewer.

(1) "No construction or filling, without the written approval of the City of Bedford shall be allowed within any drainage easement, and then only after detailed engineering plans and studies show that no flooding will result, that no obstruction to the natural flow of water will result, and subject to all owners of the property affected by such construction becoming a party to the request. When construction is permitted, all finished floor elevations shall be a minimum of two feet above the ultimate 100-year flood elevation."

(2) "No portion of a structure (including, but not limited to, walls, foundations, porches/patios and porch/patio covers, canopies, roof extensions/overhangs, chimneys, fire flues, etc.) shall encroach over or into any easement, except that wall attached window awnings, "bay" style windows, and roof eaves shall be allowed to encroach into an easement a maximum of 24 inches upon approval of the Director of Public Works ."

(3) Easements shall be dedicated for exclusive use for water and sanitary facilities and shall be shown on the final plat for the specific purpose intended. When it is necessary for additional utilities to be placed within an easement, additional width shall be provided, and the easement shall be labeled for its intended purpose on the final plat

19. Section R322.2.1; change to read as follows:

R322.2.1 Elevation requirements.

(1) Buildings and structures in flood hazard areas, including flood hazard areas designated as Coastal A Zones, shall have the lowest floors elevated to or above the base flood elevation plus 4 2 foot (305 mm), or the design flood elevation, whichever is higher.

(2) In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including *basement*) elevated to a height above the highest adjacent *grade* of not less than the depth number specified in feet (mm) on the FIRM plus 4 2 foot (305 mm), or not less than 3 feet (915 mm) if a depth number is not specified.

20. Section R322.3.2; change to read as follows:

R322.3.2 Elevation requirements.

(1) Buildings and structures erected within coastal highhazard areas and Coastal A Zones, shall be elevated so that the bottom of the lowest horizontal structural members supporting the lowest floor, with the exception of piling, pile caps,

columns, grade beams and bracing, is elevated to or above the base flood elevation plus 4 2 foot (305 mm) or the design flood elevation, whichever is higher.

21. **\*\*Section R401.2; amended by adding a new paragraph following the existing paragraph to read as follows.**

Section R401.2. Requirements. *{existing text unchanged}* ... 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.

22. **Section R401.3.; add Section R401.3.1 to read as follows:**

R401.3.1; Excavation and Grading Guidelines: When grade can be achieved, 80% percent of a lot or tract shall be graded to the fronting street gutter. Drainage on the portion of a lot or tract (excluding dedicated easements) shall not drain across more than one lot or tract before entering an approved drainage way.

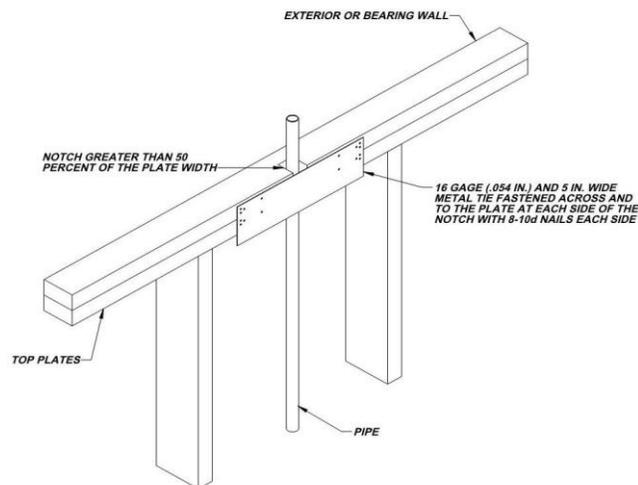
23. **Section R404.4; amend to end of paragraph to read as follows:**

*(Existing language unchanged)*. Creosote or similarly-treated wood products such as utility poles and railroad ties are not permitted.

24. **\*\*Section R602.6.1; amend the following:**

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 4-½ inches ~~(38) mm~~ **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. *{remainder unchanged}*

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



26. **\*\*\*Add section R703.8.4.1.2 Veneer Ties for Wall Studs; 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.

27. **\*\*Section R902.1; amend and add exception #5 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 ~~in designated by law as requiring their use or when the edge of the roof is less than 3 feet from a lot line.~~  
{remainder unchanged}

Exceptions:

- (1) {text unchanged}
- (2) text unchanged
- (3) {text unchanged}
- (4) {text unchanged}
- (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 200 sq. ft.

28. **\*\*\* Chapter 11 [RE] – Energy Efficiency is deleted in its entirety; Reference the 2018 IECC for energy code provisions and recommended amendments.**

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

M1305.1.2 Appliances in attics. *Attics containing appliances shall be provided . . . {bulk of paragraph unchanged} . . . side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest appliance. As 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:

- (1) The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.
- (2) Where the passageway is unobstructed...{remaining text unchanged}

30. **\*\*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 ~~an approved place of disposal~~ a sanitary sewer through a trap, by means of a direct or indirect drain. {remaining text unchanged}

31. **\*\*Section M1411.3.1, Items 3 and 4; add text to read as follows:**

M1411.3.1 Auxiliary and secondary drain systems. {bulk of paragraph unchanged}

- (1) {text unchanged}
- (2) {text unchanged}
- (3) An auxiliary drain pan... {bulk of text unchanged}... with Item 1 of this section. A water level detection device may be installed only with prior approval of the building official.

(4) *A water level detection device... {bulk of text unchanged}... overflow rim of such pan. A water level detection device may be installed only with prior approval of the building official.*

(5) **\*\*Section M1411.3.1.1; add text to read as follows:**

M1411.3.1.1 Water-level monitoring devices. On down-flow units ...*{bulk of text unchanged}*... installed in the drain line. A water level detection device may be installed only with prior approval of the building official.

32. **\*\*\*M1503.6 Makeup Air Required; amend and add exception as follows:**

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<sup>3</sup>/s) shall be mechanically or passively provided with makeup air at a rate approximately equal 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 (0.28 m<sup>3</sup>/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m<sup>3</sup>/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.

33. **\*\*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.

34. **\*\*Section G2408.3 (305.5)Private Garages; delete this section in its entirety.**

35. **\*\*Section G2415.2.1 (404.2.1) CSST; add a second paragraph to read as follows:**

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"

36. **\*\*\*Section G2415.12 (404.12) and G2415.12.1 (404.12.1); change to read as follows:**

G2415.12 (404.12) Minimum burial depth. Underground *piping systems* shall be installed a minimum depth of ~~12 inches (305 mm)~~ 18 inches (457 mm) below grade, ~~except as provided for in Section G2415.12.1.~~

G2415.12.1 (404.12.1) Individual Outdoor Appliances; Delete in its entirety

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

G2417.1 (406.1) General. Prior to acceptance and initial operation, all *pipng* 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 *pipng 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.

38. **\*\*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. ~~Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.~~

39. **\*\*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, irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. 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 1/2"), 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 1/2"), 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

40. **\*\*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 ~~be not~~ less than 40-fifteen (15) minutes. For welded *pipng*, and for *pipng* 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.

41. **\*\*Section G2420.1 (406.1); add Section G2420.1.4 to read as follows:**

G2420.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) *pipng 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.

42. **\*\*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...*{bulk of paragraph unchanged}*... 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.

43. **\*\*Section G2421.1 (410.1); add text and Exception to read as follows:**

G2421.1 (410.1) Pressure regulators. A line *pressure regulator* shall be ... *{bulk of paragraph unchanged}*... 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.

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

45. **\*\*Section G2445.2 (621.2); add Exception 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 International Fuel Gas Code Section 108.7 of the Fuel Gas Code.

46. **\*\*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*.

47. **\*\*\*Section P2603; add 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 plastic. 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.

48. **\*\*\*Section P2603.5.1 Sewer Depth; change to read as follows:**

P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of (4) four inches (mm) below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

49. **\*\*\*Section P2604; 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.**

**50. \*\*\* Section P2801; 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.

~~A plastic pan beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.~~

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

**Section P2801.6.1 Pan size and drain.** The pan shall be not less than 11/2 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. {existing text unchanged}**

**52. Section P2801.6.1; add Section P2801.6.1.1 Pan Alarm to read as follows:**

**P2801.6.1.1 Pan Alarm.** Where a pan is required by this code, an audible alarm for moisture detection shall be installed within the pan.

**Exception:** Water Heaters installed in a garage with required discharge piping and disposal.

**53. \*\*\* 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 ~~located in the same room as the water heater.~~
- (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 the floor, to the pan serving the water heater or storage tank, to a waste receptor or an approved location or to the outdoors.

[remainder unchanged]

(6) Alternative means of disposal may be approved by the building official.

54. **\*\*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.

55. **Section P2902.5.3; Add section P2902.5.3.1: Irrigation System Rain and Freeze Sensors.**

Section P2902.5.3.1. Irrigation systems installed within the City must be equipped with rain and freeze sensors.

56. **\*\*\*Section P3003.9; change to read as follows:**

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent cement joints shall be permitted above or below ground.

~~Exception: A primer is not required where both of the following conditions apply:~~

- ~~1. The solvent cement used is third-party certified as conforming to ASTM D 2564~~
- ~~2. The solvent cement is used only for joining PVC drain, waste, and vent pipe and fittings in not pressure applications in sizes up to and including 4 inches (102mm) in diameter.~~

57. **Section P3005.4.2; Add section P3005.4.2.1: Building Sewer.**

Section P3005.4.2.1: Building Sewer. The minimum size of any building sewer connected to the building drain shall be (4") four inches in diameter.

58. **\*\*Section P3111Combination waste and vent systems; delete this section in its entirety.**

59. **\*\*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.

**Sec. 22-55 International Mechanical Code Adopted.**

The International Mechanical Code, 2018 Edition as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec. 22-56 Amendments to the 2018 International Mechanical Code.**

1. *Section 101.1; Insert: City of Bedford, Texas*

2. *\*\*\*Section 102.8; change to read as follows:*

102.8 Referenced Codes and Standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 shall mean the Electrical Code as adopted.

3. *Section 106.5.2; insert "Appendix A Schedule of fees"*

4. *Section 106.5.3; Change to read as follows:*

106.5.3: Fee refunds. The code official shall authorize the refunding of fees as provided for in the "Appendix A Schedule of fees"

5. *Section 108.4; Change to read as follows:*

108.4: Violation Penalties. Any person violating or failing to comply with any provision or requirement of this article shall be subject to the penalties provided for in Article I, Chapter 22 of the code of ordinances.

6. *Section 108.2 is amended to read as follows:*

Section 108.2 Notice of violation; citation. The *code official* is authorized to serve a notice of violation or order on the person responsible for the erection, installation, alteration, extension, repair, moving, removal or demolition mechanical work in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The *code official* is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code

7. *Section 108.3 shall be deleted in its entirety.*

8. *Section 108.4 is amended to read as follows:*

Persons who shall violate a provision of this code, or shall fail to comply with any of the requirements, thereof, or who shall erect, install, alter, repair, or do work in violation of the approved construction documents, or directive, of the code official, or of a permit, or a certificate, used under provisions of this code, shall be guilty of a Class C Misdemeanor, punishable by a fine of not more than \$2,000.00 dollars. Each day that a violation continues shall be deemed a separate offense.

9. **Section 108.5. Stop Worker Orders; Change to read as follows:**

**Section 108.5: Upon notice from the code official....(text unchanged)....shall be liable for a fine of not less than a re-inspection fee established by the Appendix of Fees schedule.**

10. **\*\*Section 109; delete entire section and change to read as follows:**

**Section 109 Means of Appeal; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.**

11. **\*\*\*Section 306.3; change to read as follows:**

**306.3 Appliances in Attics. Attics containing appliances shall be provided . . . {bulk of paragraph unchanged} . . . side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest appliance. As 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.**
- (4) Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.**

**Exceptions:**

- (1) The passageway and level service space are not required where the appliance is capable of being serviced and removed... {remainder of section unchanged}**

12. **\*\*\*Section 306.5; change to read as follows:**

**306.5 Equipment and Appliances on Roofs or Elevated Structures. Where *equipment* requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access, an interior or exterior means of access shall be provided. Exterior ladders providing roof access need not extend closer than 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the *equipment* and appliances' level service space. Such access shall . . . {bulk of section to read the same} . . . on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). ... {remainder of text unchanged}.**

13. **\*\*Section 306.5.1; change to read as follows:**

**306.5.1 Sloped Roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof access to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*...{remainder of text unchanged}.**

14. **\*\*Section 306; add Section 306.6 to read as follows:**

**306.6 Water Heaters Above Ground or Floor. When the mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.**

**Exception: A maximum 10 gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and the water heater installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.**

15. ***\*\*Section 307.2.3; amend item 2 to read as follows:***

(2) A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection. **However, the conspicuous point shall not create a hazard such as dripping over a walking surface or other areas so as to create a nuisance.**

16. ***\*\*Section 403.2.1; add an item 5 to read as follows:***

(5) **Toilet rooms within private dwellings that contain only a water closet, lavatory, or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.**

17. ***\*\*Section 501.3; add an exception to read as follows:***

**501.3 Exhaust Discharge.** The air removed by every mechanical exhaust system shall be discharged outdoors at a point where it will not cause a public nuisance and not less than the distances specified in Section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, or be directed onto walkways.

**Exceptions:**

- (1) Whole-house ventilation-type attic fans shall be permitted to discharge into the attic space of dwelling units having private attics.
- (2) Commercial cooking recirculating systems.
- (3) Where installed in accordance with the manufacturer's instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.
- (4) **Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.**

18. ***\*\*Section 607.5.1; change to read as follows:***

**607.5.1 Fire Walls.** Ducts and air transfer openings permitted in fire walls in accordance with Section 705.11 of the International Building Code shall be protected with listed fire dampers installed in accordance with their listing. **For hazardous exhaust systems see Section 510.1-510.9 IMC.**

#### **Sec. 22-57 International Plumbing Code Adopted.**

The International Plumbing Code, 2018 Edition and appendix chapters B, C, D and E as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

#### **Sec. 22-58 Amendments to the 2018 International Plumbing Code.**

1. **\*\*Table of Contents, Chapter 7, Section 714; change to read as follows:**  
     714 Engineered Computerized Drainage Design ..... 69
2. **Section 101.1; Insert: City of Bedford, Texas**
3. **\*\*\*Section 102.8; change to read as follows:**  
     102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 15 and such codes, when specifically adopted, and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where the differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the adopted amendments. Any reference to NFPA 70 shall mean the Electrical Code as adopted.
4. **\*\*Sections 106.6.2 and 106.6.3; change to read as follows:**  
     106.6.2 Fee schedule. The fees for all plumbing work shall be as Appendix A Schedule of Fees adopted by resolution of the City of Bedford.  
     106.6.3 Fee Refunds. The code official shall establish a policy for authorizing the refunding of fees.
5. **Section 108.2 is amended to read as follows:**  
     Section 108.2 Notice of violation; citation. The code official is authorized to serve a notice of violation or order on the person responsible for the erection, installation, alteration, extension, repair, moving, removal or demolition in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The code official is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code
6. **Section 108.3 shall be deleted in its entirety.**
7. **Section 108.4; Change to read as follows:**  
     108.4: Violation Penalties. Any person violating or failing to comply with any provision or requirement of this article shall be subject to the penalties provided for in Article I, Chapter 22 of the code of ordinances.
8. **Section 108.5. Stop Worker Orders; Change to read as follows:**  
     Section 108.5: Upon notice from the code official....(text unchanged)....shall be liable for a fine of not less than a re-inspection fee established by the Appendix of Fees schedule.
9. **\*\*Section 109; delete entire section and change to read as follows:**  
     Section 109 Means of Appeal; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.
8. **\*\*\*Section 305; change to read as follows:**  
     305.1 Protection against contact. 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 plastic. 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.

9. *Section 305.4.1; change to read as follows:*

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

10. *\*\*Section 305.7; change to read as follows:*

305.7 Protection of components of plumbing system. Components of a plumbing system installed within 3 feet along alleyways, driveways, parking garages or other locations in a manner in which they could be exposed to damage shall be recessed into the wall or otherwise protected in an *approved* manner.

11. *\*\*\*Section 306; change to read as follows:*

~~\*\*\*306.2.4 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 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.~~

12. *\*\*Section 314.2.1; change to read as follows:*

~~314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. ... {text unchanged} ... Condensate shall not discharge into a street, alley, sidewalk, rooftop, or other areas so as to cause a nuisance.~~

13. *\*\*Section 409.2; change to read as follows:*

409.2 Water connection. The water supply to a commercial dishwashing machine shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608. (Remainder of section unchanged).

14. *\*\*Section 413.4; change to read as follows:*

~~413.4 Required location for floor drains Public laundries and central washing facilities. Floor drains shall be installed in the following areas:~~

(1) In public laundries and in the central washing facilities of multiple family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such drains shall have a minimum outlet of not less than 3 inches (76 mm) in diameter.

(2) Commercial kitchens. In lieu of floor drains in commercial kitchens, the Code Official may accept floor sinks.

(3) Public restrooms.

15. *\*\*\*Section 502.3; change to read as follows:*

502.3 Water heaters installed in attics. Attics containing a water heater shall be provided ... {bulk of paragraph unchanged} ... side of the water heater. The clear access opening dimensions shall be not less than 20 inches by 30 inches (508 mm by 762 mm) where such dimensions are large enough to allow removal of the water heater. As 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.
- (4) Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the Code Official due to building conditions.

Exceptions:

- (1) The passageway and level service space are not required where the appliance is capable of being serviced and removed... {remainder of text unchanged}

16. **\*\*Section 502.6; add Section 502.6 to read as follows:**

502.6 Water heaters above ground or floor. When the attic, roof, mezzanine or platform in which a water heater is installed is more than eight (8) feet (2438 mm) above the ground or floor level, it shall be made accessible by a stairway or permanent ladder fastened to the building.

Exception: A max 10-gallon water heater (or larger with approval) is capable of being accessed through a lay-in ceiling and a water heater is installed is not more than ten (10) feet (3048 mm) above the ground or floor level and may be reached with a portable ladder.

17. **\*\*\*Section 504.6; change to read as follows:**

504.6 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. ~~located in the same room as the water heater.~~
- (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 manufacture's installation instructions and installed with those instructions.

- (5) ~~Discharge to the floor, to the pan serving the water heater or storage tank, to a waste-receptor~~ 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 so as to flow by gravity.
- (10) Terminate not more than 6 inches above and not less than two times the discharge pipe diameter above the floor or flood level rim of the waste receptor.
- (11) Not have a threaded connection at the end of such piping.
- (12) Not have valves or tee fittings.
- (13) Be constructed of those materials listed in Section 605.4 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.

(15) Alternative means of disposal may be approved by the building official.

18. **\*\*Section 504.7.1; change to read as follows:**

Section 504.7.1 Pan size and drain to read as follows: The pan shall be not less than 11/2 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 605.4. 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.

19. **Section 504.7.3; add Section 504.7.3 Pan Alarm to read as follows:**

504.7.3 Pan Alarm. Where a pan is required by this code, an audible alarm for moisture detection shall be installed within the pan.

Exception: Water Heaters installed in a garage with required discharge piping and disposal.

20. **\*\*Section 608.1; change to read as follows:**

608.1 General. A potable water supply system shall be designed, installed and maintained in such a manner so as to prevent contamination from non-potable liquids, solids or gases being introduced into the potable water supply through cross-connections or any other piping connections to the system. Backflow preventer applications shall conform to applicable local regulations, Table 608.1, ~~except~~ and as specifically stated in Sections 608.2 through 608.16.10.

21. **\*\*Section 608.17.5; change to read as follows:**

608.17.5 Connections to 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.

22. **Section 608.17.5; Add section 608.17.5.1 to read as follows:**

608.17.5.1: Irrigation System Any irrigation system installed within the City must be equipped with rain and freeze sensors.

23. **\*\*Section 608.18; change to read as follows:**

608.18 Protection of individual water supplies. An individual water supply shall be located and constructed so as to be safeguarded against contamination in accordance with applicable local regulations. Installation shall be in accordance with Sections 608.17.1 through 608.17.8.

24. **Section 703.6; Delete**

25. **\*\*Section 704.5; added to read as follows:**

**704.5 Single stack fittings. Single stack fittings with internal baffle, PVC schedule 40 or cast iron single stack shall be designed by a registered engineer and comply to a national recognized standard.**

**26. Section 710.1; Add section 710.1.3: Building Sewer.**

**Section 710.1.3: Building Sewer.** The minimum size of any building sewer connected to the building drain shall be (4") four inches in diameter.

**28. \*\*Section 712.5; add Section 712.5 to read as follows:**

**712.5 Dual Pump System. All sumps shall be automatically discharged and, when in any "public use" occupancy where the sump serves more than 10 fixture units, shall be provided with dual pumps or ejectors arranged to function independently in case of overload or mechanical failure. For storm drainage sumps and pumping systems, see Section 1113.**

**29. \*\*Section 713, 713.1; change to read as follows:**

**SECTION 713 ENGINEERED COMPUTERIZED DRAINAGE DESIGN**

**713.1 Design of drainage system.** The sizing, design and layout of the drainage system shall be ~~permitted to be~~ designed by a registered engineer using approved computer design methods.

**30. \*\*Section 803.3; added to read as follows:**

**803.3 Special waste pipe, fittings, and components. Pipes, fittings, and components receiving or intended to receive the discharge of any fixture into which acid or corrosive chemicals are placed shall be constructed of CPVC, high silicone iron, PP, PVDF, chemical resistant glass, or glazed ceramic materials.**

**31. \*\*Section 903.1; change to read as follows:**

**903.1 Roof extension.** Open vent pipes that extend through a roof shall terminate not less than six (6) inches (152 mm) above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

**32. \*\*\*Section 918.8; change to read as follows.**

**918.8 Where permitted.** Individual, branch and circuit vents shall be permitted to terminate with a connection to an individual or branch-type air admittance valve in accordance with Section 918.3.1. Stack vents and vent stacks shall be permitted to terminate to stack-type air admittance valves in accordance with Section 918.3.2. Air admittance valves shall only be installed with the prior approval of the building official.

**33. \*\*\*Section 1003.3.5.1; change to read as follows.**

**Table 1003.3.5.1, Capacity of Grease Interceptors:** replace table to read as follows:

- (1) All establishments that produce food disposal, fats, oil or grease shall discharge into an approved oil & grease interceptor.**
- (2) Establishments with a discharge of more than 50 gallons per minute shall discharge into a minimum of 750-Gallon approved Interceptor. The Building Official may require an Interceptor of Engineered design.**
- (3) Establishments with a discharge of 50 gallons per minute or less shall discharge into an approved 100-pound sized and approved Interceptor.**
- (4) An approved-type grease interceptor or grease trap complying with the provisions of this subsection shall be installed in the waste line leading from sinks, drains, and other fixtures or equipment in establishments such as restaurants, cafes, lunch counters, cafeterias, bars and clubs, hotels, hospitals, sanitarium, auto mechanic or**

wash facilities, washeterias, factory or school kitchens, or other establishments where grease may be introduced into the drainage or sewage system in quantities that can affect line stoppage or hinder sewage treatment or private sewage disposal when grease interceptors are required. A grease trap is not required for individual dwelling units or for any private living quarters.

**34. Section 1003.10.; change to read as follows:**

**1003.10 Access and maintenance of interceptors and separators. Interceptors and separators shall be installed outside and below ground of the facility it serves. Access shall be provided to each interceptor and separator for service and (*remainder of text unchanged*).**

**35. \*\*Section 1106.1; change to read as follows:**

**1106.1 General. The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers shall be based on six (6) inches per hour ~~the 100-year hourly rainfall rate indicated in Figure 1106.1 or on other rainfall rates determined from approved local weather data.~~**

**36. \*\*Section 1108.3; change to read as follows:**

**1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106 ~~based on the rainfall rate for which the primary system is sized in Figure 1106.1 or on other rainfall rates determined from approved local weather data.~~ Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system.**

**37. \*\*Section 1109; delete this section.**

**38. \*\*\*Section 1202.1; delete Exceptions 1 and 2.**

**Sec. 22-59 International Fuel Gas Code Adopted.**

The International Fuel Gas Code, 2018 Edition and appendix chapters B, C, D and E as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec. 22-60 Amendments to the 2018 International Fuel Gas Code.**

**1. Section 101.1; Insert: City of Bedford, Texas**

**2. \*\*Section 102.2; add an exception to read as follows:**

**Exception: Existing dwelling units shall comply with Section 621.2.**

**3. \*\*Section 102.8; change to read as follows:**

**102.8 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 8 and such codes, when specifically adopted, and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. 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 to NFPA 70 or the ICC *Electrical Code* shall mean the *Electrical Code* as adopted.**

4. **Section 106.6.2; insert “Appendix A Schedule of fees”**

5. **Section 106.6.3; Change to read as follows:**

106.6.3: Fee refunds. The code official shall authorize the refunding of fees as provided for in the “Appendix A Schedule of fees”

6. **Section 108.2 is amended to read as follows:**

*Section 108.2 Notice of violation; citation. The code official is authorized to serve a notice of violation or order on the person responsible for the erection, installation, alteration, extension, repair, moving, removal or demolition in violation of the provisions of this code, or in violation of a detail statement or a approved construction documents thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The code official is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code*

7. **Section 108.3 shall be deleted in its entirety.**

8. **Section 108.4; Change to read as follows:**

108.4: Violation Penalties. Any person violating or failing to comply with any provision or requirement of this article shall be subject to the penalties provided for in Article I, Chapter 22 of the code of ordinances.

9. **Section 108.5; Stop Work Orders: Change to read as follows:**

Section 108.5: Upon notice from the code official....(text unchanged)....shall be liable for a fine of not less than a re-inspection fee established by the Appendix of Fees schedule.

10. **\*\*Section 109; delete entire section and change to read as follows:**

Section 109 Means of Appeal; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

11. **\*\*\*Section 306.3; change to read as follows:**

[M] 306.3 Appliances in attics. Attics containing appliances shall be provided . . . *{bulk of paragraph unchanged}* . . . side of the *appliance*. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest *appliance*. As 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.
- (4) Access Panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

Exceptions:

- (1) The passageway and level service space are not required where the *appliance* is capable of being serviced and removed through the required opening.
- (2) Where the passageway is not less than ... *{bulk of section to read the same}*.

12. **\*\*\*Section 306.5; change to read as follows:**

[M] 306.5 Equipment and Appliances on Roofs or Elevated Structures. Where *equipment* requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above

grade to access, an interior or exterior means of access shall be provided. Exterior ladders providing roof access need not extend closer than 12 feet (2438 mm) to the finish grade or floor level below and shall extend to the equipment and appliances' level service space. Such access shall . . . *{bulk of section to read the same}* . . . on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope).  
... *{remainder of text unchanged}*.

13. **\*\*Section 306.5.1; change to read as follows:**

[M] 306.5.1 Sloped roofs. Where appliances, *equipment*, fans or other components that require service are installed on a roof having a slope of 3 units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a catwalk at least 16 inches in width with substantial cleats spaced not more than 16 inches apart shall be provided from the roof access to a level platform at the appliance. The level platform shall be provided on each side of the appliance to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

14. **\*\*Section 401.5; add a second paragraph to read as follows:**

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"

15. **\*\*Section 404.12; change to read as follows:**

404.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of ~~12~~ 18 inches (305 ~~458~~ mm) top of pipe below grade, ~~except as provided for in Section 404.12.1.~~

16. **Section 404.12.1 Delete in its entirety**

17. **\*\*Section 406.4; change to read as follows:**

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. ~~Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.~~

16 **\*\*Section 406.4.1; change to read as follows:**

406.4.1 Test pressure. The test pressure to be used shall be no less than ~~4-1/2 times the proposed maximum working pressure, but no less than 3~~ 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, irrespective of design pressure. ~~Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. 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 1/2"), 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 1/2"), 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.

17\*\*Section 409.1; add Section 409.1.4 to read as follows:

409.1.4 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.

18\*\*Section 410.1; add a second paragraph and exception to read as follows:

Access to regulators shall comply with the requirements for access to appliances as specified in Section 306.

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.

19\*\*Section 621.2; add exception as follows:

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 heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the Code Official unless an unsafe condition is determined to exist as described in Section 108.7.

## Sec. 22-61 International Energy Conservation Code Adopted.

The International Energy Conservation Code, 2018 Edition as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

## Sec. 22-62 Amendments to the 2018 International Energy Conservation Code.

1. Section 101.1; Insert: City of Bedford, Texas
2. \*\*Section C102/R102 General; add Section C102.1.2 and R102.1.2 (N1101.4.1) to read as follows:

C102.1.2 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States

Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance.

R102.1.2 (N1101.4.1) Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Energy Star Program certification of energy code equivalency shall be considered in compliance. Regardless of the program or the path to compliance, each 1- and 2-family dwelling shall be tested for air and duct leakage as prescribed in Section R402.4.1.2 (N1102.4.1.2) and R403.3.3 (N1103.3.3) respectively.

3. *Section C105.4; revised to read as follows:*

Section C105.4; The code official is ~~authorized to~~ shall accept reports of third-party inspection agencies (*remainder text unchanged*)...

4. *\*\*Section C109; delete entire section and change to read as follows:*

Section C109 Board of Appeal; Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

5. *Section R202 (N1101.6) Definitions; add the following definition:*

**\*\*PROJECTION FACTOR.** The ratio of the horizontal depth of the overhang, eave or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave or permanently attached shading device.

6. *Section R202 (N1101.6) Definitions; add the following definition:*

**\*\*DYNAMIC GLAZING.** Any fenestration product that has the fully reversible ability to change its performance properties, including U-factor, solar heat gain coefficient (SHGC), or visible transmittance (VT).

7. *\*\*\*Table 402.1.2 (N1102.1.2) INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT; the Fenestration U-factor for Climate Zone 3 is amended as follows:*

CLIMATE ZONE	FENESTRATION U-FACTOR
3	<del>0.32</del> <u>0.35</u>

8. *\*\*\*Table 402.1.4 (N1102.1.4) EQUIVALENT U-FACTORS; the Fenestration U-factor for Climate Zone 3 is amended as follows:*

CLIMATE ZONE	FENESTRATION U-FACTOR
3	<del>0.32</del> <u>0.35</u>

9. *\*\*Section R402.3.2 (N1102.3.2) Glazed fenestration SHGC; amend by adding a paragraph and table following the exception to read as follows:*

Where vertical fenestration is shaded by an overhang, eave, or permanently attached shading device, the SHGC required in Table R402.1.2 shall be reduced by using the multipliers in Table R402.3.2 SHGC Multipliers for Permanent Projections.

**Table R402.3.2 SHGC Multipliers for Permanent Projections <sup>a</sup>**

Projection Factor	SHGC Multiplier (all Other Orientation)	SHGC Multiplier (North Oriented)
0 - 0.10	1.00	1.00
>0.10 – 0.20	0.91	0.95

>0.20 – 0.30	0.82	0.91
>0.30 – 0.40	0.74	0.87
>0.40 – 0.50	0.67	0.84
>0.50 – 0.60	0.61	0.81
>0.60 – 0.70	0.56	0.78
>0.70 – 0.80	0.51	0.76
>0.80 – 0.90	0.47	0.75
>0.90 – 1.00	0.44	0.73

<sup>a</sup> North oriented means within 45 degrees of true north.

**10. \*\*R402.4.1.2 (N1102.4.1.2) Testing; add a last paragraph to read as follows:**

Mandatory testing shall only be performed by individuals that are certified to perform air infiltration testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

**11. \*\*\*Section R402.4 (N1102.4) Air leakage (Mandatory); add a new section and table to read as follows:**

**R402.4.1.3 (N1102.4.1.3) Testing option – ACH tradeoff.** As an option to the air leakage rate set out in Section R402.4.1.2 (N1102.4.1.2), 1- and 2-family homes meeting all of the listed criteria below and the *thermal envelope* requirements in Table R402.4.1.3 (N1102.4.1.3) will be considered compliant when tested and verified as having an air leakage rate to not less than or equal to four air changes per hour when tested and reported in accordance with the testing standards and reporting criteria listed in Section R402.4.1.2 (N1102.4.1.2).

The compliance equivalency is limited as follows:

- (1) Limited to a conditioned floor area between 1,000 and 6,000 square feet,
- (2) Limited to between 2 to 6 bedrooms,
- (3) Assumes all ductwork and mechanical equipment is located in the unconditioned attic,
- (4) Assumes typical wood framing in the walls and roof, and
- (5) Assumes one of the following heating/cooling systems:
  - (a) All electric system with a heat pump for heating, or
  - (b) A system with electric cooling and natural gas heating.

Dwellings using electric resistance strip heating do not qualify for this tradeoff.

**TABLE R402.4.1.3 (N1102.4.1.3)<sup>a</sup>**

<b>Envelope Component</b>	<b>Option #1</b>	<b>Option #2</b>
R402.4 Air Leakage	≤ 4 ACH50	≤ 4 ACH50
Wall Insulation <i>R</i> -value	R13 + R3 <sup>b</sup>	R13 + R3 <sup>b</sup>
Fenestration <i>U</i> -factor	≤ 0.32	≤ 0.32
Fenestration SHGC	≤ 0.25	≤ 0.25
Ceiling <i>R</i> -value	≥ R49	≥ R49
Duct Insulation <i>R</i> -value	R8	R6
Radiant Barrier Required	No	Yes

<sup>a</sup> Except for the values listed in the table, all other mandatory code provisions are applicable.

<sup>b</sup> The first value listed is the *R*-value of cavity insulation, the second value is the *R*-value of the continuous insulation or insulated siding.

**12. \*\*\* Section R402.4 Air leakage (Mandatory); add a new section to read as follows:**

**R402.4.1.4 Testing options for R2 multifamily dwelling units.** As an option to the air leakage rate set out in Section R402.4.1.2, multifamily dwelling units will be considered compliant when tested and verified as having an air leakage rate to the air leakage rate set out in either Section R402.4.1.4.1 or Section R402.4.1.4.2 when tested and reported in accordance with the testing standards and reporting criteria listed in Section R402.4.1.2

**R402.4.1.4.1 Total air leakage rate for interior multifamily dwelling units.** Interior multifamily dwelling units with a measured, “unguarded” total air leakage result of 5.3 ACH50 or less shall be considered compliant.

**R402.4.1.4.2 Total air leakage rate for corner multifamily dwelling units.** Corner multifamily units with a measured, “unguarded” total leakage result of less than 5.0 ACH50 shall be considered compliant.

**13. \*\*\* Section R402.4 Air leakage (Mandatory); add a new section to read as follows:**

**R402.4.1.5 Sampling options for R2 multifamily dwelling units.** For buildings having three or more dwelling units, a minimum of 15% of the dwelling units in each building must be tested as required by Section R402.4.1.2. Prior to beginning sampling for testing, “Initial Testing” is required for each multifamily property. “Initial Testing” shall consist of the 3<sup>rd</sup> party testing contractor performing the required tests on at least three consecutive dwelling units. Test results from the “Initial Testing” must satisfy minimum code requirements before sampling is permitted. Dwelling units selected for the “Initial Testing” must be within the same building. Dwelling units selected for “Initial Testing” shall not be included in a “sample group” or counted toward the minimum 15% of dwelling units tested. The building official shall randomly select the three dwelling units for “Initial Testing.” The building official may delegate the random selection to the designated 3<sup>rd</sup> party testing contractor.

**R402.4.1.5.1 Sample group Identification and Sampling.** The builder shall identify a “sample group” which may be a building, floor, fire area or portion thereof. All of the dwelling units within the “sample group” must be at the same stage of construction and must be ready for testing. The building official shall randomly select at least 15% of dwelling units from each “sample group” for testing. The building official may delegate the random selection to the designated 3<sup>rd</sup> party testing contractor.

If each tested dwelling unit within a “sample group” meets the minimum code requirements, then all dwelling units in the “sample group” are considered to meet the minimum code requirements.

Before a building may be deemed compliant with the testing as required, each “sample group” must be deemed compliant with the minimum code requirements. The sum total of all of the tested dwelling units across all “sample groups” shall not be less than a minimum of 15% of the dwelling units in a building.

**R402.4.1.5.2 Failure to Meet Code Requirement(s).** If any dwelling units within the identified “sample group” fail to meet a code requirement as determined by testing, the builder will be directed to correct the cause(s) of failure, and 30% of the remaining dwelling units in the “sample group” will be randomly selected for testing by the building official, or third-party testing contractor, regarding the specific cause(s) of failure.

If any failures occur in the additional dwelling units, all remaining dwelling units in the sample group must be individually tested for code compliance. A multifamily property with three failures within a 90-day period is no longer eligible to use the sampling protocol in that community or project until successfully repeating “Initial

Testing." Sampling may be reinstated after at least three consecutive dwelling units are individually verified to meet all code requirements.

A Certificate of Occupancy may not may be issued for any building until testing has been performed and deemed to satisfy the minimum code requirements on the dwelling unit(s) identified for testing.

14. **\*\* R403.3.3 (N1103.3.3) Duct Testing (Mandatory); add a last paragraph to read as follows:**

Mandatory testing shall only be performed by individuals that are certified to perform duct testing leakage testing certified by national or state organizations as approved by the building official. The certified individuals must be an independent third-party entity, and may not be employed; or have any financial interest in the company that constructs the structure.

15. **\*\*\* Section R403.3 Ducts; add a new section to read as follows:**

**R403.3.4.1 Sampling options for R2 multifamily dwelling units.** For buildings having three or more dwelling units, a minimum of 15% of the dwelling units in each building must be tested as required by Section R403.3.3. Prior to beginning sampling for testing, "Initial Testing" is required for each multifamily property. "Initial Testing" shall consist of the 3<sup>rd</sup> party testing contractor performing the required tests on at least three consecutive dwelling units. Test results from the "Initial Testing" must satisfy minimum code requirements before sampling is permitted. Dwelling units selected for the "Initial Testing" must be within the same building. Dwelling units selected for "Initial Testing" shall not be included in a "sample group" or counted toward the minimum 15% of dwelling units tested. The building official shall randomly select the three dwelling units for "Initial Testing." The building official may delegate the random selection to the designated 3<sup>rd</sup> party testing contractor.

**R403.3.4.1.1 Sample group Identification and Sampling.** The builder shall identify a "sample group" which may be a building, floor, fire area or portion thereof. All of the dwelling units within the "sample group" must be at the same stage of construction and must be ready for testing. The building official shall randomly select at least 15% of dwelling units from each "sample group" for testing. The building official may delegate the random selection to the designated 3<sup>rd</sup> party testing contractor.

If each tested dwelling unit within a "sample group" meets the minimum code requirements, then all dwelling units in the "sample group" are considered to meet the minimum code requirements.

Before a building may be deemed compliant with the testing as required, each "sample group" must be deemed compliant with the minimum code requirements. The sum total of all of the tested dwelling units across all "sample groups" shall not be less than a minimum of 15% of the dwelling units in a building.

**R403.3.4.1.2 Failure to Meet Code Requirement(s).** If any dwelling units within the identified "sample group" fail to meet a code requirement as determined by testing, the builder will be directed to correct the cause(s) of failure, and 30% of the remaining dwelling units in the "sample group" will be randomly selected for testing by the building official, or third-party testing contractor, regarding the specific cause(s) of failure.

If any failures occur in the additional dwelling units, all remaining dwelling units in the sample group must be individually tested for code compliance. A multifamily property with three failures within a 90-day period is no longer eligible to use the sampling protocol in that community or project until successfully repeating "Initial Testing." Sampling may be reinstated after at least three consecutive dwelling units are individually verified to meet all code requirements.

A Certificate of Occupancy may not may be issued for any building until testing has been performed and deemed to satisfy the minimum code requirements on the dwelling unit(s) identified for testing.

16. **\*\*Section C402.2/R402.2 (N1102.2) Specific insulation requirements (Prescriptive); add Section C402.2.8 and R402.2.14 (N1102.2.14) to read as follows:**

Section C402.2.8/R402.2.14 (N1102.2.14) Insulation installed in walls. Insulation installed in walls shall be totally enclosed on all sides consisting of framing lumber, gypsum, sheathing, wood structural panel sheathing or other equivalent material approved by the building official.

17. **\*\*\*Section C403.7.4 Energy recovery ventilation systems (Mandatory); add exception #12 to read as follows:**

12. Individual ventilation systems that serve an individual dwelling unit or sleeping unit.

18. **\*\*\*Section C403.11.1 Duct and Plenum Insulation and Sealing (Mandatory); is amended by adding a second paragraph to read as follows:**

Environmental ducts and plenums installed in vertical chases, both supply and exhaust, where the ducts or plenums will not be accessible after construction completion, shall be leak tested in accordance with the SMACNA HVAC Air Leakage Test Manual to the installed ductwork class and pressure requirements.

Documentation shall be furnished demonstrating that representative sections totaling not less than 25 percent of the duct area have been tested and that all tested sections comply with the requirements of this section.

19. **\*\*\*Section R404.1 (N1104.1); revised in its entirety to read as follows:**

Section R404.1 (N1104.1) Lighting equipment (Mandatory). Not less than 75 percent of the lamps in permanently installed lighting fixtures or not less than 75 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.

20. **\*\*Section 405.2 (N1105.2); add the exception to read as follows:**

Section 405.2 (N1105.2) Mandatory requirements. Compliance with the section requires that the mandatory provisions identified in Section 401.2 be met. Supply and return ducts not completely inside the building thermal envelope shall be insulated to an R-value of not less than R-6.

**Exceptions:**

- (1) For one and two family dwellings the maximum envelope leakage of 4 ACH50 is permitted provided the envelope leakage in the Standard Reference Design is 3 ACH50 and all other requirements of Section R405 are met, including all other mandatory measures. The annual energy cost or source energy usage of the Proposed Design must be equal to or less than that of the Standard Reference Design.
- (2) For multifamily or townhomes and buildings classified as Group R2 and Group R4 of three stories or less the maximum envelope leakage of less than 5 ACH50 is permitted provided the envelope leakage in the Standard Reference Design is 3 ACH50 and all other requirements of Section R405 are met, including all other mandatory measures. The annual energy cost or source energy usage of the Proposed Design must be equal to or less than that of the Standard Reference Design.

21. **\*\*Section R405.6.2 (N1105.6.2); add the following sentence to the end of paragraph:**

Acceptable performance software simulation tools may include, but are not limited to, REM Rate™; Energy Gauge®; ICF International Beacon Residential; Ekotrope, HERS Module; Right-Energy HERS and IC3. Other performance software programs as listed by RESNET® and having the ability to provide a report as outlined in R405.4.2 may also be deemed acceptable performance simulation programs and may be considered by the building official.

22. \*\*\*Section C405.9. Voltage drop in feeders; deleted in its entirety.

23. \*\*TABLE R406.4 (N1106.4) MAXIMUM ENERGY RATING INDEX; amend to read as follows:

TABLE R406.4 (N1106.4)<sup>1</sup>  
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	65

<sup>1</sup> This table is effective until August 31, 2019.

TABLE R406.4 (N1106.4)<sup>2</sup>  
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	63

<sup>2</sup> The table is effective from September 1, 2019 to August 31, 2022.

TABLE R406.4 (N1106.4)<sup>3</sup>  
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	59

<sup>3</sup> This table is effective on or after September 1, 2022.

24. \*\*\*Section C408.3.1 Functional Testing; amend to read as follows:

C408.3.1 Functional Testing. Prior to passing final inspection, the *registered design professional or approved agency* shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed, and in proper working condition in accordance with the *construction documents* and manufacturer's instructions. Functional testing shall be in accordance with Sections C408.3.1.1 through C408.3.1.3 for the applicable control type.

**Sec. 22-63 International Swimming Pool and Spa Code Adopted.**

The International Swimming Pool and Spa Code, 2018 Edition as published by the International Code Council, Inc., is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec. 22-64 Amendments to the 2018 International Swimming Pool and Spa Code.**

1. Section 101.1; Insert City of Bedford, Texas

2. \*\*Section 102.9; Change to read as follows:

Section 102.9 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law, to include but not limited to;

- (1) Texas Department of State Health Services (TDSHS); Standards for Public Pools and Spas; §285.181 through §285.208, (TDSHS rules do not apply to pools serving one- and two family dwellings or townhouses).
- (2) Texas Department of Licensing and Regulation (TDLR); 2012 Texas Accessibility Standards (TAS), TAS provide the scoping and technical requirements for accessibility for Swimming Pool, wading pools and spas and shall comply with 2012 TAS, Section 242. (TAS rules do not apply to pools serving one- and two family dwellings or townhouses).

Exception: Elements regulated under Texas Department of Licensing and Regulation (TDLR) and built in accordance with TDLR approved plans, including any variances or waivers granted by the TDLR, shall be deemed to be in compliance with the requirements of this Chapter.

3. **\*\*Section 103.1; Change to read as follows:**

Section 103.1 Creation of enforcement agency. The ~~Department of Building Safety~~ City of Bedford, Development Department, Inspections Division is hereby created and the official in charge thereof shall be known as the code official. Tarrant County Public Health Department is hereby created and the official in charge thereof shall be known as the code official for operation and maintenance of any public swimming pool in accordance this code, local and state law.

4. **Section 105.6.2; insert "Appendix A Schedule of fees"**

5. **Section 105.6.3; Change to read as follows:**

105.6.3: Fee refunds. The code official shall authorize the refunding of fees as provided for in the "Appendix A Schedule of fees"

6. **Section 107.2 is amended and shall read as follows:**

*Section 107.2 Notice of violation; citation. The code official is authorized to serve a notice of violation or order on the person responsible for the erection, installation, alteration, extension, repair, moving, removal or demolition in violation of the provisions of this code, or in violation of a detail statement or a approved construction documents thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. The code official is authorized to issue citations alleging violations of this code for prosecution in the Municipal Court. Notice under this section is not a prerequisite to prosecution of violations of this code*

7. **Section 107.3 is deleted in its entirety.**

8. **Section 107.4; Change to read as follows:**

107.4: Violation Penalties. Any person violating or failing to comply with any provision or requirement of this article shall be subject to the penalties provided for in Article I, Chapter 22 of the code of ordinances.

9. **Section 107.5. Stop Worker Orders; Change to read as follows:**

Section 107.5: Upon notice from the code official....(text unchanged)....shall be liable for a fine of not less than a re-inspection fee established by the Appendix of Fees schedule.

10. **Section 108; delete entire section and insert the following:**

Section 108. Means of Appeal. Any person shall have the right to appeal a decision of the code official to the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

11. **\*\*Section 202; DEFINITIONS; insert definition; change to read as follows:**

Tarrant County Public Health Department regulates the operation of public pools. Routine inspections on pools and spas open to the public are conducted to document compliance with the standards set forth in State law.

12. \*\*\*Section 305; Change to read as follows:

305.1 General

The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. In one-and two-family dwellings and townhouses, where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.

13. \*\*Section 305.2; Change to read as follows:

Outdoor swimming pools and spas. Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7 and in accordance with the Texas Administrative Code, Texas Health and Safety Code 757 for public pools.

14. \*\* Add subsection 305.2.7.1; to read as follows:

305.2.7.1 Chain link fencing prohibited. Chain link fencing is not permitted as a barrier in public pools built after January 1, 1994.

13. \*\*Section 305.4 structure wall as a barrier; Changes as follows:

305.4 Structure wall as a barrier. ~~Where a wall of a dwelling or structure of a one and two family dwelling or townhouse or its accessory structure serves~~ as part of a barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

- (1) Remainder Unchanged
- (2) Remainder Unchanged
- (3) Remainder Unchanged

The wall of a building with windows in accordance with 2018 International Building Code, Section 1030 in Group R2 occupancies shall not be used as part of pool enclosure. Other windows that are part of a pool yard enclosure shall be permanently closed and unable to be opened for public pools.

15. \*\*Section 305.6; Change to read as follows:

305.6 Natural barriers used in a one and two family dwelling or townhouse. In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge a minimum of eighteen (18) inches, a barrier is not required between the natural body of water shoreline and the pool or spa.

16. \*\*Section 307.1.4 Accessibility; Add exception to Section to 307.1.4 as follows:

Exception: Components of projects regulated by and registered with Architectural Barriers Division of Texas Department of Licensing and Regulation shall be deemed to be in compliance with the requirements of this chapter.

17. \*\*Section 310; Change to read as follows:

310.1 General. Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7 or for public swimming pools in accordance with State of Texas Rules for Public Swimming Pools and Spas, Title 25 TAC Chapter 265 Subchapter L, Rule §265.190.

*[Remainder unchanged]*



20. **\*\*Section 402.13; Change to read as follows:**

**402.12** Ladders for diving equipment. Ladders shall be provided with two grab rails or two handrails. There shall be a uniform distance between ladder treads, with a 7 inch (178 mm minimum) distance and 12 inch (305 mm) maximum distance. Supports, platforms, steps, and ladders for diving equipment shall be designed to carry the anticipated loads. Steps and ladders shall be of corrosion-resistant material, easily cleanable and with slip-resistant tread;

~~Exception: The distance between treads for the top and bottom riser can vary.~~

21. **\*\*Section 411.2.1 & 411.2.2; Change to read as follows:**

**411.2.1** Tread dimensions and area. Treads shall have a minimum unobstructed horizontal depth (i.e., horizontal run) of 12 inches and a minimum width of 20 inches. not be less than 24 inches (607mm) at the leading edge. Treads shall have an unobstructed surface area of not less than 240 square inches (154838mm<sup>2</sup>) and an unobstructed horizontal depth of not less than 10 inches (254 mm) at the center line.

**411.2.2** Risers. Risers for steps shall have a maximum uniform height of 10 inches, with the bottom riser height allowed to taper to zero except for the bottom riser, shall have a uniform height of not greater than 12 inches (305 mm) measured at the center line. The bottom riser height is allowed to vary to the floor.

22. **\*\*Section 411.5.1 & 411.5.2; Change to read as follows:**

**411.5.1** Swimouts. Swimouts, located in either the deep or shallow area of a pool, shall comply with all of the following:

- (1) Unchanged
- (2) Unchanged
- (3) Unchanged
- (4) The leading edge shall be visibly set apart and provided with a horizontal solid or broken stripe at least 1 inch wide on the top surface along the front leading edge of each step. This stripe shall be plainly visible to persons on the pool deck. The stripe shall be a contrasting color to the background on which it is applied, and the color shall be permanent in nature and shall be a slip-resistant surface

**411.5.2** Underwater seats and benches. Underwater seats and benches, whether used alone or in conjunction with pool stairs, shall comply with all of the following:

- (1) Unchanged
- (2) Unchanged
- (3) Unchanged
- (4) Unchanged
- (5) The leading edge shall be visually set apart and provided with a horizontal solid or broken stripe at least 1 inch wide on the top surface along the front leading edge of each step. This stripe shall be
- (6) plainly visible to persons on the pool deck. The stripe shall be a contrasting color to the background on which it is applied, and the color shall be permanent in nature and shall be a slip-resistant surface.
- (7) Unchanged
- (8) Unchanged

23. **\*\*Section 603.2; Change to read as follows:**

~~603.2 Class D-2 pools. Where a Class D-2 pool has a bather-accessible depth greater than 4 1/2 feet (1372 mm), the floor shall have a distinctive marking at the 4 1/2 feet (1372 mm) water depth.~~

Class A and B pools: Class A and B pools over 5 feet deep: the transition point of the pool from the shallow area to the deep area of the pool shall be visually set apart with a 4-inch minimum width row of floor tile, a painted line, or similar means using a color contrasting with the bottom; and a rope and float line shall be provided between 1 foot and 2 feet on the shallow side of the 5-foot depth along and parallel to this depth from one side of the pool to the other side. The floats shall be spaced at not greater than 7-foot intervals; and the floats shall be secured so they will not slide or bunch up. The stretched float line shall be of sufficient size and strength to offer a good handhold and support loads normally imposed by users. If the owner or operator of the pool knows or should have known in the exercise of ordinary care that a rope or float is missing, broken, or defective, the problem shall be promptly remedied.

24. **\*\*Section 610.5.1; Change to read:**

610.5.1 Uniform height of 9-10 inches. Except for the bottom riser, risers at the centerline shall have a maximum uniform height of 9-10 inches (~~229-254~~ mm). The bottom riser height shall be permitted to vary from the other risers.

25. **\*\*\*Section 804 Diving Water Envelopes; Change to read as follows:**

Section 804.1 General. The minimum diving water envelopes shall be in accordance with Table 804.1 and Figure 804.1, or the manufacturer's specifications, whichever is greater. Negative construction tolerances shall not be applied to the dimensions of the minimum diving water envelopes given in Table 804.1.

**Sec 22- 200 National Electrical Code Adoption**

The National Electrical Code, 2017 edition as published by the National Fire Protection Association, is hereby adopted by reference. Unless deleted, amended, expanded or otherwise changed herein, all provisions of such Code shall be fully applicable and binding; providing for the issuance of permits and the collection of fees thereof.

**Sec 22- 201 Amendments to the National Electrical Code**

1. **\*\*Article 100; add the following to definitions:**

Engineering Supervision. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

2. **\*\*\*Article 100; remove the amendment to the following definition:**

~~Intersystem Bonding Termination. A device that provides a means for connecting intersystem bonding conductors for communication systems and other systems such as metallic gas piping systems to the grounding electrode system. Bonding conductors for other systems shall not be larger than 6 AWG.~~

3. **\*\*Article 110.2; change the following to read as follows:**

110.2 Approval. The conductors and equipment required or permitted by this Code shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third-party inspection agency approved by the AHJ.

*Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This*

*approval may be by a field evaluation by a NRTL or qualified third-party inspection agency approved by the AHJ.*

~~Manufacturer's self-certification of any equipment shall not be used as a basis for approval by the AHJ.~~

Informational Note No. 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of *Approved, Identified, Labeled, and Listed*.

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with U.S. product safety standards as certified by an NRTL.

Informational Note No. 3: National Fire Protection Association (NFPA) 790 and 791 provide an example of an approved method for qualifying a third-party inspection agency.

4. *Article 110.2; Add Article 110.2.1 Third-Party Inspections; to read as follows:*
  - (1) For installation of electrical work for which a permit has been obtained by an Electrician licensed by Texas Department of Licensing and Regulation, the City may require electrical inspections from an approved third-party Inspection agency. The permit holder, or duly authorized agent shall be responsible for the scheduling of such third-party inspections.
  - (2) The building official shall maintain full interpretation authority of all affected codes as well as the authority to require corrections, including, but not limited to, notices, stop work orders and/or citations. If, upon review, the building official believes that compliance with all applicable codes has not been achieved, the building official shall retain the right to require corrections.
  - (3) The third-party agency shall issue to the permit holder, or the duly authorized agent and the building official a formal inspection report for each inspection completed, verifying either that the work inspected is in compliance with this code, or specifically detailing corrections necessary to bring such work into conformance with said codes and regulations including NFPA 790 and 791.
  - (4) The third-party agency shall notify the building official if, at any time, the permit holder or duly authorized agent fails to correct construction deficiencies as noted, or if the permit holder or duly authorized agent covers work prior to inspection or otherwise hinders the ability of the third-party agency to perform required inspections.
5. **\*\*\*Article 210.52(G) (1) Garages:** remove the amendment that deleted the following:
  - (1) Garages. In each attached garage and in each detached garage with electric power. ~~The branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage.~~ At least one receptacle outlet shall be installed for each car space.
6. **\*\*\*Article 230.71(A);** remove the amendment that added the following exception:

~~Exception: Multi-occupant buildings. Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.~~
7. **\*\*\*Article 300.11;** remove the amendment that added the following exception:

~~Exception: Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area, not more than two raceways or cables supported per wire, with a maximum nominal metric designation 16 (trade size 1/2").~~

8. **Article 310.10 Uses Permitted; add exception:**

**Exception:**

- (1) **Aluminum conductors shall not be used for general wiring.**
- (2) **Aluminum conductors shall be permitted for services and service feeders.**

9. **\*\*\*Article 310.15(B) (7); remove the amendment that changed the following to read as follows:**

~~(7) This Article shall not be used in conjunction with 220.82.~~

10. **\*\*Article 500.8 (A) (3); change to read as follows:**

**500.8 Equipment.**

Articles 500 through 504 require equipment construction and installation that ensure safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to installation and maintenance.

Informational Note No. 2: Since there is no consistent relationship between explosion properties and ignition temperature, the two are independent requirements.

Informational Note No. 3: Low ambient conditions require special consideration. Explosion proof or dust-ignition proof equipment may not be suitable for use at temperatures lower than -25°C (-13°F) unless they are identified for low-temperature service. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified as Class I, Division 1 at normal ambient temperature.

(A) Suitability. Suitability of identified equipment shall be determined by one of the following:

- (1) Equipment listing or labeling;
- (2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation; or,
- (3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or ~~an owner's engineering judgment~~, an engineering judgment signed and sealed by a qualified Registered licensed Professional Engineer in the State of Texas.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information.

11. **\*\*Article 505.7 (A) changed to read as follows:**

**505.7 Special Precaution.**

Article 505 requires equipment construction and installation that ensures safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to the installation and maintenance of electrical equipment in hazardous (classified) locations.

Informational Note No. 2: Low ambient conditions require special consideration. Electrical equipment depending on the protection techniques described by 505.8(A) may not be suitable for use at temperatures lower than -20°C (-4°F) unless they are identified for use at lower temperatures. However, at low ambient temperatures,

flammable concentrations of vapors may not exist in a location classified Class I, Zones 0, 1, or 2 at normal ambient temperature.

(A) Implementation of Zone Classification System. Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified persons Registered licensed Professional Engineer in the State of Texas.

12. \*\*\*Article 517.30 Essential Electrical Systems for Hospitals; remove the amendment that created a new (H) and added the following language:

(G) Coordination. Overcurrent protective devices serving the equipment branch of the essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

~~(H) Selective Coordination. Overcurrent protective devices serving the life safety, and critical branches of the essential electrical system shall be selectively coordinated with all supply-side overcurrent protective devices.~~

~~Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.~~

~~Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.~~

~~Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.~~

13. \*\*\*Article 600.6(A) (1) At Point of Entry to a Sign; Exception 1, 2 and 3 changed to read as follows:

Exception No.1: A disconnect shall not be required for branch circuits(s) or feeder conductor(s) passing through the sign where enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall not serve the sign body or sign enclosure where passing through.

Exception No. 2: A disconnect shall not be required at the point of entry to a sign body, sign enclosure, or pole for branch circuit conductor(s). The conductors shall be enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall be routed to a device box which contains the disconnect. A field-applied permanent warning label that is visible during servicing shall be applied to the raceway at or near the point of entry into the sign enclosure or sign body. The warning label shall comply with 110.21(B) and state the following: "Danger. This raceway contains energized conductors." The marking shall include the location of the disconnecting means for the energized conductor(s). The disconnecting means shall be capable of being locked in the open position in accordance with 110.25.

Exception No. 3: A disconnect shall not be required at the point of entry to a sign enclosure or sign body for branch circuit(s) or feeder conductor(s) that supply an internal panelboard(s) in a sign enclosure or sign body. The conductors shall be enclosed in a Chapter 3 listed raceway or metal-jacketed

cable identified for the location. A field-applied permanent warning label that is visible during servicing shall be applied to the raceway at or near the point of entry into the sign enclosure or sign body. The warning label shall comply with 110.21(B) and state the following: "Danger. This raceway contains energized conductors." The marking shall include the location of the disconnecting means for the energized conductor(s). The disconnecting means shall be capable of being locked in the open position in accordance with 110.25.

(2017 Code) Informational Note: The location of the disconnect is intended to allow service or maintenance personnel complete and local control of the disconnecting means.

14. **\*\*\*Article 680.25(A); Change to read as follows:**

(A) Feeders. Feeders shall be installed in rigid metal conduit, intermediate metal conduit. The following wiring methods shall be permitted if not subject to physical damage:

- (1) Liquid tight flexible nonmetallic conduit
- (2) Rigid polyvinyl chloride conduit
- (3) Reinforced thermosetting resin conduit
- (4) Electrical metallic tubing where installed on or in a building
- (5) Electrical nonmetallic tubing where installed within a building
- (6) Type MC Cable where installed within a building and if not subject to corrosive environment

~~(7) Nonmetallic-sheathed cable~~

~~(8) Type SE cable~~

~~Exception: A feeder within a one-family dwelling or two-family dwelling unit between remote panelboard and service equipment shall be permitted to run in flexible metal conduit or an approved cable assembly that includes an insulated equipment grounding conductor within its outer sheath. The equipment grounding conductor shall comply with 250.24(A) (5).~~

## Section 22 - 202 Temporary Utilities

When for good and sufficient cause it is necessary to have utilities turned on any installation before final certificate can be issued, the building official may authorize a temporary permit to be issued for a period of 30 days.