

ORDINANCE NO. _____.

AN ORDINANCE AMENDING THE GRAND FORKS CITY CODE RELATING TO ADOPTION OF THE INTERNATIONAL MECHANICAL AND INTERNATIONAL FUEL GAS CODE; AMENDING SECTIONS 19-0515, 19-0517 AND 19-0518.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND FORKS, NORTH DAKOTA, THAT:

SECTION I. AMENDING CLAUSE

Section 19-0515 of the Grand Forks City Code is hereby amended and replaced in its entirety by the following:

ARTICLE 5. MECHANICAL AND FUEL GAS CODE

19-0515. International Mechanical Code adopted by reference; amended.

The erection, installation, alteration, repair, relocation or replacement of any heating, ventilating, cooling, refrigeration system, incinerator or other miscellaneous heat-producing appliance in the City of Grand Forks, North Dakota, shall comply with the provisions and rules of Chapters 1 through 15 and Appendices A and B of the International Mechanical Code, 2015 edition, copies of which are on file in the office of the city auditor and city mechanical inspector, including all additions to said code made affecting local conditions in the City of Grand Forks, the same as though the code and additions thereto were herein set forth in full and said regulations are hereby adopted by reference for uses and application in the city, except as hereinafter set forth.

Wherever the International Plumbing Code and International Electric Code are referenced; substitute the reference with the North Dakota State Plumbing Code and Wiring Standards of North Dakota, respectively. Whenever the International Energy Conservation Code is referenced; substitute the reference with the State of North Dakota Energy Code. Delete all references to the Existing Building Code. All references to "Flood Hazard Areas" shall mean the requirements of all applicable state and federal codes, rules, and guidelines.

The following amendments to various sections of the International Mechanical Code, 2015 edition, hereinabove adopted, are hereby made and incorporated in such International Mechanical Code as follows:

- (1) 101.1. Change "[NAME OF JURISDICTION]" to "City of Grand Forks."
- (2) 101.2. Delete the Exception.
- (3) 103.4. Add the following paragraph to the end: "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 the jurisdiction 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.”

- (4) 106.4.8. Delete section in its entirety.
- (5) 106.5.2. Change “[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]” to “the City Council shall establish by resolution fees for Mechanical Permits.”
- (6) 106.5.3. Delete Items #2 & #3.
- (7) 108.4. Delete entire section.
- (8) 108.5. Remove from the last sentence “shall be liable for a fine of not less than (amount) dollars or more than (amount) dollars” and replace with “shall be cited in Municipal Court.”
- (9) 108.8. Add following 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 items submerged: furnace blower motor or insulation.”
- (10) Add the following section: “109.1.2. Means of Appeal. The Mechanical Board shall be the Board of Appeals.”
- (11) 109.2. Delete entire section and replace with the following: “The Mechanical Board shall consist of five members appointed by the chief appointing authority. Each member shall serve a three year term or until a successor has been appointed.”
- (12) 109.2.1. Delete entire section.
- (13) 109.2.2. Delete entire section.
- (14) 109.5. Change “five” to “four.”
- (15) 109.6.1. Delete the word “Certified” in the second line.
- (16) 201.3. Remove “International Plumbing code” and replace with “North Dakota State Plumbing Code, and Wiring Standards or the North Dakota”.
- (17) 304.10. Delete section and replace with the following: “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 above adjoining grade. Such support shall be in accordance with the manufacturer’s installation instructions.”

- (18) 305.4. Add the following to the end of the section: “In addition to the requirements of Table 305.4, piping and tubing shall be supported within 2 feet (610 mm) of every bend or angle.”
- (19) 307.2.2 Remove “Chapter 7 of the International Plumbing Code” and replace with “the North Dakota State Plumbing Code”.
- 307.2.5 Delete entire section.
- (20) 401.2. Delete everything after the first sentence of this section to the end of the section.
- (21) 403.1. Revise section 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 positive or negative pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.
- (22) Add the following: “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.”
- (23) 505.1. Replace last sentence in section to read: Such ducts shall have smooth inner walls, shall be airtight, shall be equipped with a backdraft damper at the point of termination, and shall be independent of all other exhaust systems.”
- (24) 505.2. Makeup Air Required. Revise section 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 automatically controlled to start and operate simultaneously with the exhaust system.
- (25) 508.1 .1. Add the following: “Exception: Makeup air shall not be required to be cooled when supplied directly into the kitchen space.”
- (26) 508.2. Add the following at the end of the section: “Short circuit compensating hoods are prohibited.”
- (27) 508.2 .1. Add the following 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.”
- (28) 509.2. Add section: Exhaust Fan Operation. 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.”
- (29) 603.12.1. Required Condensation Provisions: Add the following to the end of this section: 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.

- (30) Add the following section: “604.1.1. The following Duct Insulation Table is referenced out of ASHRAE 90.1-2010. This may be used in place of the duct insulation tables out of the 2009 IECC.”

Minimum Duct Insulation R-Value¹, Combined Heating and Cooling Supply Ducts and Return Ducts

Climate Zone	Duct Location						
	Exterior	Ventilated Attic	Unvented Attic Above Insulated Ceiling	Unvented Attic w/Roof Insulation ¹	Unconditioned Space ²	Indirectly Conditioned Space ³	Buried
Supply Ducts							
7	R-8	R-6	R-6	R-1.9	R-3.5	none	R-3.5
Return Ducts							
1 to 8	R-3.5	R-3.5	R-3.5	none	none	none	none

1 Insulation R-values, measured in (h·ft²·°F)/Btu, are for the insulation as installed and do not include film resistance.

The required minimum thicknesses do not consider water vapor transmission and possible surface condensation. Where exterior walls are used as plenum walls, wall insulation shall be as required by the most restrictive condition of 6.4.4.2 or Section 5. Insulation resistance measured on a horizontal plane in accordance with ASTM C518 at a mean temperature of 75°F at the installed thickness.

2 Includes non-ventilated crawl spaces.

3 Includes return air plenums with or without exposed roofs above.

- (31) 606.2.1. Add the following after EXCEPTION #1: 2. The Building Official may approve a supply side (instead of return) duct detector based on its application.

- (32) Add the following section: “701.2 Attic Space. Attic space shall not be used for combustion air.

- (33) 1004.2. Add the following after the last sentence: “The use of Outdoor wood fuel fired boilers shall be prohibited within The City of Grand Forks City Limits and extraterritorial area.

Exception: The City of Grand Forks Mechanical Board of Appeals shall have the authority to waive this section upon review. Appeals may be made on location and use in commercial areas and the cities extraterritorial areas. Complaints will warrant the discontinued use and removal of equipment.”

- (34) 1104.2. 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 a 50% increase in horse power 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. The space containing the refrigeration machinery shall meet the requirements of section 1104.3.4 and 1105.3. If these requirements cannot be met, a refrigeration machinery room shall be provided.
- (35) 1106.5.1. Delete the words “break glass type.”
- (36) 1106.5.2. Delete the words “break glass type.”
- (37) 1204.2. Add the following exception at the end of the section: “Exception: ASHRAE 90.1, ASHRAE 90.2, or other recognized industry standards shall be considered to be an acceptable alternative to this section.”
- (38) Add the following section: 1207.3: Geothermal Systems. Transfer fluid used in geothermal systems shall be non-toxic fluids and shall abide by all EPA regulations.

SECTION II. AMENDING CLAUSE

Section 19-0517 of the Grand Forks City Code is hereby amended to read as follows:

19-0517. International Fuel Gas Code adopted by reference; amended.

The erection, installation, alteration, repair, relocation or replacement of any heating, ventilating, cooling, refrigeration system, incinerator or other miscellaneous heat-producing appliance in the City of Grand Forks, North Dakota, shall comply with the provisions and rules of Chapters 1 through 8 and Appendices A, B, C, D of the International Fuel Gas Code, 2015 edition, copies of which are on file in the office of the city auditor and city mechanical inspector, including all additions to said code made affecting local conditions in the City of Grand Forks, the same as though the code and additions thereto were herein set forth in full and said regulations are hereby adopted by reference for uses and application in the city, except as hereinafter set forth.

Wherever the International Plumbing Code and International Electrical Code are referenced, substitute the reference with the North Dakota State Plumbing Code and Wiring Standards of North Dakota, respectively. Whenever the International Energy Conservation Code is referenced; substitute the reference with the State of North Dakota Energy Code. Delete all references to the International Existing Building Code. All references to “Flood Hazard Areas” shall mean the requirements of all applicable state and federal codes, rules, and guidelines.

The following amendments to various sections of the International Fuel Gas Code, 2015 edition, hereinabove adopted, are hereby made and incorporated in such International Fuel Gas Code as follows:

- (1) 101.1. Change “[NAME OF JURISDICTION]” to “City of Grand Forks.”
- (2) 101.2. Delete the Exception.
- (3) 103.4. Add the following paragraph to the end: “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 the jurisdiction 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.”
- (4) 106.5.8. Delete this section in its entirety.
- (5) (A) 106.6.2 Change “[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]” to ‘the City Council shall establish by resolution fees for Mechanical Permits.’
- (6) (A) 106.6.3 Delete Items #2 and #3.
- (7) (A) 108.4. Delete this section in its entirety.
- (8) (A) 108.5. Remove “shall be liable for a fine of not less than (amount) dollars or more than (amount) dollars” and replaced with “shall be cited in Municipal Court.”
- (9) Add the following section: (A) 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 items submerged: furnace blower motor or insulation.”
- (10) Add the following section: (A) 109.1.1. Means of Appeal. “The Mechanical Board shall be the Board of Appeals.”
- (11) 109.2. Delete this section in its entirety and replace with the following: “The Mechanical Board shall consist of five members appointed by the chief appointing authority. Each member shall serve a three year term or until a successor has been appointed.”
- (12) 109.2.1. Delete this section in its entirety.
- (13) 109.2.2. Delete this section in its entirety.
- (14) 109.5. Change “five” to “four.”
- (15) 109.6.1. Delete the word “Certified” in the second line.

(16) 303.3. Delete Exceptions #3 & #4.

(17) 304.6.1. Amend second paragraph to read:

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

(18) 304.6.1(1) & (2). Delete these sections in their entirety.

(19) 304.6.2. Delete the following: “or spaces that freely communicate with the outdoors.”

(20) 304.11(5). Delete and replace with: “5. Ducts shall not terminate in an attic space.” High efficient sealed combustion appliances may obtain combustion air from a well ventilated attic space provided the installation complies with the manufacturers installation instructions.

(21) 305.7. Change from “3 inches” to” 2 inches.”

(22) 308.4.5. Delete this section in its entirety.

310.1. Revise section to read: Pipe and tubing. Each above ground portion of a gas piping system 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 (ccst) 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 shall apply.

310.1.1. Revise section 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 section 310.1.1.1 through 310.1.1.5.

(23) 403.3 Add the following to the end of this section: “Listed LPG hose may be used with natural gas when used for temporary heating at a maximum length of 50 feet.

(24) 403.5.2. Add the following to the end of the sentence at the end of the section: “and shall not be used above ground. Exception: Propress systems or like systems as approved through the Mechanical Board.”

- (25) 403.5.4. Add the following to the end of the sentence at the end of the section: “and shall not be used outdoors. Add the following EXCEPTION: Corrugated stainless steel tubing may be used outdoors provided it does not exceed three feet and is installed according to the manufacturers’ installation instructions.”
- (26) 403.10.1.1. Add the following section: **Welding**. “Gas supply systems with pressures 5 psig or greater and gas pipe joints 2 1/2 inches or larger, regardless of pressure, shall be welded.”
- (27) 403.10.4. (1). Delete and replace with. (1) Threaded fittings in sizes 2 ½ inches or larger shall not be used except where approved.” (3). Add the following to the end of the sentence: “and shall be limited to Propress systems or like systems as approved through the Mechanical Board.”
- (28) 406.4 Delete the last sentence and replace with “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.”
- (29) 406.4.1. Change “3” to “25.”
- (30) 408.2. Delete the entire last sentence of the section.
- (31) 411.1. Delete item 3.
- (32) 411.1.4 Add the following after the last sentence of the section: “Where approved flexible connectors are used restraining cables shall be installed.”
- (33) 411.2 Delete items 1 & 2
- (34) 415.1 Add the following at the end of this section: “In addition to the requirements of Table 415.1, piping and tubing shall be supported within 2 feet of every bend or angle.”
- (35) 501.8. Delete item 8.
- (36) 501.12. Change 1. To read “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.” And add after 3.
- “a. Aluminum (1100 or 3003 alloy or equivalent) not less than 0.032 inches thick to 8 inches diameter.
- b. 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.”

(37) 503.5.3. Masonry Chimneys. Delete entire section and replace with the following:
“Masonry chimneys shall be built and installed in accordance with NFPA 211 and shall be lined as per section Section 501.12.”

(38) 503.5.6.1 Delete entire section and replace with the following: “Chimneys shall be lined in accordance with NFPA 211 and section 501.12.

Exception: Where an existing chimney complies with section 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 system remains.”

(39) 621 Delete section in its entirety with the exception of 621.4.

(40) 621.4 Replace section with: Prohibited locations. Unvented room heaters shall not be installed within occupancies in Groups A,E,I,R,M,&U. The location of unvented room heaters shall also comply with section 303.3.

(41) 623.1 Add the following after the words “ANSI Z83.11” in the fifth line: “and shall be listed, labeled.”

SECTION III. AMENDING CLAUSE

Section 19-0518 of the Grand Forks City Code is hereby enacted to read as follows:

19-0518. Validity.

Should any section or provision of this article be held to be unconstitutional or invalid by any court, all other sections or provisions shall, nevertheless, be deemed effective and valid as though such unconstitutional or invalid section or provision had never been inserted in this article. Further, if there should be a conflict between any section of this article and the 2015 edition of the International Mechanical Code or the 2015 edition of the International Fuel Gas Code, this article shall govern.

SECTION IV. EFFECTIVE DATE

This ordinance shall be in full force and effect after its passage and approval as provided by law on January 1, 2017.

Michael R. Brown, Mayor

ATTEST:

Maureen Storstad, Director
Finance & Administrative Services

Introduction and first reading: 11/21/2016

Public Hearing: 12/05/2016

Second reading and final passage:

Approved:

Published: Not Required