EXHIBIT A: 2018 ICC and 2017 NEC Code Amendments

Chapter 4 – ~~BUILDINGS~~ BUILDINGS AND BUILDING REGULATIONS

ARTICLE I. – ~~BUILDING CODE~~ TECHNICAL CODES

Sec. 4-100. - Purpose.

The purpose of this code is to provide the City of Keller with minimum standards to protect ~~the~~ health, life and property; to preserve good government, order and security of the city and its residents; to provide for the issuance of building construction permits, the collection of permit fees, and the inspection of construction activities by the office of the building official for compliance with applicable codes.

(Ord. No. 784, § 2, 6-20-95)

Sec. 4-105. – Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

1. *Building official.* The chief inspection officer of the city, his assistants and such other individuals designated by the city manager to carry out such duties.
2. *Certified pool operator.* Shall be understood to mean a person who possesses a valid pool operator's certificate from a course approved by the city.
3. *City.* Shall be understood to mean authorized representatives of the City of Keller, which shall include the director and representatives of the Tarrant County Public Health Department.
4. *Contractor* means a person, firm, association, or corporation that performs work for hire within the city for which a permit is required including, but not limited to, work that is required or useful for the construction, repair, alteration, removal, or demolition of a structure, sign, street or of an appurtenance that connects to the city's water or sewer service. A contractor also includes a subcontractor who is required to obtain a permit before performing work.
5. *Director.* Shall be understood to mean Director of the Tarrant County Public Health Department, who shall be an authorized representative of the city with respect to public pool and spa inspections and permitting.
6. *Electrical contractor* means a contractor who performs work subject to regulation under the National Electrical Code, as published by the National Fire Protection Association and adopted by the city.
7. *Irrigation contractor* means a contractor who performs work as an irrigator as defined in V.T.C.A.
8. *Mechanical contractor* means an air conditioning and refrigeration contractor as defined in Vernon's Ann. Civ. St. art. 8861.
9. *Plumbing contractor* means a contractor who performs work on plumbing as defined in Vernon's Ann. Civ. St. art. 6243-101.
10. *Pool.* Shall be understood to mean any manmade permanently installed or non-portable structure, basin, chamber, or tank containing an artificial body of water that is used for swimming, diving, aquatic sports, or other aquatic activity other than a residential pool and that is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use. The pool may be either publicly or privately owned. The term does not include a spa or a decorative fountain that is not used as a pool.
11. *Private residential pool.* Shall be understood to mean a pool that is located on private property that is intended for use by one (1) single family and their invited guests, located on property used for the placement of a single-family residence.

12. *Private residential spa.* Shall be understood to mean a spa that is located on private property that is intended for use by one (1) single family and their invited guests, located on property used for the placement of a single-family residence.

13. *Public interactive water feature and fountain (PIWF).* Shall be understood to mean any indoor or outdoor installation maintained for public recreation that includes water sprays, dancing water jets, waterfall, dumping buckets, or shooting water cannons in various arrays for the purpose of wetting the persons playing in the spray streams.

14. *Regulatory authority.* Shall be understood to mean the director and representatives of the Tarrant County Public Health Department.

15. *Spa.* Shall be understood to mean a constructed permanent or portable structure that is two (2) feet or more in depth and that has a surface area of two hundred fifty (250) square feet or less or a volume of three thousand two hundred fifty (3,250) gallons or less and that is intended to be used for bathing or other recreational uses and is not drained and refilled after each use. It may include, but not limited to, hydrojet circulation, hot water, cold water, mineral baths, air induction bubbles, or any combination thereof. A spa does not refer to a business establishment, such as a day spa or a health spa. Industry terminology for a spa includes, but is not limited to, "hydrotherapy pool", "whirlpool", "hot spa", "hot tub", etc. A spa does not include a private residential spa.

16. *Substandard or dilapidated building. Any structure in which there exists any of the following listed conditions:*

    a. Lack of or defective toilet facilities required by other city codes.

    b. Lack of or defective required plumbing.

    c. Lack of hot or cold running water to plumbing fixtures or sprinkler systems required by other city codes.

    d. Lack of adequate heating facilities.

    e. Lack of or defective required ventilation or ventilating equipment.

    f. Required space dimensions less than required by city codes.

    g. Inadequate lighting.

    h. Dampness of interior areas.

    i. Infestation by insects, vermin or rodents.

    j. General dilapidation or improper maintenance.

    k. Lack of connection to required sewage disposal system.

    l. Lack of adequate garbage and rubbish storage and removal facilities.

    m. Partial destruction or damage by fire unrepaired for more than ninety (90) days.

    n. Deteriorated or inadequate foundation.

    o. Defective or deteriorated flooring or floor supports.

    p. Flooring or floor supports of insufficient size to carry imposed loads with safety.

    q. i. Members of walls, partitions, or other vertical supports that split, lean, list or buckle due to defective material or deterioration.

        i. Members of walls, partitions, or other vertical supports that split, lean, list or buckle due to defective material or deterioration.

        ii. Members of walls, partitions, or other vertical supports that are of insufficient size to carry imposed loads with safety.

        iii. Members of ceilings, roofs, ceiling and roof supports or other horizontal members which sag, split or buckle due to defective materials or deterioration.

        iv. Members of ceilings, roofs, ceiling and roof supports, or other horizontal members that are of insufficient size to carry imposed loads with safety.

    r. i. Fireplaces or chimneys which list, bulge or settle due to defective material or deterioration.

ii. Fireplaces or chimneys which are of insufficient size or strength to carry imposed loads with safety.

iii. Heating flues and exhausts which list, bulge or settle due to defective material or deterioration.

s. Hazardous wiring. All wiring except that which conformed with all applicable laws in effect at the time of installation and which has been maintained in good condition and is being used in a safe manner.

t. Hazardous plumbing. All plumbing except that which conformed with all applicable laws in effect at the time of installation and which has been maintained in good condition and which is free of cross connections and siphonage between fixtures.

u. Hazardous mechanical equipment. All mechanical equipment, including vents, except that which conformed with all applicable laws in effect at the time of installation and which has been maintained in good and safe condition.

v. Faulty weather protection, which shall include but not be limited to the following:

i. Deteriorated, crumbling or loose plaster.

ii. Deteriorated or ineffective water-proofing of exterior walls, roof, foundations or floors, including broken windows or doors.

iii. Defective or lack of weather protection for exterior wall coverings, including lack of paint, or weathering due to lack of paint or other approved protective covering.

iv. Broken, rotted, split or buckled exterior wall coverings or roof coverings.

w. Fire hazard. Any building or portion thereof, device, apparatus, equipment, combustible waste or vegetation which, in the opinion of the chief of the fire department or his deputy, is in such a condition as to cause a fire or explosion or provide a ready fuel to augment the spread and intensity of fire or explosion arising from any cause.

x. Faulty materials of construction. All materials of construction except those which are specifically allowed or approved by this Code, and which have been adequately maintained in good and safe condition.

y. Hazardous or insanitary premises. Those premises on which an accumulation of weeds, vegetation, junk, dead organic matter, debris, garbage, offal, rat harborages, stagnant water, combustible materials, and similar materials or conditions constitute fire, health or safety hazards.

z. Inadequate maintenance. Any building or portion thereof which is determined to be an unsafe building in accordance with this Code.

aa. Inadequate fire-protection or fire-fighting equipment. All buildings or portions thereof which are not provided with the fire-resistive construction or fire-extinguishing systems or equipment required by this Code, except those buildings or portions thereof which conformed with all applicable laws at the time of their construction and whose fire-resistive integrity and fire-extinguishing systems or equipment have been adequately maintained and improved in relation to any increase in occupant load, alteration or addition, or any change in occupancy.

(Ord. No. 1627, § 2, 10-16-12)

Sec. 4-110. – ~~Adoption~~ Technical Codes Adopted.

~~The adoption of the International Building Code, 2015 Edition~~ The following codes, as published by the International Code Council, a copy of which shall be filed in the office of Community Development ~~the city secretary~~ and available for public inspection, are hereby adopted with all amendments and specified appendices by the city:

b. 2018 International Building Code (IBC).

c. 2018 International Residential Code (IRC).

d. 2018 International Fire Code (IFC) including Appendices B, C, D, E, F, H, I, J, K, L, and N as amended in Sec. 4-150, below.

e. 2018 International Fuel Gas Code (IFGC).

f. 2017 National Electric Code (NEC).

g. 2018 International Plumbing Code (IPC).

h. 2018 International Mechanical Code (IMC).

i. 2018 International Energy Conservation Code (IECC).

j. 2018 International Existing Building Code (IEBC)

k. 2018 International Swimming Pool and Spa Code (ISPSC)

l. 2018 International Property Maintenance Code (IPMC).

~~m. and designated as the building code for other than one and two family dwellings for the city, the same as though the edition of such code were copied at length herein subject to the deletions and amendments enumerated in Chapter 4, Buildings, Article I, Building Code, Section 4-110, Adoption, paragraph (b).~~

Sec. 4-115. General Exceptions, Additions, and Amendments Applicable to all Technical Codes.

~~The following sections, paragraphs, and sentences of the 20158 International Building Code are hereby amended as follows:~~

a. In all code editions, the "name of jurisdiction" where mentioned, shall mean the City of Keller, Texas.

b. All references in the technical codes to flood-related issues shall also include reference to the City of Keller Storm Water Management Ordinance.

c. All references to "board of appeals" shall mean the City of Keller Zoning Board of Adjustment and their adopted regulations.

d. All references to the "department of building safety" and various other types of inspection agencies shall mean the City of Keller Building Services Department.

e. Where used, the term “code official” or similar related titles shall mean the Community Development Director or his appointed representative(s) or the Fire Marshal or his appointed representative(s), whichever is applicable to the code in question.

f. Where used, the term “fire marshal,” “fire official,” or “chief of the bureau of fire prevention” shall mean the fire marshal or his appointed representative(s).

g. Decisions and interpretations of code issues by the code official or fire official are final unless otherwise provided as part of the Board of Adjustment process.

h. Where mentioned, the phrases “permit fees,” “permit schedule” or similar terms shall refer to the City of Keller Fee Schedule approved annually by the City Council and impact fees as periodically adopted by the City Council.

i. Permits are not transferable from one property owner to another.

j. All references in the technical codes that refer to accessibility or ADA issues shall use the State of Texas Architectural Barrier Standards when the state standard is more restrictive.

k. Notices or citations sent by certified mail that have return receipts stamped unclaimed or undeliverable shall be deemed to have been delivered.

l. Citations may be issued for violations of the provisions of all adopted and amended technical codes. The maximum fine per violation is two-thousand dollars ($2,000.00) per day, with each day that the violation exists or continues being a separate violation.

m. All general contractors, contractors of major trades and contractors with state licenses shall register with the city prior to starting any work in the City. A copy of their liability insurance or a surety bond in the amount of three-hundred thousand dollars ($300,000) per occurrence is required.
n. All new subdivisions shall have underground electric services to structures.
o. References in the various codes to "atmospheric-type vacuum breaker," "pressure-type vacuum breaker" and "reduced pressure principle backflow preventer" for lawn irrigation systems shall be replaced with "double-check backflow preventer assembly or a Reduced Pressure Zone (RPZ) assembly."
p. Whenever a provision of this section or any other provision of this article, or any provision in any other law, ordinance, resolution, rule or regulation of any kind contains any restrictions covering any of the same subject matter, whichever restrictions are more restrictive or impose higher standards or requirements shall govern. Any provisions of this section that are in conflict with state law shall be governed by the state law to the extent of the conflict only.
q. Certificates of occupancy may be revoked at any time and utilities ordered disconnected by the building official or the fire marshal for nonconformance with city or state codes or ordinances.
r. No water heaters shall be permitted in attic spaces with the single exception of tankless water heaters.
s. The erection, including excavation, demolition, alteration, repair or related work, of any building or structure in residential or nonresidential districts, excluding any inside work done in an enclosed building or structure in nonresidential districts, is prohibited other than between the hours of 6:00 a.m. and 7:00 p.m., on weekdays and 8:00 a.m. and 6:00 p.m. on weekends, except in the case of urgent necessity and in the interest of public safety, for which a permit shall be obtained from the building official. (Ord. No. 857, § 1, 5-20-97)
t. When extreme temperatures pose challenges for concrete pours during daylight hours, the Community Development Director or designee may permit overnight pours subject to Police Department prior approval.
u. Building permit fees are set by the city's fees schedule [Appendix C of this Code].
v. All contractors shall register with the City as follows:

i. *Registration.*

4. *Required application form and contents.* All contractors must register with the city before performing work within the city. This registration shall be valid until December 31 of the year in which fees have been paid. Application for registration and renewal must be on a form provided by the city and contain the following information:

a. Full name and copy of current drivers license or other approved picture identification of person seeking registration under which the person does business;

b. Permanent business or residential address;

c. Business telephone and fax numbers;

d. Proof of license as required and a list of all licensed employees as required; and

e. Other information determined to be necessary to identify or locate the contractor.

5. *Required licenses for approval.* Before registration may be approved for an irrigation, mechanical, electrical or plumbing contractor, the contractor must show proof of a current state license authorizing the contractor to practice his trade in this state as an irrigator, air conditioning and refrigeration contractor, electrician, or plumber.

6. *Fee.* Contractors must pay an annual registration fee as determined by the City Council. Exceptions to this are homeowners doing work on their single-family residences that they have declared as their homestead.

ii. *Issuance of permits.* A permit shall not be issued to a contractor or for work to be done by a contractor who is not currently registered with the city.

iii. *Suspension.*

4. *Reasons.* A contractor's registration may be suspended for any of the following reasons:

a. The contractor fails to apply for and obtain the requisite building permit.

b. The contractor fails to request and obtain a final inspection prior to the expiration of the permit.

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

d. The contractor has been found to be grossly negligent in the performance of his work.

e. The expiration, suspension, or revocation of any required license.

5. *Reinstatement.* A contractor whose registration has been suspended may reapply for registration if:

a. All circumstances leading to the suspension have been corrected;

b. The contractor reapplies for registration; and

c. The registration fee is paid in full.

(Ord. No. 919, § 3, 10-6-98; Ord. No. 1282, § 2, 9-20-05)

w. Swimming pool provisions:

i. Permit for construction.

No swimming pool shall be constructed in the city in the future unless a building permit shall be issued by the building inspector. The building inspector shall not issue a building permit for a swimming pool unless the plans shall include a fence or an enclosure which complies with the terms of this section.

(Ord. No. 1627, § 2, 10-16-12)

ii. Designation of health authority.

The City of Keller designates the Tarrant County Health Department as its health authority for the purpose of insuring minimum standards of environmental health and sanitation within the scope of that department's function.

(Ord. No. 1627, § 2, 10-16-12)

iii. Pool/spa permits.

1. *Required. It shall be unlawful for any person to operate a public pool, spa or interactive water feature in the city without a current and valid pool, spa or interactive water feature permit.*

2. *Posting.* A valid permit shall be posted in public view in a conspicuous place at the public swimming pool for which it is issued or on file in a secure area of the permitted facility's premises.

3. *Nontransference.* Permits issued under the provisions of this article are not transferable. Upon change of ownership of a business, the new business owner will be required to meet current standards as defined in city ordinances and state law before a permit will be issued. The new owner shall notify the city within ten (10) days after assuming ownership of the pool, spa or interactive water feature.

4. *Multiple permits.* A separate permit shall be required for every public pool, spa or interactive water feature except public pools or spas or interactive water features on a single water filtration system require one (1) permit.

5. *Denial of permit.* A permit may be denied if the city, upon inspection, determines that the requestor has failed to comply with approved plans and specifications adopted in accordance with these rules.

6. *Inspections for permits.§ An inspection shall be required annually to qualify for a permit. A permit is valid for one (1) year from the date of issuance.*

iv. Public pool, spa, or interactive water feature manager certification.

1. *Requirement.* The person in charge of pool, spa or interactive water feature operations at a class C pool as defined by the adopted regulations, shall have at least one (1) certified pool, spa or interactive water feature operator employed to maintain the pool, spa or interactive water feature for each apartment complex or municipal location. The certificate must be kept on premises to facilitate inspections.

2. *Termination of certified pool, spa or interactive water feature operator.* In the event that a certified pool, spa or interactive water feature operator is terminated or transferred, the business shall have sixty (60) days from the operator's termination or transfer date to designate a new certificate holder. This requirement is applicable even if pool, spa or interactive water feature maintenance operations are contracted to an outside company.

(Ord. No. 1627, § 2, 10-16-12)

x. Substandard building provisions:

The purpose of this article is to require the repair or removal of dilapidated or substandard structures.

(Ord. No. 429, § 1, 7-16-85)

i. Form of notice of lien.

A sworn account of the expense incurred by the city in the repair, removal or demolition of any building done pursuant to the provisions of this Code shall be filed by the building official with the city secretary. The city secretary shall file such notice of the city's assessment and lien in the Deed Records of Tarrant County, Texas. Such notice shall read substantially as follows:

"State of Texas
County of Tarrant

Notice of Lien

_____, Building Official for the City of Keller, makes oath and says that the City of Keller has incurred an expense of $_____ in improving property known and described as _____. Such expense was incurred to eliminate violations of the city's Housing Code after notices pursuant to ordinance and to Article 1175, Section 35, V.A.T.S. were served on the record owner thereof, _____, after public hearing before the city council as required by law.

This assessment shall constitute a first and prior lien, subject only to tax and paving liens.

No building permit or certificate of occupancy will be issued on this property unless and until this lien is paid, together with eight (8) per cent per annum interest from the date such expenses were incurred. No utility service of any kind will be available to such property until this lien is paid.

_____
Building Official
Keller, Texas

Sworn To and Subscribed before me by the said _____, this _____ day of _____, 19___, to certify which witness my hand and seal of office.

_____"

(Ord. No. 429, § 1, 7-16-85)

y. Prohibitions against service to property with lien.

No utility service, building permit or certificate of occupancy shall be allowed for any such property until any such lien is released by the city and the assessment is paid.

Sec. 4-120 Specific Amendments to the 2018 International Building Code.

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.

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.

Section 103 and 103.1; amend to insert the Department Name

~~**DEPARTMENT OF BUILDING SAFETY**~~ **[Building Services]**

103.1 Creation of enforcement agency. The ~~Department of Building Safety~~ [*Building Services*] is hereby created and the official in charge thereof shall be known as the *building official*.

Section [A] 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. *(Jurisdictions may consider the option* ***to amend or delete*** *depending on local enforcement and flood hazard ordinances.)*

Section 104.10.1; Flood hazard areas. *(Jurisdictions may consider the option* ***to amend or delete*** *depending on local enforcement and flood hazard ordinances.)*

Section 105.2 Work exempt from permit; under sub-title entitled "Building" delete items 1, 2, 10 and 11 and re-number as follows:

Building:

~~1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11 m2).~~

~~2. Fences not over 7 feet (1829 mm) high.~~

~~3.~~ 1. (Remainder Unchanged)

~~4.~~ 2. (Remainder Unchanged)

~~5.~~ 3. (Remainder Unchanged)

~~6.~~ 4. (Remainder Unchanged)

~~7.~~ 5. (Remainder Unchanged)

~~8.~~ 6. (Remainder Unchanged)

~~9.~~ 7. (Remainder Unchanged)

~~10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.~~

~~11.~~ 8. (Remainder Unchanged)

~~12.~~ 9. (Remainder Unchanged)

~~13.~~ 10. (Remainder Unchanged)

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.

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.

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.*~~

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

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.*

Section 202; change definition of "Atrium" as follows:

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

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.

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.

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~~,~~ ~~E~~except when applying the assembly requirements of Chapters 10 and 11.

Section 304.1; add the following to the list of occupancies:

Fire stations
Police stations with detention facilities for 5 or less

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.

Section 403.1, Exception 3; change to read as follows:

The open air portion of a building *[remainder unchanged]*

Section 403.3, Exception; delete item 2.

Section 403.3.2; change to read as follows:

[F] 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.

Section 404.5; delete Exception.

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).

Section 423 STORM SHELTERS; Section 423.2 Construction. Amend to read as follows:

In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500 and/or state law. Buildings or structures that are also designated as emergency shelters shall also comply with TABLE 1604.5 as Risk Category IV structures and/or state law.

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.~~

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.

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.

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]*

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.

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*.

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*.

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."

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.

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:

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. An automatic sprinkler system shall be installed throughout all buildings with a building area 6,000 sq. ft. or greater and in all existing buildings that are 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 406.5 of the *International Building Code*.

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.}

Section 903.3.1.2.3; delete sections and replace as follows:

[F] 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]

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 *dwellings*; 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.

Section 903.3.1.4; add to read as follows:

[F] 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.}

Section 907.2.12, Exception 3; change to read as follows:

2. 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.

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.

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.

Section 907.6.3; delete all four Exceptions.

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.

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.

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^2) 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.

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.

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 m2 per 0.4719 m3/s) of smoke exhaust.

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.

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.

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.

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.

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)

Section 1020.1 Construction; add exception 6 to read as follows:

7. 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.

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

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.

Section 2901.1; add a sentence to read as follows:

[P] 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.

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.

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.

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 **<Jurisdiction's>** health department.

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

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.

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)

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.

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.

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.

Section 3006.2, Hoistway opening protection required; Revise text as follows:

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. 4-130. Specific Amendments to the 2018 International Residential Code.

Section R102.4; change to read as follows:

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

Section R103 and R103.1 amend to insert the Department Name

~~DEPARTMENT OF BUILDING SAFETY~~ [Building Services]

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

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

Section R105.3.1.1& R106.1.4; delete these sections.

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

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.

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

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

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

Delete remainder of table Manual J Design Criteria and footnote N

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.

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.

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~~.

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.

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

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.

Section R322 Flood Resistant Construction; deleted section.

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

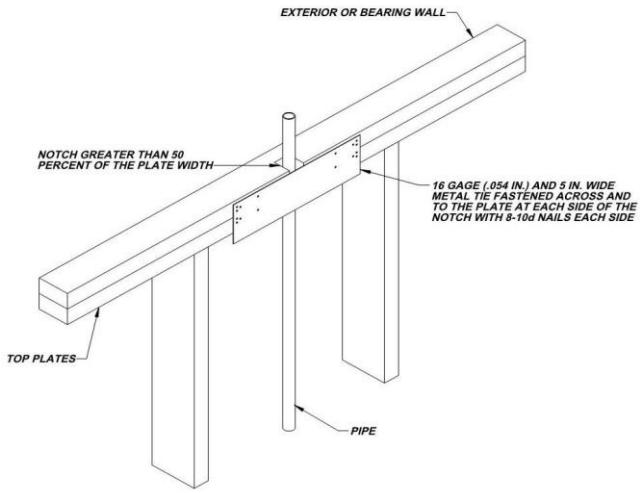
Section R401.2. Requirements. *{existing text unchanged} …*

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.

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 ~~1 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}

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



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.

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 (area defined by jurisdiction).

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

Section M1305.1.2; change to read as follows:

M1305.1.2 Appliances in attics. *Attics containing appliances shall be provided . . . {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}*

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}**

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*.

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.*

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^3/s) shall be mechanically or passively provided with makeup air at a rate approximate~~ly 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 m3/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m3/s) shall be provided with a makeup air at a rate approximately to the difference between the exhaust air rate and 600 cubic feet per minute.

Section M2005.2; change to read as follows:

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

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

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"

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

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

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

Section G2417.4; change to read as follows:

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

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 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

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

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

G2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for ~~be not~~ less than ~~10~~ fifteen (15) minutes. For welded *piping*, and for *piping* carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the *Building Official*, but in no case for less than thirty (30) minutes.

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

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

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

G2420.5.1 (409.5.1) Located within the same room. The shutoff valve…*{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.

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.

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

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.

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

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

Section P2603; 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.

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 [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.

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.

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~~.

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}*

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~~ an approved location or to the outdoors.

   [remainder unchanged]

Section P2902.5.3; change to read as follows:

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

Section 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.~~

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

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

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

Sec. 4-135. Specific Amendments to the 2018 International Fire Code.

The following sections of the 2018 Edition of the International Fire Code, the provisions of which shall be controlling within the limits of the City of Keller, are hereby amended for the purpose of consistency with specific past practices and the recommendations of the North Central Texas Council of Governments Fire Advisory Board:

General Terms

(1) Code official or fire code official. The fire chief or designee, Fire Marshal or designee, or member of the fire department, charged with the duties of administration and enforcement of this code, or a duly authorized representative.

(2) Jurisdiction. All references to "jurisdiction" shall mean the City of Keller, Tarrant County Texas.

(3) Chief. All references to "Chief of the Bureau of Fire Prevention" shall be replaced with Fire Marshal."

(4) Fire Marshal. All references to "Fire Marshal" shall include the Fire Marshal's designee.

Section 101.1 shall be amended to read as follows:

101.1 Title. These regulations shall be known as the fire code of the City of Keller, hereinafter referred to as "this Code."

Section 102.1 shall be amended to read as follows:

102.1 Construction and design provisions is amended by adding 102.1 #3 and 102.1.1 to read as follows:

Section 102.1 #3 Existing structures, facilities, and conditions when required in Chapter 11 or in specific sections of this code.

Section 102.1.1 Reconstruction and Remodel. A building that is being altered, remodeled or reconstructed where the cost of construction is equal to or greater than 50% of the appraised value of the structure, shall comply with current fire codes in regards to:

(1) Panic hardware
(2) Fire alarms
(3) Exit lights
(4) Emergency lighting
(5) Exits and exit ways
(6) Fire protection systems

Section 102.7 is amended by deleting and replacing with a new Section 102.7 , to read as follows:

Section 102.7 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 80 of the International Fire Code (IFC) 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. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standards 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.

102.7.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

102.7.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code and any adopted amendments, the provisions of this code and any adopted amendments, as applicable, shall take precedence over the provisions in the referenced code or standard.

Section 102.7.3 shall be added to read as follows:

102.7.3 The most currently published editions of NFPA shall be the Referenced Codes adopted. Specific reference is made for the adoption of NFPA 3: Standard for Commissioning of Fire Protection Life Safety Systems, and NFPA 17A including all associated appendices, specifically Appendix B and NFPA 96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations and Appendix B of NFPA 96.

Section 104.12 shall be added to read as follows:

104.12 Governmental Immunity. The Fire Prevention Division is exercised by the City of Keller of its governmental functions, for the protection of the public peace, health and safety; and neither the City nor agents and representatives of said City (or any individual, receiver, firm, partnership, corporation, association, trustee or any of the agents thereof, in good faith carrying out, complying with or attempting to comply with any order, rule or regulation promulgated pursuant to the provisions of this Ordinance) shall be liable for any damage sustained to persons or property as the result of said activity.

Section 105.1.1; change to read as follows:

Section 105.1.1 Permits required. Permits required by this code shall be obtained from the fire code official.

Section 105.3.3; change to read as follows:

Section 105.3.3 Occupancy Prohibited before Approval. The building or structure shall not be occupied prior to the fire code official issuing a permit when required and conducting associated inspections indicating the applicable provisions of this code have been met.

Section 105.6.51 shall be added to read as follows:

105.6.51 Model Rocketry. An operational permit is required for the demonstration and use of model rockets, in accordance with NFPA 1122.

Section 105.6.7.26 shall be added to read as follows:

Section 105.7.26 Electronic access control systems. Construction permits are required for the installation or modification of an electronic access control system, as specified in Chapter 10. A separate construction permit is required for the installation or modification of a fire alarm system that may be connected to the access control system. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

Section 106.3 shall be amended as follows:

106.3 Work commencing before permit issuance. Any person, firm, partnership, corporation, association, or other entity who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be fined a minimum of $500 - or double the permit fee, whichever is greater – up to $2,000, and each day work continues shall constitute a separate and distinct violation.

Section 108.3 Recordkeeping. Add a third paragraph to read as follows:

All Fire and Life Safety test and inspection records shall be filed via Compliance Center at www.buildingreports.com Sign-up at www.BuildingReports.com/signup Buildings with the following fire protection systems in place shall have test results recorded electronically: Fire Alarm, Fire Sprinkler, Fixed Suppression, Fire Pump, Fire Line Backflow, CO^2, Fire Extinguishers, and Elevators.

Section 110.3; change to read as follows:

Section 110.3 Notice of Violation; citation
Where the fire code official finds a building, premises, vehicle, storage facility or outdoor area that is in violation of this code, the fire code official is authorized to prepare a written notice of violation describing the conditions deemed unsafe and, where compliance is not immediate, specifying a time for re-inspection. The fire 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.

Section 110.3.2 shall be deleted in its entirety.

Section 110.3.3 shall be deleted in its entirety.

Section 110.4 Violation penalties. Shall be 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 *fire code official*, or of a permit, or a certificate, used under provisions of this code, shall be fined a minimum of $500 - or double the permit fee, whichever is greater – up to $2,000, and each day work continues shall constitute a separate and distinct violation.

Section 110.4.2 shall be added to read as follows:

110.4.2 Citations. It is the intent of this division to achieve compliance by the traditional means of inspection, notification, granting of reasonable time to comply and re-inspection. After all reasonable means to gain compliance have failed, or when a condition exists that causes an immediate and/or extreme threat to life, property or safety from fire or explosion, the Fire Chief or his designee, who have the discretionary duty to enforce a code or ordinance may issue a notice to appear (citation) for the violation. Citations shall be issued only by qualified personnel as designated by the Fire Chief.

Notwithstanding any other provision of this code or of the International Fire Code a citation may be issued without prior notice and the opportunity to correct the condition or violation if the violation is determined to be an immediate threat to life safety.

Section 110.4.3 is added to read as follows:

110.4.3 Compliance with codes. Any person or entity that violates, disobeys, omits, neglects, or refuses to comply with, or who resists the enforcement of the provisions of this or other codes as referenced in this ordinance, shall be guilty of a misdemeanor and subject to the penalties as set forth in the Code of Ordinances of the City. In addition to these penalties the fire code official or his or her designee is authorized to close any business, or shut down any operation when any hazard or condition exists therein that poses a serious and imminent threat to life or property. Any reasonable method may be used to affect closure, including, but not limited to, disconnection of utilities and padlocking of any doors. Any person in control of or occupying any premises ordered closed, or performing or overseeing any operation ordered discontinued, who refuses an order to leave, or to discontinue is guilty of a misdemeanor and subject to the penalties described herein.

Section 112.4 shall be amended to read as follows:

112.4 Failure to comply. Any person, firm, or corporation who shall continue any work after having been served with a stop work order, except such work as that person, firm, or corporation is directed to perform to remove a violation or unsafe condition, shall be fined not less than Five Hundred Dollars ($500.00) or more than Two Thousand Dollars ($2,000.00).

Section 202. Shall be amended by adding new definitions to the existing list of definitions in Section 202 of the 2018 International Fire Code, to read as follows:

ADDRESSABLE FIRE DETECTION SYSTEM. Any system capable of providing identification of each individual alarm-initiating device. The identification shall be in plain English and as descriptive as possible

to specifically identify the location of the device in alarm. The system shall have the capability of alarm verification.

ANALOG INTELLIGENT ADDRESSABLE FIRE DETECTION SYSTEM. Any system capable of calculating a change in value by directly measurable quantities (voltage, resistance, etc.) at the sensing point. The physical analog may be conducted at the sensing point or at the main control panel. The system shall be capable of compensating for long-term changes in sensor response while maintaining a constant sensitivity. The compensation shall have a preset point at which a detector maintenance signal shall be transmitted to the control panel. The sensor shall remain capable of detecting and transmitting an alarm while in maintenance alert.

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 persons who are rendered incapable of self-preservation by the services provided. This group may include but not be limited to the following:

- Dialysis centers
- Procedures involving sedation
- Sedation dentistry
- Surgery centers
- Colonic centers
- Psychiatric centers

ATRIUM. An opening connecting three or more stories… {Remaining text unchanged}

CHANGE OF OCCUPANCY. A change in the purpose or level of activity within a building that involves a change of ownership, change in occupant, or the change in the designated use-type of the building as described in Chapter 3 of this code, and the application of the requirements of this code. The definition shall also apply to usage of the surrounding site and access to and from the building, structure or site, as necessary to achieve the purpose of this code, and to obtain compliance with other codes and ordinances of this jurisdiction. No building or lease space shall be allowed to change use, occupant, ownership or classification types without meeting all the requirements of this code.

ELECTRICAL CODE. Electrical Code shall mean NFPA 70, the National Electrical Code, as adopted by this jurisdiction. For the purpose of this code, all references to NFPA 70 and/or the ICC Electrical Code shall be assumed to mean the Electrical Code as defined herein.

FIRE ALARM SYSTEM. A fire alarm system shall include but not limited to the following:

- Manual pull stations at all required exits.

- Notification throughout the entire building.

- Systems installed to monitor a fire sprinkler system shall also be considered a Fire Alarm System

FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor above. For purposes of determining automatic sprinkler systems required by Section 903, a fire area shall be determined by the aggregate floor area enclosed and bounded by the exterior walls of a building and/or the horizontal projection of the roof.

DEFEND IN PLACE. A method of emergency response that engages building components and trained staff to provide occupant safety during an emergency. Emergency response involves remaining in place, relocating within the building, or both, without evacuating the building.

EMERGENCY ACCESS EASEMENT. An access road or fire lane located on private property dedicated by the owner(s) of the property to provide fire apparatus access.

FIRE WATCH. A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals or standby personnel when required by the fire code official, for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

FIREWORKS. Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration, detonation, and/or activated by ignition with a match or other heat producing device that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein

HIGH-PILED COMBUSTIBLE STORAGE: add a second paragraph to read as follows:
Any building classified as a group S Occupancy or Speculative Building exceeding 6,000 sq. ft. that has a clear height in excess of 14 feet, making it possible to be used for storage in excess of 12 feet, shall be considered to be high-piled storage. When a specific product cannot be identified, a fire protection system and life safety features shall be installed as for Class IV commodities, to the maximum pile height.

HIGH-RISE BUILDING. A building with an occupied floor located more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access.

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.

SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

STANDBY PERSONNEL. Qualified fire service personnel, approved by the Fire Chief. When utilized, the number required shall be as directed by the Fire Chief. Charges for utilization shall be as normally calculated by the jurisdiction.

UPGRADED OR REPLACED FIRE ALARM SYSTEM. A fire alarm system that is upgraded or replaced includes, but is not limited to the following:

- Replacing one single board or fire alarm control unit component with a newer model
- Installing a new fire alarm control unit in addition to or in place of an existing one
- Conversion from a horn system to an emergency voice/alarm communication system
- Conversion from a conventional system to one that utilizes addressable or analog devices

The following are not considered an upgrade or replacement:

- Firmware updates
- Software updates
- Replacing boards of the same model with chips utilizing the same or newer firmware

Section 307 Open Burning, Recreational Fires and Portable Outdoor Fireplaces, Section 307.1 General is amended to read as follows:

307.1.1 All open burning, including trench burning, land clearing operations, prescribed burns and burning of domestic waste is prohibited by **City of Keller Ordinance No. 1807.**

Exception:

Fires used for Recreation, Ceremony, Cooking, and Warmth. Outdoor burning shall be authorized for fires used solely for recreational or ceremonial purposes, or in the noncommercial preparation of food, or used exclusively for the purpose of supplying warmth during cold weather. The fuel used for recreational burns shall consist of only clean seasoned firewood, natural gas or equivalent, or any clean burning fuel with emissions that are equivalent to or lower than those created from the burning of seasoned firewood.

Container requirements:

1. Fires in approved containers i.e., Chiminea or portable fire pit that are not less than 15 feet (4572 mm) from a structure.

2. The minimum required distance from a structure for an in-ground fire pit shall be 25 feet (7620 mm) with a diameter of 3 feet (914 mm) or less with firewood no greater than 2 feet (610 mm) or less in height.

Section 307.2 shall be amended to read as follows:

307.2 Permit required. A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to kindling a fire for recreational or ceremonial use.

Examples of state or local law, or regulations referenced elsewhere in this section may include but not be limited to the following:

1. Texas Commission on Environmental Quality guidelines and/or restrictions.

2. State, county, or local temporary or permanent bans on open burning.

3. Local written policies as established by the Code Official.

4. Chapter 382, Texas Clean Air Act.

Section 307.3 change to read as follows

307.3 Extinguishment authority. The fire code official is authorized to order the extinguishment by the permit holder, another person responsible or the fire department of open burning that creates or adds to a hazardous or objectionable situation.

Section 307.4 and 307.4.1 shall be deleted entirely.

Section 308.1.4 shall be amended to read as follows:

Section 308.1.4 Open-flame cooking devices. Open-flame cooking devices, charcoal grills and other similar devices used for cooking shall not be located or used on combustible balconies, decks, or within 10 feet (3048 mm) of any combustible construction.

Exceptions:

1. One- and two-family dwellings, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity] with an aggregate LP-gas capacity not to exceed 100 pounds (5 containers).

2. Where buildings, balconies and decks are protected by an approved automatic sprinkler system, except that LP-gas containers are limited to a water capacity not greater than 50 pounds (22.68 kg) [nominal 20 pound (9.08 kg) LP-gas capacity] with an aggregate LP-gas capacity not to exceed 40 pounds (2 containers).

3. LP-gas cooking devices having LP-gas containers with water capacity not greater than 2-½ pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

Section 308.1.6.2, Exception 3 shall be amended to read as follows:

3. Torches or flame-producing devices in accordance with Section 308.1.3.

Section 308.1.6.3 shall be amended to read as follows**.**

308.1.6.3 Sky Lanterns. A person shall not release or cause to be released an unmanned free-floating device containing an open flame or other heat source, such as, but not limited to a sky lantern.

Section 308 Open Flames is amended by adding Section 308.5 and subsections to read as follows:

Section 308.5 Open burning

The use of open flame cooking devices shall be as follows:

Section 308.5.1. Multifamily structure.

It shall be a violation of this code for any person to use, allow or permit the use of a fixed or portable grill or cooking device that uses an open flame or electrical heating element within ten (10) feet of any multi-family structure, under any covered portion of a multi-family structure, under any covered parking structure or portion thereof.

Section 308.5.2 Sign.

It shall be a violation of this code for any person to own or manage any multi-family structure without installing and maintaining on each balcony, patio, landing or similar structure of each dwelling unit an approved sign readily visible to the occupants that prohibits the use of any grill, hibachi, smoker, electrical heating element, or similar apparatus within ten (10) feet of all apartment structures. Signs shall be at least thirty

(30) square inches with the word “PROHIBITED” in one (1) inch letter, and the remaining message in at least one-fourth (1/4) inch letter, red on white, and provide the following warning:

-PROHIBITED- THE USE OF ANY GRILL, HIBACHI, OR SMOKER IN OR WITHIN TEN FEET OF ALL APARTMENT STRUCTURES, PATIOS AND CARPORTS. KELLER FIRE CODE - FINE UP TO $2000.00

Section 311.5; change to read as follows:

Section 311.5 Placards. The fire code official is authorized to require marking of any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards, as required by Section 311.5.1 through 311.5.5.

Section 403.5; change Section 403.5 to read as follows:

Section 403.5 Group E Occupancies. An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. A diagram depicting two evacuation routes shall be posted in a conspicuous location in each classroom. Group E occupancies shall also comply with Sections 403.5.1 through 403.5.3.

Section 404.2.2; add Number 4.10 to read as follows:

Section 4.10 Fire extinguishing system controls.

Section 405.4; change Section 405.4 to read as follows:

Section 405.4 Time. The fire code official may require an evacuation drill at any time. Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.

Section 501.4; change to read as follows:

Section 501.4 Timing of Installation. When fire apparatus access roads or a water supply for fire protection is required to be installed for any structure or development, they shall be installed, tested, and approved prior to the time of which construction has progressed beyond completion of the foundation of any structure and before vertical construction with combustible material has begun.

Section 503.1.1 shall be amended to add the following paragraph:

Except for one- or two-family dwellings, the path of measurement shall be along a minimum of a ten foot (10’) wide unobstructed level pathway around the external walls of the structure.

Section 503.2.1 delete the exception and amended to read as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet (7,315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than sixteen (16) feet.

The requirements of Section D105 shall remain unchanged.

Section 503.2.2; change to read as follows:

Section 503.2.2 Authority. The fire code official shall have the authority to require an increase in the minimum access widths and vertical clearances where they are inadequate for fire or rescue operations.

Section 503.2.3; change Section 503.2.3 to read as follows:

503.2.3 Surface. Construction of all fire lanes shall be in accordance with the Keller Unified Development Code Design and Constructions Standards and this section.

Fire lanes shall be constructed of a concrete surface capable of supporting the imposed loads of a 2-axle, 85,000 lb. fire apparatus. The design shall be based on the geotechnical investigation of the site, but shall meet the stated minimums.

Whenever forty percent (40%) of existing, non-conforming fire lanes are replaced within a twelve month period, the entire fire lane shall be replaced according to current standards.

All fire lanes shall be maintained and kept in a good state of repair at all times by the owner and the City of Keller shall not be responsible for the maintenance thereof. It shall further be the responsibility of the owner to insure that all fire lane markings required by Section 503.3 be kept so that they are easily distinguishable by the public.

Appendix D; Change Appendix D102.1 to read as follows:

D102.1 Access and Loading. Facilities, buildings, or portions of buildings, hereafter, constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete, or other approved driving surface capable of supporting the imposed load of apparatus weighing up to 85,000 pounds. Buildings 6,000 square feet or larger shall have fire apparatus roads on all four sides of the building to allow for adequate firefighting capabilities.

Appendix D Section 103 Minimum Specifications. Change D103.2 to read as follows:

D103.2 Grade. Fire apparatus access roads shall not exceed 6 percent in grade.

Section 503.3 shall be amended to read as follows:

503.3 Marking. Striping, signs, or other markings, when approved by the fire code official, shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Striping, signs and other markings shall be maintained in a clean and legible condition at all times and shall be replaced or repaired when necessary to provide adequate visibility. Speed-

reducing devices which are installed across Fire Department access roads and fire lanes shall be installed and maintained in accordance with the provisions of these rules and regulations. The speed-reducing devices shall be the **speed cushion type**.

1. **Striping** – Fire apparatus access roads shall be continuously marked by painted lines of red traffic paint six inches (6") in width to show the boundaries of the lane. The words "NO PARKING FIRE LANE- TOW AWAY" or "FIRE LANE NO PARKING – TOW AWAY" shall appear in four inch (4") white letters at 25 foot (25') intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the striping shall be on both the horizontal and vertical faces of the curb. The red paint shall meet the Texas Department of Highway and Public Transportation, (TXDOT), specification number TTP-115, chlorinated rubber paint or approved equal.

2. **Signs** – Signs shall read "NO PARKING FIRE LANE – TOW AWAY" or "FIRE LANE NO PARKING TOW AWAY" and shall be twelve inches (12") wide and eighteen inches (18") high. Signs shall be painted on a white background with letters and borders in red, using not less than two-inch (2") lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be six feet, six inches (6' 6") above finished grade. Signs shall be spaced not more than fifty feet (50') apart. Signs may be installed on permanent buildings or walls or as approved by the Fire Code Official.

Section 503.2.4 shall be amended as follows:

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be in accordance with this section.

Any such fire lane shall either connect both ends to a dedicated public street or fire lane or be provided with an approved turnaround having a minimum outer radius of fifty-four feet (54') and an inside radius of thirty feet (30').

Fire lane dimensions established by Appendix D, or other sections of this Code, shall be superseded by the criteria established by this section.

Section 503.2.7 shall be amended as follows:

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the fire code official. In no case shall the grades along a fire apparatus access road exceed the following:

Along the Fire Apparatus Access Road – 6%

Cross Slope – 5%

Exception. The code official shall have the authority to adjust the grade along the fire lane when necessary for fire or rescue operations or based upon the hazard being protected or general topography of the lot. In no case shall the grade exceed nine percent (9%). Written approval from the fire code official shall be required.

Section 503.2.8 shall be amended to read as follows:

503.2.8 Angles of approach and departure. The angles of approach and departure for a fire apparatus access road shall be within the limits established by the fire code official. In no case shall the grades exceed the following:

1. Maximum Angle of Approach – 5%

2. Maximum Angle of Departure – 5%

Exception. The code official shall have the authority to adjust the grade along the fire lane when necessary for fire or rescue operations or based upon the hazard being protected or general topography of the lot. Written approval from the fire code official shall be required.

Section 503.4 shall be amended to read as follows:

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 through 503.2.8 and any area marked as a fire lane as described in Section 503.3 shall be maintained clear of obstructions at all times. Unattended vehicles or other obstructions in the fire lane may be removed or towed at the expense of the registered owner.

Section 503.6 shall be amended to read as follows:

503.6. Security Gates. When mechanically operated gates or barriers are provided, or required, across a fire apparatus access road, an approved emergency vehicle traffic preemption device shall be provided compatible with the fire department's apparatus. The installation of security gates across a fire apparatus access road shall be approved by the Fire Marshal. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

Section 503.6.1.1 and subsections shall be added to read as follows:

503.6.1.1 Distance from street, sidewalk, roadway or right-of-way. Gates shall be located on private property a minimum of 30 feet from the property line being crossed by the drive or 50 feet from the nearest edge of roadway, whichever is greater.

Provisions shall be made to allow for egress from the property and 100' for stacking of vehicles at the entry, and for turnaround.

Section 503.6.1.2 Electronic operation. All main gates shall be electrically operated. A secondary/emergency power source must be available and brought online automatically upon loss of primary power to the access gates. The secondary/emergency power source shall automatically open the gates. A manual disconnect is required in the event of complete power failure. The manual disconnect shall be placed in a weather tight box, with a piano-type hinge on one side and a Knox Box PL-1 padlock and hasp on the other side.

Section 503.6.1.3 Open with key operated switch. All main gates shall open with the fire department Knox K.S. #2 key operated switch. The Knox key-operated switch shall be provided and installed by the owner. The key-operated switch shall be located 10 feet from the gate, on the left side of the approach, placed on a pedestal with the key switch facing the fire lane or road. The key switch shall be no closer than 4 feet 6 inches, or no farther than 5 feet 5 inches, from the ground.

Section 503.6.1.4 Access codes. It shall be the owner's responsibility to program the security gate and provide the fire department with the access code and to maintain Keller Fire-Rescue's accessibility through the assigned access code.

Section 503.6.1.5 Medians. Where a security gate is installed with a median, the entry side of the gate shall have a minimum opening of 30 feet (measured back of curb to back of curb.

Section 503.6.1.6 Optically controlled emergency entry devices. All electronic security gates, commercial properties and residential subdivisions, shall be equipped with an optically controlled emergency override device (Opticom or equivalent) that is compatible with the optical activation device installed on fire apparatus. The devices shall be placed in both directions of travel to provide for the opening of gates as the fire apparatus approaches and exits the property. Permits for installation are required, and the Fire Marshal shall test and approve the installation upon completion, to determine compliance.

Section 505.1; change to read as follows:

Section 505.1 Address Identification. 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.

1) 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 six (6) inches high with a minimum one (1) inch stroke width. Each suite 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.
2) Where access is by means of a private road, buildings do not immediately front a street, and/or cannot be viewed from the public way, a monument, pole or other sign with approved 6 inch (152.4 mm) height suite/apartment numerals of a color contrasting with the background of the building or other approved means shall be used to identify the structure. Numerals or addresses shall be posted on a minimum 20 inch (508 mm) by 30 inch (762 mm) background on border. Address shall be maintained.

Exception:

R-3 Single Family occupancies shall have approved numerals of a minimum four (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.

Section 507.4; change to read as follows:

Section 507.4 Water Supply Test Data and Information. The water supply test used for hydraulic calculation of fire protection systems shall be conducted in accordance with NFPA 291 "Recommended Practice for Fire Flow Testing and Marking of Hydrants" and within six-months of sprinkler plan submittal. Flow tests shall be scheduled through Public Works (SCADA). Water supply tests shall be conducted by the requesting party, all water valves will be operated by City of Keller water department personnel. The flow test shall be conducted in the presence of City of Keller Water Department personnel, the Flow Data Sheet shall be signed by Water Department staff member as a witness to the test. **Staff is not confirming the data acquired, only that the test was performed using City of Keller fire hydrants.** A hard copy of the Flow Data Sheet shall accompany your plan submittal. The exact location of the static/residual hydrant and the flow hydrant shall be indicated on the design drawings. The report must indicate the dominant water tank level at the time of the test and the maximum and minimum operating levels of the tank, as well, or identify applicable water supply fluctuation. The licensed contractor must then design the fire protection system based on this fluctuation information, as per the applicable referenced NFPA standard. Reference Section 903.3.5 for additional design requirements. **Test data used for plan review submittal shall not be older than six (6) months from date of submittal.**

Section 507.5 Fire hydrant systems is amended and Sections added to read as follows:

Section 507.5 Fire hydrant systems. Fire hydrant systems shall comply with Section 507.5.1 through 507.5.7.

Section 507.5.1 Where required is amended by deleting the Section 507.5.1 Where required and replacing it with Section 507.5.1 Where required and subsections, to read as follows:

Section 507.5.1 Where required. When a portion of the facility or building hereafter constructed or moved into, or within the jurisdiction, is more than 500 feet from a hydrant on the fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the Fire Marshal.

Exception: For Group R-3 and Group U occupancies, the distance requirement shall be 300 feet.

Exception 2 is deleted.

Section 507.5.1.2 Location. The location of fire hydrants on private property or along fire access roads shall be approved by the Fire Marshal.

Section 507.5.1.2 Fire system connections to read as follows:

Section 507.5.1.2 Fire department system connections. Fire hydrants shall be located within a 100-foot hose lay of the Fire Department Connection (FDC). Fire Department Connections when remotely located, shall have a 42" by 42" concrete pad below each connection.

Section 507.5.1.3 Requirements when not on public street. Fire hydrants not installed on a public street shall be looped to provide a water supply from 2 directions.

Section 507.5.4; change to read as follows:

507.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. Posts, fences, vehicles, growth, trash, storage, and other materials or objects shall not be placed or kept near hydrants, fire department inlet connections or protection systems control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernable. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

Section 509.1.2; add new Section 509.1.2 to read as follows:

Section 509.1.2 Sign Requirements. Unless more stringent requirements apply, lettering for signs required by this section shall have a minimum height of 2 inches (50.8 mm) when located inside a building and 4 inches (101.6 mm) when located outside, or as approved by the fire code official. The letters shall be of a color that contrasts with the background.

Section 603.3.2 and 603.3.2.1; change to read as follows:

603.3.1 Fuel oil storage in outside, aboveground tanks. In addition to the required Special Use Permit (SUP) where connected to a fuel-oil piping system, the maximum amount of fuel oil storage allowed outside above ground without additional protection shall be 660 gallons (2498 L). The storage of fuel oil above ground in quantities exceeding 660 gallons (2498 L) shall comply with NFPA 31 and Chapter 57.

603.3.2 Fuel oil storage inside buildings. Fuel oil storage inside buildings shall comply with Sections 603.3.2.1 through 603.3.2.5 and Chapter 57.

603.3.2.1 Quantity limits. One or more fuel oil storage tanks containing Class II or III combustible liquid shall be permitted in a building. The aggregate capacity of all tanks shall not exceed the following:

1. 660 gallons (2498 L) in unsprinklered buildings, where stored in a tank complying with UL 80, UL 142, or UL 2085 for Class III liquids, and also listed as a double-wall/secondary containment tank for Class II liquids.
2. 1320 gallons (4996 L) in buildings equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, where stored in a tank with UL 142, or UL 2085 as a double-wall/secondary containment tank.
3. 3000 gallons (11356 L) where stored in protected above-ground tanks complying with UL 2085 and Section 5704.2.9.7 and the room is protected by an automatic sprinkler system in accordance with Section 903.3.1.1.

Section 607.2; change to read as follows:

607.2 Where Required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors, including but not limited to cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, trailers, pavilions, or any form of roofed enclosure, as required by the fire code official.

Exceptions:
1. Tents, as provided for in Chapter 31 shall have a flame rating tag sewn into the material which indicates compliance with NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

2. {No change to existing Exception.}

Additionally, fuel gas and power provided for such cooking appliances shall be interlocked with the extinguishing system, as required by Section 904.12.2. Fuel gas containers and piping/hose shall be properly maintained in good working order and in accordance with all applicable regulations.

Section 704.1; now 704.1.1 change to read as follows:

704.1.1 Enclosure. Interior vertical shafts including, but not limited to, stairways, elevator hoist-ways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected in accordance with the codes in effect at the time of construction but, regardless of when constructed, not less than as required in Chapter 11. New floor openings in existing buildings shall comply with the International Building Code.

Section 807.2; change to read as follows:

807.2 Combustible Decorative Materials. In occupancies in Groups A, E, I, and R-1, and dormitories in Group R-2, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.3 and shall not exceed 10 percent of the specific wall area to which they are attached.

Section 807.5.2.2 and 807.5.2.3; change to read as follows:

807.5.2.2 Artwork in Corridors. Artwork and teaching materials shall be limited on the walls of corridors to not more than 50 percent of the wall area. Such materials shall not be continuous from floor to ceiling or wall to wall. Curtains, draperies, wall hangings, and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

807.5.2.3 Artwork in Classrooms. Artwork and teaching materials shall be limited on walls of classrooms to not more than 50 percent of the specific wall area to which they are attached. Curtains, draperies, wall hangings and other decorative material suspended from the walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 807 or be noncombustible.

Section 901 General is amended by changing Section 901.3 and 901.5 as shown in the International Fire Code to read as follows:

Section 901.3.1 Permit required. Permits shall be required as set forth in Section 105.6 and 105.7 and as required by this section. A permit shall be required for the installation, reconsideration, modification, moving or alteration of any life safety system including but not limited to fire sprinkler systems, fire alarm systems, fixed extinguishing systems, access control systems and carbon dioxide sensing and monitoring systems. Work shall not begin on any system without first obtaining a permit. Any person, firm, or corporation who that violates this requirement shall be liable for a fine that is two-times the cost of the Permit or Five Hundred Dollars ($500.00), whichever is greater.

Exemption: Emergency repairs, due to system malfunctions or discharging, may begin, providing a permit is obtained as soon as possible, but no later than the next business day.

Section 901.3.2 Permit application. The permit application shall be submitted to the office of the Fire Marshal, through the City of Keller Permitting Department and must have attached to the application detailed construction plans and a copy of the applicant's state license. The following shall be included with the plan submission: a CD, or other media, as approved by the Fire Marshal, containing state license, plan drawings, calculations, and spec sheets, in PDF format.

Section 901.3.3 Permit fee. The permit fee for the construction, repair, alteration, or relocation of a fixed system shall be in accordance with the fee schedule adopted by the City of Keller.

Section 901.5 Installation acceptance testing. Fire detection and alarm systems, fire extinguishing systems, fire hydrant systems, fire standpipe systems, fire pump systems, private fire service mains, and all other fire protection systems, and appurtenances thereto, shall be subject to acceptance tests, as contained in the installation standards and as approved by the fire code official. The fire code official shall be notified before any required acceptance testing. No system shall be approved until a complete inspection of materials and a functional test has been completed and witnessed by the Fire Marshal. The installer/technician must be present for all inspections and testing.

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.

Section 901.6.4; add Section 901.6.4 to read as follows:

901.6.4 False Alarms and Nuisance Alarms. False alarms and nuisance alarms shall not be given, signaled or transmitted or caused or permitted to be given, signaled or transmitted in any manner.

Section 901.7; shall be amended to read as follows:

901.7 Systems out of service. Where a required fire protection system is out of service or in the event of an excessive number of activations, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Fire Watch is the responsibility of the property owner. The owner shall be required to hire a private security firm to supply two personnel for each of three 8 hour shifts or during the occupied hours of the business, to monitor for fire conditions and have the means necessary for contacting 911 immediately. The fire watch shall remain in effect until the life safety systems are back in service. Should the fire watch option be declined, the entire building shall be evacuated and closed until all repairs have been made, and a re-inspection has been performed the fire code official.

Section 901.8.2; change to read as follows:

901.8.2 Removal of Occupant-use Hose Lines. The fire code official is authorized to permit the removal of occupant-use hose lines and hose valves where all of the following conditions exist:
1. The hose line(s) would not be utilized by trained personnel or the fire department.
2. If the occupant-use hose lines are removed, but the hose valves are required to remain as per the fire code official, such shall be compatible with local fire department fittings.

Add Sections 901.11 Certification, Section 901.12 Failure of system, and Section 901.13 Message alarms. To read as follows:

Section 901.11 Certification. A notarized certification indicating all work has been performed as permitted and that the work meets code requirements must be submitted at final inspection.

Section 901.12 Failure of system. All fire alarm systems shall be designed and constructed so the failure, malfunction, or removal of any single device, or failure of the wiring to a device does not interfere with the operation of other devices in the system.

Section 901.13 Message alarms. Pre-recorded or voice message fire alarms shall not be approved unless accompanied by a fire alarm signal of audio-visual devices that meet the minimum standards of the Americans with Disabilities Act (ADA).

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 in addition to automatic sprinkler protection where recognized by the applicable standard or as approved by the fire code official.

Section 903 Automatic Sprinkler Systems is amended as follows:

Section 903.1.2 is amended by adding subsection 903.1.2 and 903.1.3 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 shall include attic protection.

903.1.3 No CPVC Piping. No fire sprinkler system shall be installed using CPVC piping.

Exception: CPVC is allowed in private residences and townhomes.

Section 903.2; add paragraph to read as follows:

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."

Section 903.2 Where required . Delete the exception and amend as follows:

Section 903.2.1.1 Group A-1, Section 903.2.1.3 Group A-3, and Section 903.2.1.4 Group A-4 are amended by deleting the number "12,000" in number one of each section and replacing it with the number "6,000". The sections are also amended by adding the following exception:

"**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".

Section 903.2.8 Group R is amended to read as follows:

Section 903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area. An automatic sprinkler system shall be provided throughout all buildings with a Group R-2 occupancy where the fire area is 2 stories in height, including basements, or where the building has more than 3 units. Any Group R-2 occupancy two (2) or more stories in height shall be required to have a sprinkler system meeting the requirements of NFPA Standard 13.

Section 903.2.9.2 Bulk storage of tires, Section is amended by deleting that section and replacing it with a new Section 903.2.9.2, to read as follows:

Section 903.2.9.2 Bulk storage of tires. Buildings and structures where the area for the storage of tires exceeds 10,000 cubic feet shall be equipped throughout with an automatic fire sprinkler system meeting the requirements of NFPA Standard 13.

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.

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:

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

Exceptions:
Open parking structures in compliance with Section 406.5 of the International Building Code, having no other occupancies above the subject garage.

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 6,000 square feet or greater, under roof, an automatic sprinkler system shall be installed throughout all buildings and any portion of a building that meets any one of the following criteria listed below:

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

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

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

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

For the purpose of this provision, firewalls and fire barriers 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.

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 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. {Delete}
5. Elevator machine rooms, machinery spaces, and hoistways, other than pits where such sprinklers would not necessitate shunt trip requirements under any circumstances.

6. {Delete}

Section 903.3.1.2.3; delete section and replace as follows:

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

1. Attics that are used, or intended for living purposes, or storage shall be protected by an automatic sprinkler system.

2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.

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:

    4.1. Provide automatic sprinkler system protection
    4.2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
    4.3. Construct the attic using non-combustible materials.
    4.4. Construct the attic using fire-retardant-treated wood, complying with Section 2303.2 of the International Building Code.
    4.5 Fill the attic with non-combustible insulation.

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 dwellings; 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.

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.

Section 903.3.1.4.1 Attics. Only dry-pipe, pre-action, 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.

Section 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.

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.

Section 903.3.7 Fire Department Connections. Is amended by deleting that section and adding the following section, to read as follows:

Section 903.3.7 Fire Department Connections. The location of Fire Department Connections shall be approved by the fire code official. Locking caps, of an approved style or vendor may be required by the fire code official. Locking caps shall be installed as replacements for lost or damaged caps when deemed necessary by the fire code official to address tampering problems at existing facilities.

Section 903.4; Amend Section 903.4 and add a second paragraph after the exceptions to read as follows:

Section 903.4 Sprinkler system supervision and alarms. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems, new and existing, shall be electrically supervised by a listed fire alarm control unit.

Add 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.

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.

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.

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. Also required is a water-motor activated gong.

Section 903.7 shall be added to read as follows:

Section 903.7 Automatic Sprinkler System Room Access. Sprinkler system risers providing protection for multi-family and commercial buildings must be located in a ground floor room directly accessible from the exterior of the building. The door shall be labeled as "SPRINKLER RISER ROOM." The minimum size of the room shall be 36 sq. ft., with the minimum dimension being 6 ft. The outside edge of the Riser stub into the building shall be a minimum of eighteen inches (18") from the wall and riser piping, and once stacked shall be a minimum of eighteen inches (18") from the outside edge of the piping to the inside edge of the finished wall. When approved by the fire code official, smaller rooms may be permitted.

Section 903.8 Installation schedule is amended by adding 903.8 Installation schedule, to read as follows:

Section 903.8 Installation schedule. Approved fire sprinkler systems shall be operational in a building under construction when:

1. The building is sufficiently constructed to the point that the exterior sheathing and roof have been installed; or
2. At the start of combustible interior construction; or
3. When there is an accumulation of combustible material within the building including, but not limited to, building supplies, rubbish, and furniture, or
4. When the building goes under conditioned atmosphere.

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.

Section 905.3; add Section 905.3.9 and exception to read as follows:

905.3.9 Buildings. 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.

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

1. In every required exit stairway, a hose connection shall be provided for each story above and below grade plane. Hose connections shall be located at every landing, on each story, 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 exit stairway hose connection by a {remainder of text unchanged.}
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 hose connection located to serve the roof or at the highest landing of an 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 corridors thereafter, or as otherwise approved by the fire code official.

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.

Section 907.1; add Section 907.1.4 and 907.1.4.1 to read as follows:

907.1.4 Design Standards. All alarm systems new or replacement shall be addressable. Alarm systems serving more than 20 smoke detectors shall be analog addressable. A system employing a DACT shall employ one telephone land line as the primary; **VOIP is not an approved communication method.** In addition, one of the following transmission means shall be employed as the back-up line:

-One-way private radio alarm system
-Two-way RF multiplex system
-Transmission means complying with NFPA 72

Exception: Existing systems need not comply unless the total building remodel or expansion initiated after the effective date of this code, as adopted, exceeds 30% of the building. When cumulative building remodel or expansion exceeds 50% of the building must comply within 18 months of permit application.

Section 907.2; change, delete the second paragraph and replace with a paragraph to read as follows:

907.2 Where required in buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

An approved fire alarm system shall be installed in existing buildings that are protected by a previously installed automatic sprinkler system in accordance with NFPA 72, 2019 Edition Chapter 1.4.2.

Section 907.2.1; change to read as follows delete exception:

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 having an occupant load 100 or more persons, or where the 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.

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}

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.

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.

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 (4) feet separation horizontal and one (1) foot vertical between supply and return circuit conductors. The initiating device circuit (IDC) from a signaling line circuit interface device shall be wired Class A, provided the distance from the interface device to the initiating device is ten feet or less. All wiring, SLC, IDC, NAC shall be wired Class A. Minimum fire alarm design shall include a manual pull station at each exit and notification devices throughout.

Section 907.6.3; delete all four Exceptions.

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.

Section 909.22; add to read as follows:

909.22 Stairway or Ramp Pressurization Alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and the stair pressurization alternative is chosen for compliance with Building Code requirements for a smokeproof enclosure, interior exit stairways or ramps shall be pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect. Such systems shall comply with Section 909, including the installation of a separate fire-fighter's smoke control panel as per Section 909.16, and a Smoke Control Permit shall be required from the fire department as per Section 105.7.

Section 909.22.1 Ventilating equipment. The activation of ventilating equipment for the stair or ramp pressurization system shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway or ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

Section 909.22.1.1 Ventilation Systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.
3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the Building Code or horizontal assemblies constructed in accordance with Section 711 of the Building Code, or both.

Exceptions:
1. Control wiring and power wiring utilizing a 2-hour rated cable or cable system.
2. Where encased with not less than 2 inches (51 mm) of concrete.
3. Control wiring and power wiring protected by a listed electrical circuit protective systems with a fire-resistance rating of not less than 2 hours.

Section 909.21.1.2 Standby Power.

Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 2702 of the Building Code.

Section 909.22.1.3 Acceptance and Testing.
Before the mechanical equipment is approved, the system shall be tested in the presence of the fire code official to confirm that the system is operating in compliance with these requirements.

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

2. Only manual smoke and heat removal shall 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 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.

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 6,000 square feet (1394 m^2) 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.

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 Non-sprinklered 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 (56C) and 220 F (122C) above ambient temperature.

Exception: Listed gravity-operated drop out vents.

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 automatic. The minimum gross area of

makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m2 per 0.4719 m3/s) of smoke exhaust.

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.

Section 913.2.1; add second paragraph and exception to read as follows:

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 of an approved type or vendor shall be provided at this door, as required by 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 Section 506.1.

Section 914.3.1.2; change to read as follows:

914.3.1.2 Water Supply to required Fire Pumps. In buildings that are more than 120 feet (128 m) in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located on 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}

Section 1003.6 Means of egress continuity is amended by adding Section 1003.6.1 vehicle parking, to read as follows:

Section 1003.6.1 Vehicle parking. No motor vehicle shall be parked within 10 feet of any patio, stairs, or egress path at any apartment, multi-family building, hotel, motel, educational occupancy or commercial structure, unless in an approved parking space.

Section 1006.2.2.7; add a new 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.

Section 1009.1; add the following Exception 3:

Exceptions:
{previous exceptions unchanged}

3. Buildings regulated under State Law and built in accordance with State registered plans, including any variances or waivers granted by the State, shall be deemed to be in compliance with the requirements of Section 1009.

Section 1009.8; add the following Exception 7:

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.

Section 1010.1.9.5 Bolt Locks; amend Exceptions 3 and 4 to read 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}

Section 1015.8 Window Openings; change number 1 to read as follows:

1. Operable windows where the top of the sill of the opening is located more than 55 feet (16 764 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F 2006.

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 shall activate self-annunciating alarms audible in all areas within the corridor. Smoke detectors shall be connected to an approved automatic fire alarm system where such system is provided.

Section 1024 Exit Passageways is amended by adding Section 1024.1.1 Exit ways – hotels, motels, and multi-family, to read as follows:

Section 1024.1.1 Exit ways – hotels, motels, and multi-family. All public exit ways and balconies shall be constructed of material having a minimum of a class "C" flame spread rating (75 to 200 flame spread). All balconies and landings utilized as exit ways shall have a minimum length of 8 feet and a minimum width of 4 feet.

Section 1029.1.1.1; delete this section. Spaces under Grandstands and Bleachers:

Section 1031.2; change to read as follows:

1031.2 Reliability. Required exit accesses, exits and exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency. An exit or exit passageway shall not be used for any purpose that interferes with a means of egress.

Section 1103.3; add sentence to end of paragraph as follows:

Provide emergency signage as required by Section 606.3.

1103.5 Sprinkler Systems change to read as follows:

An automatic sprinkler system shall be provided in all existing buildings 6,000 square feet or larger in accordance with this section, when there is a change of owner, use or occupant and a hazard classification as defined in Chapter 4 of NFPA 13: Standard for the Installation of Sprinkler Systems is present. The fire sprinkler system installation shall be completed within twenty-four (24) months from the date of notification by the fire code official. The fire code official is authorized to decrease the installation timeframe based on the occupant and/or use of the building to ensure life safety.

Section 1103.5.1: add sentence to read as follows:

Fire sprinkler system installation shall be completed within twenty-four (24) months from date of notification by the fire code official.

Section 1103.5.3 Group I-2, Condition 2 change last sentence to read as follows:

The automatic sprinkler system shall be installed as established by adopting this ordinance and within twelve (12) months of notification by the fire code official.

Section 1103.5; add Section 1103.5.5 to read as follows:

1103.5.5 Spray Booths and Rooms. Existing spray booths and spray rooms shall be protected by an approved automatic fire-extinguishing system in accordance with Section 2404.

Section 1103.7; add Section 1103.7.7 and 1103.7.7.1 to read as follows:

1103.7.7 Fire Alarm System Design Standards. Where an existing fire alarm system is upgraded or replaced, the devices shall be addressable.

Exception: Existing systems need not comply unless the total building, or fire alarm system, remodel or expansion exceeds 30% of the building. When cumulative building, or fire alarm system, remodel or expansion initiated after the date of original fire alarm panel installation exceeds 50% of the building, or fire alarm system, the fire alarm system must comply within 18 months of permit application.

Section 1103.7.7.1 Communication requirements. Refer to Section 907.6.6 for applicable requirements

Section 1203; change and add to read as follows:

1203.1.1 {No change}
1203.1.2 {No change}
1203.1.3 Installation. Emergency power systems and standby power systems shall be installed in accordance with the International Building Code, NFPA 70, NFPA 110, and NFPA 111. Existing installations shall be maintained in accordance with the original approval, except as specified in Chapter 11.

1203.1.4 through 1203.1.9 {No changes to these sections}

1203.1.10 Critical Operations Power Systems (COPS). For Critical Operations Power Systems necessary to maintain continuous power supply to facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity, see NFPA 70.

1203.2 Where required. Emergency and standby power systems shall be provided where required by Sections 1203.2.1 through 1203.2.26, or elsewhere identified in this code, or any other referenced code.

1203.2.1 through 1203.2.3 {No change}

1203.2.4 Emergency Voice/alarm communications systems. Emergency power shall be provided for emergency voice/alarm communications systems in the following occupancies, or as specified elsewhere in this code, as required in Section 907.5.2.2.5. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72.

- Covered and Open Malls, Section 907.2.19 and 914.2.3
- Group A Occupancies, Sections 907.2.1 and 907.5.2.2.4.
- Special Amusement Buildings, Section 907.2.11
- High-rise Buildings, Section 907.2.12
- Atriums, Section 907.2.13
- Deep Underground Buildings, Section 907.2.18

1203.2.5 through 1203.2.13 {No change}

1203.2.14 Means of egress illumination. Emergency power shall be provided for means of egress illumination in accordance with Sections 1008.3 and 1104.5.1. minimum of ninety (90)minutes.

1203.2.15 Membrane Structures.
Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 3103.12.6. (90 minutes) Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the International Building Code. (4 hours) Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with section 3103.10.4.

1203.2.16 {No change}

1203.2.17 Smoke Control Systems.
Standby power shall be provided for smoke control systems in the following occupancies, or as specified elsewhere in this code, as required in Section 909.11:

- Covered Mall Building, International Building Code, Section 402.7
- Atriums, International Building Code, Section 404.7
- Underground Buildings, International Building Code, Section 405.8
- Group I-3, International Building Code, Section 408.4.2
- Stages, International Building Code, Section 410.2.5
- Special Amusement Buildings (as applicable to Group A's), International Building Code, Section 411.1
- Smoke Protected Seating, Section 1029.6.2.

1203.2.18 {No change}

1203.2.19 Covered and Open Mall Buildings.

Emergency power shall be provided in accordance with Section 907.2.19 and 914.2.3.

1203.2.20 Airport Traffic Control Towers.
A standby power system shall be provided in airport traffic control towers more than 65 ft. in height. Power shall be provided to the following equipment:
1. Pressurization equipment, mechanical equipment and lighting.
2. Elevator operating equipment.
3. Fire alarm and smoke detection systems.

1203.2.21 Smokeproof Enclosures and Stair Pressurization Alternative.
Standby power shall be provided for smokeproof enclosures, stair pressurization alternative and associated automatic fire detection systems as required by the International Building Code, Section 909.20.6.2.

1203.2.22 Elevator Pressurization. Standby power shall be provided for elevator pressurization system as required by the International Building Code, Section 909.21.5.

1203.2.23 Elimination of Smoke Dampers in Shaft Penetrations. Standby power shall be provided when eliminating the smoke dampers in ducts penetrating shafts in accordance with the International Building Code, Section 717.5.3, exception 2.3.

1203.2.24 Common Exhaust Systems for Clothes Dryers. Standby power shall be provided for common exhaust systems for clothes dryers located in multistory structures in accordance with the International Mechanical Code, Section 504.10, Item 7.

1203.2.25 Hydrogen Cutoff Rooms. Standby power shall be provided for mechanical ventilation and gas detection systems of Hydrogen Cutoff Rooms in accordance with the International Building Code, Section 421.

1203.2.26 Means of Egress Illumination in Existing Buildings. Emergency power shall be provided for means of egress illumination in accordance with Section 1104.5 when required by the fire code official. (90 minutes in I-2, 60 minutes elsewhere.)

1203.3 through 1203.6 {No change}

1203.7 Energy Time Duration. Unless a time limit is specified by the fire code official, in this chapter or elsewhere in this code, or in any other referenced code or standard, the emergency and standby power system shall be supplied with enough fuel or energy storage capacity for not less than 2-hour full-demand operation of the system.

Exception: Where the system is supplied with natural gas from a utility provider and is approved.

Section 2304.1; change to read as follows:

2304.1 Supervision of Dispensing. The dispensing of fuel at motor fuel-dispensing facilities shall be in accordance with the following:

1. Conducted by a qualified attendant; and/or, 2. Shall be under the supervision of a qualified attendant; and/or
3. Shall be an unattended self-service facility in accordance with Section 2304.3.

At any time the qualified attendant of item Number 1 or 2 above is not present, such operations shall be considered as an unattended self-service facility and shall also comply with Section 2304.3.

Section 2401.2; delete this section.

Section 3103.3.1; delete this section.

Table 3206.2, footnote h; change text to read as follows:

h. Where storage areas are protected by either early suppression fast response (ESFR) sprinkler systems or 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 the stored commodities with 12 or fewer sprinklers, installed in accordance with NFPA 13, manual smoke and heat vents or manually activated engineered mechanical smoke exhaust systems shall be required within these areas.

Table 3206.2, footnote j; add footnote j to row titled "High Hazard" and Greater than 300,000' to read as follows:

j. High hazard high-piled storage areas shall not exceed 500,000 square feet. A 2-hour fire wall, constructed in accordance with Section 706 of the International Building Code, shall be used to divide high-piled storage exceeding 500,000 square feet in area.

Section 3310.1; add sentence to end of paragraph to read as follows:

When fire apparatus access roads are required to be installed for any structure or development, they shall be approved prior to the time at which construction has progressed beyond completion of the foundation of any structure. Completion of the access road includes striping.

Section 5003.2.2.1 Design and Construction change #3 and #4 and add #6 to read as follows:

3. Automatic fail-safe emergency shutoff
valves shall be installed on supply piping and tubing at the following locations: {remainder of text unchanged}

4. Automatic emergency shutoff valves shall be identified and the location shall be
clearly visible, accessible and indicated by means of a sign.

6. Bulk tank installations over 2,000 pounds will require an engineered foundation and construction permit per the 2018 International Building Code. Three complete sets of structural drawings, specifications and analysis (calculations) shall be provided and shall bear the seal of a licensed Texas professional engineer.

Section 5003.3.1.4 Responsibility for cleanup shall be amended by deleting Section 5003.3.1.4 Responsibility for cleanup in the IFC and replacing it with the following:

The person, firm or corporation, responsible for an unauthorized discharge or hazardous condition shall institute and complete all actions necessary to remedy the effects of such unauthorized discharge, whether sudden or gradual, at no cost to the jurisdiction. When deemed necessary, by the fire code official, cleanup may be initiated by the fire department, or by an authorized individual or firm. Costs associated with such cleanup shall be borne by the owner, operator, or other person responsible for the unauthorized discharge. Any costs associated with

a fire department response to accomplish control and mitigation of an unauthorized discharge may be charged back to the person, firm, or corporation responsible for the release.

Section 5004.10 Supervision and monitoring. Shall be amended to read as follows:

Emergency alarm, detection and automatic fire-extinguishing systems required by Section 5004 shall be electrically supervised and monitored by an approved supervising station or, where approved, shall initiate an audible and visual signal at a constantly attended location. In buildings with a monitored sprinkler or fire alarm/detection system, the carbon dioxide (CO^2) emergency alarm system shall be connected to the building fire alarm control panel. A fire alarm permit is required per the
City of Keller Fire Code.

Section 5601.1.3; change to read as follows:

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited.

Exceptions:
1. Only when approved for fireworks displays, storage, and handling of fireworks as allowed in Section 5604 and 5608.
2. The use of fireworks for approved fireworks displays as allowed in Section 5608.
{Delete remainder of text.}

Section 5703.6; add a sentence to read as follows:

5703.6 Piping Systems. Piping systems, and their component parts, for flammable and combustible liquids shall be in accordance with Sections 5703.6.1 through 5703.6.11. An approved method of secondary containment shall be provided for underground tank and piping systems.

Section 5704.2.9.5; change Section 5704.2.9.5 and add Section 5704.2.9.5.3 to read as follows:

5704.2.9.5 Above-ground Tanks Inside of Buildings. Above-ground tanks inside of buildings shall comply with Section 5704.2.9.5.1 and 5704.2.9.5.2 through 5704.2.9.5.3.
5704.2.9.5.1 {No change.}
5704.2.9.5.2 {No change.}

Section 5704.2.9.5.3 Combustible Liquid Storage Tanks Inside of Buildings.
1. The maximum aggregate allowable quantity limit shall be 3,000 gallons (11 356 L) of Class II or III combustible liquid for storage in protected aboveground tanks complying with Section 5704.2.9.7 when all of the following conditions are met:
2. The entire 3,000 gallon (11 356 L) quantity shall be stored in protected above-ground tanks;
The 3,000 gallon (11 356 L) capacity shall be permitted to be stored in a single tank or multiple smaller tanks;
3. The tanks shall be located in a room protected by an automatic sprinkler system complying with Section 903.3.1.1; and
4. Tanks shall be connected to fuel-burning equipment, including generators, utilizing an approved closed piping system.

The quantity of combustible liquid stored in tanks complying with this section shall not be counted towards the maximum allowable quantity set forth in Table 5003.1.1(1), and such tanks

shall not be required to be located in a control area. Such tanks shall not be located more than two stories below grade.

Section 5704.2.9.6.1 shall be amended to read as follows:

5704.2.9.6.1 Locations where above ground tanks are prohibited. The storage of Class I and Class II liquids in permanent above ground tanks outside of buildings is prohibited within the Keller City Limits unless approved by Special Use Permit and with approval of the Fire Marshal.

Section 5704.2.11.4; add a sentence to read as follows:

5704.2.11.4 Leak Prevention. Leak prevention for underground tanks shall comply with Sections 5704.2.11.4.1 through 5704.2.11.4.3. An approved method of secondary containment shall be provided for underground tank and piping systems.

Section 5704.2.11.4.2; change to read as follows:

5704.2.11.4.2 Leak Detection. Underground storage tank systems shall be provided with an approved method of leak detection from any component of the system that is designed and installed in accordance with NFPA 30 and as specified in Section 5704.2.11.4.3.

Section 5704.2.11.4.3; add Section 5704.2.11.4.3 to read as follows:

5704.2.11.4.3 Observation Wells. Approved sampling tubes of a minimum 4 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and shall be provided with suitable surface access caps. Each tank site shall provide a sampling tube at the corners of the excavation with a minimum of 4 tubes. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along product lines towards the dispensers, a minimum of two are required.

Delete Section 5707 Mobile Refueling in its entirety.

Section 6103.2.1; add Section 6103.2.1.8 to read as follows:

6103.2.1.8 Jewelry Repair, Dental Labs and Similar Occupancies. Where natural gas service is not available, portable LP-Gas containers are allowed to be used to supply approved torch assemblies or similar appliances. Such containers shall not exceed 20-pound (9.0 kg) water capacity. Aggregate capacity shall not exceed 60-pound (27.2 kg) water capacity. Each device shall be separated from other containers by a distance of not less than 20 feet.

Section 6104.2, Exception; add an exception 2 to read as follows:

Exceptions:
1. {existing text unchanged}
2. Except as permitted in Sections 308 and 6104.3.2, LP-gas containers are not permitted in residential areas.

Section 6104.3; add Section 6104.3.3 to read as follows:

6104.3.3 Spas, Pool Heaters, and Other Listed Devices. LP-gas containers are allowed to be used to supply spa and pool heaters or other listed devices. Such container shall not exceed 250-gallon water capacity per lot. See Table 6104.3 for location of containers. Installation shall be in accordance with the Texas Administrative Code Title 16, Part 1, Chapter 9, Subchapter B.

Exception: Lots where LP-gas can be off-loaded wholly on the property where the tank is located may install up to 500 gallon above ground or 1,000 gallon underground approved containers.

Section 6107.4 and 6109.13; change to read as follows:

6107.4 Protecting Containers from Vehicles. Where exposed to vehicular damage due to proximity to alleys, driveways or parking areas, LP-gas containers, regulators and piping shall be protected in accordance with NFPA 58 and Section 312.

6109.13 Protection of Containers. LP-gas containers shall be stored within a suitable enclosure or otherwise protected against tampering. Vehicle impact protection shall be provided as required by Section 6107.4.

Exception: {Deleted}

Table B105.2; change footnote a. to read as follows:

The reduced fire-flow shall be not less than 1,500 gallons per minute.

Appendix C103.1 Hydrant Spacing; shall be amended to read as follows and C103.2 and C103.3 shall be deleted:

C103 Fire Hydrant Spacing.

1. Commercial and Industrial Areas

a. Fire hydrants shall be located no more than a five hundred foot (500') truck hose lay distance to all points of any structure or combustible storage area on the lot.

b. Fire hydrants located on the opposite side of a street, designated as four lanes or larger on the current City Thoroughfare Plan, shall not be considered acceptable for meeting hydrant coverage requirements.

c. Fire hydrants shall be positioned to allow truck hose lays to follow normal traffic access to the site.

d. Fire hydrants shall be spaced at no more than three hundred foot (300') intervals.

2. Residential Areas

a. Fire hydrants shall be placed on block corners or near the center of the block to place every structure within a five hundred foot (500') truck hose lay distance from fire hydrant coverage.

b. Fire hydrants located on the opposite side of a street, designated as four lanes or larger on the current City Thoroughfare Plan, shall not be considered acceptable for meeting hydrant coverage requirements.

c. Fire hydrants shall be positioned to allow truck hose lays to follow normal traffic access to the site.

d. Fire hydrants shall be spaced at no more than five hundred foot (500') intervals.

Appendix C104 Hydrant Spacing, shall be deleted entirely.

Appendix D103.5 Fire apparatus access road gates shall be amended to read as follows:

1. Where a single gate is provided, the gate width shall be not less than 24 feet. Where a fire apparatus access road consists of a divided roadway, the gate width shall be not less than 16 feet.

APPENDIX P PERMIT FEES

Section P105 General.

P101.1 The City of Keller shall collect the approved fees for inspections, annual permits, and other related permits as required by this Ordinance. Fees are adopted by the City Council annually when the City Council adopts the City budget.

P101.2 Fire code construction permit fees shall be based on the contracted value of the work being permitted. Fees are as stated in the approved fee schedule as noted in **P102.17** and adopted by the City of Keller. When a permit is required, the permit fee shall be doubled when work or construction has occurred without obtaining the appropriate permits. In those cases where the work occurs on City of Keller property and no permit fee is required, an amount equal to the initial permit cost shall be charged for failure to obtain a permit.

P101.3 Fire Code operational permit fees shall be annual and due on the anniversary date of the permit issue, unless otherwise indicated on the permit. Operational permit fees shall be Fifty Dollars ($50.00) per permit per year.

P101.4 Payment of annual permit fees shall be the responsibility of the property owner, business owner/manager, contractor, or other responsible individual as applicable.

P101.5 The Fire Marshal may request copies of bid documents or other items to verify the estimated cost of construction when calculating permit fees.

P101.6 A permit application shall be submitted to the Development Services Permit Desk and must have detailed construction plans consisting of three (3) hard copies and one (1) digital pdf copy and a copy of the applicant's State license as applicable attached to the application.

P101.7 Contractor documentation. Anyone desiring to do work for which a construction permit is required shall be required to provide certain documentation to the Development Services Permit Desk. Such documentation shall include, but not be limited to, a copy of all applicable State licenses and contact information.

P101.8 Work shall not begin on any construction requiring a fire code permit before the permit is obtained unless approved by the Fire Marshal.

P101.9 Inspection requests. It shall be the duty of the permit holder or their duly authorized agent to notify the fire code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this Code.

P101.10 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the fire code official. The fire code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this Code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the fire code official.

P102 Required construction permits. For any and all new installations, and modifications to existing fire and life safety systems, including but not limited to **Sections P102.1 through P102.16** of this document and**, Section 105 Permits, of the 2018 Edition of the International Fire Code.** A construction permit issued by the Fire Marshal shall be required for work as set forth in the above referenced Sections.

P102.1 Automatic fire-extinguishing systems. The permit fee for the installation of or modification to any residential or commercial automatic fire-extinguishing system required by Section 105.7.1 and Section 903 as amended and adopted, shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.2 Battery Systems. The permit fee for the installation of stationary battery systems required by Section 105.7.2 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.3 Compressed gases. The permit fee to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a compressed gas system required by Section 105.7.4 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.4 Cryogenic fluids. The permit fee for the installation of or alteration to outdoor stationary cryogenic fluid storage systems required by Chapter 55 and Section 105.7.5 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.5 Fire alarm and detection systems and related equipment. The permit fee for the installation of or modification to fire alarm and detection systems and related equipment required by Section 105.7.7 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.6 Fire pumps and related equipment. The permit fee for the installation of or modification to fire pumps and related fuel tanks, jockey pumps, controllers, and generators required by Section 105.7.8 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.7 Flammable and combustible liquids. The permit fee for the installation of or repair or modification to a pipeline, tank, or other such items required by Section 105.7.9 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.8 Hazardous materials. The permit fee for the installation, repair, abandonment, removal, closure, or modification to a storage facility or other area regulated by Chapter 50 as required by Section 105.7.13 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.9 Industrial ovens. The permit fee for the installation of industrial ovens covered by Chapter 30 as required by Section 105.7.15 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.10 LP-gas. The permit fee for the installation of or modification to an LP-gas system required by Section 105.7.16 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.11 Spraying or dipping. The permit fee for the installation of or modification to a spray room, dip tank or booth required by Section 105.7.23 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.12 Standpipe systems. The permit fee for the installation of, modification to or removal from service of a standpipe system required by Section 105.7.24 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.13 Smoke control or exhaust systems. The permit fee for the installation of or modification to a smoke control or exhaust system required by Section 105.7.20 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.14 Electronic access control systems. The permit fee for the installation of or modification to an electronic access control system as described in Section 105.7.26 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.15 Gates across fire lanes. A permit is required for the installation of controlled access gates across required fire lanes as described in Section 105.7.12. The permit fee for the installation of or modification to controlled access gates across required fire lanes shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.16 Tent and Membrane Structures. The permit fee for the installation of a tent or membrane structure as described in Section 105.6.45 shall be determined by the cost of construction and the fee shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the construction permit fee will also apply.

P102.17 Fireworks Displays. A permit is required for the display of Fireworks as described in Section 5601.1.3 and Section 5608. The permit fee for fireworks displays shall be calculated based on the fee schedule as required by the most recent ordinances of the City of Keller. A plan review fee equal to sixty-five percent (65%) of the permit fee will also apply.

Section 4-140. Specific Amendments to the 2018 International Fuel and Gas Code (IFGC).

Section 101.2 **to read as follows:**

{Local amendments to Section 101.2 may be necessary to correspond with the State Plumbing Licensing Law.}

Section 102.2; add an exception to read as follows:

Exception: Existing dwelling units shall comply with Section 621.2.

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.

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:

- A permanent stair, and/or
- A pull down stair with a minimum 300 lb (136 kg) capacity, and/or
- An *access* door from an upper floor level, and/or
- *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.

Where the passageway is not less than … *{bulk of section to read the same}.*

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}*.

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*.

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"

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~~.

404.12.1 Delete in its entirety

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.~~

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 ~~1 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 ½"), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3 psig. For tests requiring a pressure of 10 psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

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

Section 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.

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.

Section 4-145. Specific Amendments to the 2017 National Electric Code (NEC).

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.

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.~~

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.

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.

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.~~

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").~~

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.~~

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.

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.

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.~~

Article 600.6(A) (1) At Point of Entry to a Sign; Exception 1 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.

Article 600.6(A) (1) At Point of Entry to a Sign; create a new Exception No. 2 to add the following language:

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.

Article 600.6(A) (1) At Point of Entry to a Sign; move the original Exception 2 to create a new Exception No. 3 and add the following language:

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.

Article 680.25(A) remove the amendment that added the following language and exception:

680.25 Feeders.

These provisions shall apply to any feeder on the supply side of panelboards supplying branch circuits for pool equipment covered in Part II of this article and on the load side of the service equipment or the source of a separately derived system.

(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) Liquidtight 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

Section 4-150. Specific Amendments to the 2018 International Plumbing Code (IPC).

Table of Contents, Chapter 7, Section 714; change to read as follows:

714 Engineered ~~Computerized~~ Drainage Design 69

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.

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 ~~indicated in the following schedule: (JURISDICTION TO INSERT APPROPRIATE SCHEDULE)~~ adopted by resolution of the governing body of the jurisdiction.

106.6.3 Fee Refunds. The code official shall establish a policy for ~~authorize~~ authorizing the refunding of fees ~~as follows~~. *{Delete balance of section}*

Section 109; delete entire section and insert the following:

Section 109
MEANS OF APPEAL

109.1 Application for 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.

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.

305.4.1 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.

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.

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.

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.

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).

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.

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}

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.

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

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.

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.

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.

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.

Section 703.6; Delete

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

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.

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.

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.

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.

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.

Section 1003; see note below:

Until the Health and Water Departments of the area can coordinate a uniform grease interceptor section, each city will have to modify this section individually.

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~~.

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.

Section 1109; delete this section.

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

Section 4-155. Specific Amendments to the 2018 International Mechanical Code (IMC).

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.

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:

5. A permanent stair.

6. A pull-down stair with a minimum 300 lb (136 kg) capacity.

7. An access door from an upper floor level.

8. 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}

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}*.

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}*.

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.

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.

Section 403.2.1; add an item 5 to read as follows:

1. 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.

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.

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.

Section 4-160. Specific Amendments to the 2018 International Energy Conservation Code (IECC).

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.

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.

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

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

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	~~0.32~~ 0.35

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 [a]

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

[a] North oriented means within 45 degrees of true north.

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.

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)[a]

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

[a] Except for the values listed in the table, all other mandatory code provisions are applicable.

[b] 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.

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.

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 3rd 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 3rd 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 3rd 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.

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.

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 3rd 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 3rd 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 3rd 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.

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.

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.

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.

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.

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.

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.

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

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

TABLE R406.4 *(N1106.4)* [1]

MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX

3	65

[1] This table is effective until August 31, 2019.

TABLE R406.4 *(N1106.4)* [2]

MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	63

[2] The table is effective from September 1, 2019 to August 31, 2022.

TABLE R406.4 *(N1106.4)* [3]

MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	59

[3] This table is effective on or after September 1, 2022.

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.

Section 4-165. Specific Amendments to the 2018 International Existing Building Code (IEBC).

Section 102.4; change to read as follows:

[A] 102.4 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 102.4.1 and 102.4.2.

Section 202; amend definition of Existing Building as follows:

Existing Building - A building, structure, or space, with an approved final inspection issued under a code edition which is at least 2 published code editions preceding the currently adopted building code; or a change of occupancy.

Section 202; amend definition of Existing Structure as follows:

Existing Structure- A building, structure, or space, with an approved final inspection issued under a code edition which is at least 2 published code editions preceding the currently adopted building code; or a change of occupancy.

Section 305.1; adds an exception to read 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 incompliance with the requirements of this chapter.

Section 305.4.2; add Number 7 to the list of requirements as follows:

> **7.** At least one accessible family or assisted use toilet room shall be provided in accordance with Chapter 11 of the International Building Code.

Section 401.3 Flood Hazard Areas; delete this section.

Section 405.2.5 Flood Hazard Areas; delete this section.

406.1 Material. Existing electrical wiring and equipment undergoing *repair* shall be allowed to be repaired or replaced with like material, in accordance with the requirements of NFPA 70.

Section 502.3 Flood Hazard Areas; delete this section.

504.1.2 Existing fire escapes. Existing fire escapes shall continue to be accepted as a component in the means of egress in existing buildings only. Existing fire escapes shall be permitted to be repaired or replaced.

Section 504.1.3; delete entire section.

504.1.3 ~~New fire escapes~~. ~~New fire escapes for existing buildings shall be permitted only where exterior stairways cannot be utilized due to lot lines limiting stairway size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.~~

Section 507.3 Flood Hazard Areas; delete this section.

Section 701.3 Flood Hazard Areas; delete this section.

Section 702.6 Materials and methods. New work shall comply with the materials and methods requirements in the applicable City of Keller building and zoning ordinances, the *International Building Code*, *the International Energy Conservation Code*, …. {remainder of paragraph as is}.

702.6 Materials and methods. All new work shall comply with the materials and methods requirements in the *International Building Code*, *International Energy Conservation Code*, *International Mechanical Code*, National Electrical Code, and *International Plumbing Code*, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

802.5.1 Minimum requirement. Every portion of ~~a floor, such as a balcony or a loading dock,~~ open-sided walking surfaces, including *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

Section 803.1 Scope. Add sentence after "…beyond the work area" to read as follows:

For the purpose of fire sprinkler protection and fire alarm requirements included in this section, the *work area* shall be extended to include at least the entire tenant space or spaces bounded by walls capable of resisting the passage of smoke containing the subject *work area*, and if the *work area* includes a corridor, hallway, or other exit access, then such corridor, hallway, or other exit access shall be protected in its entirety on that particular floor level.

Section 803.2.4; change exception to read as follows:

Exception: Supervision is not required where the Fire Code does not require such for new construction

~~for the following:~~

~~1. Underground gate valve with roadway boxes.~~
~~2. Halogenated extinguishing systems.~~
~~3. Carbon dioxide extinguishing systems.~~
~~4. Dry- and wet-chemical extinguishing systems.~~
~~5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply~~

~~main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.~~

Section 803.3; change section to read as follows:

803.3 Standpipes. Refer to Section 1103.6 of the Fire Code for retroactive standpipe requirements.

{Delete rest of Section 804.3.}

Section **805.2;** ***remove Exception #1***

Exception 1. ~~Where the work area and the means of egress serving it complies with NFPA101.~~

805.3.1.2 Fire Escapes required. For other than Group I-2, where more than one exit is required an existing ~~or newly constructed~~ fire escape complying with section 805.3.1.2.1 shall be accepted as providing one of the required means of egress.

Section 805.3.1.2.1; change to read as follows:

805.3.1.2.1 Fire Escape access and details - …

1. [Remain unchanged]

2. Access to a ~~new~~ fire escape shall be through a door...
3. **Item Deleted**
4. [Remain unchanged]
5. In all buildings of Group E occupancy up to and including the 12th grade, buildings of Group I occupancy, ~~rooming~~ boarding houses, and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

Section 805.5.2 Transoms; add language to read as follows:

805.5.2 Transoms. In all buildings of Group B, E, [Remainder unchanged]

Section 904.1; add sentence to read as follows:

For the purpose of fire sprinkler protection and fire alarm requirements included in this section, the *work area* shall be extended to include at least the entire tenant space or spaces bounded by walls containing the subject *work area*, and if the *work area* includes a corridor, hallway, or other exit access, then such corridor, hallway, or other exit access shall be protected in its entirety on that particular floor level.

Section 904.1.1; change sentence to read as follows:

904.1.1 High-rise buildings. An automatic sprinkler system shall be provided in work areas of ~~where the~~ high-rise buildings. ~~has a sufficient municipal water supply for the design and installation of an automatic sprinkler system at the site~~.

Section 1103.3 Flood Hazard Areas; delete this section.

Section 1106 STORM SHELTERS; Section 1106.1 Addition to a Group E Occupancy. *Amend the first sentence as follows [Exceptions to remain the same]:*

Where an *addition* is added to an existing Group E Occupancy located in an area where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500 and the occupant load in the *addition* is 50 or more, the *addition* shall have a storm shelter constructed in accordance with ICC 500 and/or state law.

Section 1402.6 Flood Hazard Areas; delete this section.

Section 4-170. Specific Amendments to the 2018 International Swimming Pool and Spa Code (ISPSC).

All definitions in the V.T.C.A., Health and Safety Code Ch. 341 and Title 25, Chapter 265, Subchapter L of the Texas Department of State Health Services regulations, "standards for public pools and spas," are hereby adopted.

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

Section 103.1 Creation of enforcement agency. The ~~Department of Building Safety~~ **[Building Services]** is hereby created and the official in charge thereof shall be known as the *code official*. **[Building Services]** 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.

Section 107.4; *Delete entirely (covered by general provisions in Code of Ordinances):*

107.5 Stop work orders. Upon notice from the code official, work on any system that is being done contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's agent, or to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any

work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be in violation of this code. ~~liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.~~

Section 202 DEFINITIONS; insert definition; change to read as follows:

Tarrant County 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.

303 SWIMMING POOLS, SPAS, AND HOT TUBS

303.1 Swimming pools. Swimming pools shall be maintained in a clean and sanitary condition, and in good repair. It shall be unlawful to keep or maintain on any property within the city a pond, pool, depression or container which contains unwholesome, impure or offensive water, or which is conducive to the breeding of mosquitoes.

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.

305.2 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.

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.

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.

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.

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.

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.

Section 313.7; Change to read as follows:

313.7 Emergency shutoff switch for spas and hot tubs. ~~An emergency shutoff switch shall be provided to disconnect all power to recirculation and jet system pumps and air blowers. Emergency shutoff switches shall be: provided with access; located within sight of pools and spas and located not less than 5 feet (5') horizontally from the inside walls of the pool or spa.~~ A clearly labeled emergency shutoff or control switch for the purpose of stopping the motor(s) that provide power to the recirculation system and jet system shall be installed at a point readily accessible to the users and not less than 1.5 m (5 ft.) away, adjacent to, and within sight of the spa or hot tub. This requirement shall not apply to one and two family dwellings and townhouses.

~~**Exception:** Onground storable and permanent inground residential swimming pools.~~

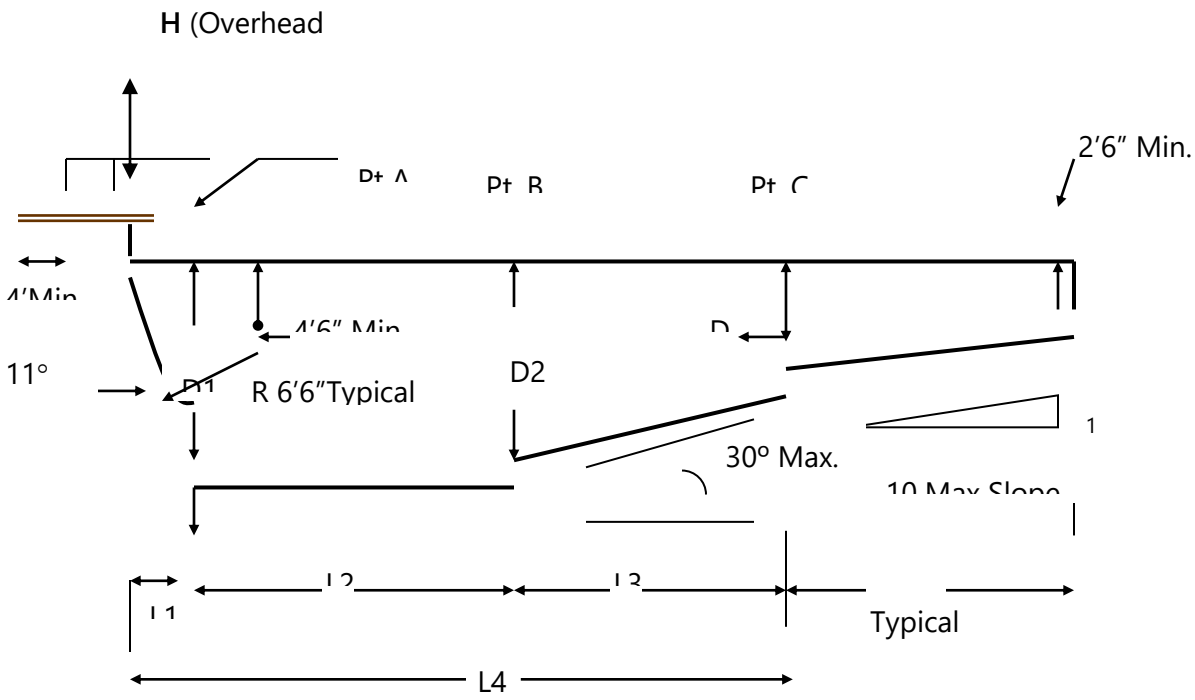
Section 402.12; Change to read as follows:

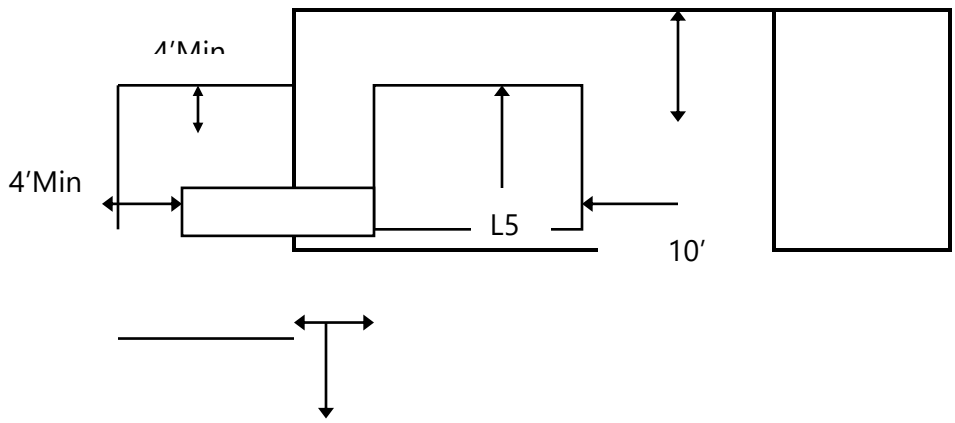
402.12 Water envelopes. The minimum diving water envelopes shall be in accordance with ~~Table 402.12~~ **Texas department of State Health services, Administrative Code Title 25, Chapter 265, Section 186 (e) and Figure: 25 TAC 256.186 (e) (6).** (Delete Table 402.12 and Figure 402.12)

ADD: Figure: 25 TAC §265.186 (e) (6)

Maximum Diving Board Height Over Water	¾ Meter	1 Meter	3 Meters
Max. Diving Board Length	12 ft.	16 ft.	16 ft.

Minimum Diving Board Overhang	2 ft. 6 in.	5 ft.	5 ft.
D1 Minimum	8 ft. 6 in.	11 ft. 2 in.	12 ft. 2 in.
D2 Minimum	9 ft.	10 ft. 10 in.	11 ft. 10 in.
D3 Minimum	4 ft.	6 ft.	6 ft.
L1 Minimum	4 ft.	5 ft.	5 ft.
L2 Minimum	12 ft.	16 ft. 5 in.	19 ft. 9 in.
L3 Minimum	14 ft. 10 in.	13 ft. 2 in.	13 ft. 11 in.
L4 Minimum	30 ft. 10 in.	34 ft. 7 in.	38 ft. 8 in.
L5 Minimum	8 ft.	10 ft.	13 ft.
H Minimum	16 ft.	16 ft.	16 ft.
From Plummet to Pool Wall at Side	9 ft.	10 ft.	11 ft. 6 in.
From Plummet to Adjacent Plummet	10 ft.	10 ft.	10 ft.





Section 402.13; Change to read as follows:

402.13 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.~~

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 (154838mm2) and an unobstructed horizontal depth of not less than10 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.~~

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 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.
6. Unchanged
7. Unchanged

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.

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.

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.

Section 4-180. Specific Amendments to the 2018 International Property Maintenance Code (ISPSC)

Reserved.

ARTICLE II. – ~~SWIMMING POOLS~~ RESERVED.

ARTICLE IV. – ~~SUBSTANDARD BUILDINGS~~ RESERVED.

CHAPTER 5 – ~~ELECTRIC CODE~~ RESERVED

CHAPTER 6 – FIRE PREVENTION

ARTICLE I. - FIRE PREVENTION CODE

Sec. 6-100. - Adoption of International Fire Code.

See CHAPTER 4 - BUILDING, ARTICLE I. – Technical codes adopted, Sec. 4-135. Specific Amendments to the 2018 International Fire Code.

Sec. 6-110. - ~~Fire code amendments.~~ Reserved

Chapter 14 – ~~Plumbing and Mechanical Codes~~ Reserved