PROPOSED AMENDMENTS TO THE 2021 INTERNATIONAL CODES

CITY OF MURPHY
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FOR REVIEW BY:
MURPHY BUILDING &
FIRE CODE APPEALS BOARD

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MEMORANDUM

Recipient: Murphy Building and Fire Code Appeals Board

Prepared By: David Alkins, Building Official

Date: 10-11-2023

Project: Proposed Amendments to the 2021 IRC, IEBC, IECC, IMC, IFGC, IPC, IPMC, ISPSC, IBC, and 2020 NEC.

Dear Board Members,

Please find the Building Inspection Department's proposed code amendments to the 2021 International Codes, 2020 National Electric Code (NEC), accompanied by NCTCOG recommended amendments. Building codes are updated in three-year cycles by the International Code Council. The North Texas Council of Governments review updated codes and recommends amendments for North Texas municipalities. The amendments reflect standard regional practices and help to maintain code consistency among municipalities. Municipalities adopt many of the amendments as recommended while revising or altering other amendments to comply with local practices.

The proposed amendments are a combination of NCTCOG recommended amendments, modified NCTCOG recommended amendments, existing amendments to be carried over and some new local amendments. I am pleased to submit these proposed code amendments to the members of the Building and Fire Code Appeals Board for review in advance of requesting their adoption by the Murphy City Council.

Please do not hesitate to contact me if you have any questions or concerns about the proposed amendments.

Thank you for your service to the community and for your expert review.

Respectfully,

David Alkins
Building Official

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Building Official

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* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

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

R101.1 Title. These provisions shall be known as the Residential Code for One- and Two-family Dwellings of the City of Murphy and shall be cited as such and will be referred hereinafter referred to as "this code."

(Reason: To call attention to the blank to be filled in.)

****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.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Add Section R104.2.1, Adequate toilet facilities.**

Section R104.2.1, Adequate toilet facilities. Every construction project requiring a building permit within the City limits of the City of Murphy shall have adequate toilet facilities for workers associated with the project. At least one permanent or temporary toilet facility shall be maintained in each subdivision for the employees or subcontractors of each builder holding a permit for a building in that subdivision. A toilet facility must be provided by each builder as long as the builder holds an active building permit in the subdivision. Permanent toilet facility is defined as a room in an existing building or in the building being constructed with a water closet installed in such a room, which conforms to the Plumbing Code and is continuously available to all workers involved in a construction project. Temporary toilet facility is defined as a portable, fully enclosed, chemically sanitized toilet, which is serviced and cleaned at least once each week. In addition to the justifications in the Building Code and in addition to other remedies, the building official may issue a Stop Work Order as described in the Building Code for any work done on a project not in compliance with this section.

(Reason: To clearly define toilet facility requirements. Amendment to 2015 IRC carried forward to 2021 IRC.)

****Section R104.10.1 Flood Hazard areas; DELETE**

(Reason: Flood hazard is addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R105.2; change "Building" to read as follows:**

Building:

1. Other than storm shelters, one-story detached accessory structures, provided that the floor area does not exceed ~~200~~ 50 square feet (18.58 $m^{2)}$.
2. ~~Fences not over 7 feet (2134 mm) high.~~
3. ~~Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.~~
4. ~~Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18927 L) and the ratio of height to diameter or width does not exceed 2 to 1.~~
5. ~~Sidewalks and driveways~~.
2. ~~6.~~ Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
3. ~~7.~~ Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
4. ~~8.~~ Swings and other playground equipment.
9. ~~Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.~~
10. ~~Decks not exceeding 200 square feet (18.58 $m^{2)}$ in area, that are not more than 30 inches (762 mm) above grade at any point, are not attached to a dwelling, do not serve the exit door required by Section R311.4.~~
5. Shingle replacement up to 25% of a roof area.

(Reason: Permits are currently required for fences, retaining walls, water tanks, sidewalks, driveways, and window awnings. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R105.3; to read as follows:**

Section R105.3, Application for permit.

8. Registration:
a. To obtain a permit the applicant shall be registered as a contractor.
Exception: Homeowners may obtain permits to do work at their residence without being registered.
b. Registration Requirements: Contractor may register by making application on forms provided by the Building Official. Electrical, irrigation, mechanical, and plumbing contractors shall provide proof of required licenses.

Licenses:
Electrical license is a license issued by the State of Texas under provisions of title 8, Occupations Code, Chapter 1305, Administered by the Texas Department of Licensing and Regulation.
Mechanical license is authorization issued by the State of Texas allowing an individual to install air conditioning, heating and ventilating systems or their components.
Plumbing license is a license issued by the State of Texas under the provisions of Article 6243.101, Vernon's Texas Civil Statutes, as amended, (known as "The Plumbing License Law of 1974").

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

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

2. The contractor allows use or occupancy of a structure for which a permit was obtained without first obtaining the required authorization.
3. The contractor has been found by the Building and Fire Codes Appeal Board to have been grossly negligent in the performance of his/her work. For purposes of this Section, a contractor may be found to have acted in a grossly negligent manner if such contractor has received six (6) municipal court convictions for city code violations and if such violations occurred in the twelve (12) month period preceding the revocation/suspension action before the Commission.
4. Expiration, suspension or revocation of required license, bond or insurance.

(Reason: To define contractor registration requirements. Amendment to 2015 IRC carried forward to 2021 IRC.)

****Section R105.3.1.1; DELETE**

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

****Section R106.1.4; DELETE**

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

****Section R110 (R110.1 through R110.5); DELETE**

(Reason: Issuing COs for residences is not a common practice in the area. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R112; change title to read as follows:**

R112- ~~Board of Appeals~~ Building and Fire Codes Appeal Board

(Reason: The Building and Fire Codes Appeal Board is a unified appeals board for the Fire Department and Building Inspection Department. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R112.1; change to read as follows:**

112.1 General. The Building and Fire Codes Appeal Board shall be in accordance with Chapter 24, Article 24.02 of the City of Murphy Code of Ordinances. ~~In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals… remainder unchanged….to the building official.~~

(Reason: The Building and Fire Codes Appeal Board is governed by Article 24.02 of the City of Murphy Code of Ordinances. Amendment to 2015 IRC carried forward to 2021 IRC.)

Section [A] 112.2, [A] 112.3 and [A] 112.4; DELETE

(Reason: The Building and Fire Codes Appeal Board is governed by Article 24.02 of the City of Murphy Code of Ordinances. Amendment to 2015 IRC carried forward to 2021 IRC.)

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

TOWNHOUSE UNIT. A single-family dwelling unit separated by property lines in a townhouse that extends from foundation to roof and that has a yard or public way on not less than two sides.

(Reason: To distinguish Townhouse Units within a Townhouse building on separate lots.)

**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 NDEX[i]	MEAN ANNUAL TEMP[j]
	SPEED[d] (MPH)	Topographic Effects[k]	Special Wind Region[L]	Windborne Debris Zone[m]		Weathering a	Frost Line Depth[b]	Termite[c]					
5 lb/ft	115 (3 sec-gust)/ 76 fastest mile	No	No	No	A	Moderate	6"	Very Heavy	22^0 F	No	Local Code	150	64.9^0 F

Delete remainder of table Manual J Design Criteria and footnote N

(Reason: To promote regional uniformity. Table Manual J Design Criteria is deleted. Manual J is utilized by third parties and not part of performed plan reviews. This is a reference table only, not needed. Minor change from 2015 IRC amendment.)

**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.

(Reason: Provide guidance for a common construction method in this area. Correlates with amendment to IRC Section R202 Townhouse definition. Amendment to 2015 IRC carried forward to 2021 IRC.)

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

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

(Reason: Absence of data linking self-closing devices to increased safety. Self-closing devices often fail to close the door entirely. Amendment to 2015 IRC carried forward to 2021 IRC.)

****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.

(Reason: Consistent with common local practice as recirculating fans are recognized as acceptable air movement. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R309.3; Flood hazard areas: DELETE**

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Section R309.5 Fire Sprinklers: DELETE**

(Reason: Fire sprinkler requirements are addressed by the City of Murphy Fire Sprinkler Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

*****Section R313 Automatic Fire Sprinkler Systems: DELETE**

(Reason: This section is adopted as Appendix P. In 2009, the State Legislature enacted SB 1410 prohibiting cities from enacting fire sprinkler mandates in residential dwellings. However, jurisdictions with ordinances that required sprinklers for residential dwellings prior to and enforced before January 1, 2009, may remain in place. Appendix P will read the same as the 2003, 2006 and 2015 IRC amendments.)

****Section R322 Flood Resistant Construction: DELETE

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IRC carried forward to 2021 IRC.)

*****Section 326.1.1; add to read as follows:**

Section 327.1.1 Adjacency to Structural Foundation. Depth of the swimming pool and spa shall maintain a ratio of 1:1 from the nearest building foundation or footing of a retaining wall.

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

(Reason: To clarify specific distances for pools and spas.)

*****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 dwelling foundation and/or footing, or any size addition to an existing foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

(Reason: An engineered foundation is already required by the City. Applies to additions to residential dwelling foundations. Amendment to 2015 IRC, modified and carried forward to 2021 IRC.)

***Section R404.4 Retaining walls. Delete the section, add new text as follows:**

Section R404.4 Retaining walls. Retaining walls shall be constructed of stone, brick or other masonry materials. Retaining walls exceeding 4 feet in height shall be designed and sealed by a Texas-registered engineer.

(Reason: To have an enforceable and reasonable standard for retaining walls. Amendment to 2015 IRC carried forward to 2021 IRC.)

***Add Subsections R1001.13.1 and R1001.13.2**

R1001.13.1 Outdoor Fireplaces. The placement of outdoor fireplaces shall conform to all building setback requirements for single family dwellings as found in the City of Murphy Code of Ordinances.

R1001.13.2 Fire pits. Fire pits shall be a minimum of 10 feet from property lines, 10 feet from a residence, and 10 feet from any combustible materials. The maximum diameter of a fire pit shall be 3 feet. The maximum height shall be 2 feet.

(Reason: To define the placement and setback requirements for fire pits and fireplaces. Amendments to 2015 IRC carried forward to 2021 IRC.)

**Chapter 11 [RE] – Energy Efficiency is deleted in its entirety and replaced with the following:

N1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

N1101.2 Compliance. Compliance shall be demonstrated by meeting the requirements of the residential provisions of 2021 International Energy Conservation Code.

(Reason: The text of the residential provisions of the 2018 IRC is extracted from the 2018 edition of the International Energy Conservation Code—Residential Provisions and has been editorially revised to conform to the scope and application of this code. The section numbers appearing in parenthesis after each section number are the section numbers of the corresponding text in the International Energy Conservation Code—Residential Provisions. This approach simply minimizes the number of amendments to the IRC. Amendment to 2015 IRC carried forward to 2021 IRC)

**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.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IFGC and IMC 306.3. minor changes from the 2015 IRC amendment.)

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

M1411.3 Condensate disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to ~~an *approved* place of disposal~~ the sanitary sewer through a trap, by means of a direct or indirect drain. *{remaining text unchanged}*

(Reason: Reflects regional practice and to reduce excessive runoff into storm drains. Amendment to 2015 IRC carried forward to 2021 IRC)

****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.

(Reason: Exception requires makeup air equaling the amount above and beyond 400 cfm for larger fan which will address concerns related to "fresh" air from the outdoors in hot humid climates creating a burden on HVAC equipment and negative efficiency impacts from back-drafting and wasted energy. Amendment to 2015 IRC carried forward to 2021 IRC)

****Section G2408.3 (305.5) Private Garages: DELETE**

(Reason: This provision does not reflect standard practice in this area. Amendment to 2015 IRC carried forward to 2021 IRC)

****Section G2415.2. (404.1) 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"

(Reason: To protect homeowners and plumbers. Amendment to 2015 IRC carried forward to 2021 IRC)

****Section G2415.12 (404.12); 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.~~

(Reason: To provide increased protection to piping systems. Amendment to 2015 IRC carried forward to 2021 IRC)

***Section 2415.12.1 (404.13); Individual outside appliances: DELETE**

(Reason: Individual lines should also be buried to 18 inches. Amendment to 2015 IRC carried forward to 2021 IRC.)

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

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a manometer 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~~.

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig. Amendment to 2015 IRC carried forward to 2021 IRC)

****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 not less than 1½ times the proposed maximum working pressure, but not~~ 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

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges. Amendment to 2015 IRC carried forward to 2021 IRC.)

****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.

(Reason: To comply with accepted regional practices. Amendment to 2015 IRC carried forward to 2021 IRC)

****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.

(Reason: To provide proper security to CSST valves. These standards were established in this region in 1999 when CSST was an emerging technology. Amendment to 2015 IRC carried forward to 2021 IRC.)

****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.

(Reason: To require adequate access to regulators. Amendment to 2015 IRC carried forward to 2021 IRC.)

****Section G2422.1.2.3 (411.1.3.3); DELETE Exception 1 and Exception 4.**

G2422.1.2.3 (411.1.3.3) Prohibited locations and penetrations. Connectors shall not be concealed within, or extended through, walls, floors, partitions, ceilings or appliance housings.

Exceptions:

~~1. Connectors constructed of materials allowed for piping systems in accordance with Section G2414 shall be permitted to pass through walls, floors, partitions and ceilings where installed in accordance with Section G2420.5.2 or G2420.5.3.~~

~~4. Semirigid tubing and listed connectors shall be permitted to extend through an opening in an appliance housing, cabinet or casing where the tubing or connector is protected against damage.~~

(Reason: To comply with accepted regional practices. To ensure the installation of rigid gas connectors. Amendment to 2015 IRC carried forward to 2021 IRC)

****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.

(Reason: Gives code official discretion. Amendment to 2015 IRC carried forward to 2021 IRC.)

****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
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.

(Reason: Allows for other materials to be accepted.)

*****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.

(Reason: Provides sewer depth that is common in this region. Deleted reference to private sewage disposal because a private sewage disposal code is not typically adopted in this region.)

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

Section P2801.6.1 Pan size and drain. The pan shall be not less than 1 1/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials indicated in Table 2906.5. ~~Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation.~~

(Reason: Unpermitted, non-code compliant water heater installations are frequently found not to have a pan drain. All water heaters need a pan drain, when technically feasible. Amendment to 2015 IRC carried forward to 2021 IRC)

****Section 2804.6.1; change to read as follows:**

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

2. Discharge through an air gap. ~~located in the same room as the water heater~~.
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.

(Reason: To ensure the T&P discharge piping is installed to a suitable point of termination.)

****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.

(Reason: To allow a double-check valve assembly to be utilized as a backflow prevention device for lawn sprinkler systems. Amendment to 2015 IRC carried forward to 2021 IRC)

****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.~~

(Reason: to keep the "process of joining PVC pipe". Amendment to 2015 IRC carried forward to 2021 IRC)

****Section P3112.2 Vent Connection; 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 drainboard 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.

(Reason: To clarify the installation of island venting and to provide a regional guideline on a standard installation method for this region. Amendment to 2015 IRC carried forward to 2021 IRC.)

Appendix M changes on following page. The rest of this page is left blank intentionally.

*** Appendix M, Requirements for Group R, Division 3.1 Occupancies; to read as follows:**
REQUIREMENTS FOR GROUP R DIVISION 3.1 OCCUPANCIES "In-Home Day Care"

Section AM101 – Definition

For the purpose of this division, Group R, Division 3.1 Occupancies or "In-Home Day Care" shall be a Single-family detached residence used for the purpose of providing daycare. The use is allowed in the caretaker's residence under these three options:

1. Provides care for less than 24 hours a day to no more than six children under the age of fourteen, plus no more than six additional elementary school-age children (age five to thirteen). The total number of children (counting the caretaker's own children) is no more than twelve at any time. Registration with the Texas Department of Protective and Regulatory Services is required, unless exempted by state law.

2. Provides care for less than 24 hours a day for seven to twelve children (including the caretaker's and staff's children) under the age of 14. A license from the Texas Department of Protective and Regulatory Services is required. Care provided to nine or more children that does not comply with Option 1 requires a Specific Use Permit as defined in local zoning.

3. All group day care homes which were licensed by the State of Texas or had a license application pending on or before October 25, 1993, are considered to be a legal use in residential districts and will not require SUP approval as long as a valid license is maintained for the operation in its original location and it provides care for less than 24 hours a day for no more than twelve children (including the caretaker's and staff's children) under the age of 14.

Section AM102 - Construction, Height and Allowable Area

AM102.1 General. Building or parts of buildings classified as R-3.1 because of the use and character of the occupancy shall comply with the provisions for an R-3.1 occupancy with the exception of the provisions located in this appendix chapter.

AM102.2 Special Provisions. All rooms or spaces used for the purpose of providing daycare shall be located on the ground floor. All stairways or ramps providing access to areas above or below the ground floor shall be made inaccessible to children by means of an approved permanent barrier located at the ground floor.

AM102.3. A Certificate of Occupancy is required for all buildings containing R-3.1 occupancy. Such Certificate of Occupancy must be renewed annually in conjunction with the State mandated inspections conducted by the Fire Department. The Certificate of Occupancy will only be renewed when it is determined by the Fire Department that the building complies with all the provisions of this Chapter. Application for the Certificate of Occupancy shall be made in the Office of the Building Official and a fee shall be collected as prescribed in the Administrative Code.

Section AM103 - Location of Lot

AM103.1. For requirements for fire resistance of exterior walls and openings, refer to Section R302.

Section AM104 - Access and Exit Facilities and Emergency Escapes

AM104.1. No room or space used for the purpose of daycare may be enclosed by doors equipped with double-keyed dead bolts. An approved emergency plan shall be posted and maintained in the facility.

Section AM105 – Light, Ventilation and Heating

AM105.1 For requirements for light, ventilation and heating Section R303, Light, Ventilation and Heating.

Section AM106 – Minimum Room Areas

AM106.1. For requirements of room dimensions, refer to Section R304, Minimum Room Areas

Section AM107 - Smoke Detectors and Fire Extinguishing Equipment

AM107.1. Every habitable room in buildings housing R-3.1 Occupancies shall be equipped with an approved smoke detector. All such smoke detectors shall be interconnected in such a manner that if smoke is detected by a detector, all of the detectors will alarm.

> Exceptions: An approved heat detector may be substituted for the required smoke detector located in the kitchen in R-3.1 Occupancies.

All other requirements for smoke detection equipment for R-3.1 Occupancies must be met.

AM107.2. Kitchens in buildings housing R-3.1 Occupancies shall be equipped with an approved 2A:10-B: C fire extinguisher. An additional approved 2A:10-B: C fire extinguisher shall be located in the area of the building used for daycare purposes.

Section AM108 - Heating

AM108.1. All equipment used for heating and air conditioning and all water heaters shall comply with the provisions for such equipment found in Part V – Mechanical, Part VI – Fuel Gas and Part VII – Plumbing of this code.

***Appendix P, Section AP101, Section R325 of the 2003 and 2006 IRC as amended and codified by City Ord. 05-01-632 is retained and adopted as Appendix P to read as follows:**

AP101 Fire Sprinklers

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

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

(Reason: In 2009, the State Legislature enacted SB 1410 prohibiting cities from enacting fire sprinkler mandates in residential dwellings. However, jurisdictions with ordinances that required sprinklers for residential dwellings prior to and enforced before January 1, 2009, may remain in place. (2003 IRC, as amended and codified by city Ord. 05-01-632) Same as 2003, 2006 and 2015 amendment.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment

***Section 101.1; Insert jurisdiction name as follows:**

[A] 101.1 Title. These regulations shall be known as the Existing Building Code of the City of Murphy, hereinafter referred to as "this code."

***Section [A] 104.2.1; Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. Delete**

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

***Section [A] 104.10.1 Flood hazard areas. Delete**

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

***Section 105.2; change to read as follows:**

[A] 105.2 Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

Building:

~~1. Sidewalks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below and that are not part of an accessible route.~~

1. ~~2.~~ Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.

~~3. Temporary motion picture, television, and theater stage sets and scenery.~~

~~4. Shade cloth structures constructed for nursery or agricultural purposes, and not including service systems.~~

2. ~~5.~~ Window awnings supported by an exterior wall of Group R-3 or Group U occupancies.
3. ~~6.~~ Movable cases, counters, and partitions not over 69 inches (1753 mm) in height.

(Reason: Permits are currently required for fences, retaining walls, water tanks, sidewalks, driveways and window awnings.)

***Section 112; delete entire section and insert the following:**

SECTION 112 MEANS OF APPEAL

112.1 Application for appeal. Any person shall have the right to appeal a decision of the code official t o the board of appeals established by ordinance. The board shall be governed by the enabling ordinance.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board

for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established.)

****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. ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.~~

(Reason: To prevent potential abuses in new construction and shell buildings.)

****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; a building, structure or space that is undergoing a change of occupancy or use. ~~erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.~~

(Reason: To prevent potential abuses in new construction and shell buildings.)

****Section 306.1; adds an exception to read as follows:**

Exception:
1. 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.
2. If the cost of the project is less than $50K, it must comply with ICC A117.1, or it shall be reviewed and inspected to the Texas Accessibility Standards by a Registered Accessibility Specialist.

(Reason: To coordinate with the IEBC and State Law.)

****Section 306.2; add exception to read as follows:**

Exception: Projects subject to the Texas Accessibility Standards as adopted by the Texas Department of Licensing and Regulation are exempt from this section. Projects with a valuation of less than $50,000.00 (which are subject to the Texas Accessibility Standards) may be accepted as equivalent to this section where reviewed and inspected to the Texas Accessibility Standards by a Texas Department of Licensing and Regulation Registered Accessibility Specialist when a plan review report and a compliant inspection report are provided to the building code official.

(Reason: To coordinate with the IBC and State Law for accessibility.)

****Section 306.5.1; add to read as follows:**

306.5.1 Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 305.4.1 and shall have all of the following accessible features:

1. Not fewer than one accessible building entrance.
2. Not fewer than one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1111 of the International Building Code.
4. Accessible parking, where parking is being provided.
5. Not fewer than one accessible passenger loading zone, where loading zones are provided.
6. Not fewer than one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.
7. At least one accessible family or assisted use toilet room shall be provided in accordance with Chapter 11 of the International Building Code.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, Items 1 through 6 shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

(Reason: Maintains legacy language from the 2018 IEBC to identify accessibility criteria for changes of occupancy, and adds the required accessible toilet for disabled occupants, as per previous 2018 IEBC amendments.)

****Section 401.3 Flood Hazard Areas; delete this section:**

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section 405.2.6 Flood Hazard Areas; delete this section:**

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section 406.1; add a code reference to read as follows:**

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.

(Reason: To ensure compliance with the NEC relative to any electrical repairs/replacement.)

****Section 502.3; Delete**

502.3 Flood hazard areas.

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

****Section 503.2 Flood Hazard Areas; delete this section:**

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section 503.16; add exception to read as follows:**

Exception: Compliance with the Texas Accessibility Standards is not considered equivalent compliance for the purpose of enforcement of this code section.

(Reason: TAS does not address this criteria in their evaluation, and it is justifiably required for alterations in existing buildings.)

****Section 507.3 Flood Hazard Areas; delete this section.**

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

****Section 701.3 Flood Hazard Areas; delete this section:**

701.3: Flood Hazard areas.

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

****Section 702.4; add exception 2 to read as follows:**

2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.

(Reason: Maintains legacy language of the 2018 IFC to identify fall prevention devices as acceptable alternate/exception.)

****Section 702.7; add a code reference to read as follows:**

702.7 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.

(Reason: To provide a more complete list of potentially adopted codes.)

****Section 802.5.1; change to read as follows:**

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.

(Reason: To be consistent with Building Code requirements for guards and unsafe conditions.)

****Section 803.1; 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 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.

(Reason: The intent is to avoid work area protection that would result in partial sprinkler or fire alarm protection. Partial sprinkler protection not delineated by walls would be a clear violation of NFPA 13 and would not allow the sprinkler to perform or function as intended. Also, partial fire alarm coverage is a clear violation of the Fire Code, NFPA 72, and ADA.)

****Section 803.2.6; 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.~~

(Reason: The published exceptions are over-reaching and will result in inconsistencies among supervised protection systems and cause confusion for first responders as well.)

****Section 803.3; change section to read as follows:**

804.3 Standpipes. Refer to Section 1103.6 of the Fire Code for retroactive standpipe requirements. {Delete rest of Section 803.3.}

(Reason: The Fire Code already requires standpipes in these buildings (greater than 50 ft.) retroactively in Section 1103.6. This new section would negate/lessen those retroactive provisions

already contained in the Fire Code.)

****Section 804.2; Remove Exception #1**

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

(Reason: NFPA 101 is not a commonly adopted code in the region and enforcement could be problematic)

****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.

(Reason: The intent is to avoid work area protection that would result in partial sprinkler or fire alarm protection. Partial sprinkler protection not delineated by walls would be a clear violation of NFPA 13 and the Fire Code and would not allow the sprinkler system to perform or function as intended. Also, partial fire alarm coverage is a clear violation of the Fire Code, NFPA 72, and ADA.)

****Section 904.1; add 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~~.

(Reason: Level 3 alterations are affecting more than 50% of the existing high-rise building, and as such, sprinkler protection is more than justifiable, even when fire pumps, etc., are necessary. It is noted that the work area method is one of three different methods available to the designer/owner in the IEBC.)

****Section 1011.2.1: change to read as follows:**

1011.2.1 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code. The installation of the automatic sprinkler system shall be required within the area of the change of occupancy and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following:

~~1. Nonrated permanent partition and horizontal assemblies.~~
~~2. Fire partition.~~
~~3. Smoke partition.~~

~~4. Smoke barrier.~~
~~5.~~ 1. Fire barrier, as required by Section 707 of the IBC.
~~6.~~ 2. Fire wall, as required by Section 706 of the IBC.

Exceptions: [Remain unchanged.]

(Reason: Maintains legacy language requiring at least fire barrier separation between a newly sprinklered more hazardous 'change of occupancy' from non-sprinklered existing occupancies, as is required for fire area separation by the IBC.)

****Section 1102.2.1; add to read as follows:**

1102.2.1 Fire Separations. Where fire separations are utilized to allow additions without exceeding the allowable area provisions of Chapter 5 of the IBC for either the existing building or the new addition, the decreased clear space where the two buildings adjoin shall be accounted for in such calculation relative to the allowable frontage increase.

(Reason: This issue of evaluating allowable area for additions is commonly miscalculated due to the above issue. This amendment provides clarification but is not more stringent than what is currently required by the Building Code as to allowable area calculations.)

****Section 1103.3 Flood Hazard areas. Delete:**

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

****Section 1201.4 Flood hazard areas. Delete**

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

****Section 130**1.3.3 **Compliance with Flood Hazard Provisions; delete this section:**

(Reason: Flood hazard are addressed by the City of Murphy Flood Damage Prevention Ordinance.)

****Section 1402.6 Flood Hazard Areas; delete this section:**

(Reason: Flood hazard ordinances may be administered by other departments within the city.)

Chapter 16 – Referenced Standards; change to read as follows:

IECC ~~15~~ Edition as adopted by the State of Texas	International Energy Conservation Code®. .	301.2, 702.6, 708.1, 811.1, 908.1

(Reason: For compliance with State Law requirements for Energy Code adoption)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

****Section C102/R102; add Section C102.1.2 and R102.1.2 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 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 105.2 Required Inspections; Changed numbering and to read as follows:**

R105.2.1 Footing and foundation inspection. Inspections associated with footings and foundations shall verify compliance with the code as to R-value, location, thickness, depth of burial and protection of insulation as required by the code and approved plans and specifications.

R105.2.2 Framing and Air Barrier rough-in inspection. Inspections at framing and rough-in shall be made before application of insulation and shall verify compliance with the code as to: air leakage controls as required by the code; and approved plans and specifications.

R105.2.3 Insulation and Fenestration rough-in inspection. Inspections at framing and rough-in shall be made before application of interior finish and shall verify compliance with the code as to: types of insulation and corresponding R-values and their correct location and proper installation; fenestration properties such as U-factor and SHGC and proper installation.

R105.2.4 Plumbing rough-in inspection. Inspections at plumbing rough-in shall verify compliance as required by the code and approved plans and specifications as to types of insulation and corresponding R-values and protection and required controls.

R105.2.5 Mechanical rough-in inspection. Inspections at mechanical rough-in shall verify compliance as required by the code and approved plans and specifications as to installed HVAC equipment type and size, required controls, system insulation and corresponding R-value, system air leakage control, programmable thermostats, dampers, whole-house ventilation, and minimum fan efficiency.

> Exception: Systems serving multiple dwelling units shall be inspected in accordance with Section C105.2.4.

R105.2.6 Final inspection. The building shall have a final inspection and shall not be occupied until approved. The final inspection shall include verification of the installation of all required building systems, equipment and controls and their proper operation and the required number of high-efficacy lamps and fixtures.

**Section C102/R102 General; add Section C102.1.2 and R102.1.2 (N1101.4.1) to read as follows:

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 Maximum Assembly/Climate Zone items: amend table as follows:

Climate Zone	Fenestration U-Factor[f]	Ceiling U-Factor
2	.40	0.29
3	0.32	0.29

Table 402.1.3 Insulation/Climate Zone items: amend table as follows.

Climate Zone	Fenestration U-Factor[b,i]	Ceiling R-Value	Wood Frame Wall R-Value	Slab R-Value & Depth
2	.40	42	13 or 0 + 10	0
3	0.32	42	19 or 13+3ci, 0+15	0

**Section C402.5.2 Dwelling and sleeping unit enclosure testing. Added the underlined to read as follows:

C402.5.2 Dwelling and sleeping unit enclosure testing. The building thermal envelope shall be tested in accordance with ASTM E779. ANSI/RESNET/ICC 380, ASTM E1827 or an equivalent method approved by the code official. The measured air leakage shall not exceed 0.30 cfm/ft2 (1.5 Us m2) of the testing unit enclosure area at a pressure differential of 0.2 inch water gauge (50 Pa). Where multiple dwelling units or sleeping units or other occupiable conditioned spaces are contained within one building thermal envelope, each unit shall be considered an individual testing unit, and the building air leakage shall be the weighted average of all testing unit results, weighted by each testing unit's enclosure area. Units shall be tested separately with an unguarded blower door test as follows:

1. Where buildings have fewer than eight testing units, each testing unit shall be tested.
2. For buildings with eight or more testing units, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit enclosure area. For each tested unit that exceeds the maximum air leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations.

**Section R402.4.1 Building thermal envelope; add section R402.4.1.4 to read as follows:

R402.4.1.4 Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by R402.4.1.2 or R402.4.1.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a

middle floor unit, and a unit with the largest testing unit enclosure area. For each tested unit that exceeds the maximum air leakage rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

**Section R403.3 Ducts; add section R403.3.8 to read as follows:

R403.3.8 Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by R403.3.5, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that exceeds the maximum duct leakage rate, an additional three units shall be tested,
including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

**Section R403.6 Mechanical Ventilation; add section R403.6.4 to read as follows:

R403.6.4 Sampling options for R2 multifamily dwelling units. For buildings with eight or more testing units that must be tested as required by R403.6.3, the greater of seven units or 20 percent of the testing units in the building shall be tested, including a top floor unit, a ground floor unit, a middle floor unit, and a unit with the largest testing unit floor area. For each tested unit that does not meet the minimum ventilation rate, an additional three units shall be tested, including a mixture of testing unit types and locations. Where buildings have fewer than eight testing units, each testing unit shall be tested.

R405.2 Performance-based compliance. Added to underlined to read as follows.

R405.2 Performance-based compliance. Compliance based on total building performance requires that a proposed design meets all of the following:

1. The requirements of the sections indicated within Table R405.2.
2. The building thermal envelope greater than or equal to levels of efficiency and solar heat gain coefficients in Table R402.1.1 or R402.1.3 of the 2009 International Energy Conservation Code.
3. An annual energy cost that is less than or equal to the annual energy cost of the <u>2021</u> standard reference design or 8% less than the annual energy cost of the 2018 standard reference design. Energy prices shall be taken from a source approved by the code official, such as the Department of Energy, Energy Information Administration's State Energy Data System Prices and Expenditures reports. Code officials shall be permitted to require time-of-use pricing in energy cost calculations.

   Exception: The energy use based on source energy expressed in Btu or Btu per square foot of conditioned floor area shall be permitted to be substituted for the energy cost. The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.

**Section R401.2.5 Additional Energy efficiency: DELETE

**Section R408 ADDITIONAL EFFICIENCY PACKAGE OPTIONS: DELETE

**Section R402.4.6 Electrical and Communication outlet boxes. DELETE after the first sentence to read as follows:

R402.4.6 Electrical and communication outlet boxes (air-sealed boxes). Electrical and communication outlet boxes installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces.

**Section R404.2 Interior Lighting Controls: DELETE

(Table R406.6 Table R406.6 (N1106.4) Is on the following page. The rest of this page is intentionally left blank.)

**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
2	63
3	63

[1] This table is effective until August 31, 2022.

TABLE R406.4 (N1106.4) [2]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
2	59
3	59

[2] The table is effective from September 1, 2022 to August 31, 2025.

TABLE R406.4 (N1106.4) [3]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
2	57
3	57

[3] The table is effective from September 1, 2025 to August 31, 2028.

TABLE R406.4 (N1106.4) [3]
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
2	55
3	55

[4] This table is effective on or after September 1, 2028.

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

****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 National Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

***Sections 109.2 and 109.6; change to read as follows:**

109.2 Schedule of permit fees. Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as ~~established by the applicable governing body.~~ as adopted by resolution of the governing body of the jurisdiction.

109.6 Refunds. The code official ~~is authorized to establish a refund policy.~~ shall establish a policy for authorizing the refunding of fees.

(Reason: To clarify that fees are established by the City Council. Amendment to 2015 IMC carried forward to 2021 IMC.)

***Section 114; delete entire section and insert the following:**

SECTION 114 MEANS OF APPEAL

114.1 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.

114.2 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.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established. Amendment to 2015 IMC carried forward to 2021 IMC.)

***Section 306.3; change to read as follows:**

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

1. A permanent stair.
2. A pull-down stair with a minimum 300 lb. (136 kg) capacity.
3. An access door from an upper floor level.
4. Access panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Amendment to 2015 IMC carried forward to 2021 IMC.)

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

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

(Reason: Consistent with common regional practice. Consistent with regional amendment to International Residential Code (IRC) R303.3. Amendment to 2015 IMC carried forward to 2021 IMC.)

****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:

4. Toilet room exhaust ducts may terminate in a warehouse or shop area when infiltration of outside air is present.

(Reason: Provide a reasonable alternative in areas where a large volume of outside air is present. Amendment to 2015 IMC carried forward to 2021IMC.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

***Section 101.1; fill in the blank.**

Section 101.1 Title. These regulations shall be known as the Fuel Gas Code of Murphy, hereinafter referred to as "this code".

(Reason: Housekeeping amendment. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

***Section 109.2; change to read as follows:**

109.2 Schedule of permit fees. Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as ~~established by the applicable governing body.~~ as adopted by resolution of the governing body of the jurisdiction.

***Section 109.6; change to read as follows:**

109.6 Refunds. The code official ~~is authorized to establish a refund policy.~~ shall establish a policy for authorizing the refunding of fees.

(Reason: To clarify that fees are established by the City Council. Amendment to 2015 IMC carried forward to 2021 IFGC.)

***Section 113; delete entire section and insert the following:**

SECTION 113 MEANS OF APPEAL

113.1 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.

113.2 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.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

***Add Section 305.13; to read as follows:**

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

(Reason: Provide a common cutoff point to designate a general separation distance at which plumbing systems should be safe for consistency in enforcement. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

***Section 306.3; change to read as follows:**

[M] 306.3 Appliances in attics. Attics containing appliances requiring access shall be provided . . . {bulk of paragraph unchanged} . . . side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest appliance. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb. (136 kg) capacity.
3. An access door from an upper floor level.
4. Access panel may be used in lieu of items 1, 2, and 3 with prior approval of the code official due to building conditions.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC 306.3. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****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"

(Reason: To protect homeowners and plumbers. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****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~~.

(Reason: To provide increased protection to piping systems and address reference number change. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

***Section 404.12.1; Individual outside appliances, delete.**

(Reason: Individual lines should also be buried to 18 inches. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****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.~~

(Reason: To require the use of more accurate diaphragm gauges. Spring gauges do not provide accurate measurement below approximately 17 psig. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****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.

(Reason: To provide for lesser pressures to coordinate with the use of more accurate diaphragm gauges. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****Section 406.4.2; change to read as follows:**

406.4.2 Test duration. Test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than fifteen (15) minutes. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the Code Official, but in no case for less than thirty (30) minutes. (Delete remainder of section.)

(Reason: To comply with accepted regional practices. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

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

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

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

(Reason: To require adequate access to regulators. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

****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.

(Reason: Gives code official discretion. Amendment to 2015 IFGC carried forward to 2021 IFGC.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

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

713 Engineered ~~Computerized~~ Drainage Design 7-12

(Reason: Editorial change to make compatible with amendment to Section 714.1. Amendment to 2015 IPC carried forward to 2021 IPC.)

****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 the 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 National Electrical Code as adopted.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes.)

***Section 109.2; change to read as follows:**

109.2 Schedule of permit fees. Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as ~~established by the applicable governing body.~~ as adopted by resolution of the governing body of the jurisdiction.

***Section 109.6; change to read as follows:**

109.6 Refunds. The code official ~~is authorized to establish a refund policy.~~ shall establish a policy for authorizing the refunding of fees.

(Reason: To clarify that fees are established by the City Council. Amendment to 2015 IMC carried forward to 2021 IMC.)

***Section 114; delete entire section and insert the following:**

SECTION 114 MEANS OF APPEAL

114.1 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.

114.2 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.

(Reason: Most jurisdictions already have an ordinance establishing and governing an appeals board for this code. This also calls to the attention of jurisdictions not having such a board that it needs to be established. Amendment to 2015 IMC carried forward to 2021 IMC.)

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

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.

(Reason: Provides sewer depth that is common in this region. Deleted reference to private sewage disposal because a private sewage disposal code is not typically adopted in this region. Amendment to 2015 IPC carried forward to 2021 IPC.)

***Section 305.7; change to read as follows:**

305.7 Protection of components of plumbing system. Components of a plumbing system installed ~~along~~ within 3 feet of 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.

(Reason: Provide a common cutoff point to designate a general separation distance at which plumbing systems should be safe for consistency in enforcement. Amendment to 2015 IPC carried forward to 2021 IPC.)

***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.

(Reason: Greater specificity in prohibited locations for condensate discharge. It is the intent of this amendment to send condensate discharge into a sanitary sewer drain. Consistent with regional amendment to IMC 307.2.1. Amendment to 2015 IPC carried forward to 2021 IPC.)

***Section 403.1; add a second paragraph to read as follows:**

In other than E Occupancies, the minimum number of fixtures in Table 403.1 may be lowered, if requested in writing, by the applicant stating reasons for a reduced number and approved by the Building

Official.

(Reason: To allow flexibility for designers to consider specific occupancy needs. Amendment to 2015 IPC carried forward to 2021 IPC.)

***Table 403.1; add footnote g to read as follows:**

Table 403.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES g.

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.

(Reason: Adjustment meets the needs of specific occupancy types. Amendment to 2015 IPC carried forward to 2021 IPC.)

***Section 410.2; change to read as follows:**

410.2 Small occupancies. Drinking fountains shall not be required for an occupant load of ~~15~~ 25 or fewer.

(Reason: To be consistent with Table 403.1 and 2018 IBC amendment Section 2902.1. Amendment to 2015 IPC carried forward to 2021 IPC.)

****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 coin-operated 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.

(Reason: To make it more compatible with local health code practices. Amendment to 2015 IPC carried forward to 2021 IPC.)

***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.

(Reason: To provide a safe means of accessibility to appliances in attics and to allow for different types of construction limitations. Consistent with regional amendment to IMC and IFGC. Modified 2015 amendment, carried forward to 2021 IPC.)

****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:

2. Discharge through an air gap. ~~located in the same room as the water heater~~.
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 manufacturers installation instructions and installed with those instructions.

5. Discharge ~~to the floor, to the pan serving the water heater or storage tank,~~ to an indirect waste receptor or to the outdoors.

(Reason: To provide a higher degree of safety. Modified 2015 IPC amendment, carried forward to 2021 IPC.)

****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 608.17.10.

(Reason: To recognize local requirements. Amendment to 2015 IPC carried forward to 2021 IPC.)

****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 principal backflow preventer. Valves 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 principal backflow prevention assembly.

(Reason: To recognize regional practices. Amendment to 2015 IPC carried forward to 2021 IPC.)

****Section 703.6; Delete**

(Reason: Combined sanitary and storm water sewer is not a standard practice in this region. Increases the burden on wastewater treatment facilities)

****Section 712.4.3; add Section 712.4.3 to read as follows:**

712.4.3 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.

(Reason: To address dual pump system. To provide reference for storm drainage systems. Amendment to 2015 IPC carried forward to 2021 IPC.)

****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.

(Reason: To eliminate computer designed drainage systems. Amendment to 2015 IPC carried forward to 2021 IPC.)

*****Section 903.1.1; change to read as follows:**

903.1 Roof extension unprotected. Open vent pipes that extend through a roof shall terminate not less than (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.

(Reason: To provide regional guidelines on standard installation method for this area and address reference number correction. Amendment to 2015 IPC carried forward to 2021 IPC.)

***Section 1003.2; change to read as follows:**

1003.2 Approval. The size, type, and location of each interceptor and of each separator shall be designed and installed in accordance with the manufacturer's instructions ~~and the~~ requirements of this section based on

the anticipated conditions of use and in accordance with applicable local regulations. All interceptors shall be sized by an engineer. Waste that does not require treatment or separation shall not be discharged into any interceptor or separator.

(Reason: To insure the proper sizing of interceptors. Amendment to 2015 IPC carried forward to 2021 IPC.)

****Section 1109; DELETE**

(Reason: Combined sanitary and drain systems are not allowed, increases the burden on wastewater treatment facilities. Amendment to 2015 IPC carried forward to 2021 IPC.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

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

Section [A] 101.1 Title. These regulations shall be known as the International Property Maintenance Code of the City of Murphy, hereafter referred to as "this code."

(Reason: To call attention to the blank to be filled in.)

***Section 102.3; change to read as follows:**

102.3 Applications of other codes. Repairs, additions or alterations to a structure, or changes of occupancy, shall be done in accordance with the procedures and provisions of the International Building Code, and NFPA. Nothing in this code shall be construed to cancel, modify or set aside any provisions of the ~~International Zoning Code~~ the City of Murphy Code of Ordinances.

(Reason: The International Zoning Code has not been adopted by the City.)

***Section 304.14: DELETE**

~~**304.14 Insect Screens** During the period from [DATE] to [DATE] every door, window and other outside opening required for ventilation of habitable rooms, food preparation areas, food service areas or any areas where products to be included or utilized in food for human consumption are processed, manufactured, packaged or stored shall be supplied with approved tightly fitting screens of minimum 16 mesh per inch (16 mesh per 25 mm), and every screen door used for insect control shall have a self-closing device in good working condition.~~

~~**Exception:** Screens shall not be required where other approved means, such as air curtains or insect repellent fans, are employed.~~

(Reason: To avoid conflicts with the Murphy Health Code)

***Sections 602.3 and 602.4; change to read as follows:**

602.3 Heat supply. Every owner and operator of any building who rents, leases or lets one or more dwelling units or sleeping units on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat ~~during the period from **[DATE]** to **[DATE]**~~ to maintain a minimum temperature of 68°F (20°C) in all habitable rooms, bathrooms and toilet rooms.

602.4 Occupiable workspaces. Indoor occupiable workspaces shall be supplied with heat ~~during the period from **[DATE]** to **[DATE]**~~ to maintain a minimum temperature of 65°F (18°C) during the period the spaces are occupied.

(Reason: Regional weather patterns make filling in the dates impractical.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

**Section 102.9; Change to read as follows:

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

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

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

*Section 111 MEANS OF APPEAL. DELETE entirely and replace with the following:

SECTION 111 MEANS OF APPEAL

111.1 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 112; change title to read as follows:

R112- Building and Fire Codes Appeal Board

*Section 112.1; Membership of board. Delete entirely and replace with the following: The Building and Fire Codes Appeal Board shall be in accordance with Chapter 24, Article 24.02 of the City of Murphy Code of Ordinances.

*Section 113 VIOLATIONS: DELETE

*Section R304; Flood hazard areas: DELETE

Section 305; Change to read as follows:

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

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.

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

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

1. Remainder Unchanged
2. Remainder Unchanged
3. Remainder Unchanged
4. Remainder unchanged
5. Remainder unchanged
6. Remainder unchanged

**Section 305.6; Change to read as follows:

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

**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 307.2.2.2; add to read as follows:

Section 307.2.2.2. Adjacency to Structural Foundation. Depth of the swimming pool and spa shall maintain a ratio of 1:1 from the nearest building foundation or footing of a retaining wall.

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

****Section 310; Change to read as follows:**

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

[Remainder unchanged]

***Section 320.1; Change to read as follows:**

320.1 Backwash water or draining water. Backwash water and draining water shall be discharged to the sanitary ~~or storm~~ sewer……air gap.

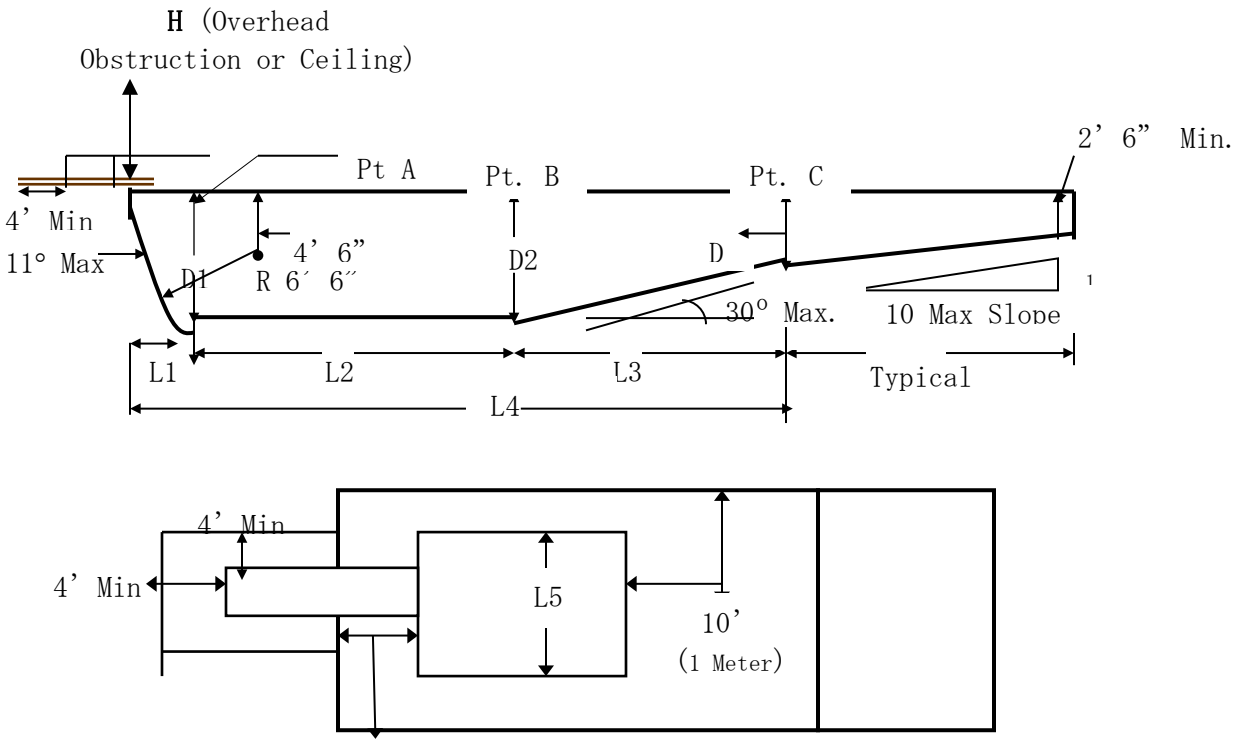
****Section 402.12; Change to read as follows:**

402.12 Water envelopes. The minimum diving water envelopes shall be in accordance with the -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.

(Cont. on next page)



(Reason: To avoid conflict with 25 TAC Chapter 265.)

****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.

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.

****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 610.5.1; Change to read:**

610.5.1 Uniform height of 10 inches. Except for the bottom riser, risers at the centerline shall have a maximum uniform height of 10 inches (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.

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
***Modified NCTCOG Recommended Amendment

****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.

(Reason: Legal wording to recognize locally adopted codes and amendments adopted with referenced codes. The former ICC Electrical Code is now Appendix K of this code but no longer called by that name. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: This was dropped when ICC quit publishing the ICC Electrical Code, but the Electrical Code still should be referenced regardless of how it is adopted. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 104.2.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas; delete**

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 104.10.1; Flood hazard areas. delete**

(Reason: Floodplain provisions are addressed by the City of Murphy Flood Damage Prevention Ordinance. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 105.1.1, delete and add the following:**

Section 105.1.1 Toilet Facilities. Every construction project requiring a building permit within the City limits of the City of Murphy shall have adequate toilet facilities for workers associated with the project.

At least one permanent or temporary toilet facility shall be maintained at every site where a building permit has been issued, as long as a building permit is active for the project.

Permanent toilet facility is defined as a room in an existing building or in the building being constructed with a water closet installed in such a room that conforms to the Plumbing Code and is continuously available to all workers involved in a construction project.

Temporary toilet facility is defined as a portable, fully enclosed, chemically sanitized toilet, which is serviced and cleaned at least once each week.

In addition to the justifications in the Building Code and in addition to other remedies, the building official may issue a Stop Work Order as described in the Building Code for any work done on a project not in compliance with this section.

(Reason: To help ensure sanitary jobsites. Amendment to 2015 IBC carried forward to 2021 IBC amendment.)

*****Section 105.2; change "Building" to read 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~~ 50 square feet (11 m2).
~~2. Fences not over 7 feet (1829 mm) high.~~
~~3. Oil derricks.~~
~~4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.~~
~~5. Water tanks supported directly on grade if the capacity does not exceed 5,000 gallons (18 925 L) and the ratio of height to diameter or width does not exceed 2:1.~~
~~6. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any basement or story below and are not part of an accessible route.~~
~~7.~~ 2. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
~~8. Temporary motion picture, television and theater stage sets and scenery.~~
~~9.~~ 3. Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (18 925 L) and are installed entirely above ground.
~~10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.~~
~~11.~~ 4. Swings and other playground equipment accessory to detached one- and two-family dwellings.
~~12. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support of Group R-3 and U occupancies.~~
~~13.~~ 5. ~~Nonfixed and~~ movable fixtures, cases, racks, counters, and partitions not over 5 feet 9 inches (1753 mm) in height.

(Reason: To define when a permit is not required. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 105.3, Application for permit; is amended by the addition of the following paragraphs:**

8. Be issued to a registered contractor.

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

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

2. Registration Requirements: Contractor may register by making application on forms provided by the Building Official. Electrical, irrigation, mechanical, and plumbing contractors shall provide proof of required licenses.

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

a. The contractor fails to finalize permits by obtaining the required approved inspections.
b. The contractor allows use or occupancy of a structure for which a permit was obtained without first obtaining the required authorization.
c. The contractor has been found by the Building and Fire Codes Appeal Board to have been grossly negligent in the performance of his/her work. For purposes of this Section, a contractor may be found to have acted in a grossly negligent manner if such contractor has received six (6) municipal court convictions for city code violations and if such violations occurred in the twelve (12) month period preceding the revocation/suspension action before the Commission.
d. Expiration, suspension or revocation of required license, bond or insurance.

(Reason: To clarify registration requirements. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.~~

(Reason: Lath or gypsum board inspections are performed in this area. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 113; change title to read as follows:**

113- ~~Board of Appeals~~ Building and Fire Codes Appeal Board

(Reason: The Building and Fire Codes Appeal Board is a unified appeals board for the Fire Department and Building Inspection Department. Amendment to 2015 IBC carried forward to 2018 IBC.)

***Section 113.1; change to read as follows:**

113.1 General. The Building and Fire Codes Appeal Board shall be in accordance with Chapter 24, Article 24.02 of the City of Murphy Code of Ordinances. ~~In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals… remainder unchanged…..to the building official.~~

(Reason: The Building and Fire Codes Appeal Board is governed by Article 24.02 of the City of Murphy Code of Ordinances. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 113.2, 113.3; Delete**

(Reason: The Building and Fire Codes Appeal Board is governed by Article 24.02 of the City of Murphy Code of Ordinances. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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

(Reason: To define the range of uses. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 202; 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.

(Reason: The code references align with the fire code. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: The registered design professional in responsible charge should be included. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: The code references Assisted Living facilities and definition was deleted. Amendment to 2015

IBC carried forward to 2021 IBC.)

****Section 202; amend definition to read as follows:**

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

(Reason: To define high-rise, as it influences sprinkler requirement thresholds based on the firefighting capabilities of a jurisdiction. Amendment to 2015 IBC carried forward to 2021 IBC.)

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

Fire stations
Police stations with detention facilities for 5 or less

(Reason: Consistent with regional practice dating back to the legacy codes.)

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

3. The open-air portion of a building [remainder unchanged]

(Reason: To clarify enclosed portions are not exempt. Amendment to 2015 IBC carried forward to 202 IBC.)

*****Section 403.3, Automatic Sprinkler System. Delete exception;***

(Reason: To provide adequate fire protection to enclosed areas. Modified 2015 Amendment carried forward to 2021 IBC.)

***Section 406.3.3 Carports; Delete**

~~**406.3.3 Carports.** Carports shall be open on at least two sides. Carport floor surfaces shall be of an approved noncombustible material. Carports not open on at least two sides shall be considered a garage and shall comply with the requirements for private garages……~~

(Reason: Carports requirements are addressed in Chapter 30 of the City of Murphy Code of Ordinances. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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).

(Reason: Simplifies the fire separation distance and eliminates the need to obtain opening information on existing buildings when adding carports in existing apartment complexes. Consistent with legacy codes in effect in region for years and no record of problems with car fires spreading to apartments as a result. Amendment to 2015 IBC carried forward to 2018 IBC.)

******Section 423.5.1; change to read as follows:***

423.5.1 Required occupant capacity. The required occupant capacity of the storm shelter shall include all of the buildings on the site and shall be the ~~greater of the following:~~

~~1.The~~ Total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.
~~2.The occupant load of the largest indoor assembly space that is associated with the Group E occupancy.~~

Exceptions:

1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building.
2. Where approved by the building official, the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.
3. Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by occupant load calculation, shall be permitted to be used in the determination of the required design occupant capacity for the storm shelter.

(Reason: The language in the new exception is parallel to the language in Chapter 10 that gives an AHJ similar authority for fire egress occupant load, clarifying that an AHJ has the authority to reduce the required shelter occupant capacity based on rationale provided by a School District.)

***Section 502.1; delete text: add the following:**

501.2 ~~Address Identification.~~ ~~New and existing buildings shall be provided with approved address identification……..Address identification shall be maintained.~~

Section 502.1, Premises identification; is changed to read as follows:

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. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of ~~4 inches (102 mm)~~ 12 inches (304.8 m^2) high with a minimum stroke width of 1/2 inch (12.7 mm) and placed high up on the building facing the addressed street side of the building. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road, buildings do not immediately front a

street, and/or the building cannot be viewed from the public way, a monument, pole or other sign with approved 6 inch (152.4 mm) height building numerals or addresses and 4 inch (101.6 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, unless otherwise approved by the fire code official. Address identification shall be maintained.

Exception: R-3 Single Family occupancies shall have approved numerals of a minimum 4 inches (88.9 mm) in height and a color contrasting with the background clearly visible and legible from the street fronting the property and rear alleyway where such alleyway exists.

(Reason: To increase the minimum addressing requirements for commercial properties and establish a minimum for single-family residential properties. Such improves legibility of these signs which are critical to emergency response in a timelier manner. Amendment to 2015 IBC carried forward to 2018 IBC.)

*****Table 506.2; delete footnote i 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.~~

(Reason: To eliminate the need for Appendix C adoption and remain consistent with 6000 sq. ft. sprinklering provision.)

*****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.

(Reason: To define what is considered accessible. Consistent with regional amendment to IFC 503.1.1)

******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]*

(Reason: The most common exception used to eliminate the need for sprinklers in concealed spaces of combustible construction is to fill the space with noncombustible insulation. This exception was changed in

2010 to permit a 2-inch air gap at the top of the filled space. A space compliant with the permitted omission above would allow hot gas and smoke to spread unimpeded throughout a building not provided with draftstopping. For this reason, omission of sprinklers permitted in accordance with NFPA 13 referenced standard should not be permitted with IBC exception requiring draftstopping in combustible construction.)

***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.

(Reason: To remain consistent with changes in 708.4.2 IBC code.)

***Section 718.4; change sentence to read as follows:**

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

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

(Reason: To remain consistent with changes in 708.4.2 IBC code.)

***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 nighttime 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*.

(Reason: Increases the reliability of the fire protection system and re-emphasizes the requirements of NFPA 25 relative to standpipe systems, as well as ensuring that FDC connections are similarly tested/maintained to ensure operation in an emergency incident.)

***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*.

(Reason: Such alternative systems do not provide the reliability of automatic sprinkler protection. Most gaseous type systems are highly susceptible to open doors, ceiling or floor tile removal, etc. However, an applicant could pursue an Alternate Method request to help mitigate the reliability issues with these alternative systems with the fire code official if so desired, or there may be circumstances in which the fire code official is acceptable to allowing an alternate system in lieu of sprinklers, such as kitchen hoods or paint booths.)

***Section 903.2; add paragraph to read as follows and delete the exception for telecommunications buildings:**

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."

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. This amendment is contingent on the Building Code amendment eliminating the Exceptions to Section 3005.4, such that passive fire barriers for these areas are maintained. The exception deletion is due to the

fact that such telecom areas pose an undue fire risk to the structural integrity of the building.)

***Section 903.2.4.2; change to read as follows:**

903.2.4.2 Group F-1 distilled spirits. An automatic sprinkler system shall be provided throughout a Group F-1 fire area used for the manufacture of distilled spirits involving more than 120 gallons of distilled spirits (>16% alcohol) in the fire area at any one time.

(Reason: To establish a sprinkler criteria limit based on existing maximum allowable quantities provided for flammable liquids in a non-sprinklered space from Chapter 50 and allow very small distillery type operations without sprinkler requirements as has been historically allowed.)

****Section 903.2.9.3; change to read as follows:**

903.2.9.3 Group S-1 distilled spirits or wine. An automatic sprinkler system shall be provided throughout a Group S-1 fire area used for the bulk storage of distilled spirits or wine involving more than 120 gallons of distilled spirits or wine (>16% alcohol) in the fire area at any one time.

(Reason: To establish a sprinkler criteria limit based on existing maximum allowable quantities provided for flammable liquids in a non-sprinklered space from Chapter 50 and allow very small storage operations without sprinkler requirements as has been historically allowed.)

***Section 903.2.9.4 and 903.2.9.5; delete Exception to 903.2.9.4 and add Section 903.2.9.5 to read as follows:**

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

(Reason: Fire departments are unable to regularly inspect the interior of these commercial occupancies and are unaware of the contents being stored. Previous allowance to separate units by fire barriers is difficult to enforce maintenance after opening.)

****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 mm)~~ (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.~~

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC. minor change.)

****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.

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC.)

*****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 regardless of the size of the fire area.

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC.)

*****903.2.11.9 Buildings Over 6,000 sq.ft.**

An automatic sprinkler system shall be installed throughout all buildings over 6,000 square feet and greater, and in all existing buildings that are enlarged to 6,000 square feet or greater, and in buildings greater than 6,000 square feet which are enlarged. For the purpose of this provision, firewalls shall not define separate buildings, nor shall two buildings on the same lot built in accordance with section 705.3 unless the buildings are separated by a minimum distance of 10 feet.

Exception: Open parking garages in compliance with Section 406.5 of the *International Building Code* where all of the following conditions apply:

a. The structure is freestanding.
b. The structure does not contain any mixed uses, accessory uses, storage rooms, electrical rooms, elevators or spaces used or occupied for anything other than motor vehicle parking.
c. The structure does not exceed 3 stories.
d. An approved fire apparatus access road is provided around the entire structure.

(Reason: Provides jurisdictions options as to their desired level of sprinkler protection based on multiple factors including firefighting philosophies/capabilities.)

*****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.}

(Reason: Gives clarification. Exception 4 deleted to provide protection where fire risks are poorly addressed. Amendment 903.2 addresses Exception 5 above relative to the elimination of sprinkler protection in these areas to avoid the shunt trip requirement.)

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC.)

******Section 903.3.1.2; change to read as follows:***

903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

1. Four stories or less above grade plane.
2. The floor level of the highest story is ~~30~~ 35 feet (~~9144~~ 10668 mm) or less above the lowest level of fire department vehicle access.
3. The floor level of the lowest story is ~~30~~ 35 feet (~~9144~~ 10668 mm) or less below the lowest level of fire department vehicle access.

{No change to remainder of section.}

(Reason: The change to the 2021 IFC over-reached to limit 13R systems to 30 ft. high at topmost floor level, which basically results in limiting 13R systems to 3 story buildings in reality. This change to 35 ft. would still allow 13R systems in 4 story apartment buildings, as has been allowed historically and as intended by 13R's scope.)

*****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.

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.

(Reason: In the last few years, severe winters brought to light several issues with current practices for sprinklering attics, not the least of which was wet-pipe sprinklers in ventilated attics provided with space heaters, etc. for freeze protection of such piping. This practice is not acceptable for the protection of water-filled piping in a ventilated attic space as it does not provide a reliable means of maintaining the minimum 40 degrees required by NFPA, wastes energy, and presents a potential ignition source to the attic space. Listed antifreeze is specifically included because NFPA currently allows such even though there is no currently listed antifreeze at the time of development of these amendments. The intent of this

amendment is to help reduce the large number of freeze breaks that have occurred in the past with water-filled wet-pipe sprinkler systems in the future, most specifically in attic spaces. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: To define uniform safety factor. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 905.9. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: Fire department connections are not always located at the riser; this allows the fire department faster access. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 903.4.3; change to read as follows:**

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor ~~in high-rise buildings~~.

(Reason: Amendment to 2015 IBC carried forward to 2021 IBC.)

****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. Fire department connections for standpipe systems shall be in accordance with Section 912.

(Reason: Helps ensure the integrity of the standpipe system via supervision, such that open hose valves will result in a supervisory low air alarm. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 905.3.2; amend as follows**:

Section 905.3.2 Group A; **delete exceptions 1 and 2.**

~~1. Open-air-seating spaces without enclosed spaces.~~
~~2. Class I automatic dry and semiautomatic dry standpipes or manual wet standpipes are allowed in buildings that are not high-rise buildings.~~

(Reason: Amendment to 2015 IBC carried forward to 2021 IBC.)

****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 and semi-automatic dry standpipes are allowed as provided for in NFPA 14.
2. R-2 occupancies of four stories or less in height having no interior corridors.

(Reason: Allows for the rapid deployment of hose lines to the body of the fire. Amendment to 2015 IBC carried forward to 2021 IBC.)

*****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 an intermediate 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 at two hundred feet (200') intervals along major corridors thereafter, or as otherwise approved by the fire code official.

(Reason: Item 1, 3, and 5 amendments to remove 'interior' will help to clarify that such connections are required for all 'exit' stairways, to ensure firefighter capabilities are not diminished in these tall buildings, simply because the stair is on the exterior of the building. Item 5 reduces the amount of pressure required to facilitate testing and provides backup protection for fire fighter safety. Item 7 allows for the rapid deployment of hose lines to the body of the fire. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: To avoid significant water losses. Consistent with amendment to IFC 903.4. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 907.1; add Section 907.1.4 ~~and 907.1.4.1~~ 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.

(Reason: Provides for the ability of descriptive identification of alarms and reduces need for panel replacement in the future. Updated wording to match the language of the new requirement at 907.5.2.3. Change of terminology allows for reference back to definitions of NFPA 72. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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 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.

(Reason: Increases the requirement to be consistent with Group B requirement. Also addresses issues found in Group A occupancies of reduced lighting levels and other A/V equipment that distracts from fire alarm notification devices or reduces ability of fire alarm system to notify occupants of the emergency condition. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.}

(Reason: To distinguish educational from day care occupancy minimum protection requirements. Further, to define threshold at which portable buildings are considered a separate building for the purposes of alarm systems. Exceptions provide consistency with State law concerning such occupancies. Amendment to 2015 IBC carried forward to 2021 IBC.)

*** Section 907.2; add Section 907.2.6.4 to read as follows:**

907.2.6.4 Group I-4 occupancies. An approved smoke detection system shall be installed in Group I-4 occupancies. Where automatic fire sprinklers are not provided, a full-coverage smoke detection system shall be provided in all Group I-4 occupancies.

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC.)

***Section 907.2.12, Delete and add the following, exceptions to remain:**

~~**907.2.12 High-rise buildings**. High-rise buildings shall be provided with automatic smoke detection systems in accordance with Section 907.13.1, a fire department communication system in accordance with Section 907.2.13.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.~~

907.2.12 High-rise buildings. Buildings having floors used for human occupancy located more than 55 feet (16,764 m^2) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with section 907.2.12.2.

(Reason: Amendment to 2015 IBC carried forward to 2018 IBC.)

**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, when used for open air seating; however, this exception does not apply to accessory uses including but not limited to sky boxes, restaurants and similarly enclosed areas.

(Reason: To indicate that enclosed areas within open air seating type occupancies are not exempted from automatic fire alarm system requirements. Amendment to 2015 IBC carried forward to 2018 IBC.)

**Section 907.4.2; add Section 907.4.2.7 to read as follows:

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

(Reason: Helps to reduce false alarms. Amendment to 2015 IBC carried forward to 2021 IBC.)

**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.

(Reason: To provide uniformity in system specifications and guidance to design engineers. Improves reliability of fire alarm devices and systems. Amendment to 2015 IBC carried forward to 2021 IBC.)

**Section 907.6.3; delete all four exceptions.

(Reason: To assist responding personnel in locating the emergency event for all fire alarm systems.)

*Section 907.6.6; delete and add the following:

907.6.6 Flow detectors and electronic monitoring. Sprinkler and standpipe system water flow detectors shall be provided for each floor zone to the sprinkler system and shall cause an alarm upon detection of water flow for a minimum of 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 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.

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, mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

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.

909.22.1.2 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.

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.

(Reason: To assist with enforcement of such as a smoke control system, as per Section 909.6.3, especially since a permit is now specifically required for such systems in the Fire Code. Also ensures that a firefighter's override panel is provided as per 909.16 for such systems. The above amendment copies the applicable requirements for such systems from Section 909.20 of the Building Code into the Fire Code. Although the published code did copy the elevator pressurization requirements into the Fire Code, it did not copy over the stair pressurization requirements.)

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.

(Reason: Allows the fire department to control the smoke and heat during and after a fire event, while still prohibiting such systems from being automatically activated, which is a potential detriment to the particular sprinkler systems indicated. Amendment to 2015 IBC carried forward to 2021 IBC.)

Section 910.2; add subsection 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.

(Reason: Maintains a fire protection device utilized in such occupancies where it is sometimes necessary to allow chemicals to burn out, rather than extinguish. Amendment to 2015 IBC carried forward to 2021 IBC.)

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 system per 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.

(Reason: Amendment continues to keep applicable wording from prior to the 2012 edition of the IFC. Specifically, automatic activation criteria is no longer specifically required in the published code. Specifying a temperature range at which smoke and heat vents should activate in sprinklered buildings helps to ensure that the sprinkler system has an opportunity to activate and control the fire prior to vent operation. Amendment to 2015 IBC carried forward to 2018 IBC.)

***Section 912.2.1: add Section 912.2.1.1 to read as follows:**

912.2.1.1 Off-Wall Fire Department Connections. Off-wall or yard mounted remote fire department connections are acceptable if the criteria for 912.2.3 is met.

****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 a ten (10') foot wide unobstructed path of travel and shall be located on the same side of the fire lane.

(Reason: To accommodate limited hose lengths, improve response times where the FDC is needed to achieve fire control, and improve ease of locating a fire hydrant in those situations and to prevent loss of fire lane access when hose has to cross the fire lane. Also, consistent with NFPA 14 criteria. Amendment to 2015 IBC carried forward to 2018 IBC.)

****Section 913.2.1; add second paragraph 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 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.

(Reason: This requirement allows fire fighters safer access to the fire pump room. The requirement allows access without being required to enter the building and locate the fire pump room interior access door during a fire event. The exception recognizes that this will not always be a feasible design scenario for some buildings, and as such, provides an acceptable alternative to protect the pathway to the fire pump room Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 1010.1.9.4 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}

(Reason: Application to M occupancies reflects regional practice; No. 4 expanded to Group A due to it being a similar scenario to other uses; No. 4 was regional practice. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 1015.8 Window Openings. Revise text as follows:**

1. Operable windows where the top of the sill of the opening is located more than ~~75 feet (22 860 mm)~~ 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.

(Reason: In Option B jurisdictions, change "75 feet" to "55 feet". Amendment to 2015 IBC carried forward to 2018 IBC.)

****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 incompliance with the requirements of this chapter.

(Reason: To accommodate buildings regulated under state law. Further clarified in 2015 to mean components that are specifically addressed by TDLR shall be exempt. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 1807.2; add Section 1807.2.4 to read as follows:**

Section 1807.2.4 Retaining walls. Retaining walls shall be constructed of stone, brick or other masonry materials. Retaining walls exceeding 4 feet in height shall be designed and sealed by a Texas-registered engineer.

(Reason: To have an enforceable and reasonable standard for retaining walls. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: To allow flexibility for designer to consider specific occupancy needs. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Table 2902.1; add footnote f to read as follows:**

Table 2902.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a, g]

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.

(Reason: Adjustment meets the needs of specific occupancy types. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 2902.6; change to read as follows:**

2902.6 Small occupancies. Drinking fountains shall not be required for an occupant load of ~~15~~ 25 or fewer.

(Reason: Consistent with 2021 IPC amendment. Amendment to 2015 IBC carried forward to 2021 IBC.)

***Section 3002.1 Hoistway Enclosure Protection.** add exceptions to read as follows:

Exceptions:
1. Elevators wholly located within atriums complying with Section 404 shall not require hoistway enclosure protection.
2. Elevators in open or enclosed parking garages that serve only the parking garage, and complying with Sections 406.5 and 406.6, respectively, shall not require hoistway enclosure protection.

(Reason: Provides specific Code recognition that elevators within atriums and within parking garages do not require hoistway enclosure protection. Amendment to 2015 IBC carried forward to 2021 IBC.)

****Section 3005.5: add a new subsection to Section 3005.5.1 as follows:**

3005.5.1 Fire Protection in Machine rooms, control rooms, machinery spaces and control spaces.

3005.5.1.1 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 3005.5.1.1.1.

3005.5.1.1.1 Prohibited locations. Automatic sprinklers shall not be installed in machine rooms, elevator machinery spaces, control rooms, control spaces and elevator hoist-ways.

3005.5.1.1.2 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.

3005.5.1.2 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 Omission of Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed.

(Reason: Firefighter and public safety. This amendment eliminates the shunt trip requirement of the International Building Code Section 3005.5 for the purpose of elevator passenger and firefighter safety. Amendments to 2015 IBC carried forward to 2021 IBC.)

****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".

(Reason: Reinforces the need to maintain space clean and free of combustibles. See companion change to eliminate fire sprinklers therein, to always require an enclosure - with IBC 3005.4 exceptions deleted - resulting in the limited need for a shunt trip system. Amendment to 2015 IBC carried forward to 2021 IBC.)

****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.

(Reason: 2015 IBC text does not address hoistways that are > 75' in height that are both below grade and above grade but not located above the high rise classification nor does the IBC address hoistways wholly located above grade such as those that serve above sky lobbies. Amendment to 2015 IBC carried forward to 2021 IBC.)

* Amendments Specific to the City of Murphy
** NCTCOG Recommended Amendment
*** Modified NCTCOG Recommended Amendment

***Add Section 90.10. Building and Fire Codes Appeal Board**

Section 90.10 Building and Fire Codes Appeal Board

Add Section 90.11 to read as follows:

90.11 General. The Building and Fire Codes Appeal Board shall be in accordance with Chapter 24, Article 24.02 of the City of Murphy Code of Ordinances.

****Article 100; add the following to definition:**

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

(Reason: To better define the qualifications for engineering supervision.)

****Article 400.8 Field Identification Required: Change the following to read as follows**

408.4 Field Identification Required.

(A) Circuit Directory or Circuit Identification.
Every circuit and circuit modification shall be legibly identified as to its clear, evident, and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others. Spare positions that contain unused overcurrent devices or switches shall be described accordingly. The identification shall be included in a circuit directory that is located on the face or inside of, or in an approved location adjacent and permanently affixed the panel door in the case of a panelboard and at each switch or circuit breaker in a switchboard or switchgear. No circuit shall be described in a manner that depends on transient conditions of occupancy.

(Reason: To add clarity and provide more positive options for enforcement and approval)

****Article 410.118: Change the following to read as follows**

410.118 Access to other boxes.
Luminaires recessed in the ceilings, floors, or walls shall not be used to access outlet, pull, or junction boxes or conduit bodies, unless the box or conduit body is an integral part of the listed luminaire.

Exception: Removable luminaires with a minimum measurement of 22 in. X 22 in. shall be permitted to be used as access to outlet, pull, junction boxes or conduit bodies.

(Reason: To add clarity and provide more positive options for enforcement and approval. This will allow access to boxes not integral with the luminaire. This measurement aligns with the limited access above a lay-in ceiling measurement in 110.26(A)(4).)

****Article 422.31 B: Change the following to read as follows**

422.31 B Appliances Rated over 300 Volt-Amperes

(B) Appliances Rated over 300 Volt-Amperes. For permanently connected appliances rated over 300 volt-amperes, the branch-circuit switch or circuit breaker shall be permitted to serve as the disconnecting means where the switch or circuit breaker is within sight from ~~the appliance or be~~ and is readily accessible to the appliance it serves or ~~be~~ is capable of being locked in the open position in accordance with 110.25 and is readily accessible to the appliance it serves.

Informational Note No. 1: For appliances employing unit switches, see 422.34.

Informational Note No 2: The following means of access are considered to constitute readily accessible for this code change when conforming to the additional access requirements of the I Codes:

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.

(Reason: To add clarity and provide more positive options for enforcement and approval)

****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.
(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.
(Reason: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)

****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.

(Reason: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)

****Article 695.6 A 1: Change the following to read as follows**

695.6 (A) Supply Conductors.

(1) Services and On-Site Power Production Facilities.
Service conductors and conductors supplied by on-site power production facilities shall be

physically routed outside a building(s) and shall be installed as service-entrance conductors in accordance with 230.6, 230.9, and Parts III and IV of Article 230. Where supply conductors cannot be physically routed outside of buildings, the conductors shall be permitted to be routed through the building(s) where installed in accordance with
230.6(1) or (2).

~~Exception: The supply conductors within the fire pump room shall not be required to meet 230.6 (1) or (2)~~

(Reason: To add clarity and provide more positive options for enforcement and approval. All Fire Pump rooms are not Fire Rated as on all 4 sides. There are Fault Currents that could exceed 150,000-190,000 amps and protection of these Service Conductors is essential and conflict with other codes specifically 230.70(A)(1).)

**Article 710.15 A: Change the following to read as follows

710.15 General

710.15(A) Supply Output.
Power supply to premises wiring systems fed by stand-alone or isolated microgrid power sources shall ~~be permitted to have less capacity than the calculated load. The capacity of the sum of all sources of the stand-alone supply shall be equal to or greater than the load posed by the largest single utilization equipment connected to the system. Calculated general lighting loads shall not be considered as a single load~~ have adequate capacity to meet the calculated load in accordance with Article 220.

~~Informational Note: For general-use loads the system capacity can be calculated using the sum of the capacity of the firm sources, such as generators and ESS inverters. For specialty loads intended to be powered directly from a variable source, the capacity can be calculated using the sum of the variable sources, such as PV or wind inverters, or the combined capacity of both firm and variable sources.~~

(Reason: To add clarity and provide more positive options for enforcement and approval. Unless amended, standby systems would not be required to meet any load demanded by their standby definitions.)