

**ORDINANCE NO. 2281**

**AN ORDINANCE AMENDING CHAPTER 500 OF THE DARDENNE PRAIRIE MUNICIPAL CODE AND ADOPTING THE 2021 INTERNATIONAL BUILDING, RESIDENTIAL, FIRE, EXISTING BUILDING, PLUMBING, MECHANICAL, FUEL GAS, SWIMMING POOL AND SPA, PROPERTY MAINTENANCE, AND 2015 ENERGY CONSERVATION CODES AND THE 2020 NATIONAL ELECTRICAL CODE, ALONG WITH CERTAIN AMENDMENTS THERETO, AND PROVIDING FOR THE ISSUANCE OF PERMITS AND COLLECTION FEES.**

**WHEREAS**, pursuant to Section 67.280, RSMo., a municipality may adopt or repeal an ordinance which incorporated by reference the provisions of any code published by various technical trade associations or portions thereof regulating the construction of buildings and continued occupancy thereof, mechanical, plumbing, electrical construction and fire prevention; and

**WHEREAS**, the City Administrator for and the staff of the City have recommended to the Board the adoption, with certain amendments, of the 2021 International Building Code including appendices E, F, G, and O, the 2021 International Residential Code including appendices AA, AB, AC, AD, AF, AG, AH, AJ, AM, and AP, the 2021 International Fire Code including appendices B, C, and D, the 2021 International Fuel Gas Code including appendices A, B, C, D, and E, the 2021 International Plumbing Code including appendices B, C, D, and E, the 2021 International Mechanical Code including appendix A, the 2021 International Property Maintenance Code including appendix A, the 2015 International Energy Conservation Code, the 2021 International Existing Building Code including appendices A and B, the 2021 International Swimming Pool and Spa Code, and the 2020 National Electrical Code, including Annex H; and

**WHEREAS**, the Board of Aldermen of the City of Dardenne Prairie, Missouri, finds and determines that it is to the benefit of the health, safety and general welfare of its residents, that it adopt the above referenced Building Codes; and

**WHEREAS**, consistent with the requirements of Section 67.280.2, RSMo., at least one copy of the above referenced codes have been on file in the office of the City Clerk and kept available for public use, inspection and examination for a period of ninety days prior to the adoption of this ordinance.

**NOW THEREFORE, BE IT ORDAINED BY THE BOARD OF ALDERMEN OF THE CITY OF DARDENNE PRAIRIE, MISSOURI, AS FOLLOWS:**

**SECTION 1.** That Chapter 500 of the Municipal Code of the City of Dardenne Prairie, Missouri, be and is hereby deleted in its entirety, and there is hereby enacted, in lieu thereof, a new Chapter 500, which shall read as follows:

## TITLE V. BUILDING AND CONSTRUCTION

### CHAPTER 500: BUILDING REGULATIONS

#### ARTICLE I. SEISMIC DESIGN

##### SECTION 500.010: EARTHQUAKE AND SEISMIC DESIGN REQUIREMENTS

All construction in the City shall comply with the requirements of Sections 319.200 through 319.207, RSMo., and any amendments thereto, relating to earthquakes and seismic construction requirements.

#### ARTICLE II. BUILDING CODE

##### SECTION 500.020: BUILDING CODE – ADOPTION

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Building Code, 2021 edition, including appendices E, F, G, and O , as published by the International Code Council as amended, be and is hereby adopted as the Building Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Building Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Building Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Building Safety*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and such other person or persons as may be designated by the City Administrator.
- D. Wherever the term “*Building Official*” appears, it shall mean the City Engineer, the Code Enforcement Officer of the City and such other person or persons as may be designated by the City Administrator.

##### SECTION 500.030: ZONING CODE PREVAILS – BUILDING PERMIT REQUIRED - EXCEPTIONS

That all types of construction shall comply with building set-back lines, side lots, yard requirements, and height limitations as set out in this Code, and if any conflict exists between Title V and Title IV of this Code, Title IV of this Code shall prevail; also in conjunction with Section 105.2 of the International Building Code, 2021 edition, as published by the International Code

Council, building permits shall be required on all building activities with the exception of ordinary repairs and the exemptions listed in Section 105.2. The Building Official or his/her designee has complete authority to inspect all buildings being constructed to insure that the provisions of this Chapter and Code are complied with.

**SECTION 500.040: BUILDING CODE – AMENDMENTS**

- A. The International Building Code, 2021 edition, as published by the International Code Council is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 ADMINISTRATION)  
(SECTION 101 GENERAL)

**101.1 Title.** (replace with) These regulations, referenced standards, and appendices E, F, G, and O shall be known as the *Building Code* of the City of Dardenne Prairie, Missouri, and shall be cited as such and will be referred to herein as “this code.”

**101.4.6 Energy** (add to the existing section) All references to the 2021 International Energy Conservation Code are replace with reference to the 2015 International Energy Conservation Code and the amended sections as listed in the Municipal Code of Dardenne Prairie.

(SECTION 102 APPLICABILITY)

**102.1 General** (replace with) Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Where, in a specific case, different sections of this code or the Municipal Code of Dardenne Prairie specify different requirements, the most restrictive shall govern.

(SECTION 103 CODE COMPLIANCE AGENCY)

Delete in its entirety

(SECTION 105 PERMITS)

**105.1.1 Annual permit (Delete)**

**105.1.2 Annual permit records (Delete)**

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

Building: (replace with)

1. (Reserved).
2. Oil derricks.
3. Retaining walls that are not over 4 feet (1,219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
4. Water tanks supported directly on grade if the capacity is not greater than five thousand (5,000) gallons (18,925 L) and the ratio of height to diameter or width is not greater than 2:1.
5. Sidewalks and driveways not more than 30 inches above adjacent grade, and not over any basement or story below and are not part of an accessible route.
6. Painting, papering, tiling, carpeting, cabinets, countertops and similar finish work.
7. Temporary motion picture, television and theater stage sets and scenery.
8. Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than twenty-four (24) inches (610 mm) deep, are not greater than five thousand (5,000) gallons (18,925 L) and are installed entirely above ground.
9. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
10. Swings and other playground equipment accessory to detached one- and two- family dwellings.
11. Window awnings in Group R-3 and U occupancies, supported by an exterior wall, that do not project more than fifty-four (54) inches (1,372 mm) from the exterior wall and do not require additional support.
12. Nonfixed and movable fixtures, cases, racks, counters and partitions not over five (5) feet nine (9) inches in height.
13. Temporary structures that are located in agricultural districts and which use is primarily agricultural in nature, that are not accessible to the general public.
14. Flagpoles less than forty (40) feet in height.
15. Replacement doors and windows where the opening size is not increased or decreased.

Electrical (add the following)

4. Listed cord-and-plug connected temporary decorative lighting.
5. Reinstallation of attachment plug receptacles but not the outlets therefore.
6. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
7. Electrical wiring, devices, appliances, apparatus or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
8. Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

Gas (add the following)

3. Portable heating, cooking or clothes drying appliances.
4. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

5. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical (Add)

8. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

9. Replacement of water heating and HVAC units with same type of equipment.

**109.2 Schedule of permit fees.** (replace with) The fees for all permits shall be as indicated in the Dardenne Prairie Municipal Code.

**109.2.1** (add new section) **Schedule of plan review fees.** All fees for plan review related to required permits shall be as indicated in the Dardenne Prairie Municipal Code.

**109.4 Work commencing before permit issuance.** (replace with) Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary *permits* shall be subject to penalties as prescribed by law. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Exception: (add exception)

1. Stakeouts and other necessary planning procedures, including installation of BMPs or other erosion control methods.

**109.6 Refunds.** (replace with) The code official may approve the refunding of permit and/or inspection fees only as permitted by City policy.

(Section 114 Violations) Delete in its entirety.

**114.4 Violation Penalties.** (Delete)

(Section 115 Stop Work Order)

**115.4 Failure to comply.** (replace with) Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

(Chapter 5 General Building Heights and Areas)

**502.1** (replace “4 inches” with “6 inches”)

(Section 1110 Other Features and Facilities)

**Section 1110.5.1. Minimum number.** (replace with) No fewer than one drinking fountain shall comply with the requirements for people using a wheelchair.  
Exception: Occupancies with an occupant load of less than 50 people shall be permitted to provide an approved bottled water dispenser in lieu of the required drinking fountain.

(Chapter 18 Soils and Foundations)

1807.3.1 (delete)

1807.3.2 (delete)

1807.3.3 (delete)

(Chapter 35 Referenced Standards)

**under “ICC”,** (replace “IECC – 21” with “IECC – 15”)

#### **SECTION 500.045: VIOLATION AND PENALTIES**

Any person, firm or corporation who shall violate any provisions of this Article or who shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the Code Official or of a permit or certificate issued under the provisions of this Article or shall start any work requiring a permit without first obtaining a permit thereof or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition shall upon conviction thereof be punished by a fine of not more than five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

### **ARTICLE III. RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS**

#### **SECTION 500.050: RESIDENTIAL CODE – ADOPTION**

- A. A certain document, one (1) copy of which were placed on file in the office of the City Clerk, said copy being marked and designated as the International Residential Code for One- and Two-Family Dwellings, 2021 edition, Appendices E, G, I, J, K, M, and P, as published by the International Code Council, as amended, be and is hereby adopted as the Residential Building Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Residential Code for One- and Two-Family Dwellings, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.

- B. *Jurisdictional Titles Throughout the International Residential Code for One- and Two-Family Dwellings, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Building Safety*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and such other person or persons as may be designated by the City Administrator.
- D. Wherever the term “*Building Official*” appears, it shall mean the City Engineer, the Code Enforcement Officer of the City and such other person or persons as may be designated by the City Administrator.

**SECTION 500.055: RESIDENTIAL CODE – AMENDMENTS**

- A. The International Residential Code for One and Two Family Dwellings, 2021 edition, as published by the International Code Council, is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 SCOPE AND ADMINISTRATION)

(SECTION R101 SCOPE AND GENERAL REQUIREMENTS)

**R101.1 Title.** (replace with) These regulations, referenced standards, and appendices AA, AB, AC, AD, AF, AG, AH, AJ, AM, and AP shall be known as the *Residential Code for One- and Two-family Dwellings* of the City of Dardenne Prairie, Missouri, and shall be cited as such and will be referred to herein as “this code.”

(SECTION R102 APPLICABILITY)

**R102.1 General.** (replace with) Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply. Where, in a specific case, different sections of this code or the Municipal Code of Dardenne Prairie specify different requirements, the most restrictive shall govern.

(SECTION R103 DEPARTMENT OF BUILDING SAFETY)

**R103 Department of Building Safety** (delete)

(SECTION R105 PERMITS)

**R105.5.1 Permit extensions.** The *code official* is authorized to grant an extension of time for not more than 180 days.

R105.2 Work exempt from permit.

Building:

1. (Delete and replace with) One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed one hundred twenty (120) square feet (11.15 m<sup>2</sup>) or two hundred (200) square feet (19 m<sup>2</sup>) for portable structures.

2. (Delete)

...

(Add the following)

11. Flagpoles forty (40) feet or less in height.

12. Replacement of doors and windows where the opening size is not increased or decreased.

(SECTION R113 VIOLATIONS)

**R113.4 Violation Penalties.** (delete)

(CHAPTER 3 BUILDING PLANNING)

(SECTION R301 DESIGN CRITERIA)

**Table R301.2(1) (replace with)**  
**Climatic and Geographic Design Criteria**

Ground Snow Load	Wind Design				Seismic Design Category <sup>f</sup>	Subject to Damage From			Ice Barrier Underlayment Required <sup>h</sup>	Flood Hazards <sup>g</sup>	Air Freezing Index <sup>i</sup>	Mean Annual Temperature <sup>j</sup>
	Speed <sup>d</sup> (mph)	Topographic effects <sup>k</sup>	Special wind region <sup>l</sup>	Wind borne debris zone <sup>m</sup>		Weathering <sup>a</sup>	Frost line depth <sup>b</sup>	Termite <sup>c</sup>				
20	107 (48)	NO	NO	NO	C	SEVERE	30	YES	NO	7/15/96 1/20/16 29183 C 0220 G	1500 or less	55.2

For SI: 1 pound per square foot = 0.0479kPa, 1 mile per hour = 0.447 m/s.



- a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(3). The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with: (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study, and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the one-hundred-year return period air freezing index (BF-days) from Figure R403.3(2) or from the one-hundred-year (ninety-nine percent (99%)) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32° F.)."
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32° F.)."
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

m. In accordance with Section R301.2.1.2.1, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

(SECTION R302 FIRE-RESISTANT CONSTRUCTION)

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

**R302.13 Fire protection of floors.** (replace exceptions 3.1 and 3.2 with)

3.1 The aggregate area of the unprotected floor assembly does not exceed 100 square feet (9.3m<sup>2</sup>) per story.

3.2 Fireblocking in accordance with Section 302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly. Areas of the floor assembly covered by HVAC metal plenum, trunk lines, and steel structural beams shall be considered protected. Gypsum wallboard membrane shall be within 2 inches of all previously listed items.

(SECTION R303 LIGHT, VENTILATION AND HEATING)

**R303.3** (add text to end of exception) “, a gabled end with an approved termination cap, or a soffit with solid material extending 3’ in either direction of an approved termination cap.”

**R306.5** (add new section) **Hose Bibb.** Every dwelling shall provide one outside frost-proof hose bibb. The hose bibb shall be protected from backflow per Section P2902.

**R306.6** (add new section) **Floor Drain.** All basements shall have a floor drain within 20 feet of the heating/cooling systems(s) and water heaters. The floor drain shall comply with Chapter 27 of the International Residential Code for one and two family dwellings.

(SECTION R311 MEANS OF EGRESS)

**R311.3.2 Floor elevations for other exterior doors.** (replace exception with) Exception: A top landing is not required where a stairway of three (3) or fewer risers is located on the exterior side of the door, provided that door does not swing over the stairway.

**R311.5.1** (Add new section) **Exterior landing construction.** Exterior landings shall be constructed of a hard surface. Level grass areas shall not qualify as an approved exterior landing surface.

**R311.7.5 Stair treads and risers.** (add exception)

Exception: For remodeling projects inside existing dwelling units where the surrounding framing of the stairwell (framed stairwell hole) is not reconfigured or relocated, or where new additional stairs are not being added to the structure, stair tread and riser dimensions are permitted to match previous or existing conditions.

**R311.7.6 Landings for stairways.** (replace exception with)

Exception: A floor or landing is not required at the top of an interior flight of stairs, or an exterior flight of stairs with three or fewer risers, including stairs in an enclosed garage, provided that a door does not swing over the stairs.

(SECTION R313 AUTOMATIC FIRE SPRINKLER SYSTEMS)

**R313.1 Townhouse automatic fire sprinkler systems.** (replace with) An automatic residential fire sprinkler system shall be installed in *townhouses*, in accordance with §67.281 of the Missouri Revised Statutes.

**Exception:** An automatic residential fire sprinkler system shall not be required where *additions* or *alterations* are made to existing *townhouses* that do not have an automatic residential fire sprinkler system installed.

**R313.2 One- and two-family dwellings automatic fire systems.** (replace with) A builder of a single-family dwelling or residence or multi-unit dwellings of four or fewer units shall offer to any purchaser on or before the time of entering into the purchase contract the option, at the purchaser's cost, to install or equip fire sprinklers in the dwelling, residence, or unit. Notwithstanding any other provision of law to the contrary, no purchaser of such a single-family dwelling, residence, or multi-unit dwelling shall be denied the right to choose or decline to install a fire sprinkler system in such dwelling or residence being purchased by any code, ordinance, rule, regulation, order, or resolution by any county or other political subdivision. Any county or other political subdivision shall provide in any such code, ordinance, rule, regulation, order, or resolution the mandatory option for purchasers to have the right to choose and the requirement that builders offer to purchasers the option to purchase fire sprinklers in connection with the purchase of any single-family dwelling, residence, or multi-unit dwelling of four or fewer units.

**Exception:** An automatic residential fire sprinkler system shall not be required for *additions* or *alterations* to existing buildings that are not already provided with an automatic residential sprinkler system.

(CHAPTER 4 FOUNDATIONS)  
(SECTION R403 FOOTINGS)

**R403.1.7 Footings on or adjacent to slopes.** (replace with) Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than one (1) unit vertical in three (3) units horizontal (thirty-three and three tenths percent (33.3%) slope) shall conform to Sections R403.1.7.1 through R403.1.7.4 or plans as signed and sealed by a structural engineer licensed by the State of Missouri.

(SECTION R404 FOUNDATION AND RETAINING WALLS)

**R404.1.3.2 Reinforcement for foundation walls.** (add exception)

Exception: Where a licensed Missouri engineer's geotechnical report confirms that unstable soil or ground water conditions do not exist on an individual home site, concrete foundation walls may be constructed in accordance with Table R404.1.2(10).

**Table R404.1.2(10) Concrete Foundation Walls** (add table)

Maximum Wall Height	Maximum Depth of Unbalanced Backfill	Minimum Nominal Wall Thickness
8'-0"	7'-6" or less	8" (Note a)
9'-0"	8'-6" or less	10" (Note b)
10'-0"	9'-6" or less	12" (Note c)

Note a: Concrete foundation walls may be constructed a minimum of nominal 8 inches thick where the wall height from the top of the footing to the top of the wall does not exceed 8 feet. A minimum of two #4 reinforcing bars shall be placed horizontally in the top and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.

Note b: Concrete foundation walls may be constructed a minimum of nominal 10 inches thick. A minimum of two #5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.

Note c: Concrete foundation walls may be constructed a minimum of nominal 12 inches thick. A minimum of three #5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window

and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.

Note d: The concrete minimum wall thickness shall be 8 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when maximum wall height is 8 feet.

Note e: The concrete minimum wall thickness shall be 10 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when the maximum wall height is 9 feet.

Note f: The concrete minimum wall thickness shall be 12 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when the maximum wall height is 10 feet.

#### (SECTION R405 FOUNDATION DRAINAGE)

**405.1 Concrete or masonry foundations.** (number existing exception as number one + add second exception)

2. Drains provided as detailed in Section R405.1.2 are approved as an alternative method to meet the requirements of this Section.

**R405.1.2 (add new section) Soil evaluations.** An evaluation of the soil by a geotechnical engineer for the presence or absence of groundwater is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.

**R405.1.2.1 (add new section) Groundwater present.** Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation and inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

**R405.1.2.2 (add new section) No groundwater present.** Provide drain tile, perforated pipe or other approved foundation drainage systems (such as water channel system) around perimeter of the outside of the foundation or inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

**R405.1.2.3 (add new section) Filter membranes.** An approved filter membrane shall be placed over the top of the joints/pipe perforations. The tile/pipe shall be placed on 2 inches minimum of gravel or crushed stone and have 6 inches of minimum cover.

**R405.1.2.4 (add new section) Drainage system.** A drainage system shall discharge by gravity to daylight or be connected to an approved sump (18 inches in diameter x 24 inches deep with fitted cover). A sump pump shall be provided if the basement is finished or partially finished with pump discharge by an approved method.

(CHAPTER 5 FLOORS)

(SECTION R507 EXTERIOR DECKS)

**R506.2.3 Vapor retarder.** (replace), “10 mil (0.010 inch; 0.254 mm)” with “6 mil (0.006 inch; 0.152 mm)”

(CHAPTER 9 ROOF ASSEMBLIES)

(SECTION R905 REQUIREMENTS FOR ROOF COVERINGS)

**R905.2.8.2 Valleys.** (replace number 3 with)

3. For closed valleys (valley covered with shingles), valley lining of two ply of .15 felt complying with D226 Type I, ASTM D4869 Type I, or ASTM D6757, or valley lining as described in Item 1 and 2 shall be permitted. Self-adhering polymer modified bitumen *underlayment* complying with ASTM D1970 shall be permitted in lieu of the lining material.

**R905.2.8.5 Drip Edge.** (add exception)

Exception: An alternative design approved as provided for in R104.11

(CHAPTER 10 CHIMNEYS AND FIREPLACES)  
(SECTION R1004 FACTORY-BUILT FIREPLACES)

(SECTION R1005 FACTORY-BUILT CHIMNEYS)

**R1005.7 Factory-built chimney offsets.** (add exception)

Exception: Chimneys installed per manufacturer’s installation instructions

**R1006.1.1 Factory-built fireplaces.** (replace with) Exterior *combustion air* ducts for factory-built fireplaces shall be a *listed* component of the fireplace, or equivalent approved by the jurisdiction, and shall be installed according to the fireplace manufacturer’s instructions.

**R1006.2** (replace with) **Exterior air intake.** The exterior air intake on masonry fireplaces shall be capable of supplying *combustion air* from the exterior of the *dwelling* or from spaces within the *dwelling* ventilated with outdoor air such as nonmechanically ventilated crawl or attic spaces. The exterior air intake shall not be located within the garage or *basement* of the dwelling. The exterior air intake, for other than *listed* factory-built fireplaces, shall not be located at an elevation higher than the firebox. The exterior air intake shall be covered with a corrosion-resistant screen of 1/4-inch (6.4 mm) mesh.

(CHAPTER 11 ENERGY EFFICIENCY)  
(SECTION N1101 GENERAL)

**N1101.6 (R202) Defined terms.**

**PROJECTION FACTOR.** (add definition) The ratio of the horizontal depth of an overhang, eave, or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave, or permanently attached shading device.

**N1101.4 (R102.1.1) Above code programs.** (replace with) The *building official* or other authority having jurisdiction shall be permitted to deem a national, state or local energy-efficiency program to exceed the energy efficiency required by this code. Buildings *approved* in writing by such an energy-efficiency program shall be considered in compliance with this code. Applicant must provide adequate information to the Dardenne Prairie Building Official to demonstrate that the Above Code Program satisfies all necessary code requirements.

**N1101.6 (R202) Defined terms.**

**PROJECTION FACTOR.** (add definition) The ratio of the horizontal depth of an overhang, eave, or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave, or permanently attached shading device.

(SECTION N1102 (R402) BUILDING THERMAL ENVELOPE)

**Table N1102.1.2 (R402.1.2) (replace with)**  
**Insulation and Fenestration Requirements by Component<sup>a</sup>**

Climate Zone	Fenestration U-Factor <sup>b</sup>	Skylight <sup>b</sup> U-Factor	Glazed Fenestration SHGC <sup>b,e</sup>	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value <sup>i</sup>	Floor R-Value	Basement <sup>c</sup> Wall R-Value	Slab <sup>d</sup> R-Value & Depth	Crawl Space <sup>c</sup> Wall R-Value
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13 + 5 <sup>h</sup>	8/13	19	5/13 <sup>f</sup>	0	5/13
4 except Marine	0.40	0.55	NR	38	13	8/13	19	0 <sup>j</sup>	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13 + 5 <sup>h</sup>	13/17	30 <sup>g</sup>	15/19	10, 2 ft	15/19

6	0.32	0.55	NR	49	20 + 5 or 13 + 10 <sup>h</sup>	15/20	30 <sup>g</sup>	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20 + 5 or 13 + 10 <sup>h</sup>	19/21	38 <sup>g</sup>	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8mm.

- a. *R*-values are minimums. *U*-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.
- b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.
- c. “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. “15/19” shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.10 or Table N1101.10.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. The first value is cavity insulation, the second value is continuous insulation, so “13+5” means R-13 cavity insulation plus R-5 continuous insulation.
- i. The second *R*-value applies when more than half of the insulation is on the interior of the mass wall.
- j. Exception: Unfinished basements may have up to a maximum of 20 percent of the total basement wall area exposed above the outside finished grade/ground level as uninsulated concrete foundation walls. The foundation wall area above the outside grade/ground level that may be uninsulated is determined by the formula [.20 times the basement wall height of all walls (including insulated exterior frame walls for walkout basements and walls



common to both basement and attached garages) times the perimeter of these basement walls]. In unfinished areas, the basement foundation wall insulation shall extend down to the basement floor slab or to a minimum of 24 inches below outside finished grade when the grade is above the floor slab elevation.

**N1102.1.3 (R402.1.3) (replace with) R-value computation.** Insulation material used in layers, such as framing cavity insulation, or continuous insulation shall be summed to compute the corresponding component R-value. The manufacturer’s settled R-value shall be used for blown insulation. Computed R-values may include an R-value for other building materials or air films. Where insulated siding is used for the purpose of complying with the continuous insulation requirements of Table N1102.1.2, the manufacturer’s labeled R-Value for insulated siding shall be reduced by R-0.6.

**N1102.1.5 (R402.1.5) Total UA alternative. (replace with)** If the total *building envelope* UA (sum of U-factor times assembly area) is less than or equal to the total UA resulting from using the U-factors in Table N1102.1.4 (multiplied by the same assembly rea as in the proposed building), the building shall be considered in compliance with Table N1102.1.2. The UA calculation shall be done using a method consistent with the ASHRAE *Handbook of Fundamentals* and shall include the thermal bridging effects of framing materials. The SHGC requirements shall be met in addition to UA compliance.

Exception: Glazed fenestration SHGC. In Climate Zone 4, permanently shaded vertical fenestration shall be permitted to satisfy SHGC requirements. Jurisdiction will require a separate sealed submission for each proposed home to use shaded vertical fenestration. The projection factor of an overhang, eave, or permanently attached shading device shall be greater than or equal to the value listed in Table N1102.2.2.1 for the appropriate orientation. The minimum projection shall extend beyond each side of the glazing a minimum of 12 inches. Each orientation shall be rounded to the nearest cardinal orientation (+/- 45 degrees or 0.79 rad) for purposes of calculations and demonstrating compliance.

**Table N1102.1.5 (add table)**

**Minimum Projection Factor Required by Orientation for SHGC Exception**

<b><u>Orientation</u></b>	<b><u>Projection Factor</u></b>
<b><u>North</u></b>	<b><u><math>\geq 0.40^a</math></u></b>
<b><u>South</u></b>	<b><u><math>\geq 0.20</math></u></b>
<b><u>East</u></b>	<b><u><math>\geq 0.50</math></u></b>
<b><u>West</u></b>	<b><u><math>\geq 0.50</math></u></b>

**For the north orientation, a vertical projection located on the west-edge of the fenestration with the equivalent of  $PF \geq 0.15$  shall also satisfy the minimum projection factor requirement**

**N1102.2.4 (R402.2.4) Access hatches and doors. (replace with)** Access doors from conditioned spaces to unconditioned spaces such as attics and crawl spaces shall be

insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment that prevents damaging or compressing the insulation. A wood-framed or equivalent baffle or retainer is required to be provided when loose-fill insulation is installed, the purpose of which is to prevent the loose-fill insulation from spilling into the living space when the attic access is opened, and to provide the permanent means of maintaining the installed *R*-value of the loose-fill insulation.

Exception: Vertical doors that provide access from the conditioned to unconditioned spaces shall be permitted to meet the fenestration requirements of Table R1102.1.2 based on the applicable climate zone specified in Chapter 3.

**N1102.4 (R402.4) Air leakage (replace with)** The *building thermal envelope* may be designed and constructed to limit air leakage in accordance with the requirements of Sections R1102.4.1 through R1102.4.4.

**Table N1102.4.1.1 (402.4.1.1) (replace with)**  
**Air Barrier and Insulation Installation**

Component	Air Barrier Criteria	Insulation Installation Criteria
General Requirements	<p>A continuous air barrier shall be installed in the building envelope.</p> <p>The exterior thermal envelope contains a continuous air barrier.</p> <p>Breaks or joints in the air barrier shall be sealed.</p>	<p>Air-permeable insulation shall not be used as a sealing material.</p>
Ceiling/attic	<p>The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed.</p> <p>Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.</p>	<p>The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.</p>
Walls	<p>The junction of the foundation and sill plate shall be sealed.</p> <p>The junction of the top plate and the top of the exterior walls shall be sealed.</p> <p>Knee walls shall be sealed.</p>	<p>Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum.</p> <p>Exterior thermal envelope insulation for framed walls shall be installed in</p>

		substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.	
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with Class I vapor retarder with overlapping joists taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawl space walls.
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.

Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC 400.

**N1102.4.1.2 (R402.4.1.2) (replace with) Testing Option.** If testing is elected, the building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour in Climate Zone 4. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the *code official*, testing shall be conducted by an *approved* third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

**N1102.4.5 (R402.4.5) Recessed lighting.** (replace with) Recessed luminaires installed in the *building thermal envelope* may be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires may be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires may be sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

(SECTION N1103 (R403) SYSTEMS)

**N1103.1.1 (R403.1.1) Programmable thermostat.** (delete section)

**N1103.3.2 (R403.3.2) Sealing.** (replace with) Ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or Section M1601.4.1 of this code, as applicable.

**Exceptions:**

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressure less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

**N1103.3.3 (R403.3.3) Duct testing (Mandatory).** (delete section)

**N1103.3.5 (R403.3.5) Building cavities (Mandatory).** (delete section)

**N1103.4.1 (R403.4.1) Protection of piping insulation.** (replace with) Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape which otherwise meets the requirements of this section shall be permitted.

**N1103.5.2 (R405.5.2) Hot water pipe insulation.** (replace #1 with) 1. Metallic piping larger than or equal to three fourths (3/4) inch (19mm) in normal diameter.

**N1103.5.3 (R405.5.3) Hot water pipe insulation (Prescriptive).** (replace with) Insulation for hot water pipe with a minimum thermal resistance (*R*-value) of R-3 shall be applied to the following:

1. Metallic piping larger than or equal to ¾ inch (19 mm) nominal diameter.
2. Piping serving more than one dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.

5. Piping located under a floor slab.
6. Buried in piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

**N1103.6 (R403.6) Mechanical ventilation.** (replace with) If, in accordance with previous code sections or as part of an Above Code Program, the resulting air changes per hour (ACH) at 50 Pascals is 3 air changes or less, the building shall be provided with ventilation that meets the requirements of Section M1507 of this code or the *International Mechanical Code*, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

**N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory).** (replace with) Equipment sizing and efficiency rating (mandatory). Heating and cooling equipment shall be sized in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by Federal law for the geographic location where the equipment is installed.

**SECTION N1104 (R404) (delete section)**

**SECTION N1105 (R405) TOTAL BUILDING PERFORMANCE**

**Table N1105.5.2(1) [R405.5.2(1)] (replace with)**  
**Specifications for the Standard Reference and Proposed Designs**

<b>Building Component</b>	<b>Standard Reference Design</b>	<b>Proposed Design</b>
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
	Solar absorptance = 0.75	As proposed
	Remittance = 0.90	As proposed
Basement and crawl space walls	Type: same as proposed	As proposed
	Gross area: same as proposed	As proposed
	U-factor: from Table N1102.1.4, with insulation layer on interior side of walls	As proposed
Above-grade floors	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Ceilings	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed

Roofs	Type: composition shingle on wood sheathing	As proposed
	Gross area: same as proposed	As proposed
	Solar absorptance = 0.75	As proposed
	Emittance = 0.90	As proposed
Attics	Type: vented with aperture = 1 ft <sup>2</sup> per 300 ft <sup>2</sup> ceiling area	As proposed
Foundations	Type: same as proposed	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed	As proposed
Opaque doors	Area: 40 ft <sup>2</sup>	As proposed
	Orientation: North	As proposed
	U-factor: same as fenestration from Table N1102.1.4	As proposed
Vertical fenestration other than opaque doors	Total area <sup>b</sup> = 15 percent of the conditioned floor area	As proposed
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W)	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
	SHGC: as specified in Table N1102.1.2 except that for climates with no requirement (NR) SHGC = 0.40 shall be used	As proposed
	Interior shade fraction: 0.92 – (0.21 x SHGC for the standard reference design)	0.92 – (0.21 x SHGC as proposed)
	External shading: none	As proposed
Skylights	None	As proposed
Thermally isolated sunrooms	None	As proposed
Air exchange rate	<p>Air leakage rate of 5 air changes per hour in Climate Zones 4 The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than <math>0.01 \times CFA + 7.5 \times (N_{br} + 1)</math></p> <p>where:  <math>CFA</math> = conditioned floor area  <math>N_{br}</math> = number of bedrooms</p> <p>Energy recovery shall not be assumed for mechanical ventilation  Air leakage rate of 5 air changes per hour in at a pressure of 0.2</p>	<p>For residences that are not tested, the same air leakage rate as the standard reference design.</p> <p>For tested residences, the measured air exchange rate<sup>a</sup>.</p> <p>The mechanical ventilation rate<sup>b</sup> shall be in addition to the air leakage rate and shall be proposed.</p>

Mechanical ventilation	<p>None, except where mechanical ventilation is specified by the proposed design, in which case:</p> <p>Annual vent fan energy use:  <math>kWh/yr = 0.03942 \times CFA + 29.565 \times (N_{br} + 1)</math></p> <p>where:  <i>CFA</i> = conditioned floor area  <i>N<sub>br</sub></i> = number of bedrooms</p>	As proposed
Internal gains	$IGain = 17,900 + 23.8 \times CFA + 4104 \times N_{br}$ (Btu/day per dwelling unit)	Same as standard reference design.
Internal mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element <sup>c</sup> but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs, 80 percent of floor area covered by R-2 carpet and pad, and 20 percent of floor directly exposed to room air	As proposed
	For masonry basement walls, as proposed, but with insulation required by Table R402.1.4 located on the interior side of the walls	As proposed
	For other walls, for ceilings, floors, and interior walls, wood frame construction	As proposed
Heating systems <sup>d, e</sup>	<p><u>Fuel type: same as the proposed design</u></p> <p>Efficiencies:  Electric: air-source heat pump with prevailing federal minimum standards  Nonelectric Furnaces: natural gas furnace with prevailing federal minimum standards  Nonelectric boilers: natural gas boiler with prevailing federal minimum standards</p> <p>Capacity: sized in accordance with Section N1103.7</p>	As proposed



Cooling systems <sup>d, f</sup>	Fuel type: electric Efficiency: in accordance with prevailing federal minimum standards Capacity: sized in accordance with Section N1103.7	As proposed
Service water heating <sup>d, e, f</sup>	Fuel type: same as proposed design Efficiency: in accordance with prevailing federal minimum standards Use: gal/day = 30 + 10 x $N_{br}$ Tank temperature: 120°F	As proposed Same as standard reference
Thermal distribution systems	Duct insulation: from Section N1103.2.1  A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft <sup>2</sup> (9.29 m <sup>2</sup> ) of <i>conditioned floor</i> area at a pressure of differential of 0.1 inches w.g. (25 Pa)	As tested or specified in Table R405.5.2(2) if not tested. Duct insulation shall be as proposed.
Thermostat	Type: Manual, cooling temperature setpoint = 75°F; Heating temperature setpoint = 72°F	Same as standard reference

For SI: 1 square foot = 0.93 m<sup>2</sup>, 1 British thermal unit = 1055 J, 1 pound per square foot = 4.88 kg/m<sup>2</sup>, 1 gallon (US) = 3.785 L, °C = (°F-32)/1.8, 1 degree = 0.79 rad

- a. Where required by the *code official*, testing shall be conducted by an *approved* party. Hourly calculations as specified in the ASHRAE *Handbook of Fundamentals*, or the equivalent shall be used to determine the energy loads resulting from infiltration.
- b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE *Handbook of Fundamentals*, page 26.24 and the “Whole-house Ventilation” provisions of 2001 ASHRAE *Handbook of Fundamentals*, page 26.19 for intermittent mechanical ventilation.
- c. Thermal storage element shall mean a component not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase-change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.
- d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel

types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.

- e. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.
- f. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.
- g. For a proposed design with a nonstorage-type water heater, a 40-gallon storage-type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a 40-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

(CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS)  
(SECTION M1301 GENERAL)

**M1301.2 Identification.** (add exception)

Exception: Line sets and similar materials provided the installer can provide documentation related to the material used such as, but not limited to, a receipt, invoice, or container.

(SECTION M1305 APPLIANCE ACCESS)

**M1305.1.3.1 Ground clearance.** (replace with) Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than two (2) inches (50.8 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than six (6) inches (152 mm) from the ground.

**M1305.1.3.3 Electrical Requirements.** (add exception)

Exception: Basements

(CHAPTER 15 EXHAUST SYSTEMS)  
(SECTION M1502 CLOTHES DRYER EXHAUST)

**M1502.4.1 Material and size.** (replace with) Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inch (0.3950 mm) (No. 30 gage). The duct shall be 4 inches (102 mm) nominal in diameter.

**M1502.4.2 Duct installation.** (replace with) Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in

accordance with Section M1601.4.1 and shall be mechanically fastened or fastened by other methods as approved by the Authority Having Jurisdiction. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

**M1502.4.3 Transition duct.** (add language to end of existing section) “Flexible duct that is listed and labeled for the intended purpose may be used as the transition duct.”

**M1502.4.5 Booster fans prohibited.** (add exception)

Exception: Booster fans may be permitted when a signed and sealed engineered design is provided.

(SECTION M1503 DOMESTIC COOKING EXHAUST EQUIPMENT )

**M1503.6 Makeup air required.** (replace with) Exhaust hood systems capable of exhausting in excess of four hundred (600) cubic feet per minute (0.19 m<sup>3</sup>/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one (1) 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. 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 M1601 DUCT SYSTEMS)

**M1601.1.1 Above-ground duct systems.** (replace number 2 with)

2. Factory-made ducts shall be listed and labeled in accordance with UL 181 and installed in accordance with the manufacturer’s instructions.

**M1601.4.1 Joints, seams and connections.** (replace with)

Joints of *duct systems* shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other *approved* closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure-sensitive tape or 181B-M for mastic. Duct connections to flanges of air distribution system *equipment* or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 inch and shall be mechanically fastened with at least three sheet metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer’s installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.

2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressure less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

(CHAPTER 21 HYDRONIC PIPING)

**M2101.22.6 Expansion tanks.** (delete)

**M2101.26 Pipe penetrations.** (replace with) Openings for pipe penetrations in walls, floors and ceilings shall be larger than the penetrating pipe. Openings in the foundation wall underground shall be sealed to not allow groundwater into a building.

(SECTION G2105 GROUND-SOURCE HEAT-PUMP SYSTEM LOOP PIPING)

**M2105.4 Piping and tubing materials standards.** (replace with) Piping and tubing materials standards. Ground-source heat-pump ground-loop pipe and tubing shall conform to the standards listed in Table M2105.4. However, polyvinyl chloride (PVC) and chlorinated polyvinyl chloride (CPVC) shall not be used for geothermal application inside or underground.

(CHAPTER 24 FUEL GAS)  
(SECTION G2408 INSTALLATION)

**G2408.4 (305.7) Clearances from grade.** (replace with) *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 (50.8 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 installation instructions.

(CHAPTER 36 SERVICES)  
(SECTION E3601 GENERAL SERVICES)

**E3601.8 Emergency disconnects.** (delete)

**E3606.5 Surge protection.** (delete)

(CHAPTER 39 POWER AND LIGHTING DISTRIBUTION)  
(SECTION E902 GROUND-FAULT AND ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION)

**E3902.6 Kitchen receptacles.** (add exception)

Exception: When a simplex / single receptacle is installed for fastened in place appliances or outlets designated for refrigerators/freezers.

**E3902.11 Kitchen dishwasher branch circuit.** (add exception)

Exception: When on a dedicated circuit and a simplex / single receptacle is installed.

**E3902.18 Location of ground-fault circuit interrupters.** (replace with) Location of ground-fault circuit interrupters. Ground-fault circuit interrupters shall be installed only in a readily accessible location. [210.8(A)]

**E3902.20 Arc-fault circuit interrupter protection.** Arc-fault circuit interrupter protection. (replace first paragraph) Branch circuits that supply 120-volt, single phase, 15 and 20 ampere outlets installed in bedrooms, and any branch circuit that has in-part or in-whole aluminum wiring shall be protected by any of the following: [210.12(A)]

**SECTION 500.057: VIOLATION AND PENALTIES**

Any person, firm or corporation who shall violate any provisions of this Article or who shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the Code Official or of a permit or certificate issued under the provisions of this Article or shall start any work requiring a permit without first obtaining a permit thereof or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition shall upon conviction thereof be punished by a fine of not more than five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

**ARTICLE IV**

**ELECTRICAL CODE**

**SECTION 500.060: ELECTRICAL CODE – ADOPTION**

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the NFPA National Electrical Code, 2020 edition, as published by the National Fire Protection Agency, as amended, be and is hereby adopted as the Electrical Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the NFPA National Electrical Code, 2020 edition, as published by the National Fire Protection Agency, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the NFPA National Electrical Code, 2014 edition, as published by the National Fire Protection Agency.* Wherever the terms “Name of Jurisdiction” or “Local Jurisdiction” appear, it shall be deemed to mean “City of Dardenne Prairie, Missouri”.

- C. Wherever the term “*Chief Electrical Inspector*” appears, it shall mean the Code Enforcement Officer of the City.

**SECTION 500.065: ELECTRICAL CODE – AMENDMENTS**

- A. The NFPA National Electrical Code, 2020 edition, as published by the National Fire Protection Agency is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

**210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.**

(A)

(add exception to #2)

**(2) Exception:** Garage door opener receptacles not installed in readily accessible locations.

(add exception to #5)

**(5) Exception:** Sump pump receptacles must be a single dedicated outlet (not a duplex) and only when a sump pump has been installed.

**230.67 Surge Protection.** (delete section)

**SECTION 500.067: VIOLATION AND PENALTIES**

Any person, firm or corporation who shall violate any provisions of this Article or who shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the Code Official or of a permit or certificate issued under the provisions of this Article or shall start any work requiring a permit without first obtaining a permit thereof or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition shall upon conviction thereof be punished by a fine of not more than five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

**ARTICLE V  
MECHANICAL CODE**

**SECTION 500.070: MECHANICAL CODE – ADOPTION**

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Mechanical Code, 2021

edition, as published by the International Code Council, as amended, be and is hereby adopted as the Mechanical Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Mechanical Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.

- B. *Jurisdictional Titles Throughout the International Mechanical Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Mechanical Inspection*” appears it shall be deemed to mean the a department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “*Code Official*” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

#### **SECTION 500.075: MECHANICAL CODE – AMENDMENTS**

- A. This section shall be reserved for the City’s future use.

### **ARTICLE VI**

#### **PLUMBING CODE**

#### **SECTION 500.080: PLUMBING CODE – ADOPTION**

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Plumbing Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Plumbing Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Plumbing Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Plumbing Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.

- C. Wherever the term “*Department of Plumbing Inspection*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “*Code Official*” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

**SECTION 500.085: PLUMBING CODE – AMENDMENTS**

- A. The International Plumbing Code, 2021 edition, as published by the International Code Council, is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 ADMINISTRATION)  
(SECTION 101 GENERAL)

**101.1 Title.** (replace with) These regulations, referenced standards, and appendices B, C, D, and E shall be known as the International Plumbing Code of the City of Dardenne Prairie, Missouri, herein after referred to as "this code."

(CHAPTER 3 GENERAL REQUIREMENTS)  
(SECTION 305 PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS)

**305.4.1 Sewer depth.** (replace with) Building sewers that connect to private sewage disposal systems shall be installed not less than thirty (30) inches (762 mm) below finished grade at the point of septic tank connection. Building sewers shall be installed not less than thirty (30) inches (762 mm) below grade.

(CHAPTER 6 WATER SUPPLY AND DISTRIBUTION)  
(SECTION 602 WATER REQUIRED)

**602.3 Heat supply.** (replace with) Every owner and operator of any building who rents, leases or lets one (1) or more dwelling units or sleeping units on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat to maintain a minimum temperature of 68° F. (20° C.) in all habitable rooms, bathrooms and toilet rooms.

Exceptions:

1. When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the International Plumbing Code.



2. In areas where the average monthly temperature is above 30° F. (-1° C.), a minimum temperature of 65° F. (18° C.) shall be maintained.

**602.4 Occupiable work spaces.** (replace with) Indoor occupiable work spaces shall be supplied with heat to maintain a minimum temperature of 65° F. (18° C.) during the period the spaces are occupied.

Exceptions:

1. Processing, storage and operation areas that require cooling or special temperature conditions.
2. Areas in which persons are primarily engaged in vigorous physical activities.

**605.2.1 (add section) GFCI Receptacles:** Ground Fault circuit interrupter protect is required in all locations specified per NEC 210.8 (A) through (D).

Exception: Existing electrical systems with non-grounded wiring that has not been altered or replaced.

## **SECTION 500.087: VIOLATION AND PENALTIES**

Any person, firm or corporation who shall violate any provisions of this Article or who shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the Code Official or of a permit or certificate issued under the provisions of this Article or shall start any work requiring a permit without first obtaining a permit thereof or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition shall upon conviction thereof be punished by a fine of not more than five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

## **ARTICLE VII**

### **EXISTING BUILDING CODE**

#### **SECTION 500.090: EXISTING BUILDING CODE – ADOPTION**

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Existing Building Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Existing Building Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Existing Building Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.

- B. *Jurisdictional Titles Throughout the International Existing Building Code, 2021 edition, as published by the International Code Council.* Wherever the terms “Name of Jurisdiction” or “Local Jurisdiction” appear, it shall be deemed to mean “City of Dardenne Prairie, Missouri”.
- C. Wherever the term “Department of Building Safety” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “Code Official” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

**SECTION 500.095: EXISTING BUILDING CODE – AMENDMENTS**

- A. This Section shall be reserved for the City’s future use.

**SECTION 500.097: VIOLATION AND PENALTIES**

Any person, firm or corporation who shall violate any provisions of this Article or who shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a structure in violation of an approved plan or directive of the Code Official or of a permit or certificate issued under the provisions of this Article or shall start any work requiring a permit without first obtaining a permit thereof or who shall continue any work in or about a structure after having been served a stop work order, except for such work which that person, firm or corporation has been directed to perform to remove a violation or unsafe condition shall upon conviction thereof be punished by a fine of not more than five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

**ARTICLE VIII**

**PROPERTY MAINTENANCE CODE**

**SECTION 500.100: PROPERTY MAINTENANCE CODE – ADOPTION**

- A. A certain document, one (1) copy of which were placed on file in the office of the City Clerk, said copies being marked and designated as the International Property Maintenance Code, including Appendix A, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Property Maintenance Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Property Maintenance Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.

- B. *Jurisdictional Titles Throughout the International Property Maintenance Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Property Maintenance*” appears it shall be deemed to mean the a department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “*Code Official*” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

**SECTION 500.105: PROPERTY MAINTENANCE CODE – AMENDMENTS**

- A. The International Property Maintenance Code, 2021 edition, as published by the International Code Council is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(SECTION 302 EXTERIOR PROPERTY AREAS)

**302.4 Weeds.** (insert, “six (6) inches”)

**302.8 Motor vehicles** (delete)

(SECTION 304 EXTERIOR STRUCTURE)

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

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

(CHAPTER 6 MECHANICAL AND ELECTRICAL REQUIREMENTS)  
(SECTION 602 HEATING FACILITIES)

**602.3 Heat supply.** (replace with) Every owner and operator of any building who rents, leases or lets one (1) or more dwelling units or sleeping units on terms, either expressed or

implied, to furnish heat to the occupants thereof shall supply heat to maintain a minimum temperature of 68° F. (20° C.) in all habitable rooms, bathrooms and toilet rooms.

Exceptions:

1. When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the International Plumbing Code.
2. In areas where the average monthly temperature is above 30° F. (-1° C.), a minimum temperature of 65° F. (18° C.) shall be maintained.

**602.4 Occupiable work spaces.** (replace with) Indoor occupiable work spaces shall be supplied with heat to maintain a minimum temperature of 65° F. (18° C.) during the period the spaces are occupied.

Exceptions:

1. Processing, storage and operation areas that require cooling or special temperature conditions.
2. Areas in which persons are primarily engaged in vigorous physical activities.

#### (SECTION 605 ELECTRICAL EQUIPMENT)

**605.2.1 (add section) GFCI Receptacles:** Ground Fault circuit interrupter protect is required in all locations specified per NEC 210.8 (A) through (D).

Exception: Existing electrical systems with non-grounded wiring that has not been altered or replaced.

#### **SECTION 500.107: VIOLATION AND PENALTIES**

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

**ARTICLE IX**

**FIRE CODE**

**SECTION 500.110: FIRE CODE – ADOPTION**

- A. A certain document, one (1) copy of which were placed on file in the office of the City Clerk, said copies being marked and designated as the International Fire Code, including Appendices B and F, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Fire Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Fire Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Fire Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Fire Prevention*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “*Fire Code Official*” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

**SECTION 500.115: FIRE CODE – AMENDMENTS**

- A. The International Fire Code, 2021 edition, as published by the International Code Council is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 SCOPE AND ADMINISTRATION)  
(SECTION 101 SCOPE AND GENERAL REQUIREMENTS)

**101.1 Title.** (replace with) These regulations, referenced standards, and appendices B, C, and D shall be known as “Fire Protection Districts of St. Charles County, Missouri”

(SECTION 103 CODE COMPLIANCE AGENCY)

**103.1 (replace with) Administrative designation.** The Fire Chief of the Fire Protection District is the Fire Code Official in charge of implementation, administration, and enforcement of the provisions of this code.

**103.2** (replace with) **Fire Code Official.** Code official, wherever it may appear in this code, shall be read as 'Fire Code Official'.

**103.3** (delete)

(SECTION 105 PERMITS)

**105.1.6 Annual permit.** (delete)

**105.1.6.1 Annual permit records.** (delete)

**105.2 Application for permit.** (replace with) Each application for a permit shall be made to the Fire Code Official on a form or by a method provided by the department, and shall include a general description of the proposed work, its location, and the estimated cost of construction.

**105.6.24 Temporary membrane structures and tents.** (replace with) Tents and membrane structure shall be subject to application for permit and inspection from the fire code official as required under 3103.2

(SECTION 107 FEES)

**107.2 Schedule of permit fees.** (replace with) The fees for all permits shall be as indicated in the Dardenne Prairie Municipal Code.

**107.2.1** (add new section) **Schedule of plan review fees.** All fees for plan review related to required permits shall be as indicated in the Dardenne Prairie Municipal Code.

**107.6 Refunds.** (replace with) The fire code official may approve the refunding of permit and/or inspection fees only as permitted by the Dardenne Prairie Municipal Code and City policy.

(SECTION 111 MEANS OF APPEALS)

**111.3 Qualifications** (delete)

(SECTION 507 FIRE PROTECTION WATER SUPPLIES)

**507.5.2 Inspection, testing and maintenance.** (replace with) The utility company and/or District shall make or cause to be made, an inspection for proper operation of each fire hydrant within the boundaries of said District. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired when defective. The District shall notify in writing each water utility, person, business or corporation responsible for the maintenance of any hydrants, of the location and

nature of defect of any inoperative or deficient hydrants. Any defect, inoperative or deficient hydrant that is not repaired within seven (7) days after receiving written notice shall be in violation of this ordinance. Each water utility, person, business or corporation or other entity responsible for the operation and maintenance of a fire hydrant in the Fire Protection District of St. Charles County, shall immediately notify the Fire District whenever a fire hydrant is placed out of service.

**507.5.5 Clear space around hydrants and fire protection equipment.** (replace with) There shall be no obstruction, i.e., plantings, bushes, trees, signs, light standards, mailboxes, etc. within five (5) feet of any fire hydrant, and/or fire department connection to an automatic sprinkler or standpipe system, in all directions, except as otherwise required or approved.

**507.5.6.1 (add new section) Parking by hydrants.** Where fire hydrants are located in areas where vehicles would be parked, said vehicle parking shall be restricted for five (5) feet in each direction from the hydrant.

**507.5.6.2 (add new section) Parking by fire department connections.** When fire department connections are located in an area where vehicles may be parked, said parking shall be restricted for ten (10) feet in each direction from the fire department connection.

**507.5.7 (add new section) Tampering with fire hydrant.** It shall be unlawful for any person to use or operate a fire hydrant for any purpose other than the suppression of a fire unless permitted otherwise by the Fire Code Official. This provision shall not apply to employees of the municipality or village, firefighters or employees of the public utility supplying water to the fire hydrant while in the performance of their duties as firefighters or employees.

(SECTION 604 ELEVATOR OPERATION, MAINTENANCE AND FIRE SERVICE KEYS)

**604.5.5 (add new section) Elevator emergency operations testing.** All elevators that are equipped with emergency elevator operations in accordance with Rule 211.3 of ASME A17.1/CSA B44 listed in Chapter 45 shall be tested at least once each year in all phases of emergency functions. An approved elevator service company shall conduct the tests.

(SECTION 901 GENERAL)

**901.6.3 (add new section) Records.** Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of 3 years or for the required testing frequency if greater

than 3 years and shall be made available to the code official upon request. Accurate logs shall be maintained indicating the number, location and type of device tested. Any defect, modification or repair shall be logged.

#### APPENDIX C FIRE HYDRANT LOCATIONS AND DISTRIBUTION (SECTION C105 REFERENCED STANDARD)

**C105.1** (add new section) **Fire Hydrant location near Fire Department Connection.** Buildings or structures equipped with an automatic fire sprinkler system or standpipe system shall have a fire hydrant within 150 feet of the fire department connection.

**C105.2** (add new section) **Fire Hydrant Standards.** All fire hydrants installed shall each have not less than:

- 1) Two (2) 2-1/2-inch outlets
- 2) One (1) 4-1/2-inch outlet-18-24 inches from grade to the center of the outlet, facing the direction designated by the fire code official.
- 3) A 5-1/4- inch valve
- 4) A 6-inch barrel
- 5) Shall be of a break-away design
- 6) Shall be frost free
- 7) Shall have chains on the caps
- 8) Shall have left hand National Standard Threads (NST) on all three outlets.

**C105.3** (replace with) **Control Valves.** Each fire hydrant shall be provided with a control valve in the hydrant connection such that the hydrant can be removed from service without shutting off water supply to other functions. Whenever a water main is more than twelve hundred (1200) feet in length, such main shall have a control valve.

#### APPENDIX D FIRE APPARATUS ACCESS ROADS (SECTION D103 MINIMUM SPECIFICATIONS)

**D103.3** (replace with) **Turning radius.** The minimum turning radius shall be 42 feet at outside of curb.

#### **SECTION 500.117: VIOLATION AND PENALTIES**

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.



## ARTICLE X

### PRIVATE SEWAGE DISPOSAL CODE

#### SECTION 500.120: PRIVATE SEWAGE DISPOSAL CODE – ADOPTION

- A. A certain document, one (1) copy of which were placed on file in the office of the City Clerk, said copies being marked and designated as the International Private Sewage Disposal Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Private Sewage Disposal Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Private Sewage Disposal Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Private Sewage Disposal Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Private Sewage Disposal Inspection*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement officer of the City of Dardenne Prairie, Missouri, and their designees.
- D. Wherever the term “*Code Official*” appears, it shall mean the City Engineer or the Code Enforcement Officer of the City.

#### SECTION 500.125: PRIVATE SEWAGE DISPOSAL CODE – AMENDMENTS

- A. The International Private Sewage Disposal Code, 2021 edition, as published by the International Code Council is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 SCOPE AND ADMINISTRATION)  
(SECTION 101 SCOPE AND GENERAL REQUIREMENTS)

**101.1 Title.** These regulations shall be known as the Private Sewage Disposal Code of the City of Dardenne Prairie, Missouri, hereinafter referred to as "this code."

101.2 Scope. Septic tank and effluent absorption systems or other treatment tank and effluent disposal systems shall be permitted where a public sewer is not available to the property served. A public sewer shall be considered available when the nearest property line is located within two hundred (200) feet of a public sewer. Unless specifically

approved, the *private sewage disposal system* of each building shall be entirely separate from and independent of any other building. The use of a common system or a system on a parcel other than the parcel where the structure is located shall be subject to the full requirements of this code as for systems serving public buildings.

101.3 Public sewer connection. Where public sewers become available to the premises served, only the repair of an existing system will be permitted. If a new system is required to be installed, the use of the private sewage disposal system shall be discontinued. The building sewer shall be disconnected from the private sewage disposal system and connected to the public sewer.

(SECTION 103 CODE COMPLIANCE AGENCY)

103.1 Creation of enforcement agency. The City of Dardenne Prairie, Missouri, is hereby created and the official in charge thereof shall be known as the code official. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

103.2 Appointment. The code official shall be appointed as provided by ordinance.

(SECTION 106 PERMITS)

106.2.4 Soil Data. Soil test reports shall be submitted indicating soil boring data related to the undisturbed and finished grade elevations, vertical elevation reference point and horizontal reference point. Surface elevations shall be given for all soil borings. Soil reports shall bear the signature of a soil tester.

106.3.3.1 Reinstatement. A permit that has expired may be reinstated where approved by the building official. The request for reinstatement shall be in writing and justifiable caused demonstrated.

106.4.2 Fee Schedule. The fees for private sewage disposal work shall be as set forth by the Ordinances of City of Dardenne Prairie, Missouri

106.4.3 Fee refunds. The code official is authorized to establish a refund policy.

(SECTION 107 CONSTRUCTION DOCUMENTS)

107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted as required by the building official, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed each permit application. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special

conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term “legal” or its equivalent use as a substitute for specific information.

Exception: The code official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

107.1.2 Electronic submission. Where design documents including, but not limited to, plot plans, site plans, design drawings, specifications, etc. are originally created electronically, the building official is authorized to require electronic submittal of documents in a portable document format (PDF) or similar format for review. Where design documents were originally prepared on paper and are submitted in a paper form, the code official is authorized to charge a fee for converting those drawings to PDF equal to the cost incurred by County staff recreating the document and not to exceed more than one (1) dollar per page.

Exception: Where submittal documents were originally prepared by hand and are 11 inches by 17 inches or less, the fee for document conversion shall not be charged.

(SECTION 114 VIOLATIONS)

Delete in its entirety

(SECTION 115 STOP WORK ORDER)

115.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, the owner’s authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be authorized to resume.

(CHAPTER 3 GENERAL REGULATIONS)  
(SECTION 302 SPECIFIC LIMITATIONS)

**302.6 Water softener and iron filter backwash.** Water softener or iron filter discharge shall be discharge onto the ground surface, provided that a nuisance is not created.

(CHAPTER 4 SITE EVALUATION AND REQUIREMENTS)  
(SECTION 403 SOIL BORINGS AND EVALUATION)

Soil borings and profile descriptions. Soil borings shall be conducted on all sites, regardless of the type of private sewage system planned to serve the parcel. Borings shall extend at least 3 feet (914 mm) below the bottom of the proposed system. Borings shall be of sufficient size and extent to determine the soil characteristics important to an on-site liquid

waste disposal system. Borehole data shall be used to determine the suitability of soils at the site with respect to zones of seasonal or permanent soil saturation and the depth to bedrock. The use of power augers for soil.

**403.1** borings is prohibited. Soil borings shall be conducted and reported in accordance with Sections 403.1.1 through 403.1.5. Where it is not practical to have borings made with a backhoe, such borings shall be augered or dug by hand.

403.1.1 Number. There shall be not less than three two borings per soil absorption site. Where necessary, more soil borings shall be made for an accurate evaluation of a site. Borings shall be constructed to a depth of not less than 3 feet (914 mm) below the proposed depth of the system.

Exception: Three borings are required for repairs of existing private sewage disposal systems, along with one backhoe excavation at a 5-foot depth.

(SECTION 404 PERCOLATION OR PERMEABILITY EVALUATION))

404.1 General. The permeability of the soil in the proposed absorption system shall be determined by permeability evaluation.

**404.2 Percolation tests and procedures.** Delete in its entirety.

**404.2.1 Percolation test hole.** Delete in its entirety.

**404.2.3 Test procedure, other soils.** Delete in its entirety.

**404.2.4 Mechanical test equipment.** Delete in its entirety.

(SECTION 406 SITE REQUIREMENTS)

TABLE 406.1  
MINIMUM HORIZONTAL SEPARATION DISTANCES  
FOR SOIL ABSORPTION SYSTEMS

ELEMENT	DISTANCE (feet)
Cistern	50
Habitable building, below-grade foundation	25
Habitable building, slab-on-grade	15
Lake, high-water mark	50
Lot line (for new construction)	30
Lot line (for repairs)	10
Reservoir	50
Roadway ditches	10
Spring	100
Streams or watercourse <sup>a</sup>	50
Swimming pool	15
Uninhabited building	10
Water main	50
Water service	10
Water well	100

For SI: 1 foot = 304.8 mm.

a. All natural watercourses depicted on the most current United States Geological Survey (U.S.G.S) 7.5 Minute Series (Topographic) Maps for City of Dardenne Prairie, Missouri shall be left in their natural state.

**406.3 Percolation rate, trench or bed.** Delete in its entirety.

**406.4 Percolation rate, seepage pit.** Delete in its entirety.

(CHAPTER 5 MATERIALS)  
(SECTION 501 GENERAL)

**501.2 Minimum standards.** Materials shall conform to the standards referenced in this code for the construction, installation, alteration or repair of private sewage disposal systems or parts thereof. All new construction requires N.S.F. Class 1 tanks, unless otherwise determined by the Code Official.

Exception: The extension, addition to or relocation of existing pipes with materials of like grade or quality in accordance with Sections 102.6 and 105.

(SECTION 504 TANKS)

**504.3 Steel tanks.** Delete in its entirety.

**504.5 Manholes.** Manhole collars and extensions shall be of the same material as the tank. Manhole covers shall be of concrete or other approved material.

(CHAPTER 6 SOIL ABSORPTION SYSTEMS)  
(SECTION 602 SIZING SOIL ABSORPTION SYSTEMS)

**602.1 General.** Effluent from septic tanks and other approved treatment tanks shall be disposed of by soil absorption or an approved manner. Sizing shall be in accordance with this Chapter for systems with a daily effluent application of three thousand (3,000) gallons (11,356 925 L) or less. Two systems of equal size shall be required for systems receiving effluents exceeding three thousand (3,000) gallons (11,356 L) per day. Each system shall have a minimum capacity of 75 percent of the area required for a single system. An approved means of alternating waste application shall be provided. A dual system shall be considered as one system.

TABLE 603.1 MINIMUM ABSORPTION AREA FOR ONE- AND TWO-FAMILY DWELLINGS Delete in its entirety.

(SECTION 604 OTHER BUILDING SIZING)

**604.1 General.** Calculations to determine the size of absorption field shall be based upon sewage flow rates in Table 2A and soil groups in Tables 13 and 14 in 19 CSR 20-3.060 as currently promulgated or as amended hereafter and as provided in that rule.

TABLE 604.1(1) MINIMUM ABSORPTION AREA FOR OTHER THAN ONE- AND TWO-FAMILY DWELLINGS Delete in its entirety.

TABLE 604.1(2) CONVERSION FACTOR Delete in its entirety.

**604.2 Drain Field Calculations, rounding.** Calculation for the length of the drain field shall be rounded up to the next (100) lineal feet.

(CHAPTER 7 PRESSURE DISTRIBUTION SYSTEMS)  
(SECTION 706 DOSING)

**706.1 General.** The dosing frequency shall be not greater than four times daily. A volume per dose shall be established by dividing the daily waste-water flow by the dosing frequency. The dosing volume shall be not less than (10) times the capacity of the distribution pipe volume. Table 706.1 provides the estimated volume for various pipe diameters.

TABLE 706.1  
ESTIMATED VOLUME FOR VARIOUS DIAMETER PIPES

DIAMETER (inches)	VOLUME (gallons per foot length)
1	0.041
1-1/4	0.064
1-1/2	0.092
2	0.164
3	0.368
4	0.655
5	1.47

- a. for any septic system that requires dosing, the pump tank shall be a (1,000)-gallon concrete single compartment tank equipped with effluent pump with float and high-water alarm. A timer shall dose over a 24-period, instead of on demand.

(CHAPTER 8 TANKS)  
(SECTION 802 SEPTIC TANKS AND OTHER TREATMENT TANKS)

**802.1 General.** Septic tanks shall be fabricated or constructed of monolithic concrete, fiberglass or an approved material. Tanks shall be water tight and fabricated to constitute an individual structure, and shall be designed and constructed to withstand anticipated

loads. The design of prefabricated septic tanks shall be approved. Plans for site constructed concrete tanks shall be approved prior to construction.

**802.2 Design of septic tanks.** Septic tanks shall conform to the design standards set out in 19 CSR 20-3.060(4), as currently promulgated or as amended hereafter.

**802.7.1 Sizing of tank.** The minimum liquid capacity for one- and two-family dwellings shall be in accordance with Table 802.7.1.

TABLE 802.7.1  
SEPTIC TANK CAPACITY FOR ONE- AND TWO-FAMILY DWELLINGS

NUMBER OF BEDROOMS	SEPTIC TANK (gallons)
1-3	1,000
4	1,250
5	1,500
6 or more	footnote a

For SI: 1 gallon = 3.785 L.

- a. For six (6) or more bedrooms, the septic tank shall be sized on the basis similar to an establishment as set out in 19 CSR 20-3.060(4)(B)17.

**802.7.2 Other buildings.** For buildings, the liquid capacity shall be increased above the seven hundred fifty (750) gallon (2839 L) minimum as established in Table 802.7.1. In buildings with kitchen or laundry waste, the tank capacity shall be increased to receive the anticipated volume for a 24-hour period from the kitchen or laundry or both. The liquid capacities established in Table 2A "Quantities of Domestic Sewage Flows" in Section B 19 CSR 20-3.060 do not include employees.

Exception: One- or two-family dwellings.

**Table 802.7.2 Additional Capacity for Other Buildings.** Delete in its entirety.

**802.8 Installation.** Septic and other treatment tanks shall be located with a horizontal distance not less than as specified in Table 1 "Minimum Set-Back Distances" in 19 CSR 20-3.060(4), as currently promulgated or as amended hereafter, except that for new construction: (a) sewage tanks shall be one hundred (100) feet from any private water supply, and (b) both sewage tanks and absorption fields (disposal areas) shall be thirty (30) feet from any property line. Tanks installed in ground water shall be securely anchored. A



three (3) inch thick (76 mm) compacted bedding shall be provided for all septic and other treatment tank installations. The bedding material shall be sand, gravel, granite, limerock or other non-corrosive materials of such size that the material passes through a five tenths (0.5) inch (12.7 mm) screen.

**Table 802.8 Minimum Horizontal Separation Distances for Treatment Tanks.** Delete in its entirety.

**802.11.1 Capacity sizing.** The working capacity of the dosing or pumping chamber shall be sized to permit automatic discharge of the total daily sewage flow with discharge occurring not more than four times per 24hours. Minimum capacity of a dosing chamber shall be one thousand (1,000) gallons (3790 L) and a space shall be provided between the bottom of the pump and floor of the dosing or pumping chamber. A dosing chamber shall have a 1-day holding capacity located above the high-water alarm for one- and two-family dwellings based on 120gallons (455 L) per day per bedroom, or in the case of other buildings, in accordance with Section 802.7. For one- and two-family dwellings, pump chambers shall at a minimum be one-1,000-gallon, single compartment, time-dosed tanks.

**Table 802.11.1 Pump Chamber Sizes.** Delete in its entirety.

**Table 903.1(3) Design criteria for a three-bedroom home for a mound on a 0- to 6-percent slope with loading rates of 450) gallons per day for slowly permeable soil.** Delete in its entirety.

**Table 903.1(4) Design criteria for a four (4) bedroom home for a mound on a zero- to six-percent slope with loading rates of six hundred (600) gallons per day for slowly permeable soil.** Delete in its entirety.

**Table 903.1(5) Design criteria for a one (1) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of one hundred fifty (150) gallons per day for shallow permeable soil over creviced bedrock.** Delete in its entirety.

**Table 903.1(6) Design criteria for a two (2) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of three hundred (300) gallons per day for shallow permeable soil over creviced bedrock.** Delete in its entirety.

**Table 903.1(7) Design criteria for a three (3) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of four hundred fifty (450) gallons per day for shallow permeable soil over creviced bedrock.** Delete in its entirety.

**Table 903.1(8) Design criteria for a four (4) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of six hundred (600) gallons per day for shallow permeable soil over creviced bedrock.** Delete in its entirety.

**Table 903.1(9) Design criteria for a one (1) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of one hundred fifty (150) gallons per day for permeable soil with a high water table. Delete in its entirety.**

**Table 903.1(10) Design criteria for a two (2) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of three hundred (300) gallons per day for permeable soil with a high water table. Delete in its entirety.**

**Table 903.1(11) Design criteria for a three (3) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of four hundred fifty (450) gallons per day for permeable soil with a high water table. Delete in its entirety.**

**Table 903.1(12) Design criteria for a four (4) bedroom home for a mound on a zero- to twelve-percent slope with loading rates of six hundred (600) gallons per day for permeable soil with a high water table. Delete in its entirety.**

**Table 903.5.5 Downslope and upslope width corrections for mounds on sloping sites. Delete in its entirety.**

**Table 903.6 Infiltrative capacity of natural soil. Delete in its entirety.**

I. Section 500.310. Private Sewage Disposal Permitting.

A. Prior to the transfer of ownership of any property served by a private sewage disposal system and/or private well, the seller shall have the private sewage disposal system and/or private well inspected for compliance with this Code and with the other standards enumerated in Section 626.020, Ordinances of Dardenne Prairie, Missouri. The inspections shall be conducted by a third-party inspector licensed by St. Charles County. Inspection fees shall be the responsibility of the seller. All violations found at the time of inspection shall be corrected by either the seller or the buyer. If the buyer accepts responsibility to correct the violations, the buyer must meet the following requirements:

1. The buyer must sign an affidavit accepting responsibility for correcting violations and deliver that affidavit to the Dardenne Prairie Division of Building and Code Enforcement; and

2. Either the buyer or seller must establish an escrow account as provided by law in which is deposited a fund sufficient to cover the costs of correcting violations, as determined by the Director of Dardenne Prairie of Building and Code Enforcement based on bids or other documentation provided by the buyer or seller. That escrow account shall be established pursuant to an escrow or lender's agreement prepared on a form to be developed and supplied by the Director of the Dardenne Prairie Division of Building and Code Enforcement and complying substantially with forms authorized by City of Dardenne Prairie. The Director shall release escrow funds only when the private sewage disposal system and/or private well are brought into compliance with applicable codes.

## **SECTION 500.127: VIOLATION AND PENALTIES**

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

## **ARTICLE XI. MISCELLANEOUS PROVISIONS**

### **SECTION 500.130: LAND-DISTURBING ACTIVITY, ETC., CREATING NUISANCE CONDITIONS TO STREETS, PUBLIC OR PRIVATE PROPERTY**

- A. No property owner or their designee (contractor, etc.) shall engage in any land-disturbing activity or any other action which causes or permits any soil, mud, earth, sand, gravel, rock, stone, concrete or other materials, debris or liquids to be deposited, dropped upon or to roll, flow, stand or wash upon or over any public street, street improvement, road, sewer, storm drain, watercourse, right-of-way, or any other public or private property in a manner to interfere with the use of such property, or which creates a nuisance or a hazardous condition which is detrimental to the property, health, safety and welfare of the public.
- B. No property owner or their designee (contractor etc) shall, when hauling soil, earth, sand, gravel, mud, rock, stone, concrete, building materials or any other materials, debris or liquids over any public street, road, alley, allow such materials or liquids to blow, drop, be placed or spill over and upon such street, road, alley, public property without permission from the City of Dardenne Prairie.
- C. The operator of equipment engaged in hauling shall not permit soil, mud, earth, sand, gravel, rock, stone, concrete or other materials to fall from the vehicle or equipment upon any street, road, alley or public property without written permission from the City of Dardenne Prairie.
- D. No person shall operate a vehicle hauling rock, sand, gravel, dirt or similar material over any street or roadway unless there is a tarp or similar covering pulled over the load unless permission is obtained from the City of Dardenne Prairie.
- E. All matter or objects described in this Section shall be immediately removed in a prompt and on-going manner as it occurs and not as a cumulative effort at the end of the day or project.
- F. Such property owner who causes any soil, mud, earth, sand, gravel, rock, stone, concrete or other materials, debris or liquids to be deposited or to roll, flow, wash or drop onto any public street, road, alley or other public or private property shall be directed to immediately remove such materials or liquids; and any person failing or refusing to do so shall be subject to a "stop work order" issued by the City Engineer being placed on such project until such time as the violation has been corrected.

- G. The employee and their firm, contractor, subcontractor and/or supplier found to be in violation of any provision of this Section shall be required to present to the Board of Aldermen, at their next regularly scheduled meeting, explanation of why such violation occurred and provision for correcting such violation in the future.

**SECTION 500.135: CLOSURE AND REMOVAL OF UNDERGROUND STORAGE TANKS – FINANCIAL RESPONSIBILITY**

- A. *Definitions.* As used in this Section, the following terms shall have these prescribed meanings:

*OPERATOR:* Any person in control of, or having responsibility for, the operation of an underground storage tank.

*OWNER:* Any person who owns an underground storage tank in the City on or after the effective date of this Section. The term does not include any person who, without participating in the operation of an underground storage tank or not engaged in petroleum production, refining or marketing, holds indicia of ownership solely to protect a security interest in or lien on the underground storage tank or the property where the underground storage tank is located.

*UNDERGROUND STORAGE TANK:* Any one (1) or more vessels, including any pipes connected thereto, used to contain an accumulation of petroleum products and the volume of which, including the volume of the underground pipes connected thereto, is ten percent (10%) or more beneath the surface of the ground. Exemptions from this definition and the regulations promulgated under this Section include:

1. An underground storage tank whose capacity is eleven hundred (1,100) gallons or less and used for storing motor fuel for agricultural purposes;
2. An underground storage tank used for storing heating oil for consumptive use on the premises where stored;
3. Pipeline facilities, including gathering lines, regulated under:
  - a. The Federal Natural Gas Pipeline Safety Act of 1968 (P.L. 90-481), as amended; or
  - b. The Federal Hazardous Liquid Pipeline Act of 1979 (P.L. 96-129), as amended;
4. Pipeline facilities regulated under State laws comparable to the provisions of law referred to in paragraph (3) of this Subsection;
5. Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations; and

6. Storage tanks situated in an underground area, such as a basement, cellar, mineworking, drift, shaft or tunnel, if the storage tank is situated upon or above the surface of the floor.

B. *Closure And Removal Of Underground Storage Tanks.*

1. It shall be unlawful for any owner or operator of an underground storage tank to fail to properly close and remove the same within twelve (12) months after cessation of its active use.
2. A cash escrow payment to the City or a performance bond issued in the City's favor by a surety and in a form acceptable to the City, in the amount of ten thousand dollars (\$10,000) per underground storage tank, shall be required by the owner or operator of any underground storage tank located within the City and which stores or is intended to store petroleum products. Such bond shall contain the following endorsement: "This bond may not be canceled or allowed to lapse until sixty (60) days after receipt by the City, by certified mail, return receipt requested, of a written notice from the issuer of the bond of its intent to cancel or not to renew." The amount of the cash escrow payment or bond required by this Section shall be adjusted annually in an amount equal to ten thousand dollars (\$10,000.00) multiplied by a fraction the numerator of which is the CPI (hereinafter defined) most recently published prior to January first (1st) of the current year and the denominator of which is the CPI published as of the time this Section is originally enacted. As used herein, "CPI" shall mean the Consumer Price Index - All Urban Consumers (CPI-U), U.S. City Average, All Items (1982-84=100) as published by the Bureau of Labor Statistics of the United States Department of Labor, or such successor index thereto as may be published by the U.S. Government (or if not published the most comparable index thereto). In no event will there be a reduction in the bond requirement because of any decrease in the CPI from one year to the next.
3. The bond or cash escrow payment shall be returned to the owner or operator who submitted the same upon verification by the City Engineer that the underground storage tank and all of its pumps, pipes and related equipment have been removed from the ground and disposed of pursuant to Missouri Department of Natural Resources regulations and any other applicable State or Federal law. Evidence that the applicable State and Federal laws have been complied with during the removal of the underground storage tanks may be demonstrated by obtaining a "No Further Action Needed" letter from the Missouri Department of Natural Resources or similar correspondence from the Missouri Department of Natural Resources or United States Environmental Protection Agency indicating that the underground storage tanks have been properly removed, any and all environmental hazards have been appropriately resolved, and that the property on which it was located does not pose an unacceptable risk to the environment.

4. If the owner or operator fails to properly remove an underground storage tank and all of its pumps, pipes and related equipment within twelve (12) months after cessation of its active use, the City Engineer shall have full power and authority to utilize the cash escrow payment or to draw upon the bond in order to effectuate the proper removal and disposal of the underground storage tank and all pumps, pipes and related equipment.
  
5. An owner or operator of an underground storage tank shall at all times maintain insurance for such tank through the Missouri Petroleum Storage Tank Insurance Fund or an insurance carrier acceptable to the City which provides coverage for the costs of all cleanup resulting from any contamination of the soil due to underground storage tank leakage, or provide a letter issued by the Missouri Department of Natural Resources, Hazardous Waste Program, Tanks Section, evidencing its review of a declaration and certification endorsement for financial responsibility filed by the owner or operator with the Missouri Department of Natural Resources pursuant to 10 Mo. CSR 20-11 and requiring no further action regarding financial responsibility by the owner or operator.

## ARTICLE XII

### ENERGY CONSERVATION CODE

#### SECTION 500.140: ENERGY CONSERVATION CODE– ADOPTION

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Energy Conservation Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Energy Conservation Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Energy Conservation Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Energy Conservation Code, 2021 edition, as published by the International Code Council.* Wherever the terms “Name of Jurisdiction” or “Local Jurisdiction” appear, it shall be deemed to mean “City of Dardenne Prairie, Missouri”.
- C. Wherever the term “Department of Building Safety” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and such other person or persons as may be designated by the City Administrator.
- D. Wherever the term “Building Official” appears, it shall mean the City Engineer, the Code Enforcement Officer of the City and such other person or persons as may be designated by the City Administrator.

#### SECTION 500.145: ENERGY CONSERVATION CODE – AMENDMENTS

- A. This Section is reserved for the City’s future use.

#### SECTION 500.147: VIOLATION AND PENALTIES

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

**ARTICLE XIII**

**FUEL GAS CODE**

**SECTION 500.150: FUEL GAS CODE– ADOPTION**

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Fuel Gas Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Fuel Gas Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Energy Conservation Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Fuel Gas Code Code, 2021 edition, as published by the International Code Council.* Wherever the terms “*Name of Jurisdiction*” or “*Local Jurisdiction*” appear, it shall be deemed to mean “*City of Dardenne Prairie, Missouri*”.
- C. Wherever the term “*Department of Building Safety*” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and such other person or persons as may be designated by the City Administrator.
- D. Wherever the term “*Building Official*” appears, it shall mean the City Engineer, the Code Enforcement Officer of the City and such other person or persons as may be designated by the City Administrator.

**SECTION 500.155: FUEL GAS CODE – AMENDMENTS**

- A. The International Fuel Gas Code, 2021 edition, as published by the International Code Council is amended by addition, deletions and changes including the changing of Articles, Sections, Subsections and Subsection titles and the addition of new Sections and Subsections so that such amended and added Articles, Sections and Subsections read as follows:

(CHAPTER 1 SCOPE AND ADMINISTRATION)  
(SECTION 101 GENERAL)

(SECTION 106 (IFGC) PERMITS)



**106.3 Application for permit.** (replace with) Each application for a permit shall be made to the Code Official on a form or by a method provided by the department, and shall include a general description of the proposed work, its location, and the estimated cost of construction.

**106.5.4** (replace with) **Permit extensions.** The *code official* is authorized to grant extension of time for not more than 180 days. If work is not completed when the permit expires, a new permit must be applied for until the work is completed and has passed the final inspection.

#### (SECTION 109 (IFGC) FEES)

**109.2 Schedule of permit fees.** (replace with) The fees for all permits shall be as indicated in the Dardenne Prairie Municipal Code.

**109.2.1** (add new section) **Schedule of plan review fees.** All fees for plan review related to required permits shall be as indicated in the Dardenne Prairie Municipal Code.

**109.2.2** (Add new section) **Permit extension fees.** Permit extension fees for new structures, remodeling, interior finishes, and exterior improvement permits shall be based upon the cost of construction of remaining work and shall at no time be less than the minimum permit fee for the type of work permitted. The cost of renewal for all other permit types shall be the ½ the cost of the original permit.

**109.4 Work commencing before permit issuance.** (replace with) Any person who commences any work before obtaining the necessary permits shall be subject to penalties as prescribed by law. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

**109.6 Refunds.** (replace with) The code official may approve the refunding of permit and/or inspection fees only as permitted by the Dardenne Prairie Municipal Code and City policy.

#### **SECTION 500.157: VIOLATION AND PENALTIES**

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

## ARTICLE XIV

### SWIMMING POOL AND SPA CODE

#### SECTION 500.160: SWIMMING POOL AND SPA CODE– ADOPTION

- A. A certain document, one (1) copy of which was placed on file in the office of the City Clerk, said copy being marked and designated as the International Swimming Pool and Spa Code, 2021 edition, as published by the International Code Council, as amended, be and is hereby adopted as the Swimming Pool and Spa Code of the City; and all of the regulations, provisions, penalties, conditions, and terms of the International Swimming Pool and Spa Code, 2021 edition, as published by the International Code Council, are hereby referred to, adopted and made part thereof, as if fully set out in this Article with the additions, insertions, deletions, and changes prescribed in this Article.
- B. *Jurisdictional Titles Throughout the International Swimming Pool and Spa Code, 2021 edition, as published by the International Code Council.* Wherever the terms “Name of Jurisdiction” or “Local Jurisdiction” appear, it shall be deemed to mean “City of Dardenne Prairie, Missouri”.
- C. Wherever the term “Department of Building Safety” appears it shall be deemed to mean the department consisting of the City Engineer and the Code Enforcement Officer of the City of Dardenne Prairie, Missouri, and such other person or persons as may be designated by the City Administrator.
- D. Wherever the term “Building Official” appears, it shall mean the City Engineer, the Code Enforcement Officer of the City and such other person or persons as may be designated by the City Administrator.

#### SECTION 500.165: SWIMMING POOL AND SPA CODE – AMENDMENTS

- A. This Section shall be reserved for the City’s future use.

#### SECTION 500.167: VIOLATION AND PENALTIES

Any person violating any of the provisions of the Code adopted in this Article shall be deemed in violation of this Article and upon conviction thereof shall be fined in an amount not exceeding five hundred dollars (\$500.00) or be imprisoned for a period of not exceeding ninety (90) days, or both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

**ARTICLE XV. FEES**

**SECTION 500.170: PERMIT AND PLAN REVIEW FEES.**

- A. The City of Dardenne Prairie hereby adopts the most recent Building Valuation Data issued by the International Code Council, which shall be filed with and available at the office of the City Clerk. Whenever the International Code Council issues an updated or revised Building Valuation Data report, the Code Enforcement Officer is hereby authorized to administratively adopt the new valuation and utilize it for the purposes hereinafter provided if the Code Enforcement Officer is satisfied in the exercise of the Code Enforcement Officer’s administrative discretion that such data is reasonable with respect to construction in the Dardenne Prairie area.
  
- B. The City of Dardenne Prairie hereby adopts permit fee multipliers of:
  - 1. 0.0045 for issuance of building permits, and
  - 2. 0.0015 for plan review

for use in determining fees based upon building valuation data as hereinafter provided.

- C. The fees for plan review and building permits for new commercial and residential construction, and new additions to commercial construction, governed by the codes adopted in this Chapter other than the items specified in Subsection (D) of this Section shall be calculated as follows: the applicable building valuation shall be multiplied by the factors adopted in Subsection (B) above to determine the plan review fee and the building permit fee, provided however, that there shall be minimum fee plan review of two hundred fifty dollars (\$250.00).
  
- D. The plan review and building permit fees for the following construction shall be as specified herein:

Basement Finish	\$150.00
Deck or Porch	\$150.00
Deck Roof or Porch Roof	\$150.00
In-Ground Swimming Pool	\$150.00
Above Ground Swimming Pool	\$75.00
Hot Tub/Spa	\$75.00
Fence	\$50.00
Retaining Wall (4 feet or higher)	\$75.00
Electrical Service Upgrade or Install	\$75.00
Room Additions	\$150.00
Garage	\$150.00
Accessory Building	\$150.00

Interior Finish	\$150.00
Repair/Remodel	\$150.00
Attached Pergola/Pergolas in piers	\$150.00
Steps/stairs for existing Deck/Porch	\$75.00
Egress Window	\$50.00
Septic System	\$150.00
Health & Safety Occupancy Permit	\$75.00

- E. In calculating fees based on total cost of construction, whenever the Code Enforcement Officer believes information relating to the total cost of construction provided by an applicant is inaccurate, unrealistic, incomplete or insufficient for the work involved, the Code Enforcement Officer may require additional information, including, but not limited to, copies of signed contracts, and/or may utilize such figures which will, in the Code Enforcement Officer's professional experience and judgment, more accurately reflect the value of the materials to be utilized and the work to be performed.
- F. The fees provided in this Section shall include one (1) original inspection of the relevant work and one (1) reinspection. Any additional reinspections reasonably required to complete oversight and approval of the relevant work will be charged to the permit holder at the rate of thirty-five dollars (\$35.00) per inspection as an additional fee.
- G. The Code Enforcement Officer at his/her discretion may issue integrated building, plumbing, electrical and/or mechanical permits on a single permit application. The total integrated permit fee shall be the cumulative total of the fees applicable to each permit and/or plan review separately.
- H. Permit applications shall include the name, signature and license number of the appropriate licensed subcontractor. Any change in the identity of the named subcontractor after issuance of the permit must be made in writing noting the project, owner, subcontractor, license number and shall result in the assessment of a transfer fee of fifty dollars (\$50.00) for each change.
- I. All fees must be paid in full prior to issuance of the relevant permit. Any additional fees charged must be paid in full before the relevant work being approved and/or occupancy of the relevant construction is permitted.

**SECTION 2. Severability.** If any term, condition, or provision of this Ordinance shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective and each and every remaining provision hereof shall be valid and shall be enforced to the fullest extent permitted by law, it being the intent of the Board of Aldermen that it would have enacted this Ordinance without the invalid or unenforceable provisions. In the event of a subsequent change in applicable law so that the provision which had been held invalid is no longer invalid, said

provision shall thereupon return to full force and effect without further action by the City and shall thereafter be binding.

**SECTION 3. Effective Date.** This Ordinance shall be in full force and take effect from and after the date of its final passage and approval.

**SECTION 4. Savings.** Nothing contained herein shall in any manner be deemed or construed to alter, modify, supersede, supplant or otherwise nullify any other Ordinance of the City or the requirements thereof whether or not relating to or in any manner connected with the subject matter hereof, unless expressly set forth herein.

Read two times, passed, and approved this 20<sup>th</sup> day of December, 2023.

John W. Botway  
As Presiding Officer and as Mayor

Attest:

Kim Clark  
City Clerk

Approved this 20<sup>th</sup> day of December, 2023.

John W. Botway  
Mayor

Attest:

Kim Clark  
City Clerk