Metropolitan Nashville and Davidson County, TN

Legislation Details (With Text)

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Title:	An ordinance amending Title 16 of the Metropolitan Code of Laws to adopt updated building codes.		
Sponsors:	Colby Sledge, Tom Cash, Brett Withers, Freddie OConnell, Kathleen Murphy, Ginny Welsch, Burkley Allen, Sean Parker, Emily Benedict, Tonya Hancock, Brandon Taylor, Angie Henderson, Delishia Porterfield, Erin Evans, Zulfat Suara, Joy Styles, Russ Bradford		
Indexes:			
Code sections:			
Attachments:	1. BL2020-458 Amdt, 2. BL2020-458		

Date	Ver.	Action By	Action	Result
11/9/2020	1	Mayor	approved	
11/5/2020	1	Metropolitan Council	adopted	Pass
11/5/2020	1	Metropolitan Council	amended	
10/20/2020	1	Codes, Fair, and Farmers Market Committee	approved	
10/20/2020	1	Metropolitan Council	passed on second reading	Pass
10/6/2020	1	Metropolitan Council	passed on first reading	

An ordinance amending Title 16 of the Metropolitan Code of Laws to adopt updated building codes.

WHEREAS, the applicable codes for building standards are updated by international bodies on a periodic basis, and such updates are adopted by the Metropolitan Council and incorporated into the Metropolitan Code of Laws in Title 16 as the governing standards for Davidson County, Tennessee; and,

WHEREAS, adoption of updated building codes is to the benefit of the citizens of The Metropolitan Government of Nashville and Davidson County.

NOW, THEREFORE, BE IT ENACTED BY THE COUNCIL OF THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY:

Section 1. Chapter 16.08 of the Metropolitan Code of Laws is hereby amended by deleting existing Chapter 16.08 and substituting the following:

16.08.010 - Adoption by reference.

The following sections and appendices are adopted and incorporated into this chapter as the technical section of the building code of the metropolitan government, by reference, as fully as though copied into this code, except as have been or may be hereafter amended herein:

A. 2018 Edition of the International Building Code, including Appendices C & D of the International Building Code, as published by the International Code Council.

B. 2017 Edition of the International ICC/ANSI A117.1 Accessible and Usable Buildings and

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Facilities.

C. 2018 International Residential Code for One- and Two-Family Dwellings published by the International Code Council, as amended in this chapter, and Appendices E, F, G, H, and M of the International Residential Code for One- and Two-Family Dwellings.

D. 2018 Edition of the International Energy Conservation Code published by the International Code Council, as amended in this chapter.

16.08.012 - Amendments to the International Building Code.

The following amendments, deletions or additions to the 2018 Edition of the International Building Code are adopted by reference as fully as though copied into said Building Code and thereby made a part of the Building Code.

A. Section 101.1 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 101.1and substituting the following:

These regulations shall be known as the Building Code of Metropolitan Nashville and Davidson County, hereinafter referred to as “this code.”

B. The 2018 Edition of the International Building Code is hereby amended by deleting Sections 102 through 116.5 in their entirety.

C. Section 201 of the 2018 Edition of the International Building Code is hereby amended by adding the following new Section 201.5 to Section 201:

201.5 Interchangeability with The International Codes. The International Property Maintenance Code shall be construed to mean the Property Standards Code of the Metropolitan Government. The International Private Sewage Disposal Code shall be construed to mean the Subsurface Sewage Disposal Systems Code of the Metropolitan Government. The ICC Electrical Code shall be construed to mean the National Electrical Code.

D. Section 202 of the 2018 Edition of the International Building Code is hereby amended by adding the following new definitions:

BED AND BREAKFAST HOMESTAY - means a private home, inn, or other unique residential facility located in a structure of historical significance as defined in Tennessee Code Annotated Section 68-14-503(3) offering bed and breakfast accommodations and one (1) daily meal and having less than four (4) guest rooms furnished for pay, with guests staying not more than fourteen (14) days, and where the innkeeper resides on the premises or property, or immediately adjacent to it. Guest rooms shall be established and maintained distinct and separate from the innkeeper's quarters.

BREEZEWAY - a covered connector between two buildings or structures, open at each end but less than 50 percent open, located at, above, or below grade level, that may be used as a

means of egress from a building or structure.

BOARD - shall mean the Metropolitan Board of Fire and Building Code Appeals.

CODE OFFICIAL - shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

BUILDING OFFICIAL - shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

DIRECTOR - shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

NORMAL MAINTENANCE REPAIRS - shall be defined as repairs to an existing building or structure, including but not limited to exterior and interior painting, papering, glazing of windows and doors, floor finishing, minor repairs to chimneys, stairs, porches, underpinning, and repairs to an existing roof not to exceed 33 percent of the roof area.

TEMPORARY - shall mean not more than 90 calendar days.

E. Section 310.5, R-3 of the 2018 Edition of the International Building Code is hereby amended by adding the following to the Section 310.5:

Bed and breakfast homestays are classified as R3.

F. Section 501.2 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 501.2 and substituting the following:

501.2. Premises Identification. All buildings and structures within Metropolitan Nashville and Davidson County shall have approved address numbers posted in accordance with following:

1. Residences are to have their numbers at least three (3) inches in size, on a contrasting background, and in a position to be plainly visible and legible from the street or road fronting the property. The numbers may be attached to the residence or the mailbox, if the mailbox is next to the street.

2. Numbers posted on the outside of nonresidential buildings must be six inches, or larger, on a contrasting background, and in a position to be plainly visible and legible from the street or road fronting the premises. Numbers posted on interior doors or spaces (such as a lease space in a mall) must be at least three inches in size.

3. Multifamily buildings shall have their numbers displayed to be plainly visible and legible, on a contrasting background, and a minimum size of six inches in height. Identifying numbers, at least three inches in height shall also be posted on or at the doors of individual dwelling units.

G. Sections 907.2.10.1.1 through 907.2.10.1.4 of the 2018 Edition of the International Building Code are hereby amended by deleting Sections 907.2.10.1.1 through 907.2.10.1.4 and substituting the following:

907.2.10.1.1 Groups R-2, R-3, R-4 and I-1. Single-or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1, regardless of occupant load in the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.

2. In each room used for sleeping purposes.

3. In each story within a dwelling unit, including basements, garages and cellars but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

Exception: Heat detectors may be substituted for smoke detectors installed in cellars and attached garages.

907.2.10.1.2 Additions, alterations or repairs to Group R. Where an addition, alteration or repair to an individual dwelling unit or guestroom in Group R requires a permit, smoke alarms shall be installed within that individual dwelling unit or guestroom in accordance with this section. Where one or more sleeping rooms are added or created in an existing Group R, smoke alarms shall be installed in accordance with this section.

Exception: Repairs to the exterior surfaces of occupancies in Group R are exempt from the requirements of this section.

H. Section 1015.4 of the 2018 Edition of the International Building Code is hereby amended by adding the following exception number 7.

7. From the walking surface to the first element, the guard shall not have openings that allow passage of a sphere 2 inches in diameter.

I. The 2018 Edition of the International Building Code is hereby amended by deleting Section 1612- Flood Loads.

J. Section 2902.2 of the 2018 Edition of the International Building Code is hereby

amended by adding the following exception number 5.

Exception: 5. Any business that dispenses gasoline or diesel oil to the public shall have separate bathroom facilities for each sex.

K. Section 2902.3.4 of the 2018 Edition of the International Building Code is hereby amended by adding the following to the end of Section 2902.3.4.

Restaurants other than food tenants in the food court shall have the required facilities installed within their tenant space.

L. Section 3103 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 3103 and substituting the following:

3103 TEMPORARY STRUCTURES

3103.1 General. The provisions of this section shall apply to structures erected for a period of 90 days or less. Tents and other membrane structures erected for a period of 90 days or less shall comply with the Metropolitan Fire Code. Structures erected for a longer period of time shall comply with applicable sections of this code.

EXCEPTION: Provisions of the Metropolitan Fire Code shall apply to tents and membrane structures erected for a period of 90 days or less.

3103.1.1 Permit required. Temporary structures that cover an area in excess of 120 square feet (11.16 m2), including connecting areas or spaces with a common means of egress or entrance which are used or intended to be used for the gathering together of ten or more persons, shall not be erected, operated or maintained for any purpose without obtaining a permit from the building official.

M. Section 3109.4.1.8 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 3109.4.1.8 in its entirety.

N. Section 3202.3.1 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 3202.3.1 and substituting the following:

3202.3.1 Awnings, canopies, marquees and signs. Awnings, canopies, marquees and signs shall be constructed so as to support applicable loads as specified in Chapter 16. Awnings, canopies, marquees and signs with less than 15 feet (4572 mm) clearance above the sidewalk shall not extend into or occupy more than two-thirds the width of the sidewalk measured from

the building.

3202.3.1.1 SUPPORT. Fixed awnings, marquees, signs or canopies shall be entirely supported from the building.

O. Section 3202.4 of the 2018 Edition of the International Building Code is hereby amended by deleting Section 3202.4 and substituting the following:

3202.4 Temporary encroachments. Where allowed by the local authority having jurisdiction, vestibules and storm enclosures shall not be erected for a period of time exceeding 90 days in any one year and shall not encroach more than 3 feet (914 mm) nor more than one-fourth of the width of the sidewalk beyond the street lot line. Temporary entrance awnings shall be erected with a minimum clearance of 8 feet (2438 mm) to the lowest portion of the hood or awning where supported on removable steel or other approved noncombustible support from the building.

P. Section D101.2 of the 2018 Edition of the International Building Code is hereby amended by deleting Section D101.2 and substituting the following:

D101.2 The Fire District shall include such territory or portion thereof as established by the official Fire Zone Map of the Metropolitan Government of Nashville and Davidson County, Tennessee.

16.08.014 - Amendments to the 2018 International Residential Code for One- and Two-Family Dwellings.

The following amendments, deletions, or additions to the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings are adopted by reference, as fully as though copied into such Dwelling Code, and thereby made a part of the Dwelling Code.

A. Section R101.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section R101.1 and substituting the following:

R101.1 Title. These provisions shall be known as the Residential Code for One- and Two-family Dwellings of Metro Nashville, Tennessee, and shall be cited as such and will be referred to herein as "this code".

B. Sections R102.1 through R106.5 of the 2018 Edition of the International Residential

Code for One- and Two-Family Dwellings are hereby amended by deleting Sections R102.1 through R106.5 in their entirety.

C. Section R107.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting R107.1 Section and substituting the following:

R107.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service but shall not be permitted for more than 90 days. The building official is authorized to grant extensions for demonstrated cause.

D. Sections R108.1 through R114.2 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Sections R108.1 through 114.2 in their entirety.

E. Section R202 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by adding the following new definitions to Section R202.

BED AND BREAKFAST HOMESTAY-means a private home, inn or other unique residential facility located in a structure of historical significance as defined in Tennessee Code Annotated Section 68-14-503(3) offering bed and breakfast accommodations and one (1) daily meal and having less than four (4) guest rooms furnished for pay, with guest staying not more than fourteen (14) days, and where the innkeeper resides on the premises or property, or immediately adjacent to it. Guest rooms shall be established and maintained distinct and separate from the innkeeper's quarters.

BOARD-shall mean the Metropolitan Board of Fire and Building Code Appeals.

BUILDING OFFICIAL-shall mean the Director of the Metropolitan Department of Codes Administration.

DIRECTOR-shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

NORMAL MAINTENANCE REPAIRS-shall be defined as repairs to an existing building or structure, including but not limited to exterior and interior painting, papering, glazing of windows and doors, floor finishing, minor repairs to chimneys, stairs, porches, underpinning, and repairs to an existing roof.

TEMPORARY-shall mean not more than 90 calendar days.

F. Table R301.2(1) of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Table R301.2(1) and substituting the following:

Ground Snow Load (lbs.)		10
Wind Design	Speed (mph)	115
	Topographic effects	No
	Special Wind Region	No
Windborne Debris Zone		No
Seismic Design Category		B
Subject to Damage From:	Weathering	Severe
	Frost line depth (inches)	12"
	Termite	Heavy
Winter Design Temp (Degrees)		14° F
Ice Barrier Underlayment Required		No
Flood Hazards		In accordance with adopted Storm Water ordinance
Air Freezing Index		366
Mean Annual Temp		59° F
Manual J Design Criteria Elevation (feet)		640
Latitude (Degrees North)		35
Winter Heating		14
Summer Cooling		94
Altitude Correction Factor		*
Indoor Design Temperature		70
Design Temperature Cooling		75
Heating Temperature Difference		*
Cooling Temperature Difference		*
Wind Velocity Cooling		*
Coincident Wet Bulb		74
Daily Range		M
Winter Humidity		*
Summer Humidity		*

*This value to be determined using Manual J Design criteria.

G. Section R306 of the 2018 Edition of the International Residential Code for One- and Two-Family

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Dwellings is hereby amended by adding Section R306.5:

R306.5 Clothes Washing facilities. Every dwelling unit shall be provided with a washing machine connection, a dryer electrical connection and a vent for the dryer.

H. Section R309.3 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section R309.3 in its entirety.

I. Section R309.5 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section R309.5 in its entirety.

J. Section R313.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by creating a new Section R313.1.

R313.1 Townhouse automatic fire sprinkler systems. A townhouse shall be considered a separate building with independent exterior walls and shall be separated by a two-hour fire-resistance-rated wall assembly. A townhouse shall be built according to local and statewide adopted building codes; provided, however, a fire sprinkler system shall not be required for a townhouse. For the purposes of this Code, "townhouse" means a single family dwelling unit constructed in a group of three (3) or more attached units that extends from foundation to roof, not more than three (3) stories in height, with a separate means of egress, and an open space or public way on at least two (2) sides.

K. Section R313.2 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section R313.2 in its entirety.

L. Section R319 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section R319 and substituting the following:

R319. Premises Identification. All buildings and structures within Metropolitan Nashville and Davidson County shall have approved address numbers posted in accordance with following: Residences are to have their numbers at least three (3) inches in size, on a contrasting background, and in a position to be plainly visible and legible from the street or road fronting the property. The numbers may be attached to the residence or the mailbox, if the mailbox is next to the street.

M. Sections R322.1 through R322.3.10 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Sections R322.1 through 322.3.10 in their entirety.

N. Chapter 3 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by adding the following new section R328:

SECTION R328-HOUSE MOVING

Any person desiring to move any house, building, or structure shall comply with all of the provisions set forth in Section 16.28.175 <https://library.municode. of the Metropolitan Code and other provisions of this Code.

O. Section R403.1 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section R403.1 and substituting the following:

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. All concrete footing shall have minimum bottom reinforcement. Minimum reinforcement shall be 2-#4's continuous and shall be located a minimum of 3 inches clear from the bottom and side of the footing. Concrete footings shall be designed and constructed in accordance with the provisions of Section R403 or in accordance with ACI 332.

P. Section R302.13 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section R302.13 and substituting the following:

R302.13 Fire protection of floors. Floor assemblies, not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA13D, or another approved equivalent sprinkler system.

2. Floor assemblies located directly over a crawl space not intended for storage.

3. Portions of floor assemblies can be unprotected when complying with the following:

3.1. The aggregate area of the unprotected portions shall not exceed 80 square feet per story

3.2. Fire blocking in accordance with Section R302.11.1 shall be installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.

4. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

16.08.016 - Amendments to the International Energy Conservation Code.

The following amendments, deletions or additions to the 2018 Edition of the International Energy Conservation Code are adopted by reference as fully as though copied into said Dwelling Code and thereby made a part of the Dwelling Code.

A. Section 101.1 of the 2018 Edition of the International Energy Conservation Code is hereby amended by deleting Section 101.1 and adding a new Section 101.1.

101.1 Title. This code shall be known as the International Energy Conservation such. It is referred to herein as "this code."

B. The 2018 Edition of the International Energy Conservation Code is hereby amended by deleting Sections R401.1 through R406.6.5 in their entirety.

Section 2. Chapter 16.12 of the Metropolitan Code of Laws is hereby amended by deleting existing sections 16.12.120, 16.12.130 and 16.12.140 and substituting the following:

16.12.120 - Adoption by reference.

The following sections and appendices are adopted and incorporated into this chapter as the technical section of the building code of the metropolitan government, by reference, as fully as though copied into this code, except as have been or may be hereafter amended herein:

A. 2018 Edition of the International Plumbing Code published by the International Code Council, as amended in this chapter, and Appendices B, C, D, E and F of the 2018 Edition of the International Plumbing Code.

B. The following sections of the Subsurface Sewage Disposal System laws and regulations as published by the Tennessee Department of Environment and Conservation, Ground Water Protection division, as amended October 1993, are adopted and incorporated into this chapter as the Plumbing Code of the Metropolitan Government, by reference, as fully as though copied in this

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chapter, except as such sections and appendices have been or may be hereafter revised or amended by the Metropolitan Council: Section 201.1 through Chapter 14 and Appendices A and B. See Chapter 15.72 of the Metropolitan Code of Laws for additional requirements.

16.12.130 - Amendments to the International Plumbing Code.

The following amendments, deletions, or additions to the 2018 Edition of the International Plumbing Code are adopted by reference, as fully as though copied into such Plumbing Code, and thereby made a part of the Plumbing Code.

A. Section 101.1 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 101.1 and substituting the following:

101.1 Title. These regulations shall be known as the Plumbing Code of Metro Nashville and Davidson County hereinafter referred to as “this code”.

B. Sections 103.1 through 104.3 of the 2018 Edition of the International Plumbing Code are hereby amended by deleting Sections 103.1 through 104.3 in their entirety.

C. Sections 104.6 through 105.1 of the 2018 Edition of the International Plumbing Code are hereby amended by deleting Sections 104.6 through 105.1 in their entirety.

D. Sections 105.3 through 110.4 of the 2018 Edition of the International Plumbing Code are hereby amended by deleting Sections 105.3 through 1110.4 in their entirety.

E. Section 201 of the 2018 Edition of the International Plumbing Code is amended by adding a new Section 201.5 and substituting the following:

201.5 Interchangeability with the International Codes. The International Building Code shall be construed to mean the 2018 International Building Code. The International Property Maintenance Code shall be construed to mean the Property Code of the Metropolitan Government. The International Mechanical Code shall be construed to mean the 2018 International Mechanical Code. The International Fuel Gas Code shall be construed to mean the 2018 International Fuel Gas Code. The International Plumbing Code shall be construed to mean the 2018 International Plumbing Code. The International Private Sewage Disposal Code shall be construed to mean the Subsurface Sewage Disposal Systems Code. The ICC Electrical Code shall be construed to mean the 2017 National Electrical Code.

F. Section 202 of the 2018 Edition of the International Plumbing Code is hereby amended by adding the definition of "Plumbing Official" as follows:

PLUMBING OFFICIAL-shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

G. Sections 305.4 and 305.4.1 of the 2018 International Plumbing Code are hereby amended by deleting Sections 305.4 and 305.4.1 and substituting the following:

305.4. Freezing. Plumbing fixtures, water, soil and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperature unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior water supply system piping shall be installed not less than eighteen (18) inches below grade.

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

H. Section 312.3 of the 2018 International Plumbing Code is hereby amended by deleting Section 312.3 and substituting the following:

312.3 Drainage and vent air test. Plastic piping shall not be tested using air. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 5 psi (34.5 kPa) or sufficient to balance a 10-inch (254 mm) column of mercury. This pressure shall be held for a test period of not less than 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

Exception: Air testing on plastic pipe shall be permissible when water is not readily available or when the temperature is forecast to be below 32 degrees.

I. Section 503.1 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 503.1 and substituting the following:

503.1 Cold water line valve. The cold water branch line from the main water supply line to each hot water storage tank or water heater shall be provided with a valve, located within 3 feet of the equipment and serving only the hot water storage tank or water heater. The valve shall not interfere or cause a disruption of the cold water supply to the remainder of the cold water system. The valve shall be provided with access on the same floor level as the water heater served.

J. Section 504.7 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 504.7 and substituting the following:

Section 504.7 Required Pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed

in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inches (0.6010mm) in thickness.

2. Plastic pans of approved type.

3. Other approved materials.

K. Section 604.9 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 604.9 and substituting the following:

604.9 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water hammer-arrestors shall be installed as per the plan design but at a minimum at all washing machines, dishwashers and standalone ice makers. Water-hammer arrestors shall be installed in accordance with the manufacturer's instructions. Water-hammer arrestors shall conform to ASSE 1010.

L. Section 607.2 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 607.2 and substituting the following:

607.2 Hot or tempered water supply to fixtures. The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 100 feet. Recirculating system piping and heat-traced piping shall be considered to be sources of hot or tempered water.

M. Section 903.1 of the 2018 Edition of the International Plumbing Code is hereby amended by deleting Section 903.1 and substituting the following:

903.1 Stack required. Open vent pipes that extend through a roof shall be terminated not less than 12 inches (304.8mm) 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(2134mm) above the roof.

N. The 2018 Edition of the International Plumbing Code is hereby amended by adding Appendix F as follows:

APPENDIX H REGULATIONS GOVERNING PRIVATE SEWAGE DISPOSAL SYSTEMS

The following regulations shall apply to the manufacture, sale, installation, repair, alteration, extension and relocation of all private sewage disposal systems under the jurisdiction of the Metropolitan Government of Nashville and Davidson County.

F101. APPROVED AND LIMITATIONS.

F101.1 ALLOWABLE USE. Septic tanks and soil absorption systems and other similar facilities may be constructed where no public sewerage system is available or is likely to become available within a reasonable time.

F101.2 PUBLIC SEWER CONNECTION. Private domestic sewage treatment and disposal systems shall be discontinued and adequately abandoned when public sewers become available to the building served.

F101.3 PERMISSION TO CONSTRUCT. No plumbing permit shall be issued for the installation of any septic tank or disposal field or for any individual or private sewage disposal system until satisfactory evidence of approval of such system, by the Metropolitan Department of Health, has been submitted to the Department of Codes Administration. On approved and recorded subdivisions, such notification consists of a letter to Codes Administration from the Health Department which covers each subdivided lot.

F101.4 PLANS AND SPECIFICATIONS.

F101.4.1 All manufacturers or distributors of mechanical sewage disposal units, filters, precast septic tanks or any other method of sewage disposal must submit detailed plans and specifications to the Director of Health of the Metropolitan Health Department, and receive approval prior to the manufacture and sale or installation of the product with the Metropolitan area of Nashville and Davidson County.

F101.4.2 Commercial and public buildings, such as but not limited to theaters, food dispensers, assembly halls, schools, churches, apartment buildings, motels, factories, mobile home parks, camp grounds and parks proposed to be constructed in an unsewered area, must submit detailed plans and specifications for the proposed sewage disposal system to the Sanitary Engineering Division of the Metropolitan Health Department for approval prior to any construction.

F101.4.3 The plans and specifications shall be submitted in triplicate and shall include the following:

F101.4.3.1 Detailed plan of the proposed septic tank or treatment tank and effluent disposal system

showing building location, and with the distance labeled from building served to system, from system to well, lot line, lake, stream or other watercourse.

F101.4.3.2 The ground slope should be indicated and information submitted relative to the expected use and occupancy of the building to be served.

F101.4.3.3 Provide soil borings and percolation test data.

F101.4.3.4 There shall be maintained at the project site one set of plans bearing the Health Department's stamp of approval.

16.12.140 - Amendments to the Plumbing Sections of the 2018 International Residential Code for One- and Two-Family Dwellings.

The following amendments, deletions or additions to the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings are hereby adopted by reference as fully as though copied into said dwelling code and thereby made a part of the dwelling code.

A. Section P2603.5 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section P2603.5 and substituting the following:

P2603.5 Freezing. Water, soil or waste pipe shall not be installed or permitted outside of a building, or concealed in exterior walls, in attics spaces or crawl spaces, building overhangs above the adjacent grade, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall not be installed less than 18 in. below finished grade measured from the top of the pipe.

B. Section P2603.5.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section P2603.5.1 and substituting the following:

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

C. Section P2801.6 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section P2801.6 and substituting the following:

P2801.6 Required pan. Where water heaters or hot water storage tanks are installed in remote locations or where leaks can cause damage to the building or its contents, the tank or heater shall be installed in a . pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inches (0.6010mm) in thickness.

2. Plastic pans of approved type.

3. Other approved materials.

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

Exception: When water heaters are installed in a crawl space or in a basement below grade, no pan is required. The relief valve waste shall terminate 6 to 10 inches above the floor the water heater rests upon.

D. Section P2903.3 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by adding the following new Section P2903.3.

P2903.3 Minimum pressure. Minimum positive pressure or twenty (20) psi is required at the building entrance for either public or private water services. The pressure shall be increased by means of an elevated water tank, a hydropnuematic pressure booster system or a water pressure booster pump. No person shall install or maintain a water service connection to any dwelling where a booster pump has been installed unless such booster pump is equipped with a low pressure cut-off mechanism designed to cut off the booster pump when the pressure on the suction side of the pump drops to twenty (20) psi gage.

E. Section P2903.9.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section P2903.9.1 and substituting the following:

P2903.9.1 Service Valve. A main shut-off valve on the water service line shall be installed for each dwelling unit within a building and shall be accessible in the living portion of the dwelling unit or an attached garage. Additionally, the water service shall be valued at the curb or property line in accordance with local requirements.

F. Section P2903.9.3 of the 2018 Edition of the International Residential Code for One- and Two-

Family Dwellings is hereby amended by deleting Section P2903.9.3 and substituting the following:

P2903.9.3 Fixture value and access. Valves or stops to individual fixtures or appliances shall be required and the valves or stops shall be accessible on the same floor and within 3 feet of the fixture. Valves for a manifold distribution system may be located at the manifold or at the fixture serviced. Valves to riser and branches may be installed, but shall not be required.

Section 3. Chapter 16.16 of the Metropolitan Code of Laws is hereby amended by deleting existing Sections 16.16.180, 16.16.190, 16.16.230, 16.16.240, and 16.16.260 and substituting the following:

16.16.180 Adoption by Reference, of the Metropolitan Code of Laws is hereby amended by deleting existing Section 16.16.180 and substituting the following:

The following sections and appendices are adopted and incorporated into this chapter as the technical section of the building code of the metropolitan government, by reference, as fully as though copied into this code, except as have been or may be hereafter amended herein:

A. 2018 Edition of the International Fuel Gas Code, Appendices A, B, C, &D.

B. 2018 Edition of the International Mechanical Code, Appendix A.

16.16.190 Certain supplemental codes and standards adopted by reference of the Metropolitan Code of Laws is hereby amended by deleting existing Section 16.16.190 and substituting the following:

The following sections and appendices are adopted and incorporated into this chapter as the technical section of the building code of the metropolitan government, by reference, as fully as though copied into this code, except as have been or may be hereafter amended herein:

A. The 2018 Edition of the Storage and Handling of Liquefied Petroleum Gases (NFPA 58), Sections 1-1 through 9-5.6 and Chapter 12, inclusive with Appendixes A, B, C, D, E, F, G, H and I.

16.16.230 Amendments to Gas/ Mechanical Sections of the 2018 International Residential Code for One- and Two-Family Dwellings.

The following amendments, deletions or additions to the 2018 Edition of the International Residential Code for One- and two-Family Dwellings are hereby adopted by reference as fully as though copied into said Dwelling Code and thereby made a part of the Dwelling Code.

A. Chapter 12 of the 2018 Edition of the International Residential code for One-and Two-Family Dwellings is hereby amended by adding the following new Section M1203:

SECTION M1203 AUTHORITY TO DISCONNECT UTILITIES IN EMERGENCIES

M1203 Authority. The building official shall have the authority to order disconnected a fuel supply or appliance that does not conform to this code; the building official shall also have the authority to order disconnected a gas utility service, or energy supplies to a building, structure, premises or equipment in case of emergency when necessary to eliminate an immediate hazard to life or property. A notice shall be attached to the energy supply or appliances stating the reason for disconnection. Such notices shall not be removed, nor shall the system or appliance be reconnected until authorized by the building official.

B. Section M1502.4.2 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section M1502.4.2 and adding the following new Section M1502.4.2:

M1502.4.2 Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of the airflow. Exhaust duct joints shall be sealed in accordance with section M1604.4.1. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3..2 mm)into the inside of the duct. Where the dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

C. Section M1502.4.5.3 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section M1502.4.5.3 and adding the following new Section M1502.4.5.3:

1502.4.5.3 Dryer duct power ventilators are prohibited.

D. Section M1601.1.1 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by adding the following new Section M1601.1.1 (9):

M1601.1.1 (9) All ductwork installed in non-conditioned and not completely conditioned areas such as, but not limited to, crawl, attic and floor/ceiling assemblies shall be insulated.

E. Section M1601.3 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by adding the following new Section M1601.3(1):

Section M1601.3(1) Duct Coverings and linings, including adhesives where used, shall have a flame

spread index not higher than 25, and a smoke-developed index of not over 50 when tested in accordance with ASTM E84 or UL 723, using the specimen preparation and mounting procedures of ASTM E2231. The spray application of polyurethane foam to exterior ducts to insulate or seal the duct is prohibited.

F. Section M1601.4.1: Exception 1 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings are hereby amended by deleting Section M1601.4.1: Exception 1, and replacing with the following:

Exception 1. Using the specimen preparation and mounting procedures of ASTM E2231. The spray application of polyurethane foam to exterior ducts to insulate or seal the duct is prohibited.

G. Chapter 19 of the 2018 Edition of the International Residential code for One-and Two-Family Dwellings is hereby amended by adding the following new Section M1901.3:

Section M1901.3 Prohibited Location. Cooking appliances designed, tested, listed, or labeled for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur.

H. Section G2407.6.2 and Figure G2407.6.2 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings are hereby amended by deleting Sections G2407.6.2 and Figure G2407.6.2.

I. Section G2415.6 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by adding a new Section G2415.6.1:

G2415.6.1 Buried building piping. Piping shall not be installed in such a way as to be in contact with the ground or fill under a building or building floor slab. When the administrative authority determines that it is not practical to avoid the installation of building piping that is buried or laid under a floor slab, the gas piping shall be encased in wrought iron, plastic schedule 40 pipe or steel pipe. The casing shall extend into a normally usable and accessible portion of the building. At the point where the casing terminates in the building, the space between the casing and the gas piping shall be tightly and permanently sealed with materials such as commercial casing seals, plastic, foams, cement, tars or asphalt materials. The casing shall extend at least 4 inches (102 mm) outside the building and be vented and installed in a way as to prohibit the entrance of water. The entire installation shall be such that the gas piping can be readily replaced without damage to the building.

J. Section G2417.1.1 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section G2417.1.1 and substituting the following:

G2417.1.1 Inspections. On completion of the installation, alteration, repair or replacement of gas piping,

and prior to the use thereof, the building official shall be notified that the gas piping is ready for inspection.

G2417.1.1.1 Accessibility for inspection. Excavations required for the installation of underground piping shall be kept open until such time as the piping has been inspected and approved. If piping is covered or concealed before approval, it shall be exposed on the direction of the building official.

G2417.1.1.2 Required inspections. The building Official shall make the following inspections and shall either approve that portion of the work as completed, or shall notify the permit holder wherein the same fails to comply with this code.

G2417.1.1.3 Rough fuel-gas piping inspection. This inspection shall be made after gas piping authorized by the permit has been installed and before such piping has been covered or concealed or a fixture or appliance has been attached thereto. This inspection shall include a determination that the gas piping size, material and installation meet the requirements of this chapter. It shall also include an air pressure test, at which time the gas piping shall stand a pressure of not less than 10 pounds per square inch gauge (68.9 kPa gauge) and shall hold this pressure for a length of time of not less than twenty (20) minutes, with no perceptible drop in pressure. The test shall be made using air pressure only, and be verified in writing by the gas/mechanical contractor on forms authorized by the Department of Codes Administration witnessed and signed. Retest or additional certification, in special situations may be required by the Director of Codes Administration or by his/her duly authorized representative. Necessary apparatus for conducting test shall be furnished by the permit holder.

G2417.1.1.4 Final inspection. This inspection shall be made after piping authorized by the permit has been installed and after all portions thereof which are to be covered or concealed are so concealed and after all fixtures, appliances and shutoff valves have been attached thereto.

G2417.1.1.5 Other inspections. In cases where the work authorized by the permit consists of a minor installation of additional piping to piping already connected to a gas meter, the foregoing inspection may be waived at the discretion of the building official. The building official shall make such inspections as deemed advisable in order to assure that the work has been performed in accordance with the intent of this code.

K. Section G2417.4.1 of the 2018 Edition of the International Residential Code for One- and two-Family Dwellings is hereby amended by deleting Section G2417.4.1 and substituting the following:

G2417.4.1 Air Pressure Test. This inspection shall include an air pressure test, at which time the gas piping shall stand a pressure of not less than ten (10) pounds, per square inch gauge pressure and shall hold this pressure for a length of time of not less than twenty (20) minutes, with no perceptible drop in pressure. The test shall be made using air pressure only, and verified in writing by the gas/mechanical contractor on forms authorized by the Department of Codes Administration witnessed and signed. Retest or additional certification, in special situations may be required by the Director of Codes Administration or by his/her duly authorized representative. The necessary apparatus for conducting the test shall be

furnished by the permit holder.

Family Dwellings is hereby amended by deleting Section G2417.4.2 and substituting the J. Section G2417.4.2 of the 2018 Edition of the International Residential Code for One- and two-following:

G2416.4.2 Air Pressure Test 2 psi and greater. Gas piping 2 psi or higher pressure must stand a pressure of a least 20 psi, but never less than ten (10) times the maximum pressure to which the piping will be subjected in operation, for a period of not less than twenty (20) minutes without showing any drop in pressure."

16.16.240 Local amendments to International Fuel Gas Code. The following amendments, deletions, or additions to the 2018 Edition of the International Fuel Gas Code are adopted by reference, as fully as though copied into such Gas Code, and thereby made a part of the Gas Code.

A. Section 101.1 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Section 101.1 in its entirety.

B. Section 201 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new section 201.5 and substituting the following:

201.5 Interchangeability with the International Codes**.** The International Building Code shall be construed to mean the 2018 International Building Code. The International Property Maintenance Code shall be construed to mean the Property Internationals Code of the Metropolitan Government. The International Mechanical Code shall be construed to mean the 2018 International Mechanical Code. The International Fuel Gas Code shall be construed to mean the 2018 International Gas Code. The International Plumbing Code shall be construed to mean the 2018 International Plumbing Code. The International Private Sewage Disposal Code shall be construed to mean the Subsurface Sewage Disposal Systems Code. The ICC Electrical Code shall be construed to mean the 2017 National Electrical Code.

C. Section 202 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding the following new definitions as follows:

ADMINISTRATIVE AUTHORITY -- shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

D. Section 202 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting the definition of "Code Official" and substituting the following:

CODE OFFICIAL -- shall mean the Director of the Metropolitan Department of Codes Administration, his

deputy or duly authorized representative.

E. Section 304.6.2 and Figure 304.6.2 of the 2018 Edition of the International Fuel Gas Code are hereby amended by deleting the section and figure in their entirety.

F. Section 402.6(1) of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Section 402.6(1) and substituting the following:

1. The piping system may be threaded. Piping system over 5 psig shall be welded.

G. Section 404.4 of the 2018 Edition of the International Gas Code is hereby amended by deleting Section 404.4 and substituting the following:

404.4. Piping in solid partitions and walls. This provision shall not apply to tubing which pierces walls, floors, or partitions. Tubing shall not be run horizontally inside hollow walls or partitions unless protected along its full concealed length against physical damage. Tubing may be run vertically inside hollow walls or partitions without protection along its entire concealed length provided and the tubing is not rigidly secured.

H. Section 404 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new section 404.11.3 as follows:

404.11.3. Cathodic protection shall be required on metallic gas piping installed underground. The following chart may be used to determine requirement for anodes as to size and number required:

Coated Pipe				
	Anode Spacing In Feet			
Anode Weight	**¾"**	**1"**	**2"**	**3"**
1#	809'	643'	352'	238'
5#	1079'	857'	470'	317'
17#	1798'	1428'	783'	528'

Exception: Coated and wrapped metallic gas piping run underground that does not exceed thirty (30) feet in length shall not require additional catholic protection.

I. Section 404.12 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting

Section 404.12 and substituting the following:

404.12 Minimum burial depth and clearances. Underground piping systems shall be installed a minimum depth of 18 inches (458 mm) below grade, except as provided for in 404.12.1.

J. Section 404.12 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new Sections 404.12.2, 404.12.3, 404.12.4 and 404.12.5 as follows:

404.12.2 Clearances. No gas piping shall be placed underground closer than eight (8) inches from a water pipe, sewer line, or any other utility service line. Underground gas piping shall be installed with enough clearance from any other underground structure to avoid contact therewith, to allow proper maintenance, and to protect against damage that might result from proximity to other structures. In addition, underground plastic piping shall be installed with sufficient clearance, or shall be insulated, from a source of heat so as to prevent the heat from impairing the serviceability of the pipe.

404.12.3. Protection against damage.

Where soil conditions are unstable and settling of piping or foundation walls or heavy vehicular traffic may occur, adequate measures shall be provided to prevent excessive stressing of the piping. Piping shall be buried a sufficient depth or covered in a manner so as to protect the piping from physical damage.

404.12.4. Cover Requirements. Underground piping systems shall be installed with at least eighteen (18) inches of cover. The cover may be reduced to twelve (12) inches if external damage to the pipe is not likely to result. If minimum of twelve (12) inches of cover cannot be maintained, the pipe shall be installed in conduit or bridged (shielded).

404.12.5. Separate Ditch for Gas Piping. The laying or installing of gas piping in the same ditch with water, sewer, drainage pipe or any other utility service line is prohibited except when approved by the administrative authority.

K. Section 404.13 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Section 404.13 and substituting the following:

404.13 Trenches. The trench shall be graded so that the pipe has a firm, substantially continuous bearing on the bottom of the trench. Where flooding of the trench is done to consolidate the backfill, care shall be exercised to see that the pipe is not floated from its firm bearing on the trench bottom.

L. Section 404.17.1 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding Section 404.17.1 Exception 4.

4. Plastic piping shall not be used for consumer's gas piping when operating pressures are in excess of 2 psi, unless approved by the Director of Codes Administration or his duly authorized representative.

M. Section 406.2 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Section 406.2 and substituting the following:

406.2 Test medium. The test medium shall be air, nitrogen, or carbon dioxide or an inert gas. Oxygen shall not be used. Fuel gas may be used in piping systems operating at pressures of one half (½) pound per square inch or less.

N. Section 406.4 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Sections 406.4.1 and 406.4.2 and substituting the following:

406.4.1. Method of Testing. Low pressure (not in excess of 0.5 psi) gas piping shall withstand a pressure of at least 10.0 psi for a period of not less than twenty (20) minutes without showing any drop in pressure. For 2 psi or higher pressure piping must stand a pressure of at least 20 psi, but never less than ten (10) times the maximum pressure to which the piping will be subjected in operation, for a period of not less than twenty (20) minutes without showing any drop in pressure. An overnight test of larger piping systems may be required. The test shall be verified in writing on forms authorized by the Department of Codes Administration witnessed and signed. Retest or additional certification, in special situations, may be required by the Director of Codes Administration or by his/her duly authorized representative. Necessary apparatus for conducting the test shall be furnished by the permit holder.

O. Section 410.1 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding Section 410.1 and 410.1.2. as follows:

410.1.1. Shutoff value. An accessible gas shutoff valve shall be provided upstream of each gas pressure regulator. Where two gas pressure regulators are installed in series in a single gas line, a manual valve is not required at the second regulator.

410.1.2 Venting of Pressure Regulators. A vent line(s) from a gas appliance pressure regulator and a bleed line(s) from a diaphragm type valve shall not be connected to a common manifold terminating in a combustion chamber. Vent lines shall not terminate in positive pressure type combustion chambers.

P. Chapter 4 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new Section 417 as follows:

Section 417

2# PSI Piping System.

417.1 General. 2 psi gas piping systems designed in accordance with this section and other requirements of this code are intended for use where the building service regulator has been set to deliver gas at 2 psi. Piping systems shall be designed to allow a maximum pressure drop of one and one half (1½) psi between the meter and the regulator that reduces the pressure to seven (7) inch w.c. Piping systems shall be further designed to allow up to one (1) inch w.c. pressure drop between the above first cut regulator and the appliance or the appliance regulator if used.

417.2 Gas Piping Materials. All piping shall be metallic material only, and comply with 403. Piping installed for 2 psi pressure shall be (1) type L copper tubing, (2) refrigeration service tubing having a wall thickness of not less than .030", (3) corrugated stainless steel conduit, (4) iron pipe. All piping and tubing shall be sized so as to not exceed the capacities shown on tables 1003A, 1003B, or 1003C. Iron pipe already in service may be retained. Aluminum tubing will not be installed or used for this service. All horizontal tubing shall be supported at approximately four (4) foot intervals.

417.3 Marking. All piping in the 2 psi portion of the system shall be marked at the beginning, all ends with a metal tag stating "2 psi." All such tubing or piping must also be marked at intervals not to exceed six (6) feet with approved means of identification designating 2 psi gas pressure.

417.4 Piping in Partitions. When copper tubing is installed in a hollow partition in a new piping installation, a metallic sleeve, or equivalent means, shall be used to protect the tubing where it passes through a wood plate or other structural member of the wall. The sleeve, if used, shall extend at least four (4) inches on either side of the structural member in the partition. Iron pipe may be used for the sleeve. The ends must be reamed to avoid sharp edges which may come in contact with copper tubing. Tubing in the partition shall have some slack. Concealed tubing joints are prohibited.

417.5 General Piping. All fuel lines from the meter shall pass through the foundation with iron pipe, then a pipe to flare adapter may be installed for the copper tubing. In such case that the piping system cannot pass through the foundation, iron pipe will run from the meter to the outside wall of structure and attach with suitable pipe straps then adapt to copper tubing. Installation procedures must guard against dirt, tubing cutting chips, or other material entering the fuel line. Blow out lines before connecting and testing.

417.6 Joints and Fittings, Tubing. All joints and fittings in 2 psi tubing shall be made with International SAE heavy duty short shoulder flare fittings having a forty-five (45) degree flare. All joints and fittings in 2 psi corrugated stainless steel conduit shall be made with approved fitting design for that system. Brazed or silver soldered joints made with an alloy having a melting temperature in excess of 1000 degrees Fahrenheit are permitted. Soft solder joints are not permitted. All joints in existing copper tubing must be inspected and tested before being used for 2 psi service. All soft solder joints will be replaced with a flare fitting or with a silver solder joint. All bends should be smooth without any binds in tubing. Bending springs or tubing benders should be used.

417.7 MP Regulators. MP pressure regulators installed in the 2 psi portions of the piping shall comply with the

following provisions:

417.7.1 The MP regulator shall comply with Sections 402.1 and 402.13 and shall be stated by its manufacturer as being suitable for the inlet and outlet gas pressures for which it is to be used.

417.7.2. The MP regulator shall maintain a reduced outlet pressure under lock-up (no flow) conditions and shall be so installed on the piping system that they cannot be concealed by building construction.

417.7.3. The capacity of the MP regulator, determined by published ratings of its manufacturer, shall be adequate to supply the appliances served by it.

417.7.4. The MP pressure regulator shall be accessible for servicing and may be located either indoors or outdoors. When located indoors, the regulator shall be vented to outdoors or equipped with a vent limiting device, in either case complying with Section 410.3.

417.7.5. The service regulator shall be set to deliver 2 psi, with flow of 30 CFH, after which the adjusting cap shall be sealed with a copper wire and lead seal. The regulator will be marked with a red cap and a metal tag stating 2 psi attached. The gas meter will be installed with a Red index indicating 2 psi system.

417.8 The regulator which reduces the pressure from 2 psi to seven (7) inch w.c. shall be located as close as practical to the appliance which it serves. This regulator must be installed where it cannot be concealed by building construction. The 2 psi to seven (7) inch w.c. regulator must be vented to the outside atmosphere or must be equipped with a vent limiter device. When installed for one appliance only, the preferred location of the regulator and its shut off cock is above the floor level and immediately adjacent to the appliance it serves.

417.9 Appliance regulators, when used, may be installed on or adjacent to the appliance manifold. Appliance regulators are not required on manually operated room heaters, ranges or similar appliances not equipped with a pilot. A pipe nipple at least six (6) inches long, or equivalent tubing, must be installed between the 2 psi to seven (7) inch w.c. regulator and the appliance regulator. Existing appliance regulator shall be retained on any appliance, unless defective.

417.10 Manual Shutoff Valve. Where there is more than one MP regulator in the complete piping system served by one meter, a listed shutoff valve shall be installed immediately ahead of each MP regulator. A listed shutoff valve shall be installed ahead of each 2 psi to seven (7) inch w.c. regulator. Individual runs of tubing may be made to each appliance from a manifold. The cocks may be at the manifold, but they must be easily accessible, and identified as to the appliance served.

Q. Section 502 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new Section 502.8 as follows:

502.8 Marking.

502.8.1 In those localities where solid and liquid fuels are used extensively, gas vents shall be plainly and permanently identified by a label attached to the wall or ceiling at a point where the vent connector enters the gas vent.

502.8.2 The label shall read: This gas vent is for appliances which burn gas. Do not connect to solid or liquid fuel-burning appliances or incinerators.

502.8.3 The authority having jurisdiction shall determine whether its area constitutes such a locality.

R. Section 503.1 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding a new Sections 503.1.1 and 503.1.2 as follows:

503.1.1 Equipment Not required to be Vented.

a. Listed ranges.

b. Built-in domestic cooking units listed and marked for optional venting.

c. Listed hot plates and listed laundry stoves.

d. Listed Infrared Radiant heaters (see Section 516.1.1).

e. A single listed booster type (automatic instantaneous) water heater, when designed and used solely for the sanitizing rinse requirements of a National Sanitation Foundation Class 1, 2, or 3 dishwashing machine, provided that the input is limited to 50,000 Btu per hour, the storage capacity is limited to 12.5 gallons, and the heater is installed, with the draft hood in place and unaltered, in a commercial kitchen having a mechanical exhaust system. When installed in this manner, the draft hood outlet shall not be less than thirty -six (36) inches vertically and six (6) inches horizontally from any surface other than the heater.

f. Listed refrigerators.

g. Counter appliances.

h. Room heaters listed for unvented use shall not be installed in bathrooms or bedrooms and in institutions such as homes for the aged, sanitariums, convalescent homes, orphanages, etc.

i. Direct gas-fired make-up air heaters.

j. Other equipment listed for unvented use and not provided with flue collars.

k. Specialized equipment of limited input such as laboratory burners or gas lights.

503.1.2. When any or all of this equipment is installed so the aggregate input rating exceeds 20 Btu per hour per cubic foot of room or space in which it is installed, one or more shall be provided with venting systems or

other approved means for removing the vent gases to the outside atmosphere so the aggregate input rating of the remaining unvented equipment does not exceed the 20 Btu per hour per cubic foot figure. When the room or space in which the equipment is installed is directly connected to another room or space by a doorway, archway, or other opening of comparable size which cannot be closed, the volume of such adjacent room or space may be included in the calculations.

S. Section 602 of the 2018 Edition of the International Fuel Gas Code is hereby amended by adding the following new Section 602.4:

602.4 Installations requirements. A decorative appliance for installation in a vented fireplace shall be installed only in a vented fireplace having a working chimney flue and constructed of noncombustible materials. These appliances shall not be thermostatically controlled.

1. A listed decorative appliance for installation in a vented fireplace shall be installed in accordance with its listing and the manufacturer's instructions.

2. An unlisted decorative appliance for installation in a vented fireplace shall be installed in a fireplace having a permanent free opening, based on appliance input rating and chimney height, equal to or greater than that specified in Table 634.1

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T. Section 624.1.1 of the 2018 Edition of the International Fuel Gas Code is hereby amended by deleting Section 624.1.1 substituting the following and adding Sections 624.1.2 and 624.1.3:

624.1.1 Installation requirement. Water heaters other than the direct vent type shall be located as close as practicable to the chimney or gas vent. They should be so located as to provide short runs of water piping to the water heaters.

624.1.2 All gas water heaters installed in attics, on combustible floors or in remote locations shall rest in pans of minimum 0.0276-inch (24 ga.) galvanized sheet steel or equivalent with minimum depth of two (2) inches and shall have a minimum clearance from the water heater of two (2) inches on all sides: the pan shall be a sufficient size to receive all drippings or condensation from such water heaters. All drain pans shall have a minimum one (1) inch drain. No plastic pans will be permitted (See Section 504.7 of the International Plumbing Code for other safety pan requirements).

Exception: Water heaters shall not be located in unheated and un-insulated spaces except in unheated basements and garages.

16.16.260 International Mechanical Code--Local amendments.

The following amendments, deletions, or additions to the 2018 Edition of the International Mechanical Code are adopted by reference, as fully as though copied into such Mechanical Code, and thereby made a part of the Mechanical Code.

A. Section 101.1 of the 2018 Edition of the International Mechanical Code is hereby amended by deleting Section 101.1 in its entirety.

B. Section 103.1 through 110.4 of the 2018 Edition of the International Mechanical Code is hereby amended by deleting Section 103.1 through 110.4 in its entirety.

C. Section 201 of the 2018 Edition of the International Mechanical Code is amended by adding a new section 201.5 and substituting the following:

201.5 Interchangeability with the International Codes. The International Building Code shall be construed to mean the 2018 International Building Code. The International Property Maintenance Code shall be construed to mean the Property Code of the Metropolitan Government. The International Mechanical Code shall be construed to mean the 2018 International Mechanical Code. The International Fuel Gas Code shall be construed to mean the 2018 International Fuel Gas Code. The International Plumbing Code shall be construed to mean the 2018 International Plumbing Code. The International Private Sewage Disposal Code shall be construed to mean the Subsurface Sewage Disposal Systems Code. The ICC Electrical Code shall be construed to mean the 2017 National Electrical Code.

D. Section 202 of the 2018 Edition of the International Mechanical Code is hereby amended by adding the following new definition of as follows:

ADMINISTRATIVE AUTHORITY -- shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

E. Section 202 of the 2018 Edition of the International Mechanical Code is hereby amended by deleting the definition of “Code Official” and substituting the following:

CODE OFFICIAL -- shall mean the Director of the Metropolitan Department of Codes Administration, his deputy or duly authorized representative.

F. Section 601 of the 2018 International Mechanical Code is hereby amended by adding a new Section 601.6 as follows:

601.6 Insulation required. All ductwork installed in non-conditioned and not completely conditioned areas such as crawl, attic and the floor/ceiling assembly shall be insulated.

Section 4. Chapter 16.20 of the Metropolitan Code of Laws is hereby amended by deleting existing Sections 16.20.040, 16.20.140, 16.20.150, 16.20.154, 16.20.190, 16.20.195, and 16.20.410 and substituting the following:

16.20.040 - Installations-By homeowner.

Nothing in this chapter shall prevent any resident homeowner from installing or maintaining an electrical system within his own property boundaries, provided such electrical work is done by himself. Such privilege does not convey the right to violate any of the provisions of this chapter, nor is it to be construed as exempting any such homeowner from obtaining a permit and paying the required fees therefor.

The director of codes administration or his duly authorized representative shall be authorized to issue "homeowner permits" to property owners desiring to make electrical repairs and/or additions to their property or improvements thereto. Homeowner permits shall be issued only if the applicant meets the following conditions:

1) The electrical repairs and/or additions shall be made to the owner applicant’s principle dwelling.

2) The homeowner may only obtain one (1) electrical permit within a twelve (12) month period.

3) The repairs, additions and/or new dwelling shall be of such nature that a person of average intelligence could make the repairs and/or additions without the assistance of an electrical contractor.

4) The department of codes administration may void a homeowner's permit if it is determined that the installation is beyond the capabilities of the homeowner and the work being done does not comply with this chapter.

5) The homeowner must do the work himself without the help of an electrical contractor or certificate holder.

6) The homeowner may be required to provide proof of residency and ownership.

7) Homeowner electrical permits shall not be issued for commercial purposes.

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16.20.140 - National Electrical Code-Adopted by reference.

The 2017 Edition of the National Electrical Code, Article 90 through Chapter 9 <https://library.municode.
inclusive are adopted and incorporated into this chapter as the technical section of the electrical code of the Metropolitan Government, by reference, as fully as though copied into this chapter.

The 2018 Edition of the International Residential Code for One and Two Family Dwellings, Chapter 35 thru Chapter 41 inclusive inclusive are adopted and incorporated into this chapter as the technical section of the electrical code of the Metropolitan Government, by reference, as fully as though copied into this chapter.

16.20.150 - Amendments to the National Electrical Code.

A. Article 100 of the 2017 Edition of the National Electrical Code is amended by deleting the definition of Authority Having Jurisdiction and substituting the following:

Authority Having Jurisdiction - The Director of the Metropolitan Department of Codes Administration or his designee.

B. Article 110.12 of the 2017 Edition of the National Electrical Code is amended by adding the following:

For residential and commercial buildings, electrical power shall be supplied to the building in order for inspector to perform final inspection.

C. Article 110.14(D) of the 2017 Edition of the National Electrical Code is amended by deleting Article 110.14(D) and substituting with the following:

Terminal Torque Confirmation

Where tightening torque is indicated as a numeric value on equipment or in installation instructions provided by the manufacture, a calibrated torque tool shall be used to achieve the indicated torque value, unless the equipment manufacture has provided installation instructions for an alternative method of achieving the required torque. It shall be the responsibility of the installer to ensure all terminations have been properly torqued. For service conductor and feeder terminations, upon torque confirmation and prior to inspection, the installer shall mark across the terminal, lug or screw with a permeant mark to verify proper torque has been applied.

D. Article 210 of the 2017 Edition of the National Electrical Code is amended by adding the following:

Wiring in Barns, Outbuilding & Haymows

All lighting fixtures in barns and other outbuildings shall be of the non-conductor type directly fastened to the outlet box.

Drop lights shall not be installed in barns or other buildings, unless specifically approved for the purpose used.

All convenience receptacles in outbuildings shall be at least three (3) feet above floor level. Wiring in hay mows shall be installed in conduit or otherwise protected against mechanical injury.

E. Article 210.12(A) and 210.12(D) of the 2017 Edition of the National Electrical Code is amended by adding the following exceptions:

Arc Fault Circuit Interrupters - Where Optional

Exception 1: Arc Fault Circuit Interrupters (AFCIs) shall be optional for bathrooms, laundry areas, garages, unfinished basements, which are portions or areas of the basement not intended as habitable rooms and limited to storage, work or similar area, and for branch circuits dedicated to supplying refrigeration equipment. [st]

Exception 2: Arc Fault Circuit Interrupter (AFCI) breakers shall be optional where existing service equipment or load centers are directly replaced.

Exception 3: Arc Fault Circuit Interrupter (AFCI) breakers shall be optional where existing service equipment or load centers are relocated, provided the extension of existing conductors is not more than 6 feet and does not include any additional outlets or devices.

F. Article 210.52(A)(2) of the 2017 Edition of the National Electrical Code is amended by adding the following exception:

Wall Space

Any wall space that is 2 feet (610 mm) or more in width, (including space measured around corners), and that is unbroken at the floor line by doorways, fireplaces, and similar openings.

Exception: Receptacles shall not be required in the wall space behind doors which may be opened fully against a wall surface. Wall measurement shall begin at the edge of the door when fully opened.

G. Article 210.52(C)(2)(3) of the 2017 National Electrical Code is hereby amended by deleting Section Article 210.52(C)(2)(3) and substituting the following:

Countertop and Peninsular Receptacles. The installation of receptacles for island counter spaces and peninsular counter spaces below the countertop shall be optional.

H. Article 210.52 of the 2017 Edition of the National Electrical Code is amended by adding the following new Article 210.52(J):

210.52 Smoke Detectors

New construction

Dwelling Units and Sleeping Rooms: Approved single-station or multiple-station smoke detectors shall be installed in accordance with NFPA 72, Chapter 2, within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies. Where more than one detector is required to be installed within an individual dwelling unit, the detectors shall be interconnected, either by hardwire or listed wireless detectors, in such a manner that the actuation of one alarm will actuate all the alarms in the individual unit.

Locations Within Structures: In dwelling, dwelling units, dormitories, and sleeping rooms in residential care/assisted living occupancies smoke detectors shall be installed in each sleeping room, outside of each separate sleeping area in the immediate vicinity of the bedrooms, on each additional story of the dwelling, in basements, cellars and attached garages but not including crawl spaces and uninhabitable attics. Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.

Additional Split-Level Requirements: Within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies, with split levels, a smoke detector needs to be installed only on the upper level, provided the lower level is less than one full story below the upper level, except that if there is a door between levels, then a detector is required on each level. All detectors shall be interconnected such that actuation of one alarm will actuate all the alarms in the individual unit and shall provide an alarm, which will be audible in all sleeping areas.

Installation Near Cooking Appliances: Smoke alarms shall not be installed in the following locations

unless this would prevent placement of a smoke alarm in a location required by Section 314.3.

(1) Ionization smoke alarms shall not be installed less than 20 feet horizontally from a permanently installed cooking appliance.

(2) Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet horizontally from a permanently installed cooking appliance.

(3) Photoelectric smoke alarms shall not be installed less than 6 feet horizontally from a permanently installed cooking equipment.

Power source: Each smoke alarm shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exception 1: Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power.

Exception 2: Smoke alarms installed during alterations, repairs and additions shall be permitted to be battery powered.

Alterations, Repairs, Additions and Reconnections to Existing Electrical Services

Alterations, Repairs, Additions and Reconnections to Existing Electrical Services: When interior alterations, repairs, additions requiring a permit occur, or when electrical reconnections to an existing service requiring a permit occur, or when one or more sleeping rooms are added or created, or where interior service equipment is replaced or upgraded under non-emergency conditions in existing dwellings, the individual dwelling unit shall be equipped with interconnected smoke alarms located as required for new dwellings. For the purpose of this section, the smoke alarms shall be permitted to be wirelessly interconnected and shall be permitted to be battery powered.

Exception 1: Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.

Exception 2: Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

Exception 3: Work involving service entrance repairs made under emergency conditions are exempt from the requirements of this section.

Alterations, repairs and additions shall be defined as the following:

Alteration - Any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in the building, electrical, gas, mechanical or plumbing system that involves an extension, addition or change to the arraignment, type or purpose of the original installation that requires a permit.

Repair - The reconstruction, replacement or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

Addition - An extension or increase in floor area, number of stories or height of a building or structure.

I. Article 210.70(A)(3) of the 2017 Edition of the National Electrical Code is hereby amended by adding the following:

Light fixtures in crawl spaces shall have guarded covers.

J. Article 220.55 of the 2017 Edition of the National Electrical Code is hereby amended by deleting Article 220.55 and substituting the following:

220.55 Branch Circuit Load for Ranges and Cooking Appliances. Where installed as separate units, ovens and cooktop units shall be served by individual circuits

K. Article 230.1 of the 2017 Edition of the National Electrical Code is amended by adding the following:

Meter Location.

The power supplier will determine the physical location of the meter base.

For multi-occupancy structures, metering equipment shall be identified to indicate the occupancy serviced.

L. Article 230.43 of the 2017 Edition of the National Electrical Code is amended by adding the

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following:

Service entrance conductors shall be installed in conduit where such conductors serve a structure with exterior walls of brick, stone, masonry, metal or metal-clad.

M. Article 230.70(A)(1) of the 2017 Edition of the National Electrical Code is amended by deleting 230.70(A)(1) and inserting the following:

(1) Readily Accessible Location. The main service disconnecting means shall not be located more than five (5) feet from the point where the service conductors leave the load side of a meter base and enter a building or other structure.

N. Article 240.8 of the 2017 Edition of the National Electrical Code is amended by adding the following:

Overcurrent Protection - Handle Ties. Circuit breakers used as overcurrent protection for circuits serving devices not requiring a grounded (neutral) conductor, such as a 240V water heater, shall be multipole breakers. Single pole breakers with tie handles shall not be approved for this purpose.

O. Article 250.50 of the 2017 Edition of the National Electrical Code is amended by deleting Article 250.50 and substituting the following:

Grounding Electrode System

All grounding electrodes as described in 250.52(A)(1) through (A)(6) that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used. A minimum of one concrete encased electrode shall be in place and visible upon a service entrance inspection. The grounding electrode conductor or bonding jumper point of connection to the rebar shall be installed in an accessible interior location that is not subject to corrosion of the rebar.

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete.

P. Article 300.21 of the 2017 Edition of the National Electrical Code is amended by deleting Article 300.21 and substituting the following:

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300.21 Penetrations of Fire Rated Assemblies

Through Voids. Electrical installation in hollow spaces, vertical shafts, and ventilation or air-handling ducts shall be made so that the possible spread of fire or products of combustion will not be substantially increased.

Through Materials. Electrical penetration through fire-resistance-rated walls, partitions, floors or ceiling shall be protected by approved methods to maintain the fire-resistance rating of the element penetrated.

Openings for Outlet Boxes. Openings in fire-resistance-rated walls or floor/ceiling assemblies for metallic electrical outlet boxes not exceeding 16 square inches are permitted provided the area of such openings does not aggregate more than 100 square inches for any 100 square feet of fire resistant wall area or floor/ceiling area or shaft enclosure wall area. Outlet boxes on opposite sides of a fire resistance-rated wall or shaft enclosure shall be separated by a horizontal distance of not less than 24 inches (610 mm).

Exception: Openings for electrical outlet boxes of any material are permitted provided such boxes are listed for use in fire resistant assemblies and are installed in accordance with their listing.

Apparatus Exceeding 16 Square Inches. When walls, floors, ceilings and partitions are required to have a minimum 1-hour or greater fire resistance rating, service equipment, panels, panel boards, cabinets, switchboards and lighting fixtures that exceeds 16 square inches shall be so installed such that the required fire resistance will not be reduced.

Exception: Fixtures, which are listed for such installation, are permitted.

Q. Article 334.15(C) of the 2017 Edition of the National Electrical Code is amended by adding the following exception:

NM Cable Thru Bored Holes. Exception: Nonmetallic-Sheathed Cable shall not be required to be run through bored holes in unfinished basements and crawl spaces with less than four feet (4’) and six inches (6”) of clearance.

R. Article 680.25(A) of the 2017 Edition of the National Electrical Code is amended by adding the following exception:

Swimming Pools. Exception: Conductors serving swimming pools which originate at a dwelling unit service equipment or sub-panel located on the interior of the dwelling unit may be installed utilizing the

appropriate wiring methods contained in Chapter 3 of the 2017 edition of the National Electrical Code. The wiring method shall comply with Article 680, 2017 edition of the National Electrical Code regarding that portion of the installation on the exterior of the dwelling unit.

S. Article 700.5(A) of the 2017 Edition of the National Electrical Code is amended by adding the following:

Installations Served by Multiple Sources. Transfer equipment associated with installations served by alternate sources of supply shall be equipped with the necessary equipment to prevent backfeed of power onto the power supplier's system when the power supplier's local system is not energized by its own source of power. Protective equipment and installation of equipment to prevent backfeed shall be approved by the power supplier.

16.20.154 - Amendments to the electrical sections of the International Residential Code for One- and Two-Family Dwellings.

The following amendments, deletions or additions to the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings are hereby adopted by reference as fully as though copied into said dwelling code and thereby made a part of the one and two dwelling code.

Chapter 2 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by deleting the definition of Authority Having Jurisdiction and substituting the following:

Authority Having Jurisdiction - The Director of the Metropolitan Department of Codes Administration. [art.100]

Chapter 34 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

For residential and commercial buildings, electrical power shall be supplied to the building in order for inspector to perform final inspection.

Section E3406.12 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by deleting Section E3406.12 and substituting with the following:

Terminal Torque Confirmation. Where tightening torque is indicated as a numeric value on equipment or in installation instructions provided by the manufacture, a calibrated torque tool shall be used to achieve the indicated torque value, unless the equipment manufacture has provided installation instructions for an alternative method of achieving the required torque. It shall be the responsibility of the installer to ensure all terminations have been properly torqued. For service conductor and feeder terminations, upon torque confirmation and prior to inspection, the installer shall mark across the terminal, lug or screw with a permeant mark to verify proper torque has been applied.

A. Chapter 40 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

Wiring in Barns, Outbuilding & Haymows

(1) All lighting fixtures in barns and other outbuildings shall be of the non-conductor type directly fastened to the outlet box

(2) Drop lights shall not be installed in barns or other buildings, unless specifically approved for the purpose used.

(3) All convenience receptacles in outbuildings shall be at least three (3) feet above floor level. Wiring in hay mows shall be installed in conduit or otherwise protected against mechanical injury.

B. Section E3902.16 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following exceptions:

Arc Fault Circuit Interrupters - Where Optional

Exception 1: Arc Fault Circuit Interrupters (AFCIs) shall be optional for bathrooms, laundry areas, garages, unfinished basements, which are portions or areas of the basement not intended as habitable rooms and limited to storage, work or similar area, and for branch circuits dedicated to supplying refrigeration equipment. [st]

Exception 2: Arc Fault Circuit Interrupter (AFCI) breakers shall be optional where existing service equipment or load centers are directly replaced.

Exception 3: Arc Fault Circuit Interrupter (AFCI) breakers shall be optional where existing service equipment or load centers are relocated, provided the extension of existing conductors is not more than 6 feet and does not include any additional outlets or devices. [210.12]

C. Section R314 of the 2018 Edition of the International Residential Code for One- and Two-Family

Dwellings is hereby amended by deleting Section R314 and substituting the following:

R314 Smoke Detectors

New Construction

Dwelling Units and Sleeping Rooms: Approved single-station or multiple-station smoke detectors shall be installed in accordance with NFPA 72, Chapter 2, within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies. Where more than one detector is required to be installed within an individual dwelling unit, the detectors shall be interconnected, either by hardwire or listed wireless detectors, in such a manner that the actuation of one alarm will actuate all the alarms in the individual unit.

Locations Within Structures: In dwelling, dwelling units, dormitories, and sleeping rooms in residential care/assisted living occupancies smoke detectors shall be installed in each sleeping room, outside of each separate sleeping area in the immediate vicinity of the bedrooms, on each additional story of the dwelling, basements, cellars and attached garages but not including crawl spaces and uninhabitable attics. Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.

Installation Near Cooking Appliances: Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 314.3.

(1) Ionization smoke alarms shall not be installed less than 20 feet horizontally from a permanently installed cooking appliance.

(2) Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet horizontally from a permanently installed cooking appliance.

(3) Photoelectric smoke alarms shall not be installed less than 6 feet horizontally from a permanently installed cooking equipment.

Additional Split-Level Requirements: Within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies, with split levels, a smoke detector needs to be installed only on the upper level, provided the lower level is less than one full story below the upper level, except that if there is a door between levels, then a detector is required on each level. All detectors shall be interconnected such that actuation of one alarm will actuate all the alarms in the

individual unit and shall provide an alarm, which will be audible in all sleeping areas.

Power source: Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exception 1: Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power.

Exception 2: Smoke alarms installed during alterations, repairs and additions shall be permitted to be battery powered.

Alterations, Repairs, Additions and Reconnection of Existing Services

Alterations, Repairs, Additions and Reconnection of Existing Services: When interior alterations, repairs, additions requiring a permit occur, or when electrical reconnections to an existing service requiring a permit occur, or when one or more sleeping rooms are added or created, or where interior service equipment is replaced or upgraded under non-emergency conditions in existing dwellings, the individual dwelling unit shall be equipped with interconnected smoke alarms located as required for new dwellings. For the purpose of this section, the smoke alarms shall be permitted to be wirelessly interconnected and shall be permitted to battery powered.

Exception 1: Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.

Exception 2: Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section.

Exception 3: Work involving service entrance repairs made under emergency conditions are exempt from the requirements of this section.

Alterations, repairs and additions shall be defined as the following:

Alteration - Any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in the building, electrical, gas, mechanical or plumbing system that involves an extension, addition or change to the arraignment, type or purpose of the original

installation that requires a permit.

Repair - The reconstruction, replacement or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

Addition - An extension or increase in floor area, number of stories or height of a building or structure.

D. Sections E3402.2 and E3402.3 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings are hereby amended by adding the following Sections E3402.2 and E3402.3:

Penetrations of Fire-Resistance-Rated Assemblies. Through penetrations of fire-resistance-rated wall or floor assemblies shall comply with Sections E3402.2 or E3402.3

Exception: Where the penetrating items are steel, ferrous or copper pipes or steel conduits, the annular space shall be permitted to be protected as follows:

In concrete or masonry wall or floor assemblies where the penetrating item is a maximum 6 inches (152 mm) nominal diameter and the opening is a maximum 144 square inches (92,900 mm 1. 2), concrete, grout or mortar shall be permitted where installed to the full thickness of the wall or floor assembly or the thickness required to maintain the fire-resistance rating.

The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E 119 time temperature fire conditions under a minimum positive pressure differential of 0.01 inch of water (3 Pa) at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated. 2.

E3402.2 Fire-resistance-rated-rated assembly. Penetrations shall be installed as tested in the approved fire- resistance-rated assembly.

E3402.3 Penetration firestop and draftstops. Penetrations shall be protected by an approved penetration firestop system installed as tested in accordance with ASTM E 814, with a minimum positive pressure differential of 0.01 inch of water (Pa) and shall have a F rating of not less than the required fire-resistance rating of the wall or floor/ceiling assembly penetrated.

E3402.3 Membrane penetrations. Membrane penetrations shall comply with Section 300.21.1. Where walls are required to have a minimum 1 hour fire-resistance rating, recessed light fixtures shall be so installed such that the required fire resistance will not be reduced.

Exceptions: Steel electrical boxes that do not exceed 16 square inches (0.0103 m 1. 2) in area provided the total area of such openings does not exceed 100 square inches (0.0645 m 2) for any 100 square feet (9.29 m 2) of fire resistant wall area. Outlet boxes on opposite sides of the wall shall be separated as follows:

By a horizontal distance of not less than 24 inches, or 1.1.

By a horizontal distance of not less than the depth of the wall cavity when the wall cavity is filled with cellulose loose-fill or mineral fiber insulation, or 1.2.

By molded fire blocking, or 1.3.

By other listed materials and methods. 1.4.

Two-hour fire-resistance-rated nonmetallic electrical outlet boxes shall be installed in accordance with their listing. 2.

E. Chapter 36 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

Meter Location. (1) The power supplier will determine the physical location of the meter base. (2) For multi-occupancy structures, metering equipment shall be identified to indicate the occupancy serviced.

F. Section E3801.2 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

Service Entrance Conductors. Service entrance conductors shall be installed in conduit where such conductors serve a structure with exterior walls of brick, stone, masonry, metal or metal-clad.

G.. Section E3601.6.2 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

Readily Accessible Location. The main service disconnecting means shall not be located more than five (5) feet from the point where the service conductors leave the load side of a meter base and enter a building or other structure.

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H. Section E3705.5 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following:

Overcurrent Protection - Handle Ties. Circuit breakers used as overcurrent protection for circuits serving devices not requiring a grounded (neutral) conductor, such as a 240V water heater, shall be multipole breakers. Single pole breakers with tie handles shall not be approved for this purpose.

I. Section E3802.4 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following exception:

NM Cable Thru Bored Holes. Exception: Nonmetallic-Sheathed Cable shall not be required to be run through bored holes in unfinished basements and crawl spaces with less than four feet (4') and six inches (6") of clearance.

J. Section E4202.1 of the 2018 International Residential Code for One- and Two-Family Dwellings is amended by adding the following exception:

Swimming Pools. Exception: Conductors serving swimming pools which originate at a dwelling unit service equipment or sub-panel located on the interior of the dwelling unit may be installed utilizing the appropriate wiring methods contained in Chapter 3 of the 2017 edition of the National Electrical Code. The wiring method shall comply with Article 680, 2017 edition of the National Electrical Code regarding that portion of the installation on the exterior of the dwelling unit.

K. Section E3601.7 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section E3601.7 and substituting the following:

Maximum number of disconnects. The service disconnecting means shall consist of not more than six switches or six circuit breakers mounted in a single enclosure or in a group of separate enclosures of more than 225 amps. Service equipment shall have only one (1) main means of disconnecting services of 225 amps or less.

L. Section E3608.1 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section E3608.1 and substituting the following:

Grounding Electrodes. All grounding electrodes specified in E3608.1.1 through E3608.1.6 that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes are present, one or more of the grounding electrodes specified in E3608.1.3 through E3608.1.6 shall be installed and used. A minimum of one concrete encased electrode shall be in place and visible upon a service entrance inspection. The grounding electrode conductor or bonding jumper point of connection to the rebar shall be installed in

an accessible interior location that is not subject to corrosion of the rebar.

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete.

M. Section E3702.9 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by deleting Section E3702.9 and substituting the following:

Branch Circuit Load for Ranges and Cooking Appliances. Where installed as separate units, ovens and cooktop units shall be served by individual circuits.

N. Section E3901.2.2 (1) of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is amended by adding the following exception:

Wall Space. Any wall space that is 2 feet (610 mm) or more in width, (including space measured around corners), and that is unbroken at the floor line by doorways, fireplaces, and similar openings.

Exception: Receptacles shall not be required in the wall space behind doors which may be opened fully against a wall surface. Wall measurement shall begin at the edge of the door when fully opened.

O. Section E3901.4.2 and E3901.4.3 of the 2018 Edition of the International Residential Code for One - and Two-Family Dwellings is hereby amended by deleting Section E3901.4.2 and E3901.4.3 and substituting the following:

Countertop and Peninsular Receptacles. The installation of receptacles for island counter spaces and peninsular counter spaces below the countertop shall be optional.

P. Section E3903.4 of the 2018 Edition of the International Residential Code for One- and Two-Family Dwellings is hereby amended by adding the following:

Storage or Equipment Spaces. Light fixtures in crawl spaces shall have guarded covers.

16.20.190 - Registration requirements-Exceptions.

No permit for the installation of any electrical system, or part thereof, or the connection of any such electrical installation or electrical system to any public or private source of supply or the installation or repair of any electrical device, equipment, appliance or fixture required or governed by this chapter

shall be issued to any person unless such person has been duly registered by the department of codes administration as a metropolitan electrical contractor. A maintenance electrician shall not be authorized to obtain electrical permits.

Exceptions:

1) A homeowner meeting the requirements of 16.20.040.

2) Any person properly registered as an equipment installer under the provisions of shall be issued permits under this chapter to provide electrical branch circuits from an existing adequate electrical service to fixed, portable or stationary appliances sold and installed by such equipment installer.

3) Any person properly registered as a low-voltage contractor under the provisions of Article VI shall be issued permits under this chapter to provide one hundred thirty volt or less electrical branch circuits from an existing adequate electrical service to equipment sold and installed by a low-voltage contractor; provided, that such contractor shall register as a low-voltage installer in accordance with provisions of Article VI.

16.20.195 - Display of license and advertising.

Vehicle Display. All trucks and similar vehicles used by contractors or their employees shall have conspicuously painted on the body of both sides of said vehicles, in any color in contrast to the color of the vehicle's body, one of two methods of identification stated below:

1) The full name of the firm to which it belongs, in lettering at least two inches high or;

2) The wording "Electrical Contractor," "Licensed Electrical Contractor, “or "Licensed Gas and Appliance Contractor," in lettering at least two inches high on the top line; the wording "No." in lettering at least two inches high and "[insert assigned number]" in lettering at least two inches high, on the second line; and the wording "Metro Nashville" in lettering at least one and one-half inches high on the third line.

In the event a contractor obtains a vehicle for temporary use it shall be permissible to identify said the vehicle by placing upon both sides a temporary sign or letters to conform to the same requirements as the permanent lettering described in this section.

Advertisements. Advertisements must include certificate numbers and classification. Any advertisement by a contractor, including but not limited to yellow pages and newspaper advertisement, shall include

the certificate number of the certificate holder and classification.

16.20.410 - Reinspections.

When the director of codes administration finds that the electrical installation does not pass the required inspection tests, the permittee shall be required to make the necessary changes and corrections and to submit the electrical installation to reinspection and testing. In all such instances where reinspections are deemed necessary, an additional fee of forty-five dollars ($45.00) shall be paid for each reinspection required.

Section 5. This ordinance shall take effect from and after its final passage, the welfare of The Metropolitan Government of Nashville and Davidson County requiring it.

This ordinance adopts a more recent edition of several standard building and fire codes. Copies of the new editions of the standard codes are on file with the Codes Department. Metro is required by state law to keep our codes current within seven years of the latest published edition of the model codes. Metro is currently operating under the 2012 edition of the fire, life safety, building, residential, gas/mechanical, and plumbing codes, and the 2008 version of the energy code. The various building and fire codes are typically adopted at the same time to avoid conflicts between the codes. The Codes Department has notified the various construction trade associations of Metro's intention to adopt the 2018 codes. The adoption of the 2018 codes has been discussed at multiple stakeholder meetings over the last two years.

Nashville’s building code standards are based upon the International Building Code (IBC), the International Residential Code (IRC), and the International Energy Conservation Code (IECC), each of which are updated on a periodic basis. Although these model codes have been upgraded several times in the past decade, the Council Office has been advised that Nashville’s residential building code still adheres to certain 2009 standards, specifically as it relates to insulation requirements. The current ordinance proposes adoption of the 2018 editions of the IBC, IRC, and IECC, which are estimated to require 30% less energy use compared to 2009 standards. An analysis prepared by Pacific Northwest National Laboratory on behalf of the U.S. Department of Energy indicates that upgrading Nashville’s current residential energy code to the 2018 IECC standards will provide a net life-cycle cost benefit of $8,034 per single-family dwelling unit.

Metro typically also adopts some amendments to the standard codes that are local in nature, which are included as part of this ordinance. The local amendments are basically in keeping with prior code adoptions to make the code consistent with state law and Metro's appeal processes.