



## *Community Development Department*

**DATE:** January 11<sup>th</sup>, 2020

**FROM:** Ben Ehreth, Community Development Director

**ITEM:** Bismarck Building Code and Fire Prevention Code – Building Regulation Ordinance Text Amendment

### **REQUEST**

The City of Bismarck Community Development Department – Building Inspections Division is initiating a building regulations ordinance text amendment in order to update the City of Bismarck Building Code and Fire Prevention Code.

Please place this item on the January 28<sup>th</sup>, 2020 City Commission meeting agenda and the February 11<sup>th</sup>, 2020 City Commission meeting agenda.

### **BACKGROUND INFORMATION**

The proposed amendments will update the City of Bismarck Building Code to the 2018 International Building Code (IBC), International Residential Code (IRC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC), International Energy Conservation Code (IECC) International Existing Building Code (IEBC) and the Bismarck Fire Prevention Code to the 2018 International Fire Code.

These International Codes published by the International Code Council are nationally recognized codes that are updated every three years and establish the minimum acceptable standards necessary for protecting the public health, safety, and welfare in the built environment.

The North Dakota Legislative Assembly mandates that the North Dakota State Building Code consist of the above referenced codes. The City of Bismarck has consistently adopted the same codes as the State of North Dakota. The proposed amendments provided in this text amendment include State of North Dakota amendments and local amendments.

The North Dakota Department of Commerce, Division of Community Services announced its intentions to update and amend the State Building Code in 2019.

Proposed amendments received in May 2019 were reviewed and considered by the North Dakota Building Code Advisory Committee and posted on the Department of Commerce, Division of Community Services website.

A public hearing of the Building Code Advisory Committee to receive comments and develop recommendations on the proposed amendments was held in July 2019 and proposed amendments recommended by the Building Code Advisory Committee were posted on the Department of Commerce, Division of Community Services website in August 2019.

A meeting of eligible voting jurisdictions and voting individuals was held in September 2019.

The updated 2020 North Dakota State Building Code was recently posted on the Department of Commerce, Division of Community Service website in November 2019.

The State Building Code was effective January 1, 2020.

### **RECOMMENDED CITY COMMISSION ACTION**

January 28th meeting – consider the building regulation ordinance text amendment as outlined in Ordinance 6403 and call for a public hearing on this item for the February 11th meeting.

February 11th meeting – hold a public hearing on the building regulation ordinance text amendment as outlined in Ordinance 6403 and take final action on the request.

### **STAFF CONTACT INFORMATION**

Ben Ehreth, AICP | Community Development Director, 355-1842 or [behreth@bismarcknd.gov](mailto:behreth@bismarcknd.gov)

Brady Blaskowski, CBCO, CFM | Building Official, 355-1467 or [bblaskowski@bismarcknd.gov](mailto:bblaskowski@bismarcknd.gov)

# **CITY OF BISMARCK**

## **Ordinance No. 6403**

<b>First Reading</b>	_____
<b>Second Reading</b>	_____
<b>Final Passage and Adoption</b>	_____
<b>Publication Date</b>	_____

AN ORDINANCE TO AMEND SECTIONS 4-02-02, 4-02-06 AND 4-07-06 OF THE BISMARCK CODE OF ORDINANCES RELATING TO BISMARCK BUILDING CODE AND AMENDMENTS AND BISMARCK FIRE PREVENTION CODE AND AMENDMENTS THERETO.

BE IT ORDAINED BY THE BOARD OF CITY COMMISSIONERS OF THE CITY OF BISMARCK, NORTH DAKOTA:

Section 1. Amendment. Section 4-02-02 of the City of Bismarck Code of Ordinances relating to Adoption of the City of Bismarck Building Code is hereby amended and re-enacted to read as follows:

**4-02-02. Adoption of the City of Bismarck Building Code.**

There is hereby adopted by the City of Bismarck and incorporated by reference herein the City of Bismarck Building Code which shall consist of the following codes, except those portions hereinafter deleted, modified or amended; (appendix chapters are not adopted unless specified):

~~2015~~ 2018 International Building Code (IBC)

~~2015~~ 2018 International Residential Code (IRC) (including appendix E & J)

~~2015~~ 2018 International Mechanical Code (IMC)

~~2015~~ 2018 International Fuel Gas Code (IFGC)

~~2015~~ 2018 International Energy Conservation Code (IECC)

2018 International Existing Building Code

Wiring Standards of North Dakota

North Dakota State Plumbing Code

(Ord. 4281, 8-23-89; Ord. 4452, 07-21-92; Ord. 4688, 05-23-95; Ord. 4911, 05-26-98; Ord. 5025, 01-11-00; Ord. 5316, 05-25-04; Ord. 5578, 02-26-08; Ord. 5802, 02-22-11; Ord. 6035, 04-08-14)

Section 2. Amendment. Section 4-02-06 of the City of Bismarck Code of Ordinances relating to Amendments to the Codes is hereby amended and re-enacted as follows:

**4-02-06. Amendments to the Codes.** The codes adopted in Section 4-02-02 are hereby amended as follows:

1. General: Whenever reference is made to the National Electrical Code (NEC) it shall mean the Wiring Standards of North Dakota. Whenever reference is made to the International Plumbing Code (IPC) or the International Private Sewage Disposal Code (IPSDC) it shall mean the North Dakota State Plumbing Code. Whenever reference is made to flood hazard areas or flood-resistant construction requirements, the City of Bismarck Ordinance, Title 14, Chapter 14-04, Floodplain District regulations shall apply.

Whenever any work for which a permit is required has been commenced without first obtaining said permit the fee for said permit shall be double the normal fee.

2. 2018 ~~2015~~ International Building Code (IBC):

Section 101.1 Title. Amend: NAME OF JURISDICTION to The City of Bismarck)

Section 101.4.3 Plumbing. Amend to read: Section 101.4.3 The provisions of the North Dakota State Plumbing Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the North Dakota State Plumbing Code shall apply to private sewage disposal systems.

Section 103 DEPARTMENT OF BUILDING SAFETY. Delete:

Section 101.4.7 Existing Buildings. Add: Exception: 1. Existing buildings may use Chapter 34 of the IBC 2012 as an alternative to using the IEBC 2015.

Section 104.8 Liability. Add: This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or city be held as assuming any such liability by reason of the inspection authorized by this code or any permits or certificates issued under this code.

Section 104.10.1 Flood Hazard areas. Delete:

Section 105.2 Work exempt from permit. Building: Amend items 2,4,6,11 and ~~11~~ 12 to read:

2. Fences not over 8.5 feet high.

4. Retaining walls.

6. Sidewalks and driveways.

11. Swings and other playground equipment.

12. Window awnings

Section 105.2 Work exempt from permit. Building: Add item 14:

14. Reroofing.

Section 107.2.6.1 Design flood elevations. Delete:

Section 107.3.1 Approval of construction documents. Amend to read: When the Building Official issues a permit, the construction documents shall be approved. One set of construction drawings so reviewed shall be retained by the Building Official.

Section 109.2 Schedule of permit fees. Amend to read: On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit and plan review shall be paid as required, in accordance with the schedule as established by the local jurisdiction. The plan review fees specified in

this subsection are separate from, and in addition to, permit fees.

~~Section 109.2 Schedule of permit fees. Amend to read: Building permit valuation shall include total value of the work for which a permit is being issued, such as electrical, gas, mechanical, plumbing equipment and other permanent systems, including materials and labor. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.~~

Section 110.3.3 Lowest floor elevation. Delete:

Section 110.3.6 Weather-exposed balcony and walking surface waterproofing. Delete:

Section 111~~0~~.1: Add: Occupying or permitting occupancy of any building or structure prior to the issuance of a Certificate of Occupancy shall constitute an infraction under the provisions of the Code of Ordinances of the City of Bismarck.

Section 112 Board of Appeals: Delete.

Section 201.3 Terms defined in other codes. Amend to read: Terms defined in other codes. Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board.

Wherever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

Section 202 DEFINITIONS, COMMERCIAL MOTOR VEHICLE. Amend to read: A motor vehicle used to transport passengers or property, or motorized equipment where the motor vehicle or equipment: Has a gross vehicle weight rating of 10,000 pounds or more; or have combined weights greater than 26,000 lbs; or is designed to transport 16 or more passengers, including the driver.

Section 305.2 Group E, day care facilities. Amend to read: Group E Day care facilities. This group includes buildings and structures or portions thereof occupied by more than twelve children older than 2½ years of age who receive educational supervision or personal care services for fewer than 24 hours per day.

Section 305.2.2 Twelve or fewer children. Amend to read: Twelve or fewer children. A facility having twelve or fewer children receiving such day care shall be classified as part of the primary occupancy.

Section 305.2.3 Twelve or fewer children in a dwelling unit. Amend to read: A facility such as above within a dwelling unit and having twelve or fewer children in a single family dwelling and having twelve or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the Residential Code.

Section 308.65 Institutional Group I-4, day care facilities. Amend to read: Institutional Group I-4 occupancy shall include buildings and structures occupied by more than twelve persons of any age who receive custodial care for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care

## Child day care

Section 308.65.1 Classification as Group E. Amend to read: A child day care facility that provides care for more than twelve but not more than 100 children 2 ½ years of age, where the rooms in which children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

Section 308.65.3 Twelve or fewer persons receiving care. Amend to read: A facility having twelve or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

Section 308.65.4 Five or fewer persons receiving care in a dwelling. Amend to read: A facility such as above within a dwelling unit having twelve or fewer persons receiving custodial care shall be classified as Group R-3 occupancy or shall comply with the International Residential Code.

~~Section 310.5.1 Amend to read: Care Facilities within a dwelling. Care facilities for twelve or fewer persons receiving personal care that are within a single family dwelling are permitted to comply with the International Residential Code.~~

Section 406.3.42.1 Dwelling unit Separation. Amend to read: The private garage shall be separated from the dwelling unit and its attic area by means of gypsum board, not less than 5/8 inch in thickness, applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a 5/8 inch type X gypsum board or equivalent and 5/8 inch gypsum board applied to structures supporting the separation from habitable rooms above the garage. Door openings between a private garage and the dwelling unit shall be either solid wood doors or solid or honeycomb core steel doors not less than 1 3/8 inch in thickness, or doors in compliance with section 716.5.3 with a fire protection rating of not less than 20 minutes.

Section 706.6 Vertical continuity. Exceptions. Add:

7. Fire walls installed within detached structures of group U or Group S-2 occupancies may terminate at the underside of the roof sheathing provided such walls are not required to be fire-resistance rated construction due to fire separation distance.

Section 902.1 Definitions. Add: COMMERCIAL MOTOR VEHICLE.

Section [F] 903.2.8 Group R: Amend to read: An automatic sprinkler system installed in Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Exception: Single family dwelling or a residential building that contains no more than two dwelling units.

Section [F] 903.2.11.3 Buildings 55 feet or more in height. Amend to read: Buildings 55 feet, or five stories or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more located 55 feet, or five stories or more above the lowest level of fire department vehicle access, measured to the finished floor.

Section 903.3.1 Automatic sprinkler systems. Amend to read: Sprinkler systems shall be designed with a 5 psi safety margin and installed in accordance with Sections 903.3.1.1, 903.3.1.2 or 903.3.1.3 and other chapters of this code, as applicable.

Section 903.3.1.1 NFPA 13 sprinkler systems. Amend to read: Sprinkler heads in unoccupied mall tenant spaces may be installed at ceiling height if allowed by the code official. Permission will be granted on an individual basis. Combustible storage shall not be allowed in these unoccupied tenant spaces if sprinkler heads are installed at ceiling height. Signage shall be provided outlining the storage restrictions.

Section [F] 903.3.1.2.1 Balconies and decks: Amend to read: Sprinkler protection shall be provided for

exterior balconies, decks and ground floor patios of dwelling units and sleeping units where the building is of Type V construction, provided there is a roof, overhang six (6) inches greater, or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch to 6 inches below the structural members and a maximum distance of 14 inches below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

Section [F] 905.1 General. Add: Class II and III standpipe systems are prohibited. Where required within this section, all standpipe systems shall meet the requirements of a Class 1 standpipe.

Section [F] 907.2.3 Group E. Amend to read: A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system. Where approved by the fire code official, a building's emergency communication system interfaced with the fire alarm system in accordance with NFPA 72 is acceptable.

Section [F] 907.2.1~~±~~0.1 Group R-1. Exceptions. Add:

4. In dwelling units where the ceiling height of a room open to the hallway serving the sleeping rooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and in the adjacent room.

Section [F] 907.2.1~~±~~0.2 Group R-2, R-3, R-4, and I-1. Exceptions. Add:

4. In dwelling units where the ceiling height of a room open to the hallway serving the sleeping rooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be

installed in the hallway and in the adjacent room.

Section 1010.1.9 .4 Amend paragraph 7 to read:

7. Egress doors from occupied roofs, or doors that are used to gain access to the interior of the building may be locked from the outside if all of the following are provided.

7.1 Compliance with all aspects of Section 1010.1.9.4 item #2

7.2 Compliance with 1009.8

7.3 The door locks shall unlock on actuation of the automatic sprinkler system and automatic fire detection system and the door locking system shall be installed to have the capability of being unlocked by a switch located at the Fire Command center

Section 1011.1 General. Exceptions. Add:

2. Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public; need not comply with sections 1011.2 through 1011.13.

Section 1011.2 Width and capacity. Add:

Exception 4. Stairways used to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public.

Section 1011.5.2 Riser height and tread depth. Amend item 3, and Add item 6 to read:

3. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8 inches; the

minimum tread depth shall be 9 inches; the minimum winder tread depth at the walkline shall be 10 inches; and the minimum winder tread depth shall be 6 inches. A nosing projection not less than 3/4 inch but not more than 1 1/4 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches.

6. Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public are permitted to have a maximum 8-inch riser height and minimum 9-inch tread depth.

Section 1011.11 Handrails. Exceptions. Add:

5. Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public shall have a handrail on at least one side.
6. Vehicle service pit stairways are exempt from the rules for stairway railings and guards if they would prevent a vehicle from moving into place over the pit.

Section 1015.2 Where required. Amend to read: Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps and landings, that are located more than 30 inches above the floor or grade below of if within 36 inches horizontally to the edge of the open side the vertical measurement to the floor or grade below is greater than 48 inches. Guards shall be adequate in strength and attachment in accordance with section 1607.8.

Section 1101.2 Add: Section 1101.2 State of North Dakota Accessibility Standards. After July 31, 2013, a newly designed and constructed building in excess of seven thousand five hundred square feet which is classified within the state building code as assembly, business, educational, institutional,

or mercantile occupancy and required by the state building code to be accessible must include at the primary exterior public entrance an automatic door or power-assisted manual door that complies with the requirements of the Americans with Disabilities Act of 1990, revised 2010. If a multiple unit building does not have a primary exterior public entrance, an individual unit within that building is not required to include an automatic door or power-assisted manual door unless that individual unit is in excess of seven thousand five hundred square feet.

Section 1104.4 Multistory buildings and facilities. Exception 1. Amend to read: An accessible route is not required to stories, basements and mezzanines that have an area of not more than 3,000 square feet, are located above or below accessible levels and are below the third story.

Section 1202.1 General. Amend paragraph 2 to read: Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407 of the International Mechanical Code.

~~Section 1203.1 General. Amend to read: Buildings shall be provided with natural ventilation in accordance with section 1203.4, or mechanical ventilation in accordance with the International Mechanical Code. Ambulatory care facilities and Group I-1 occupancies shall be ventilated by mechanical means in accordance with section 407 of the International Mechanical Code.~~

Section 12076 SOUND TRANSMISSION: Delete:

Section 1402.6 Flood resistance. Delete:

Section 1402.7 Flood resistance for coastal high hazard areas and coastal A zones: Delete:

~~Section 1507.2 Fasteners. Amend to read: Fasteners for asphalt shingles shall be galvanized, stainless steel, aluminum, or copper roofing nails, minimum 12 gage 0.105 inch with a minimum 0.375 inch diameter head, of a length to penetrate through the~~

~~roofing materials and a minimum of 0.75 into the roof sheathing or other fasteners as approved by the building official and shingle manufacturer. Where the roof sheathing is less than 0.75-inch-thick, the nails shall penetrate through the sheathing. Fasteners shall comply with ASTM F 1667.~~

Section 1603.1. Add: It shall not be the responsibility of the building official to determine engineering requirements of this code. Exclusive of the conventional light-frame wood construction provisions referenced in Section 2308, the method to resist loads as referenced in this chapter is the responsibility of a structural engineer or other qualified design professional.

Section 1610.1 General. Exception: Amend to read: Foundation walls extending not more than 9 feet below grade and laterally supported at the top by flexible diaphragms shall be permitted to be designed for active pressure.

Section 1612 Flood Loads. Delete

Section 1804.4 Site Grading. Amend to read: Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection. Lots shall be graded to drain surface water away from foundation walls. The procedure used to establish the final ground level adjacent to the foundation shall account for additional settlement of the backfill.

Section 1804.5 Grading and fill in flood hazard areas. Delete:

Section 1805.1.2.1 Flood Hazard Areas. Delete:

Section 1809.5 Frost Protection. Exception. Add:

4. Free-standing buildings used as Group U occupancies for the storage of private or pleasure-type motor vehicles constructed in accordance with section 406.3.1.

Section 2901.1 General. Amend to read: The provisions of this chapter and the North Dakota

State Plumbing Code shall govern the erection, installation, alteration, repairs, relocations, replacement, addition to, use or maintenance of plumbing equipment and systems. Toilet and bathing rooms shall be constructed in accordance with Section 1210. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the North Dakota State Plumbing Code. Private sewage disposal systems shall conform to the North Dakota State Plumbing Code. The International Fire Code, the International Property Maintenance Code and the North Dakota State Plumbing Code shall govern the use and maintenance of plumbing components, appliances, equipment and systems. The International Existing Building Code and the North Dakota State Plumbing Code shall govern the alteration, repair, relocation, replacement and addition of plumbing components, appliances, equipment and systems.

Section 2902.2 Separate Facilities. Exception. ~~Add~~  
Amend to read:

2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 25 or fewer. ~~4. Separate facilities shall not be required in business occupancies with a floor area of fifteen-hundred (1,500) square feet or less.~~

Section 2902.6 Small occupancies. Amend to read:  
Drinking fountains shall not be required for an occupant load of 30 or fewer.

Section 3313 Water Supply for fire protection.  
Amend to read: An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on a site located within the city limits.

3. 2018 ~~2015~~ International Residential Code (IRC):

Section 101.1 Title. Amend: NAME OF JURISDICTION to City of Bismarck.

Section 103 DEPARTMENT OF BUILDING SAFETY. Delete:

Section R104.8 Liability. Add: This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or city be held as assuming any such liability by reason of the inspection authorized by this code or any permits or certificates issued under this code.

Section R104.8.1 Legal Defense. Amend to read: Any suit or criminal complaint instituted against an officer or employee because of an act or omission performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be afforded all the immunities and defenses provided by other applicable local, state, or federal laws. The building official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

Section R104.10.1 Flood Hazard areas. Delete:

~~Section R105.2: Section 105.2 Work exempt from permit. Building: Amend item 1 to read: One-story detached accessory structures used as tool and storage sheds, playhouses, and similar uses, provided the floor area does not exceed 120 square feet.~~

Section R105.2: Section R105.2 Work exempt from permit. Building: Amend items 1,2,3,9, and 10 to read: Section R105.2 Work exempt from permit. Exemption from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Building Permits shall not be required for the following:

1. One-story detached accessory structures provided the floor area does not exceed 120 square feet.
2. Fences not over 8.5 feet high.
4. Retaining walls.

9. Window awnings supported by an exterior wall that do not require additional support.
10. Decks not exceeding 120 square feet in area, that are not more than 7 inches above grade at any point, are not attached to a dwelling and do not serve the exit door required by Section R311.4.

Section R106.3.1 Approval of construction documents. Amend to read: Where the building official issues a permit, one set of construction documents so reviewed shall be retained by the building official.

Section R108.3 Building permit valuations. Amend to Read: Building permit valuation shall include total value of the work for which a permit is being issued, such as electrical, gas, mechanical, plumbing equipment and other permanent systems, including materials and labor. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.

Section R110.1.1: Add: Occupying or permitting occupancy of any building or structure prior to the issuance of a Certificate of Occupancy shall constitute an infraction under the provisions of the Code of Ordinances of the City of Bismarck.

Section R112 Board of Appeals: Delete.

Section R201.3 Terms defined in other codes. Amend to read: Section R201.3 Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical

Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Where ever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

Table R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA (1). Add:

Ground snow load: 35 psf  
Wind Design speed: 115 mph  
Wind Design topographic effects: NO  
Wind Design special wind region: NO  
Wind Design wind-borne debris zone: NO  
Seismic Design Criteria: Zone A  
Subject to Damage from weathering: Severe  
Subject to Damage from frost depth: 4 feet  
Subject to Damage from termite: NO  
Winter Design Temp: -19  
Ice Barrier Underlayment Required: YES  
Flood Hazards: (a)First FIRM adopted in 1985,  
(b)current/revise FIRM adopted 2014.  
Air Freezing Index: 4000  
Mean Annual Temp: 42 degrees (F)

Table R302.1 (1) Exterior walls. Amend the fourth column and Add; foot note c. for the first column in walls to read:

0 feet  
3 feet  
<2 feet to <3 feet  
>3 feet  
5 feet  
<3 feet  
3 feet

A common 2-hour fire-resistance- rated wall is permitted for two or more family dwellings where the common wall is on a property line provided such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Electrical installations shall be

installed in accordance with chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with section 302.4

~~Section R302.2 Townhouses: Exception 2. Amend to read: Where a sprinkler system is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly or two 1-hour fire-resistance-rated wall assemblies tested in accordance with ASTM E 119 or UL 263.~~

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

Section R303.4 Mechanical ventilation. Delete:

Section R307.1 Space required. Amend to read: Fixtures shall be spaced in accordance with the requirements of North Dakota State Plumbing Code and per Figure R307.1, with the exception of the clearance in front of water closets and bidets which shall be at least 24 inches.

Section R310.2.3.1 Ladder and Steps. Amend to read: Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position, or shall be equipped with a permanently-attached platform at least 30 inches by 16 inches. The maximum distance between the top of the window well and a platform shall be 42 inches and shall not impede the operation of the window. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

Exception: Terraced window wells with a maximum of 24 inches per vertical rise and minimum of 12 inches per horizontal projection on each level shall also be allowed.

Section R311.3 Floors and landings at exterior doors. Add: Exception 2. A landing is not required on the outside of exterior doors other than the required egress door, where a stairway with a total rise of less than 30 inches is located on the exterior side of the door, provided the door does not swing over the stairway.

Section R311.3.1 Floor elevations at the required egress door. Exception: Amend to read: The landing or floor on the exterior side shall not be more than 8 inches below the top of the threshold provided the door does not swing over the landing or floor.

Where exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

Section R311.3.2 Floor elevations for other exterior doors. Amend to read: Floor elevations for other exterior doors. Doors other than the required egress door shall be provided with landings or floors not more than 8 inches below the top of the threshold.

Exception: A landing is not required where a stairway with a total rise of less than 30 inches is located on the exterior side of the door, provided the door does not swing over the stairway.

Section R311.7.5.1 Risers. Amend to Read: The Riser height shall not be more than 8 inches. The riser shall be measured vertically between landing edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees from the vertical. Open risers are

permitted provided that the openings located more than 30 inches, as measured vertically, to the floor or grade below do not permit the passage of a 4-inch-diameter sphere.

Exceptions:

1. The opening between adjacent treads is not limited on spiral stairways.
2. The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.

Section R311.7.5.2 Treads ~~depth~~. Amend to read: The minimum tread depth shall be 9 inches. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch.

Exception: Where a landing is not provided or required by section R311.3, R311.3.2 or R311.7.6, the top tread of a stair serving exterior doors other than the required exit door, and in-swinging doors opening into an attached garage, shall be permitted to exceed the smallest tread by more than 3/8 inch. Such a tread shall be at least 18 inches measured in the direction of travel.

Section R311.7.5.2.1 Winder treads. Amend to read: Winder treads shall have a minimum tread depth of 9 inches measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a tread depth of not less than 6 inches at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than 3/8 inch). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within 3/8 inch of the rectangular tread depth.

Exception: The tread depth at spiral stairways shall be in accordance with Section R311.7.10.1.

Section R311.7.6 Landings for stairways. Exception: Amend to read: Exceptions:

A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

A landing is not required at the top of an interior flight of stairs with a total rise of less than 30 inches, provided the door does not swing over the stairway.

Section R312.1.1 Where Required. Amend to read: Guards shall be located along open-sided walking surfaces, stairs, ramps and landings that are located more than 30 inches measured vertically to the floor or grade below. Insect screening shall not be considered as a guard.

~~Section R313.1 Townhouse automatic fire systems. Amend to read: Townhouse automatic fire systems. An automatic residential fire sprinkler system may be installed in townhouses.~~

Section R313.1.1 Design and installation. Amend to read: Automatic residential sprinkler systems for townhouses shall be designed and installed in accordance with NFPA 13D, NFPA 13R, or NFPA 13.

~~Section R313.2 One- and two-family dwellings automatic fire systems. One- and two-family dwellings automatic fire systems. An automatic residential fire sprinkler system may be installed in one- and two-family dwellings.~~

Section R314.3 Location. Add: 5. In dwelling units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and in the adjacent room.

Section R322 Flood-Resistant Construction. Delete:

Section R325.5 Openness. Amend to read: Mezzanines shall be open and unobstructed to the room in which they are located except for walls not more than 36 inches in height., columns and posts.

Section R326.1 General. Amend to read: The design and construction of pools and spas shall comply with the City of Bismarck Ordinance, Title 4, Chapter 4-06, Swimming Pools.

Section R401.3 Drainage. Amend to read: Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection. Lots shall be graded to drain surface water away from foundation walls.

Section R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, crushed stone footings, wood foundations, or other approved structural systems that 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 and shall include a concrete encased contiguous rebar stubbed out near the electrical service for grounding of the electrical system as per the requirements of the most recently adopted version of North Dakota State Electrical Board's Laws, Rules and Wiring Standards. Coordinate with the electrical contractor.

Section R403.1.4.1 Frost Protection. Exceptions 1 and 2, Amend to Read: Add Exception 4:

1. Protection of freestanding accessory structures of light framed construction shall not be required.
2. Protection of freestanding accessory structures with an area of 400 square feet or less, of other than light-framed construction shall not be required.

4. Single story uncovered decks supported by a single attachment to a dwelling need not be provided with footings that extend below the frost line.

Non-frost protected Foundations supporting detached accessory structures of light frame construction greater than 200 sf must be constructed of monolithic slab-on-grade construction with turned-down footings. Perimeter turned-down footings must be a minimum of 12-inches in depth and eight-inches wide. Perimeter turned-down footings shall have a minimum of one no. 4 bar at the top and at the bottom of the footing. Footings shall not bear on frozen soil.

~~Table R403.1 (4). Alternate Width and Thickness for Concrete Footings for Light Frame Construction. Add: Effective, July 1<sup>st</sup>, 2017.~~

<del>Story and Type of structure</del>	<del>Footing Width (inches)</del>	<del>Footing Depth (inches)</del>
<del>1 story slab-on-grade</del>	<del>16</del>	<del>8</del>
<del>1 story with crawl space</del>	<del>16</del>	<del>8</del>
<del>1 story plus basement</del>	<del>19</del>	<del>8</del>
<del>2 story slab-on-grade</del>	<del>16</del>	<del>8</del>
<del>2 story with crawl space</del>	<del>16</del>	<del>8</del>
<del>2 story plus basement</del>	<del>23</del>	<del>8</del>
<del>3 story slab-on-grade</del>	<del>16</del>	<del>8</del>
<del>3 story with crawl space</del>	<del>20</del>	<del>8</del>
<del>3 story plus basement</del>	<del>26</del>	<del>8</del>

~~Notes:~~

~~Chart is based on a soil load-bearing value of 1500 psf.~~

~~Chart is based on a snow load or roof live load of 30 psf.~~

~~Interpolation allowed. Extrapolation is not allowed.~~

~~Based on 32-foot wide house with load bearing center wall that carries half of the tributary attic, and floor framing. For every 2 feet of adjustment to the width of the house, add or subtract 2 inches of footing width and 1 inch of footing thickness (but not less than 6 inches thick).~~

Add: Table R404.1.2 (10). Alternate Vertical Reinforcement for 8-inch Concrete Foundation Walls.  
Add: Effective, July 1st, 2017.

<u>Wall Height (feet)</u>	<u>Unbalanced Backfill Height (feet)</u>	<u>Wall Thickness (inches)</u>	<u>On Center Spacing of Vertical Reinforcement</u>
<u>8</u>	<u>&gt;6</u>	<u>8</u>	<u>#4 at 24"</u>
<u>9</u>	<u>&gt;6</u>	<u>8</u>	<u>#4 at 18"</u>
<u>10</u>	<u>&gt;6</u>	<u>8</u>	<u>#4 at 15"</u>

Notes:

Chart is based on an active soil pressure of 45 pounds per cubic foot (pcf) and soil classes GM, GC, SM, SM-CL and ML.

Reinforcing steel shall be ASTM A615 Fy - 60,000 pounds per square inch (psi).

The vertical reinforcing bars are to be located on the inside face.

Minimum concrete strength Fc1 - 3,000 pounds per square inch (psi).

Backfill shall not be placed until first floor framing and sheathing is installed and fastened or adequately braced and the concrete floor slab is in place or the wall is adequately braced.

Horizontal reinforcement must be installed in accordance with Table 404.1.2 (1).

Design is required for wall heights greater than 10 feet.

<u>Minimum Reinforcement for concrete Foundation Walls, Active Pressure=45pcf Soil Classes GM,GC,SM,SM-SC and ML</u>		
Wall Height Feet	Wall Thickness Inches	Vertical Reinforcement
<u>8'</u>	<u>8"</u>	<u>#4 @ 24"</u>
		<u>#5 @ 40"</u>
	<u>10"</u>	<u>#4 @ 30"</u>
		<u>#5 @ 50"</u>
<u>9'</u>	<u>8"</u>	<u>#4 @ 18"</u>
		<u>#5 @ 28"</u>
	<u>10"</u>	<u>#4 @ 24"</u>
		<u>#5 @ 36"</u>
<u>10'</u>	<u>10"</u>	<u>#4 @ 16"</u>
		<u>#5 @ 26"</u>

Notes:

1. Chart is based on an active soil pressure of 45 pounds per cubic foot (pcf)
2. Reinforcing steel shall be ASTM A615 Fy - 60,000 pounds per square inch (psi).
3. The vertical reinforcing bars are to be located on the inside face.
4. Minimum concrete strength Fc1 = 3,000 pounds per square inch (psi).

5. Backfill shall not be placed until first floor framing and sheathing is installed and fastened or adequately braced and the concrete floor slab is in place or the wall is adequately braced.

Table R404.1.2 (11). Alternate Vertical Reinforcement for 8-inch Concrete Foundation Walls. Add: Effective, July 1st, 2017.

<u>Wall Height (feet)</u>	<u>Unbalanced Backfill Height (feet)</u>	<u>Wall Thickness (inches)</u>	<u>On Center Spacing of Vertical Reinforcement</u>
<u>8</u>	<u>&gt;5</u>	<u>8</u>	<u>#4 at 18"</u>
<u>9</u>	<u>&gt;5</u>	<u>8</u>	<u>#4 at 12"</u>
<u>10</u>	<u>&gt;5</u>	<u>8</u>	<u>#4 at 10"</u>

Notes:

Chart is based on an active soil pressure of 60 pounds per cubic foot (pcf) and soil classes SC, ML-CL and inorganic CL.

Reinforcing steel shall be ASTM A615 Fy = 60,000 pounds per square inch (psi).

The vertical reinforcing bars are to be located on the inside face.

Minimum concrete strength  $f_{c1}$  = 3,000 pounds per square inch (psi).

Backfill shall not be placed until first floor framing and sheathing is installed and fastened or adequately braced and the concrete floor slab is in place or the wall is adequately braced.

Horizontal reinforcement must be installed in accordance with Table 404.1.2 (1).

Design is required for wall heights greater than 10 feet.

<u>Minimum Reinforcement for concrete Foundation Walls, Active Pressure=65pcf Soil Classes SC,ML-CL and inorganic CL</u>		
<u>Wall Height Feet</u>	<u>Wall Thickness Inches</u>	<u>Vertical Reinforcement</u>

<u>8'</u>	<u>8"</u>	<u>#4 @ 18"</u>
		<u>#5 @ 26"</u>
	<u>10"</u>	<u>#4 @ 24"</u>
		<u>#5 @ 36"</u>
<u>9'</u>	<u>8"</u>	<u>#4 @ 12"</u>
		<u>#5 @ 18"</u>
	<u>10"</u>	<u>#4 @ 16"</u>
		<u>#5 @ 24"</u>
<u>10'</u>	<u>10"</u>	<u>#4 @ 12"</u>
		<u>#5 @ 18"</u>

Notes:

1. Chart is based on an active soil pressure of 65 pounds per cubic foot (pcf)
2. Reinforcing steel shall be ASTM A615 Fy - 60,000 pounds per square inch (psi).
3. The vertical reinforcing bars are to be located on the inside face.
4. Minimum concrete strength Fc1 = 3,000 pounds per square inch (psi).
5. Backfill shall not be placed until first floor framing and sheathing is installed and fastened or adequately braced and the concrete floor slab is in place or the wall is adequately braced.

Section R404.1.3.2 Reinforcement for foundation walls. Amend to read: Concrete foundation walls shall be laterally supported at the top and bottom. Horizontal reinforcement shall be provided in accordance with Table R404.1.2(1). Vertical reinforcement shall be provided in accordance with Table R404.1.2(2), R404.1.2(3), R404.1.2(4), R404.1.2(5), R404.1.2(6), R404.1.2(7), or R404.1.2(8)., or Table R404.1.2(10) and R404.1.2(11). Vertical reinforcement for flat basement walls retaining 4 feet or more of unbalanced backfill is permitted to be determined in accordance with Table R404.1.2(9). For basement walls supporting above-grade concrete walls, vertical reinforcement shall be the greater of that required by Tables R404.1.2(2) through R404.1.2(8) or by Section R611.6 for the above-grade wall. In Buildings assigned to Seismic Design Category D0, D1, or D2, concrete foundation walls shall also comply with Section R404.1.4.2.

Section R507.3 Footings. Amend to read: Decks supported by more than one attachment to a dwelling, covered decks, and multi-story decks shall be supported on concrete footings or other approved structural systems designed to accommodate all loads in accordance with Section R301. Deck footings shall be sized to carry the imposed loads from the deck to the ground as shown in figure R507.3. The footing depth shall be in accordance with Section R403.1.4.

Table R507.3.1 Minimum footing size for decks. Delete:

Section 507.5 Deck Beams. Amend to read: Maximum allowable spans for wood deck beams, as shown in Figure R507.5, shall be in accordance with Table R507.5. Beam plies shall be fastened with two rows of 10d (3-inch x 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the actual beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.

Section R602.7.2 Rim board headers. Revise to read: Rim board header size, material and span shall be in accordance with Table R602.7(1). Rim board headers shall be constructed in accordance with Figure R602.7.2 and shall be supported at each end by full-height studs. Rim board headers supporting concentrated loads shall be designed in accordance with accepted engineering practice.

Section R602.7.5 Supports for headers. Amend to read: Headers shall be supported on each end with one or more jack studs or with approved framing anchors in accordance with Table R602.7(1) or R602.7(2). The full-height stud adjacent to each end of the header shall be end nailed to each end of the header with four-16d nails (3.5 inches × 0.135 inches).

~~Table R602.7.5 Minimum number of full height studs at each end of headers in exterior walls. Delete:~~

~~Section R602.10 Wall Bracing. Add: Exception: The wall bracing requirements of section R602.10 of the 2006 International Residential Code may be used as an alternative to this section.~~

~~Section R703.7.2 - Plaster. Add: Approved decorative coatings applied to a concrete or masonry surface shall be installed in accordance with the manufacturer's installation instructions.~~

~~Section R905.2.5 Fasteners. Amend to read: Fasteners for asphalt shingles shall be galvanized steel, stainless steel, aluminum or copper roofing nails, minimum 12 gage [0.105 inch (3 mm)] shank with a minimum 3/8 inch (10 mm) diameter head, ASTM F 1667, of a length to penetrate through the roofing materials and a minimum of 3/4 inch (19 mm) into the roof sheathing or other fasteners as approved by the building official and shingle manufacturer. Where the roof sheathing is less than 3/4 inch (19 mm) thick, the fasteners shall penetrate through the sheathing.~~

Table N1102.1.2 (R402.1.2) Insulation and Fenestration Requirements by Component. Climate

zone 6, Wood Frame Wall R-Value. Amend to read: 21~~0~~ or 13+5h, i.

Table N1102.1.2 (R402.1.2) Insulation and Fenestration Requirements by Component. Climate zone 6, Basement Wall R-Value. Amend to read: 10/13.

Table N1102.1.2 (R402.1.2) Insulation and Fenestration Requirements by Component. Climate zone 6, Crawlspace R-Value. Amend to read: 10/13.

Table N1102.1.4 (R402.1.4) Equivalent U-Factors. Climate zone 6, Frame Wall Factor. Amend to Read: 0.057.

Table N1102.1.4 (R402.1.4) Equivalent U-Factors. Climate zone 6, Basement Wall U-Factor. Amend to Read: 0.059.

Table N1102.1.4 (R402.1.4) Equivalent U-Factors. Climate zone 6, Crawl Space Wall U-Factor. Amend to Read: 0.059.

Section N1102.4 (R402.4) Air leakage (Mandatory). Add: Exception: Dwelling units of R-2 Occupancies and multiple single family dwellings shall be permitted to comply with IECC Section C402.5.

~~Section N1102.4.1.2 (R402.4.1.2) Testing. Delete~~

Section N1102.4.1.3 (R402.4.1.3) Visual Inspection Option. Add: Visual Inspection Option. Building envelope tightness and insulation shall be considered acceptable when installed in accordance with Table N1102.4.1.1 (R402.4.1.1) - "Air Barrier and Insulation" and has been field verified.

~~Section 1103.1.1 Programmable Thermostat. Delete:~~

~~Section N1103.3.2 (R403.3.2) Sealing (Mandatory). Exception 2. Amend to read: For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams, and locking type joints and seams.~~

Section N1103.3.5 (R403.3.5) Building Cavities (Mandatory). Amend to read: Building framing cavities shall not be used as supply ducts.

Section N1103.~~63~~.5 (R403.~~63~~.5) Mechanical Ventilation (Mandatory). Amend title to read: Ventilation (Mandatory)

Table N1105.5.2(1) [R405.5.2(1)] Specifications for the Standard Reference and Proposed Design. Air exchange rate. Amend to read:

Standard Reference Design: Air leakage rate of 5 air changes per hour in Climate Zones 1 through 8 at a pressure of 0.2 inches w.g (50 Pa). (Balance is unchanged.)

Proposed design: For residences that are not tested, the same air leakage rate leakage rate as the standard reference design. For tested residences, the measured air exchange rate. The mechanical ventilation rated shall be in addition to the air leakage rate and shall be as proposed.

<u>Building Component</u>	<u>Standard Reference Design</u>	<u>Proposed Design</u>
<u>Air exchange rate</u>	<u>Air leakage rate of 5 air changes per hour in Climate Zones 1 through 8 at a pressure of 0.2 inches w.g (50 Pa). (Balance is unchanged.)</u>	<u>For residences that are not tested, the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate. The mechanical ventilation rated shall be in</u>

		<del>addition to the air leakage rate and shall be as proposed.</del>
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Section M1502.4.2 Duct Installation. Amend to Read: Exhaust ducts shall be supported at intervals not to exceed 4 feet and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints may be mechanically fastened. Ducts shall not be joined with screws. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

Section M1503.64 Makeup Air Required. Amend to read: Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19m<sup>3</sup>/S) shall be mechanically or naturally provided with makeup air at a rate in excess of 400 cfm. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced. Where one or more gas, liquid or solid fuel-burning appliance that is neither direct-vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier, each exhaust-hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19m<sup>3</sup>/S) shall be mechanically or passively provided with makeup air at a rate approximately equal to the exhaust air rate in excess of 400 cfm. Such makeup air systems shall be equipped with not fewer than one damper complying with Section M1503.6.2.

Section 1506.1.1 Required Condensation Provisions. Amend to read: Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable into the building and

~~10 feet (3048 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake. Openings shall comply with Sections R303.5.2 and R303.6.~~

Section M1601.4.1 Joints, Seams and Connections.

Amend to read: Exception 3. For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams.

~~Add Section M1701.2.1 Prohibited Sources. Add: Attic spaces shall not be used as a source of combustion air.~~

~~M1801.1 Venting required. Amend to read: Fuel-burning appliances shall be vented to the outside in accordance with their manufacturer's installation instructions. Venting systems shall consist of approved chimneys or vents, or venting assemblies that are integral parts of labeled appliances. Gas-fired appliances shall be vented in accordance with Chapter 24.~~

Section M2005.1 General. Water heaters shall be installed in accordance with the North Dakota State Plumbing Code, the manufacturer's instructions and the requirements of this code. Water heaters installed in an attic shall comply with the requirements of Section M1305.1.3. Gas-fired water heaters shall comply with the requirements in Chapter 24. Domestic electric water heaters shall comply with UL 174. Oiled-fired water heaters shall comply with UL 732. Thermal solar water heaters shall comply with Chapter 23 and UL 174. Solid fuel-fired water heaters shall comply with UL 2523.

Section M2101.3 Protection of potable water. Amend to read: The potable water system shall be protected from backflow in accordance with the provisions listed in the North Dakota State Plumbing Code.

Section M2101.10 Tests. Amend to read: New hydronic piping shall be isolated and tested hydrostatically at a pressure of not less than 100-pounds per square

inch (psi) (689 kPa). The duration of each test shall be not less than 15 minutes and not more than 20 minutes.

Section M2103.3 Piping Joints. Item 2. Amend to read: Copper tubing shall be joined by brazing complying with the North Dakota State Plumbing Code.

G2404.7 Flood Hazard. Delete:

~~Section G2406.2 Prohibited locations. Exceptions 3 and 4. Delete:~~

~~Section G2406.4 Indoor Locations. Add: Any room within a building that contains a condensing appliance must be equipped with a floor drain or other approved means of condensate/liquid waste disposal.~~

Figure G2407.6.1 (1) All air from indoors-inlet air from ventilated crawl space and outlet air to ventilated attic. Delete:

Figure G2407.6.1 (2) All air from outdoors through ventilated attic. Delete:

Section G2407.11 Combustion air ducts. Item 5. Amend to read: Ducts shall not terminate in an attic space.

~~Section G2413.5 Allowable pressure drop. Amend to read: The design pressure loss in any piping system under maximum probable flow conditions, from the point of delivery to the inlet connection of the appliance, shall be such that the supply pressure at the appliance is greater than or equal to the minimum pressure required by the appliance but such pressure loss shall not be greater than .5-inch water column for gas pipe systems operating at less than 2 psi.~~

Section G2417.4.1 Test pressure. Amend to read: The test pressure to be used shall not be less than one and one half times the proposed maximum working pressure, but not less than 25 psig, irrespective of design pressure. Where the test pressure exceeds

125 psig the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

~~Section G2425.8 Appliances not required to be vented. Item 7. Delete:~~

Section G2425.12 Residential and low-heat appliances flue lining systems. Amend to read: Flue lining systems for use with residential-type and low-heat appliances shall be limited to the following:

Clay flue lining complying with the requirements of ASTM C 315 or equivalent when each appliance connected into the masonry chimney has a minimum input rating greater than 400,000 Btu/h. Clay flue lining shall be installed in accordance with Chapter 10.

Listed chimney liner systems complying with UL 1777.

Other approved materials that will resist, without cracking, softening, or corrosion, flue gases and condensate at temperatures up to 1800 F (982 C). Aluminum (1100 or 3003 alloy or equivalent) not less than 0.032 inches thick up to 8 inches in diameter.

Stainless steel (304 or 430 alloy or equivalent) not less than 26 gauge (0.018 inches thick) to 8 inches in diameter or not less than 24 gauge (0.024 inches thick) 8 inches in diameter and larger.

When a metal liner is used other than a listed chimney liner a condensation drip tee shall be installed and supported in an approved manner.

Section G2427.5.2 Masonry chimneys. Amend to read: Masonry chimneys shall be built and installed in accordance with NFPA211 and shall be lined as per G2425.12.

Section G2442.5 Screen. Amend to read: Required outdoor air inlets shall be covered with a screen

having  $\frac{1}{4}$  inch (6.4 mm) openings. Required outdoor air inlets serving a nonresidential portion of a building shall be covered with screen having openings larger than  $\frac{1}{4}$  inch (6.4 mm) and not larger than  $\frac{1}{2}$  inch.

~~Section C2445 UNVENTED ROOM HEATERS. Delete:~~

Chapter 25 PLUMBING ADMINISTRATION. Delete:

Chapter 26 GENERAL PLUMBING REQUIREMENTS. Delete:

Chapter 27 PLUMBING FIXTURES. Delete:

Chapter 28 WATER HEATERS. Delete

Chapter 29 WATER SUPPLY AND DISTRIBUTION. Delete:

Chapter 30 SANITARY DRAINAGE. Delete:

Chapter 31 VENTS. Delete:

Chapter 32 TRAPS. Delete:

Chapter 34 GENERAL REQUIREMENTS. Delete:

Chapter 35 ELECTRICAL DEFINITIONS. Delete:

Chapter 36 SERVICES. Delete:

Chapter 37 BRANCH CIRCUIT AND FEEDER REQUIREMENTS.  
Delete:

Chapter 38 WIRING METHODS. Delete:

Chapter 39 POWER AND LIGHTING DISTRIBUTION. Delete:

Chapter 40 DEVICES AND LUMINAIRES. Delete:

Chapter 41 APPLIANCE INSTALLATION. Delete:

Chapter 42 SWIMMING POOLS. Delete:

Chapter 43 CLASS 2 REMOTE-CONTROL, SIGNALING AND  
POWER-LIMITED CIRCUITS. Delete:

Appendix E Section AE101.1 General. Amend to read: These provisions shall be applicable only to a manufactured home used as a single dwelling unit.

Appendix E Section AE101.2 Flood hazard areas. Delete:

4. ~~2015~~ 2018 International Mechanical Code (IMC)

Section 101.1 Title. Amend: NAME OF JURISDICTION to City of Bismarck.

Section 103 Department of Mechanical Inspection. Delete:

Section 103.4 Liability. Add: This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or city be held as assuming any such liability by reason of the inspection authorized by this code or any permits or certificates issued under this code.

Section 106.4.8 Posting of Permit. Delete:

Section 106.5.2 Fee Schedule. Amend to read: The fees for mechanical work shall be as indicated in the schedule as established by the local jurisdiction.

Section 109 Means of appeal. Delete:

~~Section 201.3 Terms defined in other codes. Amend to read: Section 201.3 Where terms are not defined in this code and are defined in the International Building Code, International Fire Code, International Fuel Gas Code, National Electrical Code and North Dakota State Wiring Standards or the North Dakota State Plumbing Code, such terms shall have meanings ascribed to them as in those codes.~~

Section 201.3 Terms defined in other codes. Amend to read: Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International

Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Wherever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

~~Section 304.10 Clearance from grade. Amend to read: Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2" above adjoining grade or shall be suspended not less than 6" above adjoining grade. Such support shall be in accordance with the manufacturers installation instructions.~~

Section 305.4 Interval of support. Amend to read: Piping shall be supported at distances not exceeding the spacing specified in Table 305.4, or in accordance with MSS SP-69. In addition to the requirements of Table 305.4, piping and tubing shall be supported within 2 feet of every bend or angle.

Section 307.2.2 Drain pipe materials and sizes. Amend to read: Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of the North Dakota State Plumbing Code relative to the material type. Condensate waste and drain line size shall be not less than 3/4- inch (19 mm) internal diameter and shall not decrease in size from the

drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2.

Section 401.2 Ventilation. Amend to read: Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical ventilation in accordance with Section 403.

Section 403.1 Ventilation system. Amend to read: Mechanical ventilation shall be provided by a method of supply air and return or exhaust air. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.

Exception: The latest version of ASHRAE 62.1 (Ventilation for acceptable indoor air quality) shall be considered to be an acceptable alternative to this section.

~~Section 505.2 Makeup air required. Amend to read: Exhaust hood systems capable of exhausting in excess of 400 cfm shall be provided with makeup air at a rate in excess of 400 cfm. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.~~

~~Section 508.1.1 Makeup air temperature. Add: Exception: Makeup air shall not be required to be cooled when supplied directly into the kitchen space.~~

504.8.2 Duct installation. Amend to read: Exhaust ducts shall be supported at 4-foot (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws. Where dryer exhaust ducts are enclosed in wall or ceiling cavities,

such cavities shall allow the installation of the duct without deformation.

Section 505.4 Makeup air required. Amend to read: Exhaust hood systems capable off exhausting in excess of 400 cfm (0.19m<sup>3</sup>/s) shall be provided with makeup air at a rate in excess of 400 cfm. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Section 508.2 Compensating hoods. Amend to read: Manufacturers of compensating hoods shall provide a label indicating minimum exhaust flow and/or maximum makeup airflow that provides capture and containment of the exhaust effluent. Short circuit compensating hoods are prohibited.

Add: Section 508.2.1 Compensating Hood Make-up Air. Compensating hoods shall extract at least 40% of the required exhaust air flow from the kitchen area.

~~Section 509.2 Exhaust fan operation. Add: A hood exhaust fan(s) shall continue to operate after the extinguishing system has been activated unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system. When the fire extinguishing system discharges makeup air shall be shut off.~~

~~Add: Section 603.12.1 Required Condensation Provisions. All exhaust ducts, such as bathroom fans and dryer vents, if in a conditioned space, must be insulated at the last 5 feet before exiting building to no less than R-4.2. All exhaust ducts, such as bathroom fans and dryer vents, if in an unconditioned space must be insulated to no less than R-6.~~

~~Add: Section 701.3 Attic space. Attic space shall not be used for combustion air.~~

Section 908.5 Water Supply. Amend to read: Cooling towers, evaporative coolers and fluid coolers shall be provided with an approved water supply, sized

for peak demand. The quality of water supply shall be provided in accordance with the equipment manufacturer's recommendations. The piping system and protection of the potable water system shall be installed as required by the North Dakota State Plumbing Code.

Section 1008.2 Discharge. Amend to read: Blowoff valves shall discharge to a safe place of disposal. Where discharge to the drainage system, the installation shall conform to the North Dakota State Plumbing Code.

Section 1104.2 Machinery room. Add: Exception 3. If an existing refrigerating system is replaced or if an existing refrigeration plant is increased by not more than 50% of its original capacity, but not more than 100 tons per system using a non-flammable class A1 or B1 refrigerant and the refrigeration machinery room was not provided in the original installation prior to 1994, a refrigeration machinery room shall not be required. If the existing refrigeration is not located in general machinery room separated from occupied spaces, a refrigeration machinery room shall be provided. The space containing the refrigeration machinery shall meet the requirement of Section 1104.3.4, protection room refrigerant decomposition, and Section 1105.3 requiring refrigerant detection. If the requirements of 1104.3.4 and 1105.3 cannot be met, a refrigeration machinery room shall be provided.

Section 1208.1 General. Amend to read: New hydronic piping shall be isolated and tested hydrostatically at not less than 100 psi. The duration of the test shall not be less than 15 minutes.

Section 1208.1 General. Amend to read: New hydronic piping shall be isolated and tested hydrostatically at not less than 100 psi (689 kPa). The duration of the test shall be not less than 15 minutes.

5. ~~2015~~ 2018 International Fuel Gas Code (IFGC)

Section 101.1 Title. Amend: NAME OF JURISDICTION to City of Bismarck.

Section 103 Department of Inspection. Delete:

Section 103.4 Liability. Add: This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or city be held as assuming any such liability by reason of the inspection authorized by this code or any permits or certificates issued under this code.

~~Add: Section 108.8 Equipment submerged under water. Equipment submerged under water constitutes a fire and health hazard and is considered unsafe equipment. All residential and light commercial furnaces, boilers, and water heaters shall be replaced when any of the following components are submerged under water: gas control valve, burner assembly, electrical control panel, heat exchanger. The following components may be replaced without replacing the furnace or water heater when they are the only things submerged: furnace blower or insulation.~~

Section 109 Means of appeal. Delete.

Section 201.3 Terms defined in other codes. Amend to read: Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Wherever reference is made to flood plain

requirements, it shall mean the local flood plain management ordinance.

~~Section 303.3 Prohibited locations. Delete: Exceptions 3 and 4.~~

~~Section 304 Combustion, ventilation, and dilution air. Delete all references to attic space.~~

Section 304.6.1 Two permanent openings method. Amend to read: Two permanent openings, one commencing within 12 inches (305 mm) of the top and one commencing within 12 inches (305 mm) of the bottom of the enclosure, shall be provided. The openings shall communicate directly, or by ducts, with the outdoors or spaces that freely communicate with the outdoors.

Where directly communicating with the outdoors, or where communicating with the outdoors through vertical ducts, each opening shall have a minimum free area of 1 square inch per 4,000 Btu/h (550 mm<sup>2</sup>/kW) of total input rating of all appliances in the enclosure.

Where communicating with the outdoors through horizontal ducts, each opening shall have a minimum free area of not less than 1 square inch per 2,000 Btu/h (1,100 mm<sup>2</sup>/kW) of total input rating of all appliances in the enclosure [see Figure 304.6.1(3)].

Figures 304.6.1(1) and 304.6.1(2). Delete:

Section 304.6.2 One permanent opening method. Amend to Read: One permanent opening, commencing within 12 inches (305 mm) of the top of the enclosure, shall be provided. The appliance shall have clearances of at least 1 inch (25 mm) from the sides and back and 6 inches (152 mm) from the front of the appliance. The opening shall directly communicate with the outdoors or through a vertical or horizontal duct to the outdoors and shall have a minimum free area of 1 square inch per 3,000 Btu/h (734mm<sup>2</sup>/kW) of the total input rating of all appliances located in the enclosure and not less

than the sum of the areas of all vent connectors in the space.

Section 304.11(5) Combustion air ducts. Items 5. Amend to read:

~~Section 304.11(5) Combustion air ducts. Add:~~ Ducts shall not terminate in an attic space.

~~Exception. High efficient sealed combustion appliances may obtain combustion air from a well-ventilated attic space provided the installation complies with the manufacturers installation instructions.~~

~~Section 305.7 Clearance from grade. Amend to read: Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2 inches (76 mm) above adjoining grade or shall be suspended not less than 6 inches (152 mm) above adjoining grade. Such supports shall be installed in accordance with the manufacturer's instructions.~~

~~Section 310.1 Pipe and tubing other than CSST. Amend to read: Each above ground portion of a gas piping that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping shall be considered to be bonded where it is connected to appliances that are connected to the equipment grounding conductor of the circuit supplying that appliance. Corrugated stainless steel tubing (CSST) piping systems listed with an arc resistant jacket or coating system in accordance with ANSI LC-1 shall comply with this section. Where any CSST segments of a piping system are not listed with an arc resistant jacket or coating system in accordance with ANSI LC-1, Section 310.1.1 shall apply.~~

~~Section 310.1.1 CSST~~

~~Section 310.1.1 CSST. Amend to read: CSST without arc resistant jacket or coating system. CSST gas piping systems and piping systems containing one or more segments of CSST not listed with an arc resistant jacket or coating system in accordance~~

~~with ANSI LC-1 shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system and shall comply with Sections 310.1.1.1 through 310.1.1.5.~~

Section 403.3 Other materials. Amend to read: Material not covered by the standards specifications listed herein shall be investigated and tested to determine that it is safe and suitable for the proposed service, and, in addition, shall be recommended for that service by the manufacturer and shall be approved by the code official.

Listed LPG hose may be used with natural gas when used for temporary heating at a maximum length of 50 feet.

Add: Section 403.10.1.1 Pipe joints. Gas supply systems with pressures 5 psig or greater and gas pipe joints 2 ½ inches or larger, regardless of pressure, shall be welded.

Section 403.10.4 Metallic fittings. Item 1. Amend to read: Threaded fittings in sizes 2 ½ inches or larger shall not be used except where approved.

Section 406.4 Test pressure measurement. Amend to read: Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Dial gauges used to measure test pressures shall be performed with gauges of 2 psi increments or less and have a range not exceeding 100 psi unless otherwise approved.

Section 406.4.1 Test pressure. Amend to read: The test pressure to be used shall be no less than 1 1/2 times the proposed maximum working pressure, but not less than 20 psig irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping

greater than 50 percent of the specified minimum yield strength of the pipe.

Section 408.2 Drips. Amend to read: Where wet gas exists, a drip shall be provided at any point in the line of pipe where condensate could collect.

~~Section 411.1 Connecting appliances. Item 3. Delete:~~

Section 411.2 Manufactured home connections. Amend to read: Manufactured homes shall be connected to the distribution piping system by listed and labeled connectors in compliance with ANSI Z21.75/CSA 6.27 and installed in accordance with the manufacturer's installation instructions.

Section 415.1 Interval of support. Amend to read: Piping shall be supported at intervals not exceeding the spacing specified in Table 415.1. Spacing of supports for CSST shall be in accordance with the CSST manufacturer's instructions. In addition to the requirements of Table 415.1, piping and tubing shall be supported within 2 feet of every bend or angle.

~~Section 501.8 Appliances not required to be vented. Item 8. Delete:~~

Section 501.12 Residential and low-heat appliances flue lining systems. Amend to read: Flue lining systems for use with residential-type and low-heat appliances shall be limited to the following:

1. Clay flue lining complying with the requirements of ASTM C 315 or equivalent when each appliance connected into the masonry chimney has a minimum input rating greater than 400,000 Btu/h. Clay flue lining shall be installed in accordance with the International Building Code.
2. Listed chimney lining systems complying with UL1777.
3. Other approved materials that will resist, without cracking, softening or corrosion, flue

gases and condensate at temperatures up to 1,800°F (982°C).

4. Aluminum (1100 or 3003 alloy or equivalent) not less than 0.032 inches thick to 8 inches diameter.

5. Stainless steel (304 or 430 alloy or equivalent) not less than 26 gauge (0.018 inches thick) to 8 inches diameter or not less than 24 gauge (0.024 inches thick) 8 inches diameter and larger.

When a metal liner is used other than a listed chimney liner a condensation drip tee shall be installed and supported in an approved manner.

Section 503.5.3 Masonry chimneys. Amend to read: Masonry chimneys shall be built and installed in accordance with NFPA 211 and shall be lined as per Section 501.12.

Section 503.5.6.1 Chimney lining. Amend to read: Chimneys shall be lined in accordance with NFPA 211 and Section 501.12.

Exception: Where an existing chimney complies with Sections 503.5.6 through 503.5.6.3 and its sizing is in accordance with Section 503.5.5, its continued use shall be allowed when, in more than one appliance venting system the secondary appliance, such as a water heater, is replaced and the primary heating appliance remains.

Section 614.8.2 Duct installation. Amend to read: Exhaust ducts shall be supported at 4-foot intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws.

~~Delete: Section 621 Unvented room heaters~~

6. ~~2015~~ 2018 International Energy Conservation Code.

IECC-COMMERCIAL PROVISIONS

Section C101.1 Title. Amend: NAME OF JURISDICTION to City of Bismarck.

Section C103.3.1 Approval of construction documents. Amend to read: When the Building Official issues a permit, the construction documents shall be approved. One set of construction drawings so reviewed shall be retained by the Building Official.

Section C105.2.3 Plumbing system. Delete:

Section C105.2.4 Mechanical system. Delete:

Section C105.2.5 Electrical system. Delete:

Section C105.2.6 Final inspection. Delete:

Section C109 Board of Appeals. Delete:

Section C201.3 Terms defined in other codes. Amend to Read: Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Wherever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

Section C408.2.4.1 Acceptance of report. Delete:

Section C408.2.5 Documentation requirements. Delete:

Section C408.3.1 Functional testing. Delete:

IECC-RESIDENTIAL PROVISIONS

Section R101.1 Title. Amend: NAME OF JURISDICTION to City of Bismarck.

Section R109 Board of Appeals. Delete:

Section R103.3.1 Approval of construction documents. Amend to read: When the Building Official issues a permit, the construction documents shall be approved. One set of construction drawings so reviewed shall be retained by the Building Official.

Section R105.2.3 Plumbing rough-in inspection. Delete:

Section R105.2.4 Mechanical rough-in inspection. Delete:

Section R105.2.5. Final Inspection:

Section R201.3 Terms defined in other codes. Amend to Read: Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council. Whenever electrical codes are referenced by the International Code Council (ICC) in the International Building Code, International Residential Code, International Mechanical Code, International Fuel Gas Code, International Energy Conservation Code, International Existing Building Code, it shall mean the most recent versions of the National Electrical Code and the North Dakota State Wiring Standards adopted by the North Dakota State Electrical Board and the most recent versions of the Uniform Plumbing Code and the Laws, Rules and Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Wherever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

Table (R402.1.2) Insulation and Fenestration Requirements by Component. Climate zone 6, Wood

Frame Wall R-Value. Amend to read:  $21\theta$  or  $13+5h$ ,  
i.

Table (R402.1.2) Insulation and Fenestration Requirements by Component. Climate zone 6, Basement Wall R-Value. Amend to read: 10/13.

Table (R402.1.2) Insulation and Fenestration Requirements by Component. Climate zone 6, Crawlspace R-Value. Amend to read: 10/13.

Table (R402.1.4) Equivalent U-Factors. Climate zone 6, Frame Wall Factor. Amend to Read: 0.057.

Table (R402.1.4) Equivalent U-Factors. Climate zone 6, Basement Wall U-Factor. Amend to Read: 0.059.

Table (R402.1.4) Equivalent U-Factors. Climate zone 6, Crawl Space U-Factor. Amend to Read: 0.059.

Section R402.4 Air leakage (Mandatory) Add: Exception. Dwelling units of R-2 occupancies and multiple single family dwellings shall be permitted to comply with IECC Section C402.5.

~~Section R402.4.1.2 Testing. Delete:~~

Section R402.4.1.2 Testing. Amend to read: The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding five air changes per hour in Climate Zones 1 through 8.

Add: Section R402.4.1.3 Visual Inspection Option. Building envelope tightness and insulation shall be considered acceptable when installed in accordance with Table R402.4.1.1 - "Air Barrier and Insulation" and has been field verified.

~~Section R403.3.2 Sealing (Mandatory). Exception 2. Amend to read: For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams, and locking-type joints and seams.~~

Section R403.3.5 Building cavities (Mandatory)  
 Amend to read: Building framing cavities shall not be used as supply ducts.

Section R403.6 Mechanical ventilation (Mandatory).  
 Amend to read: Ventilation (Mandatory)

Table R405.5.2(1) Specifications for the Standard Reference and Design: Amend to read:

Standard Reference Design: Air leakage rate of 5 air changes per hour in Climate Zones 1 through 8 at a pressure of 0.2 inches w.g (50 Pa). (Balance is unchanged.)

Proposed design: For residences that are not tested, the same air leakage rate leakage rate as the standard reference design. For tested residences, the measured air exchange rate. The mechanical ventilation rated shall be in addition to the air leakage rate and shall be as proposed.

<u>Building Component</u>	<u>Standard Reference Design</u>	<u>Proposed Design</u>
<u>Air exchange rate</u>	<u>Air leakage rate of 5 air changes per hour in Climate Zones 1 through 8 at a pressure of 0.2 inches w.g (50 Pa). (Balance is unchanged.)</u>	<u>For residences that are not tested, the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate. The mechanical ventilation rated shall be in addition to the air leakage rate</u>

		<u>and shall be as proposed.</u>
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7. 2018 Existing Building Code

Section 101.1 title. Amend: NAME OF JURISDICTION to  
The City of Bismarck)

Section 103 DEPARTMENT OF BUILDING SAFETY. Delete:

Section 104.8 Liability. Add: This code shall not  
be construed to relieve from or lessen the  
responsibility of any person owning, operating, or  
controlling any building or structure for any  
damages to persons or property caused by defects,  
nor shall the code enforcement agency or city be  
held as assuming any such liability by reason of  
the inspection authorized by this code or any  
permits or certificates issued under this code.

Section 104.10.1 Flood Hazard areas. Delete:

Section 105 .2 Work exempt from permit. Building.  
Add items 7 and 8:

7. Reroofing

8. Window Replacement

Section 112 Board of Appeals: Delete.

Section 201.3 Terms defined in other codes. Amend  
to read: Terms defined in other codes. Where terms  
are not defined in this code such terms shall have  
meanings ascribed to them as in other code  
publications of the International Code Council.  
Whenever electrical codes are referenced by the  
International Code Council (ICC) in the  
International Building Code, International  
Residential Code, International Mechanical Code,  
International Fuel Gas Code, International Energy  
Conservation Code, International Existing Building  
Code, it shall mean the most recent versions of the  
National Electrical Code and the North Dakota State  
Wiring Standards adopted by the North Dakota State  
Electrical Board and the most recent versions of  
the Uniform Plumbing Code and the Laws, Rules and

Plumbing Installation Standards of North Dakota adopted by the North Dakota State Plumbing Board. Wherever reference is made to flood plain requirements, it shall mean the local flood plain management ordinance.

Section 1401.2 Conformance. Add: Buildings to be moved within this jurisdiction shall comply with provisions of this chapter. Buildings to be moved into this jurisdiction shall comply with the provisions of the North Dakota State Building Code for new buildings and shall be certified as to that compliance by an agency approved by the Building official.

*( Ord. 4281, 8-23-89; Ord. 4314, 2-06-90; Ord. 4452, 07-21-92; Ord. 4688, 05-23-95; Ord. 4776, 07-23-96; Ord. 4911, 05-26-98; Ord. 4958, 12-21-98; Ord. 5316, 05-25-04; Ord. 5578, 02-26-08; Ord. 5802, 02-22-11; Ord. 6035, 04-08-14; Ord. 6035, 04-08-14)*

Section 3. Amendment. Section 4-07-06 of the City of Bismarck Code of Ordinances relating to Amendments to the Bismarck Fire Prevention Code is hereby amended and re-enacted as follows:

**4-07-06. Amendments.** The International Fire Code adopted by the provisions of this article is hereby amended as follows:

1. Chapter 1. Administration.

Section 101, General, is amended to read as follows:

Section 101.1 Title. These regulations shall be known as the City of Bismarck Fire Prevention Code, hereafter referred to as "this code."

Section 103. Department of Fire Prevention. Deleted.

Section 105.1.1 Permits Required is amended to read as follows:

A property owner or owner's authorized agent who intends to conduct an operation or business, or install or modify systems and equipment that are regulated by this code, or to cause any such work to be performed, shall first make application to the fire code official permit and may be required to

obtain a permit.

Section 105.6.1 through 105.6.48 are amended to read as follows:

The specified permits identified in each operational section as "being required" are amended to "required upon the determination of the code official."

Section 105.7 required construction permits is amended to read as follows:

The fire code official is authorized to issue construction permits for work as set forth in Sections 105.7.1 through 105.7.18. The fire code official may utilize existing permitting and approval processes already established in Community Development, Engineering or other departments.

Section ~~108~~ 109, Board of Appeals: Deleted.

Section ~~109~~ 110, Violations, is amended in part to read as follows:

Section ~~109.4~~ 110.4 Violation penalties. A person who violates a provision of this code or who fails to comply with any of the requirements thereof or who erects, installs, alters, repairs or does work in violation of the approved construction documents or directives of the fire code official, or of a permit or certificate used under the provisions of this code, shall be guilty of an infraction. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Section ~~111~~ 112, Stop Work Order, is amended in part to read as follows:

Section ~~111.4~~ 112.4 Failure to comply. Any person who continues any work after having been served with a stop work order, except work as that person is directed to perform to remove a violation of unsafe condition, shall be guilty of an infraction.

2. Chapter 2. Definitions

Section 202 General Definitions is amended as follows:

Commercial Motor Vehicles is amended to read as follows: A motor vehicle used to transport passengers or proper, or motorized equipment where the motor vehicle(s) or equipment:

1. Has a gross vehicle weight rating of 10,000 pounds or more; or
2. Have combined weights greater than 26,000 lbs.; or
3. Is designed to transport 16 or more passengers, including the driver

Fireworks, 1.4G is deleted in its entirety and replaced with the following:

Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion or deflagration that complies with the construction, chemical composition and labeling regulations of the DOTn for Fireworks, UN0336, and the U.S. Consumer Product Safety Commission as set forth in CPSC 16 CFR Parts 1500 and 1507, or otherwise listed and defined in NDCC 23-15-01.

Occupancy classifications Educational Group E, day care facilities.

Educational group E.

Occupancy classifications Educational Group E, day care facilities is amended to read as follows: This group includes buildings and structures or portions thereof occupied by more than twelve children older than 2 ½ years of age who receive educational, supervision or personal care services for less than 24 hours per day.

Five or fewer children. Amend to read:

Twelve or fewer children. A facility having twelve or fewer children receiving such day care shall be classified as part of the primary occupancy.

Educational Group E.

Occupancy classifications Educational Group E, Five or fewer children in a dwelling unit is amended to read as follows: A facility such as the above within a dwelling unit and having twelve or fewer children receiving such care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.

Institutional Group I-4, day care facilities. Amend to read:

Institutional Group I-4 occupancy shall include buildings and structures occupied by more than twelve persons of any age who receive custodial care for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care. Child day care.

Classification as Group E. Amend to read:

A child day care facility that provides care for more than twelve but not more than 100 children 2 ½ years of age, where the rooms in which children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

Five or fewer persons receiving care. Amend to read:

A facility having twelve or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

Five or fewer persons receiving care in a dwelling. Amend to read:

A facility such as above within a dwelling unit having twelve or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.

Care Facilities within a dwelling. Amend to read:

Care facilities for twelve or fewer persons receiving personal care that are within a single family dwelling are permitted to comply with the International Residential Code.

3. Chapter 3. General Requirements.

Section 308, Open Flames, is amended in part to read as follows:

Section 308.1.4, Open-flame cooking devices is amended to read as follows:

Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or decks or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having LP-gas container with a water capacity not greater than 47.8 pounds [nominal 20 pounds (9 kg) LP-gas capacity]. Devices using deep oil containers, (i.e. turkey fryers), are not included in this exception.

Section 308 Open Flames. Section 308.3 Group A Occupancy is amended to read by adding the following subsection 1.4 to exception 1:

1.4 Open-flame devices for food warming.

Section 308.1.6.3 Sky Lanterns. delete in its entirety to be consistent with fireworks definition and restrictions

Vacant premises.

Section 311.6 Unoccupied tenant spaces in mall buildings.

Item 1 is amended to read as follows:

1. Storage is kept to a minimum and is neat and orderly.

4. Chapter 5 ~~Fire Apparatus Access Road~~ Fire Service Features.

Section 503.2.3 Surface is amended to read as follows:

Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus, shall be surfaced so as to provide all weather driving capabilities, and shall meet the specifications of the City Engineering Department.

~~Fire Service Features~~

Section 510, Emergency Responder Radio Coverage, is amended to read as follows:

Section 510.4 Technical requirements.

Systems, components and equipment required to provide emergency responder radio coverage shall comply with technical requirements established at issuance of the construction permit.

Section 510.5 Installation requirements. Delete

Section 510.6 Maintenance.

The emergency responder radio coverage system shall be maintained at all times in accordance with the requirements established at issuance of the construction permit, and with Sections 510.6.2 and 510.6.3.

5. Chapter 9. Fire Protection and Life Safety Systems.

Section 903, Automatic Sprinkler Systems, is amended to read as follows:

Section 903.2.8 Group R.

An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all

buildings with Group R fire area, except in a single family dwelling or a residential building that contains no more than two dwelling units.

Automatic sprinkler systems.

Section 903.2.11.3 is amended to read as follows:

Buildings 55 feet, or five stories or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more located 55 feet, or five stories or more above the lowest level of fire department vehicle access, measured to the finished floor.

Automatic sprinkler systems.

Section 903.3.1 Standards is amended to read as follows:

Sprinkler systems shall be designed with a 5 psi safety margin and installed in accordance with Sections 903.3.1.1, 903.3.1.2 or 903.3.1.3 and other chapters of this code, as applicable.

Section 903.3.1.2.1 Balconies and decks.

Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units and sleeping units where the building is of Type V construction, provided there is a roof, overhang six (6) inches greater, or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

Section 905, Standpipe Systems, is amended to read as follows:

Section 905.1 General. Add:

Class II and III standpipe systems are prohibited. Where required within this section, all standpipes systems shall meet the requirements of a Class I standpipe.

Section 907, Fire alarm and detection systems

Section 907.2.3 Group E Add:

Where approved by the fire code official, a building's emergency communication system interfaced with the fire alarm system in accordance with NFPA 72 is acceptable.

Section 907.2.~~44~~ 10.1 Group R-1. Exceptions. Add:

In dwelling units where the ceiling height of a room open to the hallway serving the sleeping rooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and in the adjacent room.

Section 907.2.~~44~~ 10.2 Group R-2, R-3, R-4 and I-1. Exceptions. Add:

In dwelling units where the ceiling height of a room open to the hallway serving the sleeping rooms exceeds that of the hallway by 24 inches or more, smoke detectors shall be installed in the hallway and in the adjacent room.

Section 907.8.3 - delete in its entirety.

6. Chapter 10. Means of Egress.

1010.1.9.4 Locks and Latches is amended to add subsection 7 as follows:

7. Egress doors from occupied roofs, or doors that are used to gain access to the interior of the building shall be locked from the outside if all of the following are provided.

7.1 Compliance with 1010.1.9.4 item #2

7.2 Compliance with 1009.8

7.3 The door locks shall unlock on activation of the automatic sprinkler system and automatic fire detection system and the door locking system shall be installed to have the capability of being unlocked by a switch located at the fire command center.

7.4 A readily visible durable sign is posted on both sides of the door or adjacent to the door stating: THIS

DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED.  
The sign shall be in letters 1 inch (25 mm) high on a  
contrasting background.

Section 1011.1 General. Exceptions. Add:

Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public.

Section 1011.2 Width and capacity. Add:

Exception. Stairways used to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public.

Section 1011.5.2 Riser height and tread depth. Amend item 3 and add item 6 to read:

3. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8 inches; the minimum tread depth shall be 9 inches; the minimum winder tread depth at the walk-line shall be 10 inches; and the minimum winder tread depth shall be 6 inches. A nosing projection not less than  $\frac{3}{4}$  inch but not more than  $1\frac{1}{4}$  inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches.

6. Amend to read: In stairways serving an occupant load of less than ten (10) and stairways to unoccupied roofs, the maximum riser height shall be 8 inches and the minimum tread depth shall be 9 inches. Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public are permitted to have a maximum 8-inch riser height and minimum 9-inch tread depth.

Section 1011.11 Handrails. Exceptions, Add:

5. Stairways used only to attend equipment or private stairways serving an occupant load of 10 or fewer persons and which are not accessible to the public shall have a handrail on at least one side.

6. Vehicle service pit stairways are exempt from the rules for stairway railings and guards if they would prevent a vehicle from moving into place over the pit.

Section 1015.2 Where required. Amend to read:

Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps, and landings that are located more than 30 inches above the floor or grade below if within 36 inches horizontally to the edge of the open side of the vertical measurement to the floor or grade below is greater than 48 inches. Guards shall be adequate in strength and attachment in accordance with section 1607.8.

7. Chapter 11. Construction Requirements for Existing Buildings

Section 1103, Fire Safety Requirements for Existing Buildings, is amended to read as follows:

Section 1103.6.1 Existing multiple-story buildings. Change 50 feet (15 240 mm) to read five (5) stories.

8. Chapter 53. Compressed Gases

Section 5307.3 change 100 pounds to 500.

Section 5307.4 change 100 pounds to 500.

9. Chapter 56. Explosives and Fireworks.

Section 5601, General, is amended to read as follows:

Section 5601.1.3, Fireworks. The possession, manufacture, storage, sale, handling, and use of fireworks are prohibited. Amended as follows:

Delete Exceptions 2 and 4.

Section 5601.2.4., Financial Responsibility. The permittee shall furnish a bond or insurance in an amount deemed adequate by the board of city commissioners, but not less than two hundred and fifty thousand dollars (\$250,000.00) per individual or one million dollars (\$1,000,000.00) per occurrence, conditioned for the payment of all potential damages which may be caused either to a person or persons or to property by reason of the permitted display, and arising from any act of the permittee, its agents, employees or subcontractors.

10. Chapter 57. Flammable and Combustible Liquids.

Section 5704, Storage, is amended to read as

follows:

Section 5704.2.9.6.1, Locations where above-ground tanks are prohibited. Amend to read:

Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited in all zoning districts within the corporate boundaries of the City of Bismarck, with the exception of Industrial, Agricultural, and Public (MA, MB, A, P) districts.

Section 5704.2.12.2 is deleted in its entirety and replaced with the following:

Documentation of tightness testing shall be provided to the fire department. Piping shall be tested in accordance with Section 5703.6.3.

Section 5706, Special Operations, is amended to read as follows:

Section 5706.2.4.4, Locations where above-ground tanks are prohibited. Amend to read:

Storage of Class I and II liquids in permanent above-ground tanks outside of buildings is prohibited in all zoning districts within the corporate boundaries of the City of Bismarck, with the exception of Industrial, Agricultural, and Public (MA, MB, A, P)

districts.

11. Chapter 58. Flammable Gases and Flammable Cryogenic Fluids.

Section 5806.2 Limitations is amended to read as follows:

Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited except for Industrial, Agricultural, and Public Districts (MA, MB, A, P).

12. Chapter 61. Liquefied Petroleum Gases.

Section 6103.2.1.6 Use with self-contained torch assemblies is amended to read as follows:

Portable LP-gas are allowed to be used to supply approved self-contained torch assemblies or similar appliances. Such containers shall not exceed a water capacity of ~~2.7 pounds (1.2KG)~~ 12 pounds.

Section 6104, Location of LP-Gas Containers, is amended to read as follows:

Section 6104.2, Maximum capacity within established limits, the first paragraph is amended to read:

Within residentially-zoned districts of the corporate boundaries of the City of Bismarck, storage of liquefied petroleum gas used to supply a structure or for any other use shall not exceed a maximum water capacity of 29 gallons (109 L).

In all other districts, except for Industrial, Agricultural, and Public districts (MA, MB, A, P), the maximum capacity of any one installation shall not exceed a water capacity of 2,000 gallons (7570 L).

13. Appendix B. Fire-Flow Requirements for Buildings adopt in its entirety.

14. Appendix C. Fire Hydrant Locations and Distribution adopt in its entirety.

15. Appendix D. Fire Apparatus Access Roads adopt in its entirety.

*(Ord. 4145, 4-28-87; Ord. 4302, 11-07-89; Ord. 4379, 6-18-91; Ord. 4688, 05-23-95; Ord. 4744, 01-09-96; Ord. 4911, 05-26-98; Ord. 5316, 05-25-04; Ord. 5497, 04-25-06; Ord. 5654, 02-26-08; Ord. 5707, 02-24-09; Ord. 5803, 02-22-11; Ord. 6035, 04-08-14; Ord. 6245, 1-24-17)*

Section 4. Severability. If any section, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

Section 5. Effective Date. This ordinance shall take effect following final passage, adoption and publication.