

CHAPTER 80. FLOOD DAMAGE PREVENTION

ARTICLE II. FLOODPLAIN MANAGEMENT

SECTION 80.010. STATUTORY AUTHORIZATION, FINDINGS OF FACT, AND PURPOSES

A. STATUTORY AUTHORIZATION

The Legislature of the State of Missouri has in RSMo 89.020 delegated the responsibility to local governmental units to adopt floodplain management regulations designed to protect the health, safety, and general welfare. Therefore, the City Council of the City of Webster Groves, Missouri ordains as follows:

B. FINDINGS OF FACT

1. *Flood Losses Resulting from Periodic Inundation*

The special flood hazard areas of the City of Webster Groves, Missouri are subject to inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base; all of which adversely affect the public health, safety and general welfare.

2. *General Causes of the Flood Losses*

These flood losses are caused by 1. The cumulative effect of development in any delineated floodplain causing increases in flood heights and velocities; and 2. The occupancy of flood hazard areas by uses vulnerable to floods, hazardous to others, inadequately elevated, or otherwise unprotected from flood damages.

3. *Methods Used To Analyze Flood Hazards*

The Flood Insurance Study (FIS) that is the basis of this article uses a standard engineering method of analyzing flood hazards which consist of a series of interrelated steps.

- a. Selection of a base flood that is based upon engineering calculations which permit a consideration of such flood factors as its expected frequency of occurrence, the area inundated, and the depth of inundation. The base flood selected for this article is representative of large floods which are characteristic of what can be expected to occur on the particular streams subject to this article. It is in the general order of a flood which could be expected to have a one (1) percent chance of occurrence in any one (1) year as delineated on the Federal Insurance Administrator's FIS, and illustrative materials for St. Louis County dated February 4, 2015 as amended, and any future revisions thereto.
- b. Calculations of water surface profiles are based on a standard hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.

- c. Computation of a floodway required to convey this flood without increasing flood heights more than one (1) foot at any point.

FPN: The intent is no increase for individual development and 1 foot maximum increase within the community.

- d. Delineation of floodway encroachment lines within which no development is permitted that would cause any increase in flood height.
- e. Delineation of flood fringe, i.e., that area outside the floodway encroachment lines, but still subject to inundation by the base flood.

C. STATEMENT OF PURPOSE

It is the purpose of this article to promote the public health, safety, and general welfare; to minimize those losses described in Section 80.010 B (1); to establish or maintain the community's eligibility for participation in the National Flood Insurance Program (NFIP) as defined in 44 Code of Federal Regulations (CFR) 59.22(a) (3); and to meet the requirements of 44 CFR 60.3(d) by applying the provisions of this article to:

- 1. Restrict or prohibit uses that are dangerous to health, safety, or property in times of flooding or cause undue increases in flood heights or velocities;
- 2. Require uses vulnerable to floods, including public facilities that serve such uses, be provided with flood protection at the time of initial construction; and
- 3. Protect individuals from buying lands that are unsuited for the intended development purposes due to the flood hazard.

SECTION 80.020. DEFINITIONS

Unless specifically defined below, words or phrases used in this article shall be interpreted so as to give them the same meaning they have in common usage and to give this article it's most reasonable application.

Certain definitions can be found in other Chapters of the Code of the City of Webster Groves including but not limited to the Chapter 20, Chapter 30, and Chapter 53. Where those words are defined in the Code of the City of Webster Groves, those definitions are to be used.

The web site, FEMA.gov contains definitions/descriptions of some words not listed herein. When practical, those definitions/descriptions should be used for interpretation and application.

"Administrator" means the Federal Insurance Administrator.

"Agency" means the Federal Emergency Management Agency (FEMA).

"Appeal" means a request for review of the Floodplain Administrator's interpretation of any provision of this article or a request for a variance.

"Base Flood" means the flood having a one percent (1%) chance of being equaled or exceeded in any given year.

"Community" means any State or area or political subdivision thereof, (1) which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction; and (2) for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program (NFIP).

"Day" means calendar day.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

"Director of Planning and Development" means the official of the community or their designee who is charged with the authority to implement and administer laws, ordinances, and regulations for that community.

"Existing Structure" means for the purposes of determining rates, structures for which the *"start of construction"* commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date.

"Flood" means a general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland and/or (2) the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Boundary and Floodway Map (FBFM)" means an official map of a community on which the Administrator has delineated both special flood hazard areas and the designated regulatory floodway.

"Flood Elevation Determination" means a determination by the Administrator of the water surface elevations of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year.

"Flood Elevation Study" means an examination, evaluation and determination of flood hazards.

"Flood Fringe" means the area outside the floodway encroachment lines, but still subject to inundation by the regulatory flood.

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the Administrator, where the boundaries of the flood areas having special flood hazards have been designated as (unnumbered or numbered) A zones.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

"Floodplain" means any land area susceptible to being inundated by water from any source (see "flood").

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

"Floodplain Management Regulations" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of police power. The term describes such state or local regulations, in any combination thereof that provide standards for the purpose of flood damage prevention and reduction.

"Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, or structures and their contents.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

"Floodway Encroachment Lines" means the lines marking the limits of floodways on Federal, State and local floodplain maps.

"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 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 a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.

"Lowest Floor" means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, **provided** that such enclosure is not built so as to render the structure in violation of the applicable floodproofing design requirements of this article.

"Map" means the Flood Hazard Boundary Map (FHBM), Flood Insurance Rate Map (FIRM), or the Flood Boundary and Floodway Map (FBFM) for a community issued by the Federal Emergency Management Agency (FEMA).

"Market Value" means an estimate of what is fair, economic, just and equitable value under normal local market conditions. St Louis County, Missouri; Department of Revenue; Real Estate Information - Ownership, Legal and Assessments may be used in determining market value or fair market value of the structure.

"New Construction" means, for the purposes of determining insurance rates, structures for which the *"start of construction"* commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *"new construction"* means structures for which the *"start of construction"* commenced on or after the effective date of the floodplain management regulations adopted by a community and includes any subsequent improvements to such structures.

"National Flood Insurance Program (NFIP)" means the program created by the Congress of the United States in 1968 through the National Flood Insurance Act of 1968 (P.L. 90-448). The program enables property owners in participating communities to purchase insurance protection from the government against losses from flooding.

"Person" includes any individual or group of individuals, corporation, partnership, association, or any other entity, including Federal, State, and local governments and agencies.

"Principally Above Ground" means that at least fifty-one (51) percent of the market value of the structure, less land value, is above ground.

"Recreational Vehicle" means a vehicle which is (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projections; (c) designed to be self-propelled or permanently towable by a light-duty truck; and (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. The term *"recreational vehicle"* **does not include** a *"manufactured home"* or *"mobile home."*

"Remedy A Violation" means to bring the structure or other development into compliance with Federal, State, or local floodplain management regulations; or, if this is not possible, to reduce the impacts of its noncompliance.

"Repetitive Loss" means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, equals or exceeds twenty-five (25) percent of the market value of the structure before the damage occurred.

"Risk Premium Rates" means those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. *"Risk premium rates"* include provisions for operating costs and allowances.

"Special Hazard Area" means an area having special flood hazards and shown on an FHBM, FIRM or FBFM as zones (unnumbered or numbered) A and AE.

"Start of Construction" includes substantial-improvements, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation,

addition placement, or other improvements were within one hundred and eighty (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 slabs or footings, 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, the installation of streets and/or walkways, excavation for a basement, footings, piers, foundations, the erection of temporary forms, nor installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or 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, for floodplain management and not zoning or other land-use code purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. *"Structure"* for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

"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 fifty (50) percent of the market value of the structure before the damage occurred. The term includes Repetitive Loss buildings (see definition).

For the purposes of this definition, "restoring" is considered to occur when the first repair or reconstruction of any wall, ceiling, floor, or other structural part of the building commences. The term does not apply to:

1. Any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Director of Planning and Development or their designee, and which are solely necessary to assure safe living conditions, or
2. Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure", or
3. Any improvement, of itself, to a building or structure that does not require a permit by the Code of Webster Groves including but not limited to building, electrical, fire protection, mechanical, and plumbing.

FPN: When a permit is required and painting carpeting or similar work is included in the permit, those improvements are considered in the market value cost.

"Substantial Improvement" means any combination of reconstruction, alteration, or improvement to a building, taking place during a ten (10) year period, in which the cumulative percentage of improvement equals or exceeds fifty (50) percent of the current market value of the building. For the purposes of this definition, an improvement occurs when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that

alteration affects the external dimensions of the building. This term includes structures, which have incurred “repetitive loss” or “substantial damage”, regardless of the actual repair work done. The term does not apply to:

1. Any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the Director of Planning and Development and which are solely necessary to assure safe living conditions, or
2. Any alteration of a “historic structure” provided that the alteration will not preclude the structure’s continued designation as a “historic structure.” Or
3. Any building that has been damaged from any source or is categorized as repetitive loss.

FPN: Recommend development of written and adopted policy and procedure.

"Substantially improved existing subdivisions" is where the repair, reconstruction, rehabilitation or improvement of the streets, and utilities equals or exceeds 50 percent of the value of the streets, and utilities before the repair, reconstruction or improvement commenced.

"Variance" means a grant of relief by the Board of Adjustment from the terms of a floodplain management regulation. Flood insurance requirements remain in place for any varied use or structure and cannot be varied by the community.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this article is presumed to be in violation until such time as that documentation is provided.

"Water Surface Elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum where specified) of floods of various magnitudes and frequent frequencies in the floodplain.

"Watercourse" means the flow or movement of the water in rivers, creeks, and other streams.

SECTION 80.030. GENERAL PROVISIONS

A. LANDS TO WHICH ORDINANCE APPLIES

This article shall apply to all lands within the jurisdiction of the City of Webster Groves, Missouri identified as numbered and unnumbered A zones and AE zones, on the Flood Insurance Rate Maps (FIRMs) for St. Louis County on map panels 29189C0309K, 29189C0326K, 29189C0327K, 29189C0328K, and 29189C0329K dated February 4, 2015 as amended, and any future revisions thereto. In all areas covered by this ordinance, no development shall be permitted except through the issuance of a floodplain development permit, granted by the Director of Planning and Development or their duly designated representative under such safeguards and restrictions as the City Council or the designated representative may reasonably impose for the promotion and maintenance of the general welfare, health of the inhabitants of the community, and as specifically noted in Section 80.040.

B. FLOODPLAIN ADMINISTRATOR

The Director of Planning and Development or their designee is hereby designated as the floodplain administrator under this article.

C. COMPLIANCE

No development located within the special flood hazard areas of this community shall be located, extended, converted, or structurally altered without full compliance with the terms of this article and other applicable regulations.

D. ABROGATION AND GREATER RESTRICTIONS

It is not intended by this article to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article imposes greater restrictions, the provisions of this article shall prevail.

E. INTERPRETATION

In their interpretation and application, the provisions of this article shall be held to be minimum requirements, shall be liberally construed in favor of the governing body, and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.

F. WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This article does not imply that areas outside the floodway and flood fringe or land uses permitted within such areas will be free from flooding or flood damage. This article shall not create a liability on the part of the City of Webster Groves, any officer or employee thereof, for any flood damages that may result from reliance on this article or any administrative decision lawfully made thereunder.

G. FLOODPLAIN DEVELOPMENT PERMIT **(REQUIRED)**

A floodplain development permit shall be required for all proposed construction or other development. No person, firm, corporation, or unit of government shall initiate any development or substantial-improvement or cause the same to be done without first obtaining a separate floodplain development permit for each structure or other development.

H. DUTIES AND RESPONSIBILITIES OF FLOODPLAIN ADMINISTRATOR

Duties of the Director of Planning and Development or their designee shall include, but not be limited to:

1. Review of all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the floodplain development permit requirements of this article have been satisfied;

2. Review of all applications for floodplain development permits for proposed development to assure that all necessary permits have been obtained from Federal, State, or local governmental agencies from which prior approval is required by Federal, State, or local law;
3. Review all subdivision proposals and other proposed new development, to determine whether such proposals will be reasonably safe from flooding;
4. Issue floodplain development permits for all approved applications;
5. Notify adjacent communities and the Missouri State Emergency Management Agency (Mo SEMA) prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA);
6. Assure that the flood carrying capacity is not diminished and shall be maintained within the altered or relocated portion of any watercourse.
7. Verify and maintain a record of the actual elevation (in relation to mean sea level) of the lowest floor, including basement, of all new or substantially improved structures;
8. Verify and maintain a record of the actual elevation (in relation to mean sea level) that the new or substantially improved non-residential structures have been flood proofed;
9. When flood proofing techniques are utilized for a particular non-residential structure, the Director of Planning and Development shall require certification from a registered professional engineer or architect.

I. APPLICATION FOR FLOODPLAIN DEVELOPMENT PERMIT

To obtain a floodplain development permit, the applicant shall first file a building permit application. Whenever construction occurs within a floodplain, the building permit application shall include the following information:

1. Identify and describe the work to be covered by the floodplain development permit;
2. Indicate the market value of the structure and the fair market value of the improvement;

FPN: The market value is for the structure only. The land is not included.
3. Specify whether development is located in designated flood fringe and/or floodway;
4. Identify the existing base flood elevation and the elevation of the proposed development; and

5. Give such other information as reasonably may be required by the Director of Planning and Development.

SECTION 80.040. PROVISIONS FOR FLOOD HAZARD REDUCTION

A. GENERAL STANDARDS

1. No permit for floodplain development shall be granted for new construction, substantial-improvements, and other improvements, within any numbered or unnumbered A zones and AE zones, unless the conditions of this section are satisfied.
2. All areas identified as unnumbered A zones on the FIRM are subject to inundation of the base flood; however, the base flood elevation is not provided. Development within unnumbered A zones is subject to all provisions of this article. If Flood Insurance Study data is not available, the community shall obtain, review, and reasonably utilize any base flood elevation or floodway data currently available from Federal, State, or other sources.
3. Until a floodway is designated, no new construction, substantial improvements, or other development, including fill, shall be permitted within any numbered A zone or AE zone on the FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.

FPN: The intent is no increase for individual development and 1 foot maximum increase within the community.

4. All new construction, subdivision proposals, substantial-improvements, prefabricated structures, and other developments shall require:
 - a. Design or adequate anchorage to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - b. Construction with materials resistant to flood damage;
 - c. Utilization of methods and practices that minimize flood damages;
 - d. All electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
 - e. New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and on-site waste disposal systems be located so as to avoid impairment or contamination; and
 - f. Subdivision proposals and other proposed new development, located within special flood hazard areas are required to assure that:

- (1) All such proposals are consistent with the need to minimize flood damage;
- (2) All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage;
- (3) Adequate drainage is provided so as to reduce exposure to flood hazards; and
- (4) All proposals for development, including proposals for subdivisions, of five (5) acres or fifty (50) lots, whichever is lesser, include within such proposals base flood elevation data.

5. *Accessory Structures*

Structures used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value, and not larger than four hundred (400) square feet, may be constructed at-grade and wet-flood proofed provided there is no human habitation or occupancy of the structure; the structure is of single-wall design; a variance has been granted from the standard floodplain management requirements of this article; and a floodplain development permit has been issued.

6. *Storage, material, and equipment*

- a. The storage or processing of materials within the special flood hazard area that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal, or plant life is prohibited.
- b. Storage of other material or equipment may be allowed if not subject to major damage by floods, if firmly anchored to prevent flotation or if readily removable from the area within the time available after a flood warning.

7. *Hazardous Materials*

All hazardous material storage and handling sites shall be located out of the floodplain.

8. *Cumulative Improvement*

A structure may be improved (remodeled or enlarged) without conforming to current requirements for elevation so long as the cumulative value of all work done within the last five (5) calendar years does not exceed fifty (50) percent of the structure's current market value. If the cumulative value of the improvement exceeds fifty (50) percent of the structure's current market value, the structure must be brought into compliance with Section 80.040 B(1) which requires elevation of residential structures to one (1) foot above the base flood elevation or the elevation/flood proofing of non-residential structures to or above the base flood elevation.

FPN: Additions may not be required to have lowest finished floor located one (1) foot above base flood elevation but it must be demonstrated that the addition does not increase flood levels within the community. This provision will allow certain improvements to a residential or non-residential structure without

requiring that those improvements to be in full compliance with the Floodplain Management Ordinance. Section 80.030.I.1 permits improvements within a floodway provided there is **no increase** in the flood level.

9. *Nonconforming Use*

A structure, or the use of a structure or premises that was lawful before the passage or amendment of this article, but which is not in conformity with the provisions of this article, may be continued subject to the following conditions:

- a. If such structure, use, or utility service is discontinued for twelve (12) consecutive months, any future use of the building shall conform to this article.
- b. If any structure is destroyed by any means, including flood, it shall not be reconstructed if the cost is more than fifty (50) percent of the pre-damaged market value of the structure. This limitation does not include the cost of any alteration to comply with existing legally adopted state or local health, sanitary, building, safety codes, regulations or the cost of any alteration of a structure listed on the National Register of Historic Places, the State Inventory of Historic Places, or local inventory of historic places upon determination.

B. SPECIFIC STANDARDS

1. In all areas identified as numbered and unnumbered A zones and AE zones, where **base flood elevation** data have been provided, as set forth in Section 80.040 A.2., the following provisions are required:
 - a. *Residential Construction*

New construction or substantial-improvement of any residential structures, shall have the lowest floor, including basement, elevated to one (1) foot above base flood elevation.
 - b. *Non-Residential Construction*

New construction or substantial-improvement of any commercial, industrial, or other non-residential structures, shall have the lowest floor, including basement, elevated to one (1) foot above the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 80.030 H.9.
 - c. Require, for all new construction and substantial-improvements that fully enclosed areas below lowest floor used solely for parking of vehicles, building access, or storage in an area other than a basement and that are subject to flooding shall be designed to automatically equalize hydrostatic

flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

- (1) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to flooding shall be provided; and
- (2) The bottom of all opening shall be no higher than one (1) foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

C. FLOODWAY

Located within areas of special flood hazard established in Section 80.030 A are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters that carry debris and potential projectiles, the following provisions shall apply:

1. The community shall select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood without increasing the water surface elevation of that flood more than one (1) foot at any point.
2. The community shall prohibit any encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in **any** increase in flood levels within the community during the occurrence of the base flood discharge.

FPN: The intent is no increase for individual development and 1 foot increase within the community.

3. If Section 80.040 C.2. is satisfied, all new construction and substantial-improvements shall comply with all applicable flood hazard reduction provisions of Section 80.040.
4. In unnumbered A zones, the community shall obtain, review, and reasonably utilize any base flood elevation or floodway data currently available from Federal, State, or other sources as set forth in Section 80.040 A.2.

SECTION 80.050. FLOODPLAIN MANAGEMENT VARIANCE PROCEDURES

A. ESTABLISHMENT OF APPEAL BOARD

The Board of Adjustment as established by the City of Webster Groves shall hear and decide appeals and requests for variances from the floodplain management requirements of this article.

B. RESPONSIBILITY OF APPEAL BOARD

Where an application for a floodplain development permit or request for a variance from the floodplain management regulations is denied by the Director of Planning and Development, the applicant may apply for such floodplain development permit or variance directly to the Board of Adjustment, as set forth in Chapter 53 of the Code of the City Webster Groves, within twenty (20) days of the date on the letter of denial.

The Board of Adjustment shall hear and decide appeals when it is alleged that there is an error in any requirement, decision, or determination made by the Director of Planning and Development in the enforcement or administration of this article.

C. FURTHER APPEALS

Any person aggrieved by the decision of the Board of Adjustment or any taxpayer may appeal such decision to the St. Louis County Circuit Court as provided in RSMo 89.110.

D. FLOODPLAIN MANAGEMENT VARIANCE CRITERIA

In passing upon such applications for variances, the Board of Adjustment shall consider all technical data and evaluations, all relevant factors, standards specified in other sections of this article, and the following criteria:

1. The danger to life and property due to flood damage;
2. The danger that materials may be swept onto other lands to the injury of others;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
4. The importance of the services provided by the proposed facility to the community;
5. The necessity to the facility of a waterfront location, where applicable;
6. The availability of alternative locations, not subject to flood damage, for the proposed use;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
9. The safety of access to the property in times of flood for ordinary and emergency vehicles;
10. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters, if applicable, expected at the site; and,
11. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems; streets; and bridges.

The Board of Adjustment may solicit expert testimony as needed to arrive at a determination.

E. CONDITIONS FOR APPROVING FLOODPLAIN MANAGEMENT VARIANCES

1. Generally, variances may be issued for new construction and substantial-improvements to be erected on a lot of one-half acre or less in size contiguous to

and surrounded by lots with existing structures constructed below the base flood level, providing items 2 through 6 below have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

2. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places, or local inventory of historic places upon determination provided the proposed activity will not preclude the structure's continued historic designation.
3. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
5. Variances shall only be issued upon (a) a showing of good and sufficient cause, (b) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (c) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
6. A community shall notify the applicant in writing over the signature of a community official that the issuance of a variance to construct a structure below base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage and such construction below the base flood level increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this article.

F. CONDITIONS FOR APPROVING VARIANCES FOR ACCESSORY STRUCTURES

Any variance granted to these Floodplain Management regulations for an accessory structure shall be decided individually based on a case by case analysis of the building's unique circumstances. Variances granted shall meet the following conditions as well as those criteria and conditions set forth in Section 80.050 Floodplain Management Variance Procedures, Sections D and E above.

In order to minimize flood damages during the 100-year flood and the threat to public health and safety, the following conditions shall be included for any variance to these Floodplain Management regulations issued for accessory structures that are constructed at-grade and wet-flood proofed.

1. Use of the accessory structures must be solely for parking and limited storage purposes in flood-prone areas only.
2. For any new or substantially damaged accessory structures, the exterior and interior building components and elements (i.e., foundation, wall framing, exterior and interior finishes, flooring, etc.) below highest adjacent grade, must be built with flood-resistant materials in accordance with Section 80.040 A.4. of this code.

3. The accessory structures must be adequately anchored to prevent flotation, collapse, or lateral movement of the structure in accordance with Section 80.040 A.4. of this code. All of the building's structural components must be capable of resisting specific flood-related forces including hydrostatic, buoyancy, and hydrodynamic and debris impact forces.
4. Any mechanical, electrical, or other utility equipment must be located above highest adjacent grade or floodproofed so that they are contained within a watertight, floodproofed enclosure that is capable of resisting damage during flood conditions in accordance with Section 80.040 A.4. of this code of this ordinance.
5. The accessory structures must meet all National Flood Insurance Program (NFIP) opening requirements. The NFIP requires that enclosure or foundation walls, subject to the 100-year flood, contain openings that will permit the automatic entry and exit of floodwaters in accordance with the NFIP regulations.
6. Equipment, machinery, or other contents must be protected from any flood damage.
7. No disaster relief assistance under any program administered by any Federal agency shall be paid for any repair or restoration costs of the accessory structures.
8. A community shall notify the applicant in writing over the signature of a community official that (1) the issuance of a variance to construct a structure below highest adjacent grade will result in increased premium rates for flood insurance up to amounts as high as \$25.00 for \$100.00 of insurance coverage and (2) such construction below highest adjacent grade increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this ordinance.
9. Wet-floodproofing construction techniques must be reviewed and approved by the community and registered professional engineer or architect prior to the issuance of any floodplain development permit for construction.

(Ord. No. 8869, § 1-2, 1-6-2015; Ord. No. 8873, § 1-2, 1-20-2015)