

ORDINANCE NO. 15,311

AN ORDINANCE to amend the Municipal Code of the City of Des Moines, Iowa, 2000, adopted by Ordinance No. 13,827, passed June 5, 2000, as heretofore amended, by repealing and replacing Sections 50-26, 50-29, 50-33, 50-34 and 50-35 thereof, and by enacting a new Section 50-32.05 and a new subsection 24 to Section 82-21, to bring the Flood Plain Development Regulations into compliance with the minimum requirements for participation in the National Flood Insurance Program.

BE IT ORDAINED by the City Council of the City of Des Moines, Iowa:

Section 1. That the Municipal Code of the City of Des Moines, Iowa, 2000, adopted by Ordinance No. 13,827 passed June 5, 2000, as amended by Ordinance No.14,147 passed October 7, 2002, Ordinance No.14,231 passed May 5, 2003, Ordinance No.14,326 passed March 22, 2004, and Ordinance No.14,890 passed September 28, 2009, be and is hereby amended by repealing and replacing Sections 50-26, 50-29, 50-33, 50-34 and 50-35 thereof, and by enacting a new Section 50-32.05 and a new subsection 24 to Section 82-21, to bring the Flood Plain Development Regulations into compliance with the minimum requirements for participation in the National Flood Insurance Program, as follows:

Sec. 50-26. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Basement means any enclosed area of a building which has its floor below ground level (subgrade) on all sides.

Development means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Factory-built home means any structure, designed for residential use, which is wholly or in substantial part made, fabricated, formed or assembled in manufacturing facilities for installation or assembly and installation on a building site. For the purposes of this article, factory-built homes include mobile homes, manufactured homes and modular homes and also include park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days.

Flood means a general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of streams or rivers or from the unusual and rapid accumulation or runoff of surface waters from any source.

Flood insurance rate maps means the official maps on which the Federal Insurance Administration has delineated both the flood hazard areas and the risk premium zones applicable to the city.

Flood insurance studies means the city of Des Moines' flood insurance study dated July 15, 1988, and the Warren County flood insurance study dated October 16, 2014, including but not limited to panels 19181C0043F, 0044F, 0065F, 0068F, 0132F, 0151F, 0152F, 0156F, all of which are made a part of this article by reference, together with the flood profiles and all explanatory material contained therein, SUBJECT TO any amendments thereto adopted by ordinance enacted by the city council pursuant to section 50-33. Flood insurance rate maps, flood profiles and the water surface elevation of the 100-year flood are contained within the flood insurance studies. The flood insurance studies shall be on file in the office of the city engineer.

Floodplain means all land area within the city subject to inundation by water during the 100-year flood. The floodplain includes all areas designated as A zones on the flood insurance rate maps.

Floodproofing means any combination of structural and nonstructural additions, changes or adjustments to structures, including utility and sanitary facilities, which will reduce or eliminate flood damage to such structures.

Floodway means the channel of a river or other watercourse and the adjacent land areas designated to carry the waters of a 100-year flood without increasing the water surface elevation of that flood more than 1.0 foot. Floodways include the areas designated as Floodway Areas within Zone AE on the flood insurance rate maps in the flood insurance studies. The city council may by ordinance designate additional floodway areas which have been identified through engineering studies.

Highest adjacent grade means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

Historic structure means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered

- historic district;
- (3) Individually listed on the state register of historic places; or
- (4) Individually designated as a city landmark.

Lowest floor means the floor of the lowest enclosed area in a building or factory-built home, including a basement, except that when the lowest enclosed area satisfies all of the criteria set forth in the following subsections, the lowest floor is the floor of the next highest enclosed area that does not satisfy such criteria:

- (1) The enclosed area is designed to flood to automatically equalize hydrostatic pressure from flood forces on exterior walls by allowing for the entry and exit of floodwaters through walls or openings which satisfy the requirements of subsection 50-34(4) of this article.
- (2) The enclosed area is unfinished (i.e., not carpeted, drywalled, etc.) and is used solely for low damage potential uses such as building access, parking or storage.
- (3) All machinery and service facilities (e.g., hot water heater, furnace, electrical service) contained in the enclosed area are located at least one foot above the 100-year flood level.
- (4) The enclosed area is not a basement, as defined in this section.

Minimum floodproofing/flood protection elevation means, for all floodplain areas except areas designated as AO zones on the flood insurance rate maps, the elevation of one foot above the 100-year flood level. For all areas designated as AO zones on the rate maps, the minimum floodproofing/flood protection elevation shall be equal to the number of feet above the highest adjacent grade as specified on the rate map, or at least two (2) feet if no depth is specified.

100-year flood means a flood, the magnitude of which has a one-percent chance of being equaled or exceeded in any given year and which, on the average, will be equaled or exceeded at least once every 100 years. All determinations of the 100-year flood level shall be based on data provided by the Federal Insurance Administration. If the Federal Insurance Administration has not provided sufficient data to make a determination, the city shall obtain, review and reasonably utilize data available from the state department of natural resources and from any other source in making such determination.

100-year flood level means the elevation that floodwaters would reach at a particular site during the occurrence of the 100-year flood.

Recreational vehicle means a vehicle which is:

- (1) Built on a single chassis;
- (2) Four hundred square feet or less when measured at the largest horizontal projection;
- (3) Designed to be self-propelled or permanently towable by a light-duty truck; and
- (4) Designed primarily not for use as a permanent dwelling but as temporary

living quarters for recreational, camping, travel, or seasonal use.

Start of construction includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement or other improvement was within 180 days of the permit date. The *actual start* means either the first placement of permanent construction of a structure on a site, such as the pouring of a slab or footing, the installation of piles, the construction of columns, any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units and not part of the main structure. For a substantial improvement, the *actual start of construction* means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means anything constructed or erected with a fixed location on the ground or attached to something having a fixed location on the ground. Structures include but are not limited to buildings, factory-built homes, gas or liquid storage tanks and signs.

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, which satisfies either of the following criteria:

- (1) The cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement.
- (2) Any addition which increases the original floor area of a building or factory-built home by 25 percent or more. All additions constructed after February 4, 1981, shall be added to any proposed addition in determining whether the total increase in original floor space would exceed 25 percent.

The term "substantial improvement" includes structures which have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include either: (i) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to ensure safe living conditions; or (ii) any alteration which will not preclude the structure's continued designation as a "historic structure."

Variance means a grant of relief by the city council from the terms of this chapter pursuant to section 50-35(c).

Violation means the failure of a structure or other development to be fully compliant

with the requirements of this chapter. A structure or other development without a certificate of compliance or other evidence of compliance with the requirements in section 50-34 is presumed to be in violation until such time as that documentation is provided.

Sec. 50-29. Purpose.

It is the purpose of this article to promote the public health, safety and general welfare by minimizing those flood losses described in section 50-28 of this article with provisions designed to:

- (1) Restrict or prohibit uses which are dangerous to health, safety or property in times of flood or which cause excessive increases in flood heights or velocities.
- (2) Require that uses vulnerable to floods, including public utilities which serve such uses, be protected against flood damage at the time of initial construction.
- (3) Ensure that eligibility is maintained for property owners in the community to purchase flood insurance through the National Flood Insurance Program.
- (4) Protect individuals from buying lands which may not be suited for their intended purposes because of flood hazard.

Section 50-32.05. Administration.

A. The City Engineer is hereby designated to administer and implement the provisions of this chapter.

B. The duties of the City Engineer under this chapter shall include, but not be limited to:

- (1) Review of all applications for certificates of compliance to assure that sites are reasonably safe from flooding and that the performance standards of this chapter have been satisfied.
- (2) Review all applications for certificates of compliance to assure that all necessary permits have been obtained from those governmental agencies from which approval is required by federal or state law, including section 404 of the federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. §1334.
- (3) Review all subdivision proposals and other new development, including manufactured home parks, to determine whether such proposals will be reasonably safe from flooding.
- (4) Record and maintain a record of: (i) elevation of the lowest floor (including basement) of all new or substantially improved structure; or (ii) the elevation to which all new or substantially improved structures have been floodproofed.
- (5) Issue certificates of compliance for all approved applications.
- (6) Notify adjacent communities and the state department of natural resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

Sec. 50-33. Floodplain boundaries.

(a) The boundaries of the floodplain areas are shown on the flood insurance rate maps contained within the flood insurance studies. The city council may by ordinance designate additional floodway areas which have been identified through engineering

studies.

- (b) The general location of the floodplain boundaries shall be determined by scaling distances on the flood insurance rate maps; however, when a more precise determination is needed as to the exact location of the boundary in relation to a particular property, the determination shall be based upon elevation, using the elevation reference mark set forth in the flood insurance studies. If the elevation reference mark has been obliterated, a new mark, referenced to the National Geodetic Vertical Datum of 1929, or the North American Vertical Datum of 1988 if located on the Warren County Flood Insurance Rate Maps dated October 16, 2014, shall be provided by the city engineer utilizing precise level crews of either the city or the Federal Insurance Administration. The elevation of the property in question shall be shown in a report prepared by a person registered as both a land surveyor and professional engineer under state laws, which report shall be approved by the city engineer as to method and form.
- (c) If such report indicates that the boundary in question is significantly different from the boundary shown on the flood insurance rate maps, such report shall be forwarded by the city engineer to the state department of natural resources and to the Federal Emergency Management Agency for their examination. If both the state department of natural resources and the Federal Emergency Management Agency notify the city that they are in concurrence with such report, the city engineer shall thereafter recommend that the city council pass an ordinance changing the boundary in question.
- (d) If the city council passes an ordinance changing the boundary in question or adding a new floodway area, the ordinance number and the date of the change shall be recorded by the city engineer on the flood insurance rate maps.
- (e) In floodplain areas where the flood insurance study has not provided floodway and 100-year flood elevation information, the applicant shall be responsible for providing the state department of natural resources with sufficient technical information for the computation of such information. The city shall seek the concurrence of the department of natural resources before issuing a building permit in such areas.

Sec. 50-34. Performance standards.

No structure or land shall hereafter be placed to a use and no structure shall be constructed, located, expanded, converted to a new use or structurally altered without full compliance with the terms of this chapter. All uses within floodplain areas must be consistent with the need to minimize flood damage and shall meet the following applicable performance standards:

- (1) All structures and factory-built homes for which the start of construction commenced on or after February 4, 1981, or to which substantial improvements have been made on or after February 4, 1981, shall be:
 - a. Adequately anchored to prevent flotation, collapse or lateral movement of the

- b. structure during conditions of flooding;
 - b. Constructed with materials and utility equipment resistant to flood damage;
 - c. Constructed by methods and practices minimizing flood damage; and
 - d. Constructed with any electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 - e. Reviewed to assure that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including section 404 of the federal Water Pollution Control Act of 1972, 22 U.S.C. §1334.
- (2) All residential buildings and factory-built homes for which the start of construction commenced on or after February 4, 1981, or to which substantial improvements have been made on or after February 4, 1981, shall have the lowest floor, including basement, elevated equal to or above the minimum floodproofing/flood protection elevation. Elevation shall be achieved by means of compacted fill or by such other methods, including piers, as the city engineer determines to be adequate to support the structure as well as withstand the various forces and hazards associated with flooding.
- (3) All nonresidential buildings for which the start of construction commenced on or after February 4, 1981, or to which substantial improvements have been made on or after February 4, 1981, shall have the lowest floor, including basement, elevated equal to or above the minimum floodproofing/flood protection elevation or, together with attendant utility and sanitary systems, shall be floodproofed to such a level. When floodproofing is utilized, a professional engineer registered in the state shall certify that the floodproofing methods used are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the 100-year flood and that the structure, below the minimum floodproofing/flood protection elevation, is watertight with walls substantially impermeable to the passage of water. A record of the certification indicating the specific elevation, in relation to National Geodetic Vertical Datum, to which any buildings are floodproofed shall be maintained by the office of the building official.
- (4) Within all buildings and factory-built homes for which the start of construction commenced on or after February 4, 1981, or to which substantial improvements have been made on or after February 4, 1981, any enclosed areas below the lowest floor shall be designed to automatically equalize hydrostatic pressure from flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement either must be certified by a registered professional engineer or must meet the following criteria:
- a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

- b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, valves, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.
 - e. Such enclosed areas shall be used solely for parking of vehicles, building access and low damage potential storage.
- (5) Utility and sanitary systems shall satisfy the following criteria:
- a. All new and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the system as well as the discharge of effluent into floodwaters. Wastewater treatment facilities shall be provided with a level of flood protection equal to or above the minimum floodproofing/flood protection elevation.
 - b. On-site waste disposal systems shall be located or designed to avoid impairment to the system or contamination from the system during flooding.
 - c. New or replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system. Water supply treatment facilities shall be provided with a level of protection equal to or above the minimum floodproofing/flood protection elevation.
 - d. Utilities such as gas and electrical systems shall be located and constructed to minimize or eliminate flood damage to the system and the risk associated with such flood damaged or impaired systems.
- (6) Flood control structural works such as levees and floodwalls shall provide, at a minimum, protection from a 100-year flood with a minimum of three feet of design freeboard and shall provide for adequate interior drainage. In addition, structural flood control works shall be approved by the state department of natural resources.
- (7) Storage of materials and equipment that are flammable, explosive or injurious to human, animal or plant life is prohibited unless elevated equal to or above the minimum floodproofing/flood protection elevation. Other material and equipment must either be:
- a. Similarly elevated;
 - b. Not subject to major flood damage and anchored to prevent movement due to floodwaters; or
 - c. Readily removable from the area within the time available after flood warning.
- (8) No use shall affect the capacity or conveyance of the channel or floodway of any tributary to the main stream, drainage ditch or other drainage facility or system.
- (9) All subdivisions shall be consistent with the need to minimize flood damages and shall have adequate drainage provided to reduce exposure to flood damage. Development associated with subdivision proposals shall meet the applicable performance standards. Subdivision proposals intended for residential development

shall provide all lots with a means of vehicular access that will remain dry during occurrence of the 100-year flood.

- (10) Detached garages, sheds and similar detached accessory structures are exempt from the 100-year flood elevation and floodproofing requirements, provided all of the following criteria are met:
 - a. The structure shall not be used for human habitation.
 - b. The structure shall be designed to have low flood damage potential.
 - c. The structure shall be constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters.
 - d. The structure shall be firmly anchored to prevent flotation which may result in damage to other structures.
 - e. The structure's service facilities such as electrical and heating equipment shall be elevated or floodproofed to a level equal to or above the minimum floodproofing/flood protection elevation.

- (11) Recreational vehicles shall not be placed on sites within the areas designated as A1-30, AO and AE on the flood insurance rate maps unless the recreational vehicle will:
 - a. Be on the site for fewer than 180 consecutive days;
 - b. Be fully licensed and ready for highway use; or
 - c. Meet the permit, elevation and anchoring requirements for a factory-built home.

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by disconnect-type utilities and security devices, and has no permanent attached additions.

- (12) In the AH and AO Zones as shown by the flood insurance rate maps, all structures on slopes for which the start of construction commenced on or after July 1, 2003, or to which substantial improvements have been made after July 1, 2003, shall have adequate drainage paths to guide floodwaters around and away from the structure.

- (13) All encroachments, including fill, new construction, substantial improvements, and other development, within a designated floodway are hereby prohibited unless it has been demonstrated to the reasonable satisfaction of the city engineer through hydrologic and hydraulic analysis performed in accordance with standard engineering practices that the proposed encroachment will not result in any increase in flood levels within the flood plain during the occurrence of a 100-year flood.

Sec. 50-35. Certificate of compliance.

- (a) *Required.* An application for a certificate of compliance shall be filed with the city permit and development center and a certificate of compliance must be issued pursuant to subsection (c) of this section prior to commencement of any proposed development or encroachment within a floodplain area. No application for any of the following shall be approved respecting proposed development within a floodplain area unless a certificate of compliance has been issued pursuant to subsection (c) of

this section:

- (1) Site plan approval, pursuant to section 82-207 of this Code.
- (2) Grading permit approval, pursuant to section 42-86 of this Code.
- (3) Building permit approval, pursuant to chapter 26 of this Code.
- (4) Subdivision approval, pursuant to chapter 106 of this Code.
- (5) Occupancy permit approval, pursuant to division 5 of article II of chapter 134 of this Code.
- (6) Development plan approval, pursuant to division 11 (R-5), division 12 (R-6), division 13 (PUD), division 14 (PBP) and division 23 (C-4) of article III of chapter 134 this Code.

(b) *Required information.* Every application for a certificate of compliance shall contain the following information:

- (1) A description of the work for which application is to be made.
- (2) A description of the land on which the proposed work is to be done (i.e., lot, block, tract, street address or similar description) that will readily identify and locate the work to be done.
- (3) Indication of the use or occupancy for which the proposed work is intended.
- (4) A report showing the elevation, in relation to National Geodetic Vertical Datum, of the lowest floor, including basement, of a building and of the level to which a building is to be floodproofed. In addition, such report shall include such information regarding the elevation of the 100-year flood and flood velocities during the 100-year flood as the city engineer deems reasonably necessary for the purpose of this article. Such report shall be prepared by a professional engineer registered under state laws, which report shall be approved by the city engineer as to method and form.
- (5) For buildings being improved or rebuilt, the estimated cost of improvements and market value of the building prior to the improvements.
- (6) Such other information as the city engineer deems reasonably necessary for the purpose of this article.

(c) *Determination and action.* The city engineer shall review each floodplain development application and shall, within a reasonable time, make a determination as to whether the proposed development meets the applicable performance standards of section 50-34 of this article and, on the basis of such determination, shall issue or deny the certificate of compliance. For a denial, the applicant shall be informed, in writing, of the specific reasons therefore and shall have the right to appeal to the city council on the grounds that (i) the city engineer made an erroneous determination or (ii) an exception or modification should be made to the full application of the performance standards of section 50-34 of this article in order to avoid unnecessary hardship to the applicant or to further the public interest. The city council shall authorize such an exception or modification only upon:

- (1) A showing of good and sufficient cause;
- (2) A determination that failure to grant the exception or modification would result in exceptional hardship to the applicant or would be contrary to the

- public interest;
- (3) A determination that the exception or modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense, creation of nuisances, or victimization of the public;
- (4) A determination that the exception or modification is the minimum necessary, considering the flood hazard, to afford relief; and
- (5) A showing that the exception or modification has received the concurrence or approval of the state department of natural resources.

All actions by the city council in granting or denying appeals shall be by written decision setting forth the specific reasons therefore. The city council may attach such conditions to the granting of an exception or modification as it deems necessary to further the purposes of this article. If an appeal is granted by the city council, the city engineer shall thereafter issue a certificate of compliance.

- (d) *Construction and use as provided in application and plans.* Certificates of compliance issued on the basis of approved plans and applications authorize only the use, arrangement and construction set forth in such approved plans and applications and no other use, arrangement or construction. Any use, arrangement or construction at variance with that authorized shall be deemed a violation of this article and shall be punishable as provided in section 50-36 of this article. The applicant shall be required to submit certification by a professional engineer or land surveyor, as appropriate, registered in the state, that the finished fill, building floor elevations, floodproofing, or other flood protection measures were accomplished in compliance with this article prior to the use or occupancy of any structure.
- (e) *Required records.* The city engineer shall compile and maintain records of actions taken on all requests for a certificate of compliance, including justification for issuance or denial. The city permit and development center shall compile and maintain records of the elevation, in relation to National Geodetic Vertical Datum, of the lowest floor, including basement, of all new and substantially improved buildings within floodplain areas.

Sec. 82-212. Required information.

Site plans which are submitted for review shall be drawn to a scale of one inch to 50 feet or larger and shall include as a minimum the following items of information, unless otherwise waived by the planning director:

.....

- (24) In the event the development involves a site having an area greater than fifty lots or five acres, whichever is the lesser, a statement of whether any part of the site is in or adjacent to a floodplain, and if so, the 100-year flood level at the site.

Sec. 2. This ordinance shall be in full force and effect from and after its passage and

publication as provided by law.

FORM APPROVED:

Roger K. Brown, Assistant City Attorney

T. M. Franklin Cownie, Mayor

Attest:

I, Diane Rauh, City Clerk of the City of Des Moines, Iowa, hereby certify that the above and foregoing is a true copy of an ordinance (Roll Call No. 14-1493), passed by the City Council of said City at a meeting held September 22, 2014 signed by the Mayor on September 22, 2014 and published and provided by law in the Business Record on October 10, 2014. Authorized by Publication Order No. 8269.

Diane Rauh, City Clerk