

ARTICLE 6
Floodplain Management Ordinance
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ARTICLE 6
Floodplain Management Ordinance

A. General Provisions.**1. Findings.**

The Federal Emergency Management Agency has identified special flood hazard areas within the boundaries of the City of Hagerstown. Special flood hazard areas are subject to periodic inundation which may result 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. Structures that are inadequately elevated, improperly flood proofed, or otherwise unprotected from flood damage also contribute to flood losses.

The City of Hagerstown, by resolution, agreed to meet the requirements of the National Flood Insurance Program and was accepted for participation in the program on April 17, 1978. As of that date or as of the initial effective date of the City of Hagerstown Flood Insurance Rate Map (April 17, 1978), all development and new construction as defined herein, are to be compliant with these regulations.

2. Statutory Authorization.

The Maryland General Assembly, in the Land Use Article of the Annotated Code of Maryland, has established as policy of the state that the orderly development and use of land and structures requires comprehensive regulation through the implementation of planning and zoning control, and that planning and zoning controls shall be implemented by local government in order to, among other purposes, secure the public safety, promote health and general welfare, and promote the conservation of natural resources. Therefore, the Mayor and City Council of the City of Hagerstown does hereby adopt the following floodplain management regulations.

3. Statement of Purpose.

It is the purpose of these regulations to promote the public health, safety and general welfare, and to:

- a. Protect human life, health and welfare;
- b. Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future;
- c. Minimize flooding of water supply and sanitary sewage disposal systems;
- d. Maintain natural drainage;
- e. Reduce financial burdens imposed on the community, its governmental units and its residents, by discouraging unwise design and construction of development in areas subject to flooding;
- f. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

- g. Minimize prolonged business interruptions;
- h. Minimize damage to public facilities and other utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges;
- i. Reinforce that those who build in and occupy special flood hazard areas should assume responsibility for their actions;
- j. Minimize the impact of development on adjacent properties within and near flood-prone areas;
- k. Provide that the flood storage and conveyance functions of floodplains are maintained;
- l. Minimize the impact of development on the natural and beneficial functions of floodplains;
- m. Prevent floodplain uses that are either hazardous or environmentally incompatible; and
- n. Meet the community participation requirements of the National Flood Insurance Program, as set forth in the Code of Federal Regulations at 44 CFR, Section 59.22.

4. **Areas to Which These Regulations Apply.**

These regulations shall apply to all special flood hazard areas within the jurisdiction of the City of Hagerstown, and identified in Section A.5., below.

5. **Basis for Establishing Special Flood Hazard Areas and Base Flood Elevations.**

- a. **Minimum Basis.** For the purposes of these regulations, the minimum basis for establishing special flood hazard areas and base flood elevations is the Flood Insurance Study for the City of Hagerstown, Maryland, Washington County, dated February 15, 1984, or the most recent revision thereof, and the accompanying Flood Insurance Rate Map(s) (FIRMs) and all subsequent amendments and revisions to the FIRMs. The FIS and FIRMs are retained on file and available to the public at the office of the Zoning Administrator, who shall serve as the Floodplain Ordinance Administrator.
- b. **Special Flood Hazard Areas.** Where field surveyed topography or digital topography indicates that ground elevations are below the closest applicable base flood elevation, even in areas not delineated as a special flood hazard on the FIRM, the area shall be considered as special flood hazard area.
- c. **Base Flood Elevations When Not on FIRM.** To establish base flood elevations in special flood hazard areas that do not have such elevations shown on the FIRM, the Floodplain Ordinance Administrator may provide the best available data for base flood elevations, may require the applicant to obtain available information from federal, state or other sources, or may require the applicant to establish special flood hazard areas and base flood elevations as set forth in Subsection B.3., Subsection B.4., and Subsection B.5 of this Article.

6. Abrogation and Greater Restrictions.

These regulations are not intended to repeal or abrogate any existing regulations and ordinances, including subdivision regulations, zoning ordinances, building codes, or any existing easements, covenants, or deed restrictions. In the event of a conflict between these regulations and any other ordinance, the more restrictive shall govern.

7. Interpretation.

In the interpretation and application of these regulations, all provisions shall be:

- a. Considered as minimum requirements;
- b. Liberally construed to accomplish the intended purpose of these regulations; and,
- c. Deemed neither to limit nor repeal any other powers granted under state statutes.

Notes referencing publications of the Federal Emergency Management Agency refer to the most recent edition of those publications, are intended only as guidance, and do not bind or alter the authority of the Floodplain Administrator to interpret and apply these regulations.

8. Warning and Disclaimer of Liability.

The degree of flood protection required by these regulations is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur, and flood heights may be increased by man-made or natural causes. These regulations do not imply that land outside of the special flood hazard areas or uses that are permitted within such areas will be free from flooding or flood damage.

These regulations shall not create liability on the part of the City of Hagerstown, any officer or employee thereof, the Maryland Department of the Environment (MDE) or the Federal Emergency Management Agency (FEMA), for any flood damage that results from reliance on these regulations or any administrative decision lawfully made hereunder.

9. Definitions.

The terms, as defined herein, shall be those found in Article 3 of this Chapter that are followed by the administrative note “(Floodplain)”.

10. Severability.

Should any section or provision of these regulations be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the regulations as a whole, or any part thereof other than the part so declared to be unconstitutional or invalid.

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B. Administration.**1. Designation of the Floodplain Administrator.**

The Zoning Administrator is hereby appointed to administer and implement these regulations and is referred to herein as the Floodplain Administrator. The Floodplain Administrator may:

- a. Delegate duties and responsibilities set forth in these regulations to qualified technical personnel, plan examiners, inspectors, and other employees.
- b. Where in accordance with established City of Hagerstown procedures and standards, enter into a written agreement or written contract with another Maryland community or private sector entity to administer specific provisions of these regulations. Administration of any part of these regulations by another entity shall not relieve the community of its responsibilities pursuant to the participation requirements of the National Flood Insurance Program as set forth in the Code of Federal Regulations at 44 C.F.R. Section 59.22.

2. Duties and Responsibilities of the Floodplain Administrator.

The duties and responsibilities of the Floodplain Administrator shall include but are not limited to:

- a. Review applications for permits to determine whether proposed activities will be located in flood hazard areas.
- b. Interpret floodplain boundaries and provide available base flood elevation and flood hazard information.
- c. Review applications to determine whether proposed activities will be reasonably safe from flooding and require new construction and substantial improvements to meet the requirements of these regulations.
- d. Review applications to determine whether all necessary permits have been obtained from the federal, state or local agencies from which prior or concurrent approval is required; in particular, permits from MDE for any construction, reconstruction, repair, or alteration of a dam, reservoir, or waterway obstruction (including bridges, culverts, structures), any alteration of a watercourse, or any change of the course, current, or cross section of a stream or body of water, including any change to the 100-year frequency floodplain of free-flowing non-tidal waters of the state.
- e. Verify that applicants proposing an alteration of a watercourse have notified adjacent communities and MDE (NFIP State Coordinator), and have submitted copies of such notifications to FEMA.
- f. Approve applications and issue permits to develop in flood hazard areas if the provisions of these regulations have been met, or disapprove applications if the provisions of these regulations have not been met.
- g. Inspect or cause to be inspected, buildings, structures, and other development for which permits have been issued to determine compliance with these regulations or to determine if non-compliance has occurred or violations have been committed.

- h. Review Elevation Certificates and require incomplete or deficient certificates to be corrected.
- i. Submit to FEMA, or require applicants to submit to FEMA, data and information necessary to maintain FIRMs, including hydrologic and hydraulic engineering analyses prepared by or for the City of Hagerstown, within six months after such data and information becomes available if the analyses indicate changes in base flood elevations.
- j. Maintain and permanently keep records that are necessary for the administration of these regulations, including:
 - (1) Flood Insurance Studies, Flood Insurance Rate Maps (including historic studies and maps and current effective studies and maps) and Letters of Map Change; and
 - (2) Documentation supporting issuance and denial of permits, Elevation Certificates, documentation of the elevation (in relation to the datum on the FIRM) to which structures have been flood proofed, other required design certifications, variances, and records of enforcement actions taken to correct violations of these regulations.
- k. Enforce the provisions of these regulations, investigate violations, issue notices of violations or stop work orders, and require permit holders to take corrective action.
- l. Advise the Board of Zoning Appeals regarding the intent of these regulations and, for each application for a variance, prepare a staff report and recommendation.
- m. Administer the requirements related to proposed work on existing buildings:
 - (1) Make determinations as to whether buildings and structures that are located in flood hazard areas and that are damaged by any cause have been substantially damaged.
 - (2) Make reasonable efforts to notify owners of substantially damaged structures of the need to obtain a permit to repair, rehabilitate, or reconstruct, and prohibit the noncompliant repair of substantially damaged buildings except for temporary emergency protective measures necessary to secure a property or stabilize a building or structure to prevent additional damage.
- n. Undertake, as determined appropriate by the Floodplain Administrator due to the circumstances, other actions which may include but are not limited to: issuing press releases, public service announcements, and other public information materials related to permit requests and repair of damaged structures; coordinating with other federal, state, and local agencies to assist with substantial damage determinations; providing owners of damaged structures information related to the proper repair of damaged structures in special flood hazard areas; and assisting property owners with documentation necessary to file claims for Increased Cost of Compliance coverage under NFIP flood insurance policies.
- o. Notify the Federal Emergency Management Agency when the corporate boundaries of the City of Hagerstown have been modified and:

- (1) Provide a map that clearly delineates the new corporate boundaries or the new area for which the authority to regulate pursuant to these regulations has either been assumed or relinquished through annexation; and
 - (2) If the FIRM for any annexed area includes special flood hazard areas that have flood zones that have regulatory requirements that are not set forth in these regulations, prepare amendments to these regulations to adopt the FIRM and appropriate requirements, and submit the amendments to the governing body for adoption; such adoption shall take place within six months of the date of annexation and a copy of the amended regulations shall be provided to MDE (NFIP State Coordinator) and FEMA.
- p. Upon the request of FEMA, complete and submit a report concerning participation in the NFIP which may request information regarding the number of buildings in the SFHA, number of permits issued for development in the SFHA, and number of variances issued for development in the SFHA.

3. Use and Interpretation of FIRMs.

The Floodplain Administrator shall make interpretations, where needed, as to the exact location of special flood hazard areas, floodplain boundaries, and floodway boundaries. The following shall apply to the use and interpretation of FIRMs and data:

- a. Where field surveyed topography indicates that ground elevations:
 - (1) Are below the base flood elevation, even in areas not delineated as a special flood hazard area on a FIRM, the area shall be considered as special flood hazard area and subject to the requirements of these regulations;
 - (2) Are above the base flood elevation, the area shall be regulated as a special flood hazard area unless the applicant obtains a Letter of Map Change that removes the area from the special flood hazard area.
- b. In FEMA-identified special flood hazard areas where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified special flood hazard areas, any other flood hazard data available from a Federal, State, or other source shall be reviewed and reasonably used.
- c. Base flood elevations and designated floodway boundaries on FIRMs and in FISs shall take precedence over base flood elevations and floodway boundaries by any other sources if such sources show reduced floodway widths and/or lower base flood elevations.
- d. Other sources of data shall be reasonably used if such sources show increased base flood elevations and/or larger floodway areas than are shown on FIRMs and in FISs.
- e. If a Preliminary Flood Insurance Rate Map and/or a Preliminary Flood Insurance Study has been provided by FEMA:

- (1) Upon the issuance of a Letter of Final Determination by FEMA, the preliminary flood hazard data shall be used and shall replace the flood hazard data previously provided from FEMA for the purposes of administering these regulations.
- (2) Prior to the issuance of a Letter of Final Determination by FEMA, the use of preliminary flood hazard data shall be deemed the best available data pursuant to Subsection A.5.c and used where no base flood elevations and/or floodway areas are provided on the effective FIRM.
- (3) Prior to issuance of a Letter of Final Determination by FEMA, the use of preliminary flood hazard data is permitted where the preliminary base flood elevations or floodway areas exceed the base flood elevations and/or designated floodway widths in existing flood hazard data provided by FEMA. Such preliminary data may be subject to change and/or appeal to FEMA.

4. Permits Required and Expiration.

- a. It shall be unlawful for any person to begin any development or construction which is wholly within, partially within, or in contact with any flood hazard area established in Subsection A.5., including but not limited to:

- (1) Filling; grading;
- (2) Construction of new structures;
- (3) The substantial improvement of buildings or structures, including repair of substantial damage;
- (4) Placement or replacement of manufactured homes, including substantial improvement or repair of substantial damage of manufactured homes;
- (5) Erecting or installing a temporary structure, or
- (6) Alteration of a watercourse,

until a permit is obtained from the City of Hagerstown. No such permit shall be issued until the requirements of these regulations have been met. This provision shall not prohibit work that involves the ongoing repair and maintenance of a building that does not meet the definition of “substantial improvement.”

- b. In addition to the permits required in Subsection a. above, applicants for permits in non-tidal waters of the state are advised to contact MDE. Unless waived by MDE, pursuant to Code of Maryland Regulations 26.17.04, Construction on Non-tidal Waters and Floodplains, MDE regulates the “100-year frequency floodplain of free-flowing waters,” also referred to as non-tidal waters of the state. To determine the 100-year frequency floodplain, hydrologic calculations are based on the ultimate development of the watershed, assuming existing zoning. The resulting flood hazard areas delineated using the results of such calculations may be different than the special flood hazard areas established in Subsection A.5. of these regulations.

- c. A permit is valid provided the actual start of work is within 180 days of the date of permit issuance. Requests for extensions shall be submitted in writing and justifiable cause demonstrated. The Floodplain Administrator may grant, in writing, one or more extensions of time, for additional periods not exceeding 90 days each and provided there has been no amendment or revision to the basis for establishing special flood hazard areas and BFEs set forth in Subsection A.5.

5. **Application Required.**

Application for a permit shall be made by the owner of the property or the owner's authorized agent (herein referred to as the applicant) prior to the start of any work. The application shall be on a form furnished for that purpose.

a. **Application Contents.**

At a minimum, applications shall include:

- (1) Site plans drawn to scale showing the nature, location, dimensions, and existing and proposed topography of the area in question, and the location of existing and proposed structures, excavation, filling, storage of materials, drainage facilities, and other proposed activities.
- (2) Elevation of the existing natural ground where buildings or structures are proposed, referenced to the datum on the FIRM.
- (3) Delineation of flood hazard areas, designated floodway boundaries, flood zones, base flood elevations, and flood protection setbacks. Base flood elevations shall be used to delineate the boundary of flood hazard areas and such delineations shall prevail over the boundary of SFHAs shown on FIRMs.
- (4) Where floodways are not delineated or base flood elevations are not shown on the FIRMs, the Floodplain Administrator has the authority to require the applicant to use information provided by the Floodplain Administrator, information that is available from federal, state, or other sources, or to determine such information using accepted engineering practices or methods approved by the Floodplain Administrator. [Note: See "Managing Floodplain Development in Approximate Zone A Areas: A Guide for Obtaining and Developing Base (100-Year) Flood Elevations" (FEMA 265).]
- (5) Determination of the base flood elevations, for development proposals and subdivision proposals, each with at least five lots or at least five acres, whichever is the lesser, in special flood hazard areas where base flood elevations are not shown on the FIRM; if hydrologic and hydraulic engineering analyses are submitted, such analyses shall be performed in accordance with the requirements and specifications of MDE and FEMA.
- (6) Hydrologic and hydraulic engineering analyses for proposals in special flood hazard areas where FEMA has provided base flood elevations but has not delineated a floodway; such analyses shall demonstrate that the cumulative effect of proposed development, when combined with all other existing and anticipated development will not increase the water

surface elevation of the base flood by more than one foot or a lower increase if required by MDE.

- (7) For encroachments in floodways, an evaluation of alternatives to such encroachments, including different uses of the site or portion of the site within the floodway, and minimization of such encroachment.
- (8) If fill is proposed to be placed for a purpose other than to elevate structures, the applicant shall indicate the intended purpose for the fill.
- (9) For proposed buildings and structures, including substantial improvement and repair of substantial damage, and placement and replacement of manufactured homes, including substantial improvement and repair of substantial damage:
 - (a) The proposed elevation of the lowest floor, including basement, referenced to the datum on the FIRM and a signed Agreement to Submit an Elevation Certificate.
 - (b) The signed Declaration of Land Restriction (Non-conversion Agreement) that shall be recorded on the property deed prior to issuance of the Certificate of Occupancy, if the application includes an enclosure below the lowest floor or a crawl/underfloor space that is more than four feet in height.
 - (c) A written evaluation of alternative methods considered to elevate structures and manufactured homes, if the location is in non-tidal waters of the state and fill is proposed to achieve the elevation required in Section D.4.a or Section D.4.b.
- (10) For accessory structures that are 300 square feet or larger in area (footprint) that are below the base flood elevation, a Declaration of Land Restriction (Non-conversion Agreement) shall be recorded on the property deed prior to issuance of the Certificate of Occupancy.
- (11) For temporary structures and temporary storage, specification of the duration of the temporary use.
- (12) For proposed work on existing buildings, structure, and manufactured homes, including any improvement, addition, repairs, alterations, rehabilitation, or reconstruction, sufficient information to determine if the work constitutes substantial improvement or repair of substantial damage, including but not limited to:
 - (a) If the existing building or structure was constructed after April 17, 1978, evidence that the work will not alter any aspect of the building or structure that was required for compliance with the floodplain management requirements in effect at the time the building or structure was permitted.
 - (b) If the proposed work is a horizontal addition, a description of the addition and whether it will be independently supported or structurally connected to the base building and the nature of all other modifications to the base building, if any.
 - (c) Documentation of the market value of the building or structure before the improvement or, if the work is repair of damage, before the damage occurred.

- (d) Documentation of the actual cash value of all proposed work, including the actual cash value of all work necessary to repair and restore damage to the before-damaged condition, regardless of the amount of work that will be performed. The value of work performed by the owner or volunteers shall be valued at market labor rates; the value of donated or discounted materials shall be valued at market rates.
- (13) Certifications and/or technical analyses prepared or conducted by a licensed professional engineer or licensed architect, as appropriate, including:
 - (a) The determination of the base flood elevations or hydrologic and hydraulic engineering analyses prepared by a licensed professional engineer that are required by the Floodplain Administrator or are required by these regulations in: Subsection C.2 for certain subdivisions and development; Subsection D.3.a for development in designated floodways; Subsection D.3.c. for development in flood hazard areas with base flood elevations but no designated floodways; and Subsection D.3.e for deliberate alteration or relocation of watercourses.
 - (b) The Flood Proofing Certificate for nonresidential structures that are flood proofed as required in Subsection D.5.b.
 - (c) Certification that engineered flood openings are designed to meet the minimum requirements of Subsection D.4.c(3) to automatically equalize hydrostatic flood forces.
 - (14) For nonresidential structures that are proposed with flood proofing, an operations and maintenance plan as specified in Subsection D.5.b.(3).
 - (15) Such other material and information as may be requested by the Floodplain Administrator and necessary to determine conformance with these regulations.
- b. New Technical Data.**
- (1) The applicant may seek a Letter of Map Change by submitting new technical data to FEMA, such as base maps, topography, and engineering analyses to support revision of floodplain and floodway boundaries and/or base flood elevations. Such submissions shall be prepared in a format acceptable to FEMA and any fees shall be the sole responsibility of the applicant. A copy of the submittal shall be attached to the application for a permit.
 - (2) If the applicant submits new technical data to support any change in floodplain and designated floodway boundaries and/or base flood elevations but has not sought a Letter of Map Change from FEMA, the applicant shall submit such data to FEMA as soon as practicable, but not later than six (6) months after the date such information becomes available. Such submissions shall be prepared in a format acceptable to FEMA and any fees shall be the sole responsibility of the applicant.

6. Review of Application.

The Floodplain Administrator shall:

- a. Review applications for development in special flood hazard areas to determine the completeness of information submitted. The applicant shall be notified of incompleteness or additional information that is required to support the application.
- b. Notify applicants that permits from MDE and the U.S. Army Corps of Engineers, and other state and federal authorities may be required.
- c. Review all permit applications to assure that all necessary permits have been received from the federal, state or local governmental agencies from which prior approval is required. The applicant shall be responsible for obtaining such permits, including permits issued by:
 - (1) The U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act;
 - (2) MDE pursuant to COMAR 26.23 (Non-tidal Wetlands) and Section 401 of the Clean Water Act; and,
 - (3) MDE for construction on non-tidal waters of the State pursuant to COMAR 26.17.04.
- d. Review applications for compliance with these regulations after all information required in Subsection B.5 of these regulations or identified and required by the Floodplain Administrator has been received.

7. Inspections.

The Floodplain Administrator shall make periodic inspections of development permitted in special flood hazard areas, at appropriate times throughout the period of construction in order to monitor compliance. Such inspections may include:

- a. Stake-out inspection, to determine location on the site relative to the flood hazard area and designated floodway.
- b. Foundation inspection, upon placement of the lowest floor and prior to further vertical construction, to collect information or certification of the elevation of the lowest floor.
- c. Inspection of enclosures below the lowest floor, including crawl/underfloor spaces, to determine compliance with applicable provisions.
- d. Utility inspection, upon installation of specified equipment and appliances, to determine appropriate location with respect to the base flood elevation.
- e. Final inspection prior to issuance of the Certificate of Occupancy.

8. Submissions Required Prior to Final Inspection.

Pursuant to the Agreement to Submit an Elevation Certificate submitted with the application as required in Subsection B.5.a(9), the permittee shall have an Elevation Certificate prepared and submitted prior to final inspection and issuance of a Certificate of Occupancy for elevated structures and manufactured

homes, including new structures and manufactured homes, substantially improved structures and manufactured homes, and additions to structures and manufactured homes.

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C. Requirements in All Special Flood Hazard Areas.**1. Application of Requirements.**

The general requirements of this section apply to all development proposed within all special flood hazard areas identified in Subsection A.5.

2. Subdivision Proposals and Development Proposals.**a. In all flood zones:**

- (1) Subdivision proposals and development proposals shall be consistent with the need to minimize flood damage and are subject to all applicable standards in these regulations.
- (2) Subdivision proposals and development proposals shall have utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (3) Subdivision proposals and development proposals shall have adequate drainage paths provided to reduce exposure to flood hazards and to guide floodwaters around and away from proposed structures.
- (4) Subdivision proposals and development proposals containing at least five lots or at least five acres, whichever is the lesser, that are wholly or partially in flood hazard areas where base flood elevation data are not provided by the Floodplain Administrator or available from other sources, shall be supported by determinations of base flood elevations as required in Subsection B.5 of these regulations.
- (5) Subdivision access roads shall have the driving surface at or above the base flood elevation.

b. In special flood hazard areas of non-tidal waters of the State:

- (1) Subdivision proposals shall be laid out such that proposed building pads are located outside of the special flood hazard area and any portion of platted lots that include land areas that are below the base flood elevation shall be used for other purposes, deed restricted, or otherwise protected to preserve it as open space.
- (2) Subdivision access roads shall have the driving surface at or above the base flood elevation.

3. Protection of Water Supply and Sanitary Sewage Systems.

- a. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters.
- c. On-site waste disposal systems shall be located to avoid impairment to or contamination from them during conditions of flooding.

4. Buildings and Structures.

New buildings and structures (including the placement and replacement of manufactured homes) and substantial improvement of existing structures (including manufactured homes) that are located, in whole or in part, in any special flood hazard area shall:

- a. Be designed (or modified) and constructed to safely support flood loads. The construction shall provide a complete load path capable of transferring all loads from their point of origin through the load-resisting elements to the foundation. Structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses, including hydrodynamic and hydrostatic loads and the effects of buoyancy, from flooding equal to the flood protection elevation or the elevation required by these regulations or the building code, whichever is higher.
- b. Be constructed by methods and practices that minimize flood damage.
- c. Use flood damage-resistant materials below the elevation of the lowest floor required in Subsection D.4.a or Subsection D.5.a.
- d. Have electrical systems, equipment and components, and mechanical, heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment located at or above the elevation of the lowest floor required in Subsection D.4.a. or Subsection D.5.a. Electrical wiring systems are permitted to be located below elevation of the lowest floor provided they conform to the provisions of the electrical part of the building code for wet locations. If replaced as part of a substantial improvement, electrical systems, equipment and components, and heating, ventilation, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall meet the requirements of this section.
- e. As an alternative to Subsection d, above, electrical systems, equipment and components, and heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment are permitted to be located below the elevation of the lowest floor provided they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to that elevation.
- f. Have the electric panelboard elevated at least three feet above the BFE.
- g. Comply with the specific requirements of Section D.
- h. Comply with the requirements of the most restrictive designation if located on a site that has more than one flood zone designation (A Zone, designated floodway).

5. Placement of Fill.

- a. Disposal of fill, including but not limited to earthen soils, rock, rubble, construction debris, woody debris, and trash, shall not be permitted in special flood hazard areas.

- b. Fill proposed to be placed to elevate structures in flood hazard areas shall comply with the floodways requirements in Subsection D.3.a, Subsection D.3.b, and Subsection D.3.c and the limitations of Section D.4.b.

6. Historic Structures.

Repair, alteration, addition, rehabilitation, or other improvement of historic structures shall be subject to the requirements of these regulations if the proposed work is determined to be a substantial improvement, unless a determination is made that the proposed work will not preclude the structure's continued designation as a historic structure. The Floodplain Administrator may require documentation of a structure's continued eligibility and designation as a historic structure.

7. Manufactured Homes.

- a. New manufactured homes shall not be placed or installed in floodways.
- b. For the purpose of these regulations, the lowest floor of a manufactured home is the bottom of the lowest horizontal supporting member (longitudinal chassis frame beam).
- c. New manufactured homes located outside of floodways, replacement manufactured homes in any flood hazard areas, and substantial improvement (including repair of substantial damage) of existing manufactured homes in all flood hazard area, shall:
 - (1) Be elevated on a permanent, reinforced foundation in accordance with Section D. of this Article;
 - (2) Be installed in accordance with the anchor and tie-down requirements of the building code or the manufacturer's written installation instructions and specifications; and
 - (3) Have enclosures below the lowest floor of the elevated manufactured home, if any, including enclosures that are surrounded by rigid skirting or other material that is attached to the frame or foundation, that comply with the requirements of Section D. of this Article.

For more information, see FEMA P-85 "Protecting Manufactured Homes from Floods and Other Hazards: A Multi-Hazard Foundation and Installation Guide."

8. Recreational Vehicles.

Recreational vehicles shall:

- a. Meet the requirements for manufactured homes in Subsection C.7.; or
- b. Be fully licensed and ready for highway use; or
- c. Be on a site for less than 180 consecutive days.

9. Critical and Essential Facilities.

Critical and essential facilities shall be elevated to the higher of elevation required by these regulations plus one foot, the elevation required by the building code, or the elevation of the 0.2 percent chance (500-year) flood.

10. Temporary Structures and Temporary Storage.

In addition to the application requirements of Subsection B.5., applications for the placement or erection of temporary structures and the temporary storage of any goods, materials, and equipment, shall specify the duration of the temporary use. Temporary structures and temporary storage in floodways shall meet the limitations of Subsection D.3.a of these regulations. In addition:

a. Temporary structures shall:

- (1) Be designed and constructed to prevent flotation, collapse or lateral movement resulting from hydrodynamic loads and hydrostatic loads during conditions of the base flood;
- (2) Have electric service installed in compliance with the electric code; and
- (3) Comply with all other requirements of the applicable state and local permit authorities.

b. Temporary storage shall not include hazardous materials.

11. Gas or Liquid Storage Tanks.

a. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

b. Above-ground tanks in flood hazard areas shall be anchored to a supporting structure and elevated to or above the base flood elevation, or shall be anchored or otherwise designed and constructed to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

c. In flood hazard areas, tank inlets, fill openings, outlets and vents shall be:

- (1) At or above the base flood elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the base flood; and
- (2) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

12. **Functionally Dependent Uses.**

Applications for functionally dependent uses that do not conform to the requirements of these regulations shall be approved only by variances issued pursuant to Section E. If approved, functionally dependent uses shall be protected by methods that minimize flood damage during the base flood, including measures to allow floodwaters to enter and exit, use of flood damage-resistant materials, and elevation of electric service and equipment to the extent practical given the use of the building.

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D. Requirement in All Flood Hazard Areas**1. General Requirements.**

In addition to the general requirements of Section C., the requirements of this section shall:

- a. Apply in flood hazard areas, including special flood hazard areas along non-tidal waters of the State.
- b. Apply to all development, new construction, substantial improvements (including repair of substantial damage), and placement, replacement, and substantial improvement (including repair of substantial damage) of manufactured homes.

2. Flood Protection Setbacks.

Within areas defined by flood protection setbacks along non-tidal waters of the State:

- a. No new buildings, structures, or other development shall be permitted unless the applicant demonstrates that the site cannot be developed without such encroachment into the flood protection setback and the encroachment is the minimum necessary after consideration of varying other siting standards such as side, front, and back lot line setbacks.
- b. Disturbance of natural vegetation shall be minimized and any disturbance allowed shall be stabilized with vegetation.
- c. Public works and temporary construction may be permitted.

3. Development that Affects Flood-Carrying Capacity of Non-Tidal Waters of the State.**a. Development in Designated Floodways.**

For proposed development that will encroach into a designated floodway, Subsection B.5.a.(7) requires the applicant to submit an evaluation of alternatives to such encroachment, including different uses of the site or the portion of the site within the floodway, and minimization of such encroachment. This requirement does not apply to fences that do not block the flow of floodwaters or trap debris.

Proposed development in a designated floodway may be permitted only if:

- (1) The applicant has been issued a permit by MDE; and
- (2) The applicant has developed hydrologic and hydraulic engineering analyses and technical data prepared by a licensed professional engineer reflecting such changes, and the analyses, which shall be submitted to the Floodplain Administrator, demonstrate that the proposed activity will not result in any increase in the base flood elevation; or

- (3) If the analyses demonstrate that the proposed activities will result in an increase in the base flood elevation, the applicant has obtained a Conditional Letter of Map Revision or Letter of Map Revision from FEMA. Submittal requirements and fees shall be the responsibility of the applicant.

b. Development that Includes the Placement of Fill in Non-Tidal Waters of the State.

For proposed development that includes the placement of fill in non-tidal waters of the State, other than development that is subject to Subsection 3.d., below, a hydraulically-equivalent volume of excavation is required. Such excavations shall be designed to drain freely.

c. Development in Areas with Base Flood Elevations but No Designated Floodways.

For development in special flood hazard areas of non-tidal waters of the State with base flood elevations but no designated floodways:

- (1) The applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting the proposed activity and shall submit such technical data to the Floodplain Administrator as required in Subsection B.5.a.(6). The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and fees shall be the responsibility of the applicant.
- (2) The proposed development may be permitted if the applicant has received a permit by MDE and if the analyses demonstrate that the cumulative effect of the proposed development, when combined with all other existing and potential flood hazard area encroachments will not increase the base flood elevation more than 1.0 foot at any point.

d. Construction of Roads, Bridges, Culverts, Dams and In-Stream Ponds.

Construction of roads, bridges, culverts, dams, and in-stream ponds in non-tidal waters of the State shall not be approved unless they comply with this section and the applicant has received a permit from MDE.

e. Alteration of a Watercourse.

For any proposed development that involves alteration of a watercourse not subject to Subsection 3.c. above, unless waived by MDE, the applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting such changes, including the floodway analysis required in Subsection B.5.a., and submit such technical data to the Floodplain Administrator and to FEMA. The analyses shall be prepared by a licensed professional engineer in a format required by MDE and by FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and fees shall be the responsibility of the applicant.

Alteration of a watercourse may be permitted only upon submission, by the applicant, of the following:

- (1) A description of the extent to which the watercourse will be altered or relocated;

- (2) A certification by a licensed professional engineer that the flood-carrying capacity of the watercourse will not be diminished;
- (3) Evidence that adjacent communities, the U.S. Army Corps of Engineers, and MDE have been notified of the proposal, and evidence that such notifications have been submitted to FEMA; and
- (4) Evidence that the applicant shall be responsible for providing the necessary maintenance for the altered or relocated portion of the watercourse so that the flood carrying capacity will not be diminished. The Floodplain Administrator may require the applicant to enter into an agreement with the City of Hagerstown specifying the maintenance responsibilities; if an agreement is required, the permit shall be conditioned to require that the agreement be recorded on the deed of the property which shall be binding on future owners.

4. **Residential Structures and Residential Portions of Mixed Use Structures.**

New residential structures and residential portions of mixed use structures, and substantial improvement (including repair of substantial damage) of existing residential structures and residential portions of mixed use structures shall comply with the applicable requirements of Section C. and this subsection. See Subsection D.6 for requirements for horizontal additions.

a. **Elevation Requirements.**

- (1) Lowest floors shall be elevated to or above the flood protection elevation.
- (2) In areas of shallow flooding (Zone AO), the lowest floor (including basement) shall be elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM plus one foot, or at least three feet if a depth number is not specified.
- (3) Enclosures below the lowest floor shall meet the requirements of Subsection 4.c., below.

b. **Limitations on Use of Fill to Elevate Structures.**

Unless otherwise restricted by these regulations, especially by the limitations in Subsection D.3.a., Subsection D.3.b., and Subsection D.3.c., fill placed for the purpose of raising the ground level to support a building or structure shall:

- (1) Consist of earthen soil or rock materials only.
- (2) Extend laterally from the building footprint to provide for adequate access as a function of use; the Floodplain Administrator may seek advice from the State Fire Marshal's Office and/or the local fire services agency;
- (3) Comply with the requirements of the building code and be placed and compacted to provide for stability under conditions of rising and falling floodwaters and resistance to erosion, scour, and settling;
- (4) Be sloped no steeper than one vertical to two horizontal, unless approved by the Floodplain Administrator;

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- (5) Be protected from erosion associated with expected velocities during the occurrence of the base flood; unless approved by the Floodplain Administrator, fill slopes shall be protected by vegetation if the expected velocity is less than five feet per second, and by other means if the expected velocity is five feet per second or more; and
 - (6) Be designed with provisions for adequate drainage and no adverse effect on adjacent properties.
- c. **Enclosures Below the Lowest Floor.**
- (1) Enclosures below the lowest floor shall be used solely for parking of vehicles, building access, crawl/underfloor spaces, or limited storage.
 - (2) Enclosures below the lowest floor shall be constructed using flood damage-resistant materials.
 - (3) Enclosures below the lowest floor shall be provided with flood openings which shall meet the following criteria: [Note: See NFIP Technical Bulletin #1, "Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings."]
 - (a) There shall be a minimum of two flood openings on different sides of each enclosed area; if a building has more than one enclosure below the lowest floor, each such enclosure shall have flood openings on exterior walls.
 - (b) The total net area of all flood openings shall be at least one square inch for each square foot of enclosed area (non-engineered flood openings), or the flood openings shall be engineered flood openings that are designed and certified by a licensed professional engineer to automatically allow entry and exit of floodwaters; the certification requirement may be satisfied by an individual certification or an Evaluation Report issued by the ICC Evaluation Service, Inc.
 - (c) The bottom of each flood opening shall be one foot or less above the higher of the interior floor or grade, or the exterior grade, immediately below the opening.
 - (d) Any louvers, screens or other covers for the flood openings shall allow the automatic flow of floodwaters into and out of the enclosed area.
 - (e) If installed in doors, flood openings that meet requirements of paragraphs (a) through (d), are acceptable; however, doors without installed flood openings do not meet the requirements of this section.

5. **Nonresidential Structures and Nonresidential Portions of Mixed Use Structures.**

New nonresidential structures and nonresidential portions of mixed-use structures, and substantial improvement (including repair of substantial damage) of existing nonresidential structures and nonresidential portions of mixed-use structures shall comply with the applicable requirements of Section C. and the requirements of this section. See Subsection D.6 for requirements for horizontal additions.

a. Elevation Requirements.

Elevated structures shall:

- (1) Have the lowest floor (including basement) elevated to or above the flood protection elevation; or
- (2) In areas of shallow flooding (Zone AO), have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM plus one foot, or at least three feet if a depth number is not specified; and
- (3) Have enclosures below the lowest floor, if any, that comply with the requirements of Subsection D.4.c.; or
- (4) If proposed to be elevated on fill, meet the limitations on fill in Subsection D.4.b.

b. Flood Proofing Requirements.

- (1) Flood proofing of new nonresidential buildings is not allowed in non-tidal waters of the State (COMAR 26.17.04.11(B)(7)).
- (2) Flood proofing for substantial improvement of nonresidential buildings is allowed in non-tidal waters of the State.
- (3) If flood proofing is proposed, structures shall:
 - (a) Be designed to be dry flood proofed such that the building or structure is watertight with walls and floors substantially impermeable to the passage of water to the level of the flood protection elevation plus 1.0 foot, or
 - (b) If located in an area of shallow flooding (Zone AO), be dry flood proofed at least as high above the highest adjacent grade as the depth number specified on the FIRM plus two feet, or at least four feet if a depth number is not specified; and
 - (c) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - (d) Have flood proofing measures that are designed taking into consideration the nature of flood-related hazards; frequency, depth and duration of flooding; rate of rise and fall of floodwater; soil characteristics; flood-borne debris; at least 12 hours of flood warning time from a credible source; and time necessary to implement any measures that require human intervention;
 - (e) Have at least one door above the applicable flood elevation that allows human ingress and egress during conditions of flooding;
 - (f) Have an operations and maintenance plan that is filed with local emergency management officials and that specifies the owner/occupant's responsibilities to

monitor flood potential; the location of any shields, doors, closures, tools, or other goods that are required for implementation; maintenance of such goods; methods of installation; and periodic inspection; and

- (g) Be certified by a licensed professional engineer or licensed architect, through execution of a Flood proofing Certificate that states that the design and methods of construction meet the requirements of this section. The Flood proofing Certificate shall be submitted with the construction drawings as required in Subsection B.5.a(13).

6. Horizontal Additions.

- a. A horizontal addition proposed for a building or structure that was constructed after the date specified in Subsection A.1 shall comply with the applicable requirements of Subsection D.4 and this section.
- b. In non-tidal waters of the State that are subject to the regulatory authority of MDE, all horizontal additions shall comply with the applicable requirements of Subsection D.4. and this section and:
 - (1) If the addition is structurally connected to the base building, the requirements of Subsection c., below, apply.
 - (2) If the addition has an independent foundation and is not structurally connected to the base building and the common wall with the base building is modified by no more than a doorway, the base building is not required to be brought into compliance.
- c. For horizontal additions that are structurally connected to the base building:
 - (1) If the addition combined with other proposed repairs, alterations, or modifications of the base building constitutes substantial improvement, the base building and the addition shall comply with the applicable requirements of Subsection D.4 and this section.
 - (2) If the addition constitutes substantial improvement, the base building and the addition shall comply with all of the applicable requirements of Subsection D.4 and this section.
- d. For horizontal additions with independent foundations that are not structurally connected to the base building and the common wall with the base building is modified by no more than a doorway, the base building is not required to be brought into compliance.

7. Accessory Structures.

- a. Accessory structures shall be limited to no more than 300 square feet in floor area.
- b. Accessory structures shall comply with the elevation requirements and other requirements of Subsection D.4., the flood proofing requirements of Subsection D.5.b., or shall:
 - (1) Be useable only for parking of vehicles or limited storage;
 - (2) Be constructed with flood damage-resistant materials below the base flood elevation;

- (3) Be constructed and placed to offer the minimum resistance to the flow of floodwaters;
- (4) Be anchored to prevent flotation;
- (5) Have electrical service and mechanical equipment elevated to or above the base flood elevation; and
- (6) Have flood openings that meet the requirements of Subsection D.4.c.

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E. Variances.**1. General.**

The Board of Zoning Appeals shall have the power to consider and authorize or deny variances from the strict application of the requirements of these regulations. A variance shall be approved only if it is determined to not be contrary to the public interest and where, owing to special conditions of the lot or parcel, a literal enforcement of the provisions of these regulations, an unnecessary hardship would result.

Upon consideration of the purposes of these regulations, the individual circumstances, and the considerations and limitations of this section, the Board of Zoning Appeals may attach such conditions to variances as it deems necessary to further the purposes of these regulations.

The Board of Zoning Appeals shall notify, in writing, any applicant to whom a variance is granted to construct or substantially improve a building or structure with its lowest floor below the elevation required by these regulations that the variance is to the floodplain management requirements of these regulations only, and that the cost of Federal flood insurance will be commensurate with the increased risk, with rates up to \$25 per \$100 of insurance coverage.

A record of all variance actions, including justification for issuance shall be maintained pursuant to Subsection B.2.j. of this Article.

2. Application for a Variance.

- a. The owner of property, or the owner's authorized agent, for which a variance is sought shall submit an application for a variance to the Floodplain Administrator.
- b. At a minimum, the application shall contain the following information: name, address, and telephone number of the applicant and property owner; legal description of the property; parcel map; description of the existing use; description of the proposed use; site map showing the location of flood hazard areas, designated floodway boundaries, flood zones, base flood elevations, and flood protection setbacks; description of the variance sought; and reason for the variance request. Variance applications shall specifically address each of the considerations in Subsection E.3.
- c. If the application is for a variance to allow the lowest floor of a building or structure below the applicable minimum elevation required by these regulations, the application shall include a statement signed by the owner that, if granted, the conditions of the variance shall be recorded on the deed of the property.
- d. If the application is for a variance for a historic structure pursuant to Subsection C.6 of this Article, the application shall contain documentation that the proposed work does not preclude the structure's continued eligibility and designation as a historic structure. The documentation shall be obtained from a source that is authorized to make such determinations (see definition of "Historic Structure").

3. Considerations for Variances.

The Floodplain Administrator shall request comments on variance applications from MDE (NFIP State Coordinator) and shall provide such comments to the Board of Zoning Appeals.

In considering variance applications, the Board of Zoning Appeals shall consider and make findings of fact on all evaluations, all relevant factors, requirements specified in other sections of these regulations, and the following factors:

- a. The danger that materials may be swept onto other lands to the injury of others.
- b. The danger to life and property due to flooding or erosion damage.
- c. The susceptibility of the proposed development and its contents (if applicable) to flood damage and the effect of such damage on the individual owner.
- d. The importance of the services to the community provided by the proposed development.
- e. The availability of alternative locations for the proposed use which are not subject to, or are subject to less, flooding or erosion damage.
- f. The necessity to the facility of a waterfront location, where applicable, or if the facility is a functionally dependent use.
- g. The compatibility of the proposed use with existing and anticipated development.
- h. The relationship of the proposed use to the comprehensive plan for that area.
- i. The safety of access to the property in times of flood for passenger vehicles and emergency vehicles.
- j. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
- k. The costs of providing government services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- l. The comments provided by MDE (NFIP State Coordinator).

4. Limitations for Granting Variances.

The Board of Zoning Appeals shall make an affirmative decision on a variance request only upon:

- a. A showing of good and sufficient cause.

- b. A determination that failure to grant the variance would result in exceptional hardship due to the physical characteristics of the property. Increased cost or inconvenience of meeting the requirements of these regulations does not constitute an exceptional hardship to the applicant.
- c. A determination that the granting of a variance for development within any designated floodway, or flood hazard area with base flood elevations but no designated floodway, will not result in increased flood heights beyond that which is allowed in these regulations.
- d. A determination that the granting of a variance will not result in additional threats to public safety; extraordinary public expense, nuisances, fraud or victimization of the public, or conflict with existing local laws.
- e. A determination that the building, structure or other development is protected by methods to minimize flood damages.
- f. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.

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F. Enforcement.

Enforcement provisions of this Article shall be set forth in Article 8.

G. Subsequent Amendments and Effective Date.

1. Subsequent Amendments.

All ordinances or parts of ordinances that are inconsistent with the provisions of this ordinance are hereby repealed to the extent of such inconsistency. This ordinance shall be amended as required by the Federal Emergency Management Agency, 44 Code of Federal Regulations. All subsequent amendments to this ordinance are subject to the approval of the Federal Emergency Management Agency and the Maryland Department of the Environment.

2. Effective Date.

This Floodplain Management Ordinance was adopted on April 3, 1978 to be effective on the same day, as subsequently amended.

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