

## Chapter 48

### **Flood Plain**

#### Article I      General Provisions

- Section 48-1    Statement of Purpose
- Section 48-2    Areas to Which These Regulations Apply
- Section 48-3    Basis for Establishing Special Flood Hazard Areas
- Section 48-4    Abrogation and Greater Restrictions
- Section 48-5    Interpretation
- Section 48-6    Warning and Disclaimer of Liability
- Section 48-7    Severability

#### Article II      Definitions

#### Article III     Administration

- Section 48-8    Designation of the Floodplain Administrator
- Section 48-9    Duties and Responsibilities of the Floodplain Administrator
- Section 48-10   Permits Required
- Section 48-11   Application Required
- Section 48-12   Review, Approval or Disapproval
- Section 48-13   Inspections and Revocation
- Section 48-14   Submissions Required Prior to Issuance of a Certificate of Occupancy
- Section 48-15   Flood Insurance Rate Map Use and Interpretation

#### Article IV      Requirements In All Special Flood Hazard Areas

- Section 48-16   Application of Requirements
- Section 48-17   Subdivisions and Developments
- Section 48-18   Protection of Water Supply and Sanitary Sewage Systems
- Section 48-19   Buildings and Structures
- Section 48-20   Fill
- Section 48-21   Historic Structures
- Section 48-22   Recreational Vehicles
- Section 48-23   Gas or Liquid Storage Tanks

#### Article V      Requirements In Special Flood Hazard Areas

- Section 48-24   General Requirements
- Section 48-25   Residential Structures and Residential Portions of Mixed Use Structures
- Section 48-26   Nonresidential Structures and Nonresidential Portions of Mixed Use Structures

- Section 48-27 Accessory Structures
- Section 48-28 Protection of Flood-Carrying Capacity
- Article VI Requirements In Coastal High Hazard Areas (Zone VE)
  - Section 48-29 General Requirements
  - Section 48-30 Location and Site Preparation
  - Section 48-31 Residential and Nonresidential Structures
- Article VII Variances
  - Section 48-32 Variances
- Article VIII Appeals
  - Section 48-33 Appeals
  - Section 48-34 Appeal Review Criteria
  - Section 48-35 Appeal Fee
- Article IX Enforcement
  - Section 48-36 Compliance Required
  - Section 48-37 Notice of Violation
  - Section 48-38 Violations and Penalties
- Article X Municipal Liability
  - Section 48-39 Municipal Liability

History: This Chapter was Ordinance 14-1117-01 and adopted by the Mayor and Council on 12-15-14. It replaced the old Chapter 48 which was Ordinance 4015 adopted in March 27, 1995.

## **Article I General Provisions**

### **Section 48-1 Statement of Purpose**

It is the purpose of these regulations to comply with the requirements of the National Flood Insurance Program, and to that end, these regulations are adopted 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 the floodplain are maintained;
- L. Minimize the impact of development on the natural and beneficial functions of the floodplain;
- M. Prevent floodplain uses that are either hazardous or environmentally incompatible; and
- N. Meet community participation requirements of the National Flood Insurance Program.

### **Section 48-2 Areas to Which These Regulations Apply**

These regulations shall apply to all special flood hazard areas within the jurisdiction of the City of Delaware City.

### **Section 48-3 Basis for Establishing Special Flood Hazard Areas**

For the purposes of these regulations, the following are adopted by reference as a part of these regulations and serve as the basis for establishing special flood hazard areas:

- A. The FEMA Flood Insurance Study for New Castle County, Delaware and Incorporated Areas dated February 4, 2015, and all subsequent amendments and/or the most recent revision thereof.
- B. The FEMA Flood Insurance Rate Map for New Castle County, Delaware and Incorporated Areas dated February 4, 2015, and all subsequent amendments and/or the most recent revision thereof.
- C. Other hydrologic and hydraulic engineering studies and/or maps prepared pursuant to these regulations or for other purposes, and which establish base flood elevations, delineate 100-year floodplains, floodways or other areas of special flood hazard.
- D. The City of Delaware City may identify and regulate new local flood hazard or ponding areas. If identified, these areas should be delineated and adopted on a "Local Flood Hazard Map" using best available topographic data and locally derived information such as flood of record, historic high water marks or approximate study methodologies.
- E. Where field surveyed topography indicates that ground elevations are below the closest applicable base flood elevation, even in areas not delineated as a special flood hazard area on a flood hazard map, the area may be considered as special flood hazard area.

Maps and studies that establish special flood hazard areas are on file at City Hall, 407 Clinton Street, Delaware City, Delaware 19706.

### **Section 48-4 Abrogation and Greater Restrictions**

These regulations are not intended to repeal or abrogate any existing ordinances including subdivision regulations, zoning ordinances or building codes. In the event of a conflict between these regulations and any other ordinance, the more restrictive shall govern. These regulations shall not impair any deed restriction, covenant or easement, but the land subject to such interests shall also be governed by these regulations.

### **Section 48-5 Interpretation**

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

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under State statutes.
- D. Where a provision of these regulations may be in conflict with State or Federal law, state or Federal law shall take precedence where such laws are more restrictive.

**Section 48-6 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 on rare occasions. 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 Delaware City, any officer or employee thereof, or any other governmental body for any flood damage that results from reliance on these regulations or any administrative decision lawfully made thereunder.

**Section 48-7 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.

## Article II Definitions

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the meaning they have in common usage and to give these regulations the most reasonable application. The definitions below are only applicable to this Chapter.

**Accessory Structure:** A structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal structure.

**Area of Shallow Flooding:** A designated Zone AO on a community's Flood Insurance Rate Map with a one percent annual chance or greater of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

**Base Flood:** The flood having a one percent chance of being equaled or exceeded in any given year; the base flood also is referred to as the 100-year flood (or the 1%-annual-chance flood).

**Base Flood Discharge:** The volume of water resulting from a Base Flood as it passes a given location within a given time, usually expressed in cubic feet per second (cfs).

**Base Flood Elevation:** The water surface elevation of the base flood in relation to the datum specified on the community's Flood Insurance Rate Map. In areas of shallow flooding, the base flood elevation is the natural grade elevation plus the depth number specified in feet on the Flood Insurance Rate Map, or at least 2 feet if the depth number is not specified.

**Basement:** Any area of the building having its floor subgrade (below ground level) on all sides.

**Breakaway Wall:** A wall that is designed and certified by a registered design professional that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

**Coastal High Hazard Area:** An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms. Coastal high hazard areas also are referred to as "Zone V" or "V Zones" and are designated on FIRMs as flood insurance risk Zone VE.

**Development:** Any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, placement of manufactured homes, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

**Dry Floodproofing:** Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

**Elevation Certificate:** The *National Flood Insurance Program, Elevation Certificate* (FEMA Form 086-0-33), used to document building elevations and other information about buildings. When required to be certified, the form shall be completed by a licensed professional land surveyor.

**Enclosure Below the Lowest Floor:** An unfinished or flood resistant enclosure usable solely for parking of vehicles, building access, or storage, in an area other than a basement.

**Federal Emergency Management Agency (FEMA):** The federal agency with the overall responsibility for administering the National Flood Insurance Program.

**FEMA Technical Bulletin:** A series of guidance documents published by FEMA to provide guidance concerning building performance standards of the National Flood Insurance Program. See sections where specific TBs are identified.

**Flood or Flooding:** A general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters, and/or
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

**Flood Damage-Resistant Materials:** Any construction material capable of withstanding direct and prolonged contact with floodwaters without sustaining any damage that requires more than cosmetic repair. See FEMA Technical Bulletin #2 – *Flood Damage-Resistant Materials Requirements* and FEMA Technical Bulletin #8 – *Corrosion Protection for Metal Connectors in Coastal Areas*.

**Flood Insurance Rate Map (FIRM):** An official map on which the Federal Emergency Management Agency has delineated special flood hazard areas to indicate the magnitude and nature of flood hazards, and to designate applicable flood zones.

**Zone A:** Special flood hazard areas inundated by the 1% annual chance flood; base flood elevations are not determined.

**Zone AE:** Special flood hazard areas subject to inundation by the 1% annual chance flood; base flood elevations are determined; floodways may or may not be determined.

**Zone AO:** Areas of shallow flooding, with or without a designated average flood depth.

**Zone X (shaded):** Areas subject to inundation by the 500-year flood (0.2% annual chance); areas subject to the 1% annual chance flood with average depths of less than 1 foot or with contributing drainage area less than 1 square mile; and areas protected by levees from the base flood.

**Zone X (unshaded):** Areas determined to be outside the 1% annual chance flood and outside the 500-year floodplain.

**Zone VE:** Special flood hazard areas subject to inundation by the 1% annual chance flood and subject to high velocity wave action (also referred to as coastal high hazard areas).

**Limit of Moderate Wave Action (LiMWA):** The inland limit of the area affected by waves greater than 1.5 feet during the base flood. Base flood conditions between the Zone VE and the LiMWA will be similar to, but less severe than, those in the Zone VE.

**Flood Insurance Study:** The official report in which the Federal Emergency Management Agency has provided flood profiles, floodway information, and the water surface elevations.

**Floodplain:** Any land area susceptible to being inundated by water from any source (see “Flood” or “Flooding”).

**Floodproofing:** Any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

**Floodproofing Certificate:** The *National Flood Insurance Program, Floodproofing Certificate for Non-Residential Structures* (FEMA Form 86-0-34), used by registered professional engineers and architects to certify dry floodproofing designs.

**Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to pass the base flood discharge such that the cumulative increase in the water surface elevation of the base flood discharge is no more than a designated height.

**Freeboard:** A factor of safety usually expressed in feet above a flood elevation for the purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, obstructed bridge openings, debris and icejams, and the hydrologic effect of urbanization in a watershed.

**Functionally Dependent Use:** A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water; the term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

**Highest Adjacent Grade:** The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**Historic Structure:** Any structure that is:

- A. Individually listed in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; or
- B. 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; or
- C. 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;
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  1. By an approved state program as determined by the Secretary of the Interior; or
  2. Directly by the Secretary of the Interior in states without approved programs.

**Hydrologic and Hydraulic Engineering Analysis:** An analysis performed by a professional engineer, licensed in the State of Delaware, in accordance with standard engineering practices as accepted by FEMA, used to determine the base flood, other frequency floods, flood elevations, floodway information and boundaries, and flood profiles.

**Letter of Map Change:** A Letter of Map Change is an official FEMA determination, by letter, to amend or revise an effective Flood Insurance Rate Map, Flood Boundary and Floodway Map, and Flood Insurance Study. Letters of Map Change include:



**Letter of Map Amendment (LOMA):** An amendment based on technical data showing that a property was inadvertently included in a designated special flood hazard area. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property is not located in a special flood hazard area.

**Letter of Map Revision (LOMR):** A revision based on technical data that may show changes to flood zones, flood elevations, floodplain and floodway delineations, and planimetric features. One common type of LOMR, a Letter of Map Revision Based on Fill (LOMR-F), is a determination that a structure or parcel of land has been elevated by fill above the base flood elevation and is, therefore, no longer exposed to flooding associated with the base flood; in order to qualify for this determination, the fill must have been permitted and placed in accordance with these regulations.

**Conditional Letter of Map Revision (CLOMR):** A formal review and comment as to whether a proposed flood protection project complies with the minimum National Flood Insurance Program requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not amend or revise effective Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, or Flood Insurance Studies; upon submission to and approval of certified as-built documentation, a Letter of Map Revision may be issued.

**Lowest Floor:** The lowest floor of the lowest enclosed area, including basement, but excluding any unfinished or flood-resistant enclosure, usable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the structure in violation of the non-elevation requirements specified in the building code for enclosures below the lowest floor.

**Manufactured Home:** A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

**Manufactured Home Park or Subdivision:** A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

**New Construction:** Buildings and structures for which the "start of construction" commenced on or after February 16, 1977, which was the effective date of the original Flood Plain Ordinance (Number 4010A) adopted by the City of Delaware City, including any subsequent improvements to such structures.

**New Manufactured Home Park or Subdivision:** A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after February 16, 1977, which was the effective date of the original Flood Plain Ordinance (Number 4010A) adopted by the City of Delaware City.

**Person:** An individual or group of individuals, corporation, partnership, association, or any other entity, including state and local governments and agencies.

**Recreational Vehicle:** A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty truck, and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Special Flood Hazard Area:** The land in the floodplain subject to a one percent or greater chance of flooding in any given year. Special flood hazard areas are designated by the Federal Emergency

Management Agency in Flood Insurance Studies and on Flood Insurance Rate Maps as Zones A, AE, AO, and Zone VE. The term includes areas shown on other flood hazard maps that are specifically listed or otherwise described in Section 48-3.

**Start of Construction:** The date of issuance of permits for new construction and substantial improvements, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms nor does it include the installation on the property of accessory 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 (or Building):** For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

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

**Substantial Improvement:** Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified prior to the application for a development permit by the local code enforcement official and which are the minimum necessary to assure safe living conditions or any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure."

**Violation:** The failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the Elevation Certificate, other certifications, or other evidence of compliance required in these regulations is presumed to be in violation until such time that documentation is provided.

## **Article III Administration**

### **Section 48-8 Designation of the Floodplain Administrator**

The City Manager of the City of Delaware City or his or her designee is hereby appointed to administer and implement these regulations and is referred to herein as the Floodplain Administrator. The Floodplain Administrator is authorized to: (A) Fulfill the duties and responsibilities set forth in these regulations, (B) Delegate duties and responsibilities set forth in these regulations to qualified technical personnel, plan examiners, inspectors, and other employees, or (C) Enter into a written agreement or written contract with another jurisdiction or agency, or private sector entity to administer specific provisions of these regulations.

### **Section 48-9 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 special flood hazard areas.
- B. Interpret floodplain boundaries and provide flood elevation and flood hazard information.
- C. Review applications to determine whether proposed activities will be reasonably safe from flooding.
- D. Review applications to determine whether all necessary permits have been obtained from those Federal, state or local agencies from which prior or concurrent approval is required.
- E. Verify, when applicable, that applicants proposing to alter or relocate a watercourse have notified adjacent communities and the Delaware Department of Natural Resources and Environmental Control (Division of Watershed Stewardship), and have submitted copies of such notifications to the Federal Emergency Management Agency.
- F. Issue permits to develop in special flood hazard areas when the provisions of these regulations have been met, or disapprove the same in the event of noncompliance.
- G. Inspect, or cause to be inspected, buildings and lands to determine compliance with these regulations or to determine if noncompliance has occurred or violations have been committed.
- H. Review, or cause to be reviewed, submitted Elevation Certificates for completeness.
- I. Submit to FEMA data and information necessary to maintain flood hazard maps, including hydrologic and hydraulic engineering analyses prepared by or for the City of Delaware City, corrections to labeling or planimetric details, etc.
- J. Maintain and permanently keep records for public inspection that are necessary for the administration of these regulations including Flood Insurance Rate Maps, Letters of Map Amendment and Revision, records of issuance and denial of permits, determinations of whether development is in or out of special flood hazard areas for the purpose of issuing

permits, elevation certificates, other required certifications, variances, and records of enforcement actions taken for violations of these regulations.

- K. Enforce, or cause to be enforced, the provisions of these regulations.
- L. Conduct determinations as to whether existing buildings and structures damaged by any cause and located in special flood hazard areas, have been substantially damaged.
- M. Make reasonable efforts to notify owners of substantially damaged buildings and structures of the need to obtain a permit prior to repair, rehabilitation, or reconstruction, and to prohibit the non-compliant repair of substantially-damaged buildings except for temporary emergency protective measures necessary to secure a property or stabilize a 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 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 materials and other information related to the proper repair of damaged structures in special flood hazard areas; and assisting owners with National Flood Insurance Program claims for Increased Cost of Compliance payments.
- O. Notify the Federal Emergency Management Agency when the corporate boundaries of the City of Delaware City have been modified.

#### **Section 48-10 Permits Required**

It shall be unlawful for any person or entity to begin construction or other development which is wholly within, partially within, or in contact with any identified special flood hazard area, as established in Section 48-3, including but not limited to: filling, grading, or other site improvements and utility installations; construction, alteration, remodeling, improvement, replacement, reconstruction, repair, relocation, or expansion of any building or structure; placement or replacement of a manufactured home; recreational vehicles; installation or replacement of storage tanks; or alteration of any watercourse, until a permit is obtained from the City of Delaware City. No such permit shall be issued until the requirements of these regulations have been met.

#### **Section 48-11 Application Required**

Application for a permit shall be made by the owner of the property or his/her authorized agent, herein referred to as the applicant, prior to the actual start of construction. The application shall be on a form furnished for that purpose.

- A. Application Contents.
  - 1. At a minimum, applications shall include:
    - (a) Site plans drawn to scale showing the nature, location, dimensions, existing and proposed topography of the area in question, the limits of any portion of the site that was previously filled, and the location of

existing and proposed structures, excavation, filling, storage of materials, drainage facilities, and other proposed activities.

- (b) Elevation of the existing natural ground where structures are proposed, referenced to the datum on the Flood Insurance Rate Map, and an Elevation Certificate that shows the ground elevation and proposed building elevations (identified in Section C of the Elevation Certificate as “Construction Drawings”).
- (c) Delineation of special flood hazard areas, floodway boundaries, flood zones, and base flood elevations. Where surveyed natural ground elevations are lower than the base flood elevations, base flood elevations shall be used to delineate the boundary of special flood hazard areas. If proposed, changes in the delineation of special flood hazard areas shall be submitted to and approved by FEMA in accordance with Section 48-11(B). Where special flood hazard areas are not delineated or base flood elevations are not shown on the flood hazard maps, the Floodplain Administrator has the authority to require the applicant to use information provided by the Floodplain Administrator, information that is available from other sources, or to determine such information using accepted engineering practices.
- (d) For subdivision proposals and development proposals containing at least 50 lots or at least 5 acres, whichever is the lesser, and where base flood elevations are not shown on Flood Insurance Rate Maps, hydrologic and hydraulic engineering analyses and studies as required by Section 48-17(D).
- (e) Such other material and information as may be requested by the Floodplain Administrator necessary to determine conformance with these regulations.
- (f) For work on an existing structure, including any improvement, addition, repairs, alterations, rehabilitation, or reconstruction, sufficient information to determine if the work constitutes substantial improvement, including:
  - (i) Documentation of the market value of the structure before the improvement is started or before the damage occurred.
  - (ii) Documentation of the actual cash value of all proposed improvement work, or 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.
- (g) Certifications and/or technical analyses prepared or conducted by an appropriate design professional licensed in the State of Delaware, as appropriate to the type of development activity proposed and required by these regulations:

- (i) Floodproofing Certificate for dry floodproofed non-residential structures, as required in Section 48-26.
  - (ii) Certification that flood openings that do not meet the minimum requirements of Section 48-25(B)(3)(b) are designed to automatically equalize hydrostatic flood forces.
  - (iii) Technical analyses to document that the flood carrying capacity of any watercourse alteration or relocation will not be diminished and documentation of maintenance assurances as required in Section 48-28(C).
  - (iv) Hydrologic and hydraulic engineering analyses demonstrating 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 in special flood hazard areas where the Federal Emergency Management Agency has provided base flood elevations but has not delineated a floodway, as required by Section 48-28(B).
  - (v) Hydrologic and hydraulic engineering analyses of any development proposed to be located in an identified floodway, as required by Section 48-28(A).
  - (vi) Hydrologic and hydraulic engineering analyses to develop base flood elevations for subdivisions and large-lot developments, as required by Section 48-17(D) or otherwise required by the Floodplain Administrator.
  - (vii) Applicable fee(s), payable to the City of Delaware City, based upon the estimated cost of the proposed construction as determined by the Floodplain Administrator as established from time to time by the Mayor and Council of the City of Delaware City.
- (h) The fee for application is set forth in Section 46-147. Such fee, once paid, is non-refundable.

#### B. Right to Submit New Technical Data

The applicant has the right to seek a Letter of Map Change and to submit new technical data to FEMA regarding base maps, topography, special flood hazard area boundaries, floodway boundaries, and base flood elevations. Such submissions shall be prepared in a format acceptable by FEMA and the Floodplain Administrator shall be notified of such submittal. Submittal requirements and processing fees shall be the responsibility of the applicant.

#### C. Requirement to Submit New Technical Data

The Floodplain Administrator shall notify FEMA of physical changes affecting flood hazard areas and flooding conditions by submitting technical or scientific data as soon as practicable, but not

later than six (6) months after the date such information becomes available. The Floodplain Administrator has the authority to require applicants to submit technical data to FEMA for Letters of Map Change.

## **Section 48-12 Review, Approval or Disapproval**

### **A. Review**

1. 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 required to support the application.
  - (b) Review applications for compliance with these regulations after all information required in Section 48-11 or identified and required by the Floodplain Administrator has been received
  - (c) Review all permit applications to assure that all necessary permits have been received from those federal, state or local governmental agencies from which prior approval is required. The applicant shall be responsible for obtaining such permits, including but not limited to:
    - (i) Permits issued by the U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, and the Delaware Environmental Protection Agency under Section 401 of the Clean Water Act.
    - (ii) Permits required by the State of Delaware.

### **B. Approval or Disapproval**

The Floodplain Administrator shall approve applications that comply with the applicable requirements of these regulations. The Floodplain Administrator shall disapprove applications for proposed development that does not comply with the applicable provisions of these regulations and shall notify the applicant of such disapproval, in writing, stating the reasons for disapproval.

### **C. Expiration of Permit**

A permit is valid provided the actual start of construction occurs within 180 days of the date of permit issuance. If the actual start of construction is not within 180 days of the date of permit issuance, requests for extensions shall be submitted in writing. Upon reviewing the request and the permit for continued compliance with these regulations, the Floodplain Administrator may grant, in writing, one or more extensions of time, for periods not more than 180 days each.

### **D. Changes**

After the issuance of a building permit or site plan approval by the Floodplain Administrator, no changes of any kind shall be made to the application, permit, or any of the plans, specifications or other documents with the application without the written consent of the Floodplain Administrator.

E. Placards

In addition to the building permit, the Floodplain Administrator shall issue a placard, which shall be displayed on the premises during the time construction is in progress. This placard shall show the number of the building permit, the date of its issuance and be signed by the Floodplain Administrator.

**Section 48-13 Inspections and Revocation**

- A. The Floodplain Administrator or his or her designee 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:
1. Stake-out inspection, to determine location on the site relative to the special flood hazard area and floodway.
  2. 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.
  3. Enclosure inspection, including crawlspaces, to determine compliance with applicable provisions.
  4. Utility inspection, upon installation of specified equipment and appliances, to determine appropriate location with respect to the base flood elevation.
  5. Storage of materials.
- B. In the event that the Floodplain Administrator or his or her designee discovers that the work does not comply with the permit application or any applicable laws and ordinances or that there has been a false statement or misrepresentation by any applicant, the Floodplain Administrator shall revoke the building permit and report such fact to the Mayor and City Council for whatever action it considers necessary.

**Section 48-14 Submissions Required Prior to Issuance of a Certificate of Occupancy**

The following certifications are required to be submitted by the permittee for development that is permitted in special flood hazard areas prior to the issuance of a Certificate of Occupancy:

- A. For new or substantially improved residential structures or nonresidential structures that have been elevated, an Elevation Certificate that shows the ground elevation and finished elevations (identified in Section C of the Elevation Certificate as "Finished Construction").
- B. For nonresidential structures that have been dry floodproofed, a Floodproofing Certificate based on "Finished Construction" (identified in Section II).
- C. For all development activities subject to the requirements of Section 48-11(B), a Letter of Map Revision shall be provided.



## **Section 48-15 Flood Insurance Rate Map Use and Interpretation**

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 special flood hazard maps and data:

- A. 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. When a Preliminary Flood Insurance Rate Map has been provided by FEMA to identify base flood elevations where such elevations were not previously shown, the base flood elevations on the Preliminary Flood Insurance Rate Map shall be used.
- B. Special flood hazard area delineations, base flood elevations, and floodway boundaries on FEMA maps and in FEMA studies shall take precedence over delineations, base flood elevations, and floodway boundaries by any other source that reflect a reduced special flood hazard area, reduced floodway width and/or lower base flood elevations.
- C. Other sources of data shall be reasonably used, with the approval of the Floodplain Administrator, if they show increased base flood elevations and/or larger floodway areas than are shown on FEMA flood maps and studies.
- D. Where field surveyed topography indicates that ground elevations are below the base flood elevation, even in areas not delineated as a special flood hazard on a flood hazard map, the area shall be considered as special flood hazard area.

## **Article II Requirements in All Special Flood Hazard Areas**

### **Section 48-16 Application of Requirements**

The general requirements of this section apply to all development proposed within special flood hazard areas identified in Section 48-3.

### **Section 48-17 Subdivisions and Developments**

- A. All subdivision and development proposals shall be consistent with the need to minimize flood damage and are subject to all applicable standards in these regulations.
- B. All subdivision and development proposals shall have utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- C. All subdivision and developments proposals shall have adequate drainage provided to reduce exposure to flood damage.
- D. All subdivision proposals and development proposals containing at least 50 lots or at least 5 acres, whichever is the lesser, in FEMA-delineated special flood hazard areas where base flood elevation data are not available, shall be supported by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway delineations. 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 processing fees shall be the responsibility of the applicant.

### **Section 48-18 Protection of Water Supply and Sanitary Sewage Systems**

- A. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters 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.

### **Section 48-19 Buildings and Structures**

All new construction of buildings and structures, including placement of manufactured homes and substantial improvements to existing buildings and structures, that are to be located, in whole or in part, in special flood hazard areas shall meet the following requirements:

- A. Be designed (or modified) and constructed to safely resist 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. Buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent

lateral movement due to structural loads and stresses from flooding equal to the base flood elevation, including hydrodynamic and hydrostatic loads and the effects of buoyancy.

- B. Be constructed by methods and practices that minimize flood damage.
- C. Use flood damage-resistant materials below the elevation of the lowest floor. See FEMA Technical Bulletin #2 *-Flood Damage-Resistant Materials Requirements* and FEMA Technical Bulletin #8 *-Corrosion Protection for Metal Connectors in Coastal Areas* and any and all updates thereto.
- D. Have electrical systems, equipment and components, and heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment located at or above the base flood elevation plus 12 inches. Electrical wiring systems are permitted to be located below the elevation of the lowest floor provided they conform to the provisions of the electrical part of this 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. See FEMA Technical Bulletin #4 *-Elevator Installation* and any and all updates thereto.
- E. As an alternative to Section 48-19(D), 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 that 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 the base flood.
- F. Meet the specific requirements of Article 5.
- G. In a special flood hazard area with more than one designation (Zones A, AE, and AO, floodway), meet the requirements of the most restrictive designation.

#### **Section 48-20 Fill**

- A. Disposal of fill, including but not limited to rubble, construction debris, woody debris, and trash, shall not be permitted in special flood hazard areas.
- B. Where permitted by Article 5 (Zones A, AE, and AO), fill placed for the purpose of raising the ground level and to support a building or structure shall meet the following requirements:
  - (1) 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.
  - (2) Placed and compacted to provide for stability under conditions of rising and falling floodwaters and resistance to erosion, scour, and settling.
  - (3) Consist of soil or rock materials only.

- (4) Sloped no steeper than one (1) vertical on two (2) horizontal, unless approved by the Floodplain Administrator.
  - (5) Designed with provisions for adequate drainage and no adverse effect on adjacent properties.
- C. Fill placed for a purpose other than to support a building or structure shall meet the requirements of Sections 48-20(B)(2) through (B)(5).

### **Section 48-21 Historic Structures**

Repair, alteration, or rehabilitation of historic structures shall be subject to the requirements of these regulations unless a determination is made that compliance with these regulations will preclude the structure's continued designation as a historic structure and a variance is granted in accordance with Article 6 and such variance is the minimum necessary to preserve the historic character and design of the structure.

### **Section 48-22 Recreational Vehicles**

Recreational vehicles in special flood hazard areas shall be fully licensed and ready for highway use, and shall be placed on a site for less than 180 consecutive days. Recreational vehicles that are not fully licensed and ready for highway use, or that are to be placed on a site for more than 180 consecutive days, shall meet the requirements of Section 48-31 for manufactured homes. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect utilities and security devices, and has no permanently attached additions.

### **Section 48-23 Gas or Liquid Storage Tanks**

- A. Underground tanks in special 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 special flood hazard areas shall be elevated and anchored to or above the base flood elevation plus 12 inches or shall be anchored at-grade and 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 special 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.
  - 2. Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

## Article V Requirements in Special Flood Hazard Areas

### Section 48-24 General Requirements

In addition to the general requirements of Article 4, the requirements of this section apply to all development proposed in special flood hazard areas.

### Section 48-25 Residential Structures and Residential Portions of Mixed Use Structures

#### A. Elevation Requirements

1. The lowest floor (including basement) shall be elevated to or above the base flood elevation plus 12 inches.
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 Flood Insurance Rate Map plus 12 inches, or at least 18 inches if a depth number is not specified; adequate drainage paths shall be provided to guide floodwaters around and away from the structure.
3. Enclosures below the lowest floor shall meet the requirements of Section 48-25(B).

#### B. Enclosures Below the Lowest Floor

1. Enclosures below the lowest floor shall be used solely for parking of vehicles, building access, crawlspaces, or limited storage.
2. Enclosures below the lowest floor shall be constructed using flood damage-resistant materials. See FEMA Technical Bulletin #2 – Floor Damage-Resistant Materials Requirements as may be updated or amended from time to time.
3. Enclosures below the lowest floor (including crawlspaces) shall be provided with flood openings which shall meet the following criteria (see FEMA Technical Bulletin #1 – Openings in Foundation Walls and Walls of Enclosures) as may be updated or amended from time to time:
  - (a) There shall be a minimum of two openings on different sides of each enclosed area; if a building has more than one enclosed area below the base flood elevation, each area shall have openings on exterior walls.
  - (b) The total net area of all openings shall be at least 1 square inch for each square foot of enclosed area, or the openings shall be designed and certified by a registered engineer or architect to provide for equalization of hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwaters.
  - (c) The bottom of each opening shall be 1 foot or less above the adjacent ground level.

- (d) Any louvers, screens or other opening covers shall allow the automatic flow of floodwaters into and out of the enclosed area.
  - (e) Where installed in doors and windows, openings that meet requirements of Section 48-25(B)(3)(a) through (d), are acceptable; however, doors and windows without installed openings do not meet the requirements of this section.
4. Crawlspace shall have the finished interior ground level equal to or higher than the outside finished ground level on at least one entire side of the foundation wall.

C. **Manufactured Homes**

1. New or replacement manufactured homes, including substantial improvement of existing manufactured homes, shall:
- (a) Be elevated on a permanent, reinforced foundation that raises the lowest floor to or above the base flood elevation plus 12 inches and is otherwise in accordance with Section 48-25(A).
  - (b) Be installed- in accordance with the anchor and tie-down requirements of the building code or the manufacturer's written installation instructions and specifications.
  - (c) Have enclosures below the elevated manufactured home, if any, meet the requirements of Section 48-25(B).
2. For the purposes of this requirement, the lowest floor of a manufactured home is the bottom of the lowest horizontal supporting member of the lowest floor.

**Section 48-26 Nonresidential Structures and Nonresidential Portions of Mixed Use Structures**

A. **Elevation Requirements**

- 1. The lowest floor (including basement) shall be elevated to-or above the base flood elevation plus 12 inches or the structure shall be dry floodproofed in accordance with Section 48-26(B).
- 2. In areas of shallow flooding (Zone AO), if not dry floodproofed, 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 Flood Insurance Rate Map plus 12 inches, or at least 18 inches if a depth number is not specified; adequate drainage paths shall be provided to guide floodwaters around and away from the structure.
- 3. Enclosures below the lowest floor, if not dry floodproofed, shall meet the requirements of Section 48-25(B).

B. **Dry Floodproofing Requirements**

1. Dry floodproofed structures, together with attendant utility and sanitary facilities, shall:
  - (a) Be designed to be dry floodproofed such that the structure is watertight with walls and floors substantially impermeable to the passage of water to the level of the base flood elevation plus 12 inches. In areas of shallow flooding (Zone AO), the structure shall be dry floodproofed at least as high above the highest adjacent grade as the depth number specified in feet on the Flood Insurance Rate Map plus 12 inches, or at least 18 inches if a depth number is not specified.
  - (b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
  - (c) Be certified by a licensed professional engineer or licensed professional architect with a Floodproofing Certificate, that the design and methods of construction meet the requirements of this section. Refer to FEMA Technical Bulletin #3 -Non-Residential Floodproofing -Requirements and Certification for guidance.

#### **Section 48-27 Accessory Structures**

Accessory structures shall meet the requirements of these regulations. Accessory structures that have a footprint of no more than 180 square feet may be allowed without requiring elevation or floodproofing provided such structures meet all of the following requirements:

- A. Useable only for parking or storage;
- B. Constructed with flood damage-resistant materials below the base flood elevation;
- C. Constructed and placed to offer the minimum resistance to the flow of flood waters;
- D. Firmly anchored to prevent flotation, collapse, and lateral movement;
- E. Electrical service and mechanical equipment elevated to or above the level of the base flood elevation plus 12 inches; and
- F. Equipped with flood openings that meet the requirements of Section 48-25(B).
- G. For guidance, see FEMA Technical Bulletin #7 = *Wet Floodproofing Requirements* as may be updated and amended from time to time.

#### **Section 48-28 Protection of Flood-Carrying Capacity**

- A. Development in Floodways
  1. Within any floodway area designated on the Flood Insurance Rate Map, no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic engineering analysis that the proposed encroachment would not result in any increase in flood levels within the community during the

occurrence of the base flood discharge. Such technical data shall be submitted to the Floodplain Administrator and to FEMA. 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 processing fees shall be the responsibility of the applicant.

2. The proposed development activity may be permitted if the analyses demonstrate that the activity:
  - (a) Will not result in any increase in the base flood elevation; or
  - (b) Will result in an increase in the base flood elevation, provided a Conditional Letter of Map Revision has been issued by FEMA and the applicant completes all of the following:
    - (i) Submits technical data required in Section 48-11(A)(1);
    - (ii) Evaluates alternatives which would not result in increased base flood elevations and an explanation why these alternatives are not feasible;
    - (iii) Certifies that no structures are located in areas which would be impacted by the increased base flood elevation;
    - (iv) Documents that individual legal notices have been delivered to adjacent and impacted property owners to explain the anticipated impact of the proposed action on their properties;
    - (v) Requests and receives concurrence of the Floodplain Administrator of any community impacted by the proposed actions; and
    - (vi) Notifies the Delaware Department of Natural Resources and Environmental Control (Division of Watershed Stewardship).

**B. Development in Areas with Base Flood Elevations but No Floodways**

1. For development activities in a special flood hazard area with base flood elevations but no designated floodways, the applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting the proposed activity and shall submit such analyses and data to the Floodplain Administrator and to FEMA. 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 processing fees shall be the responsibility of the applicant.
2. The proposed development activity may be permitted if the analyses demonstrate that the cumulative effect of the proposed development activity, when combined with all other existing and potential special flood hazard area encroachments will not increase the base flood elevation more than 1.0 (one) foot at any point.



C. Deliberate Alterations of a Watercourse

1. For the purpose of these regulations, a watercourse is deliberately altered when a person causes a change to occur within its banks. Deliberate changes to a watercourse include, but are not limited to: widening, deepening or relocating of the channel; installation of culverts; construction of bridges, and excavation or filling of the channel or watercourse banks.
2. For any proposed deliberate alteration of a watercourse, the applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting such changes 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 FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and processing fees shall be the responsibility of the applicant.
3. The proposed alteration of a watercourse may be permitted upon submission, by the applicant, of the following:
  - (a) Documentation of compliance with Section 48-26(A) if the alteration is in a floodway or Section 48-28(B) if the alteration is in a watercourse with base flood elevations but no floodway.
  - (b) A description of the extent to which the watercourse will be altered or relocated as a result of the proposed development.
  - (c) A certification by a licensed professional engineer that the bankful flood-carrying capacity of the watercourse will not be diminished.
  - (d) Evidence that adjacent communities, the U.S. Army Corps of Engineers, and the Delaware Department of Natural Resources and Environmental Control (Division of Watershed Stewardship) have been notified of the proposal and evidence that such notifications have been submitted to the Federal Emergency Management Agency.
  - (e) 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 permit holder to enter into an agreement with the City of Delaware City 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.

## **Article VI Requirements in Coastal High Hazard Areas (Zone VE)**

### **Section 48-29 General Requirements**

In addition to the general requirements of Article 4, the requirements of this section apply to all development proposed in coastal high hazard areas, also referred to collectively as “Zone V.” At present, the only Zone V properties in the City of Delaware City are underwater or subaqueous lands.

### **Section 48-30 Location and Site Preparation**

- A. The placement of structural fill for the purpose of elevating buildings is prohibited.
- B. All new construction shall be located landward of the reach of mean high tide.
- C. Generally, any reduction in the dimensions of dunes increases the potential for flood damage. Site preparations shall not alter sand dunes unless an engineering analysis demonstrates that the potential for flood damage is not increased.

### **Section 48-31 Residential and Nonresidential Structures**

- A. Foundations
  - 1. Buildings and structures shall be supported on pilings or columns and shall be adequately anchored to such pilings or columns. Piling shall have adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift). Water loading values used shall be those associated with the base flood. Wind loading values shall be those required by applicable building standards. Pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling.
  - 2. Slabs, pools, pool decks and walkways shall be located and constructed to be structurally independent of buildings and structures and their foundations to prevent transfer of flood loads to the buildings and structures during conditions of flooding, scour or erosion from wave-velocity flow conditions, and shall be designed to minimize debris impacts to adjacent properties and public infrastructure.
- B. Elevation Requirements
  - 1. The bottom of the lowest horizontal structural member supporting the lowest floor (excluding the pilings, pile caps, columns, grade beams, and bracing), shall be located at or above the base flood elevation plus 12 inches.
  - 2. Basement floors that are below grade on all sides are prohibited.
  - 3. The space below the lowest floor shall either be free of obstruction or, if enclosed by walls, shall meet the requirements of Section 48-31(C). See FEMA Technical Bulletin #5 – Free of Obstruction Requirements.

C. Enclosures Below the Lowest Floor

1. Enclosures below the lowest floor shall be used solely for parking of vehicles, building access or storage.
2. Walls and partitions are permitted below the elevated floor, provided that such walls and partitions are designed to break away under flood loads and are not part of the structural support of the building or structure. See FEMA Technical Bulletin #9 – Design and Construction Guidance for Breakaway Walls.
3. Electrical, mechanical, and plumbing system components shall not be mounted on or penetrate through walls that are designed to break away under flood loads.
4. Walls intended to break away under flood loads shall be constructed with insect screening or open lattice, or shall be designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a design safe loading resistance of not less than 10 pounds per square foot and no more than 20 pounds per square foot; or
5. Where wind loading values of the local building requirements exceed 20 pounds per square foot, the applicant shall submit a certification prepared and sealed by a licensed professional engineer or licensed professional architect that:
  - (a) The walls and partitions below the lowest floor have been designed to collapse from a water load less than that which would occur during the base flood.
  - (b) The elevated portion of the building and supporting foundation system have been designed to withstand the effects of wind and flood loads acting simultaneously on all building components (structural and nonstructural). Water loading values used shall be those associated with the base flood; wind loading values used shall be those required by the local building requirements.

D. Manufactured Homes

New or replacement manufactured homes, including substantial improvement of existing manufactured homes, shall:

1. Meet the foundation requirements of Section 48-31(A).
2. Meet the elevation requirements of Section 48-31(B).
3. Meet the enclosure requirements of Section 48-31(C).
4. Be installed in accordance with the anchor and tie-down requirements of the building code or the manufacturer's written installation instructions and specifications.

E. Certification of Design

The applicant shall include in the application a certification prepared by a licensed professional engineer or a licensed professional architect that the design and methods of construction to be used meet the applicable criteria of these regulations.

## Article VII Variances

### Section 48-32 Variances

The Floodplain Administrator or his or her designee shall have the power to authorize, in specific cases, such variances from the requirements of these regulations, not inconsistent with Federal regulations, as will not be contrary to the public interest where, owing to special conditions of the lot or parcel, a literal enforcement of the provisions of these regulations would result in exceptional practical difficulty.

#### A. Application for a Variance

1. Any owner, or agent thereof, of property for which a variance is sought shall submit an application for a variance to the Floodplain Administrator.
2. At a minimum, such application shall contain the following information: Name, address, and telephone number of the applicant; legal description of the property; parcel map; description of the existing use; description of the proposed use; location of the floodplain; description of the variance sought; and reason for the variance request. Each variance application shall specifically address each of the considerations in Section 48-29(B) and the limitations and conditions of Section 48-29(C).

#### B. Considerations for Variances

1. In considering variance applications, the Floodplain Administrator or his or her designee 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 provided by the proposed development to the community.
  - (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 ordinary and emergency vehicles.
- (j) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site.
- (k) 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, and streets and bridges.

C. Limitations for Variances

1. An affirmative decision on a variance request shall only be issued upon:
  - (a) A showing of good and sufficient cause. A “good and sufficient” cause is one that deals solely with the physical characteristics of the property and cannot be based on the character of the planned construction or substantial improvement, the personal characteristics of the owner or inhabitants, or local provisions that regulate standards other than health and public safety standards.
  - (b) A determination that failure to grant the variance would result in exceptional practical difficulty and/or exceptional hardship due to the physical characteristics of the property.
  - (c) Increased cost or inconvenience of meeting the requirements of these regulations does not constitute exceptional practical difficulty and/or exceptional hardship to the applicant.
  - (d) A determination that the granting of a variance for development within any designated floodway, or special flood hazard area with base flood elevations but no floodway, will not result in increased flood heights beyond that which is allowed in these regulations.
  - (e) A determination that the granting of a variance will not result in additional threats to public safety; extraordinary public expense, nuisances, fraud on or victimization of the public, or conflict with existing local laws.
  - (f) A determination that the structure or other development is protected by methods to minimize flood damages.
  - (g) A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

2. Upon consideration of the individual circumstances, the limitations and conditions, and the purposes of these regulations, the Floodplain Administrator or his or her designee may attach such conditions to variances as it deems necessary to further the purposes of these regulations.
3. The Floodplain Administrator or his or her designee shall notify, in writing, any applicant to whom a variance is granted for a building or structure with a lowest floor elevation below the base flood elevation that the variance is to the floodplain management requirements only, that the cost of federal flood insurance will be increased commensurate with the increased risk, and whether construction below the Base Flood Elevation increases risk to life and property.
4. The fee for a variance request shall be set forth in Section 46-147. The fee, once paid, is non-refundable.
5. The Floodplain Administrator or his or her designee may develop policies and procedures, forms, and processes as necessary to decide variance requests.
6. The Floodplain Administrator shall a.) maintain a record of all decisions including justification for their issuance, and b.) report such decisions issued biannually to the Appeals Authority and in the biennial report submitted to the Federal Insurance Administration.

## **Article VIII Appeals**

### **Section 48-33 Appeals**

Whenever any person is aggrieved by a decision of the Floodplain Administrator with respect to the provision of this Chapter, it is the right of that person to appeal to the Board of Adjustment which shall be known as the Appeals Authority. Such appeal must be filed, in writing, within thirty (30) days after a written determination by the Floodplain Administrator. Upon receipt of such appeal, the Appeals Authority shall set a time and place not less than ten (10) nor more than forty-five (45) days for the purpose of hearing the appeal. Notice of the time and place of the hearings shall be given to all parties at which time they may appear and be heard.

### **Section 48-34 Appeal Review Criteria**

The Appeals Authority may reverse or affirm, wholly or partly, or may modify the decision brought up for review. The Appeals Authority shall determine whether there substantial evidence exists for the Floodplain Administrator's decision in granting or denying the variance or any conditions placed thereon. The Appeals Authority shall apply the criteria in Article 6 of this Chapter in deciding the appeal.

### **Section 48-35 Appeal Fee**

The fee for an appeal to the Appeals Authority is set forth in Section 46-147. The fee, once paid, is non-refundable.



## **Article IX Enforcement**

### **Section 48-36 Compliance Required**

- A. No structure or land development shall hereafter be located, erected, constructed, reconstructed, repaired, extended, converted, enlarged or altered without full compliance with these regulations and all other applicable regulations which apply to uses within the jurisdiction of these regulations.
- B. Failure to obtain a permit shall be a violation of these regulations and shall be punishable in accordance with Section 48-35.
- C. Permits issued on the basis of plans and applications approved by the Floodplain Administrator authorize only the specific activities set forth in such approved plans and applications or amendments thereto. Use, arrangement, or construction of such specific activities that is contrary to that authorized shall be deemed a violation of these regulations.

### **Section 48-37 Notice of Violation**

Whenever the Floodplain Administrator or his designee determines that there has been a violation of this Chapter or has reasonable ground to believe that a violation has occurred, notice shall be given to the owner or persons responsible for the property.

### **Section 48-38 Violations and Penalties**

- A. Any person who fails to comply with any or all the requirements or provisions of this Chapter or direction of the Floodplain Administrator or any other authorized employee of the City of Delaware City shall be guilty of an offense and upon conviction, shall pay a fine to the City of Delaware City (as levied by the Floodplain Administrator) of not less than fifty dollars (\$50.00) or more than five hundred dollars (\$500.00) plus cost of prosecution, including applicable attorneys' fees and costs. In default of such payment such person shall be imprisoned for a period not to exceed ten (10) days. Each day during which any violation of this Chapter continues shall constitute a separate offense. In addition to the above penalties, all other actions are hereby reserved including an action in equity for the property enforcement of this Chapter. The imposition of a fine or penalty for any violation of, or non-compliance with, this Chapter shall not excuse the violation or non-compliance with this Chapter or permit it to continue; and all such persons shall be required to correct or remedy such violations or non-compliance's within a reasonable time. Any fine levied by the Floodplain Administrator may be appealed to the Appeals Authority.
- B. Any structure constructed, reconstructed, enlarged, altered or relocated in non-compliance with this Chapter may be declared by the City Council to be a public nuisance and abatable as such and an action may be brought in the Courts of the State of Delaware to abate the nuisance. If suit is brought by the City, and the City obtains an order allowing it to abate the nuisance, the party responsible for the nuisance and/or the property owner (jointly and severally) shall pay all attorneys' fees, expert fees, and other applicable costs incurred by the City, and the City shall have the right to place a lien on the property to recover such costs and expenses.

**Article X Municipal Liability**

**Section 48-39 Municipal Liability**

The granting of a permit, land use approval, or approval of a subdivision of development plan in an identified flood-prone area, shall not constitute a representation, guarantee, or warranty of any kind by the City or by any official or employee thereof of the practicability or safety of the proposed use, and shall create no liability upon the City of Delaware City and/or any elected official, employee, agency or representative of the City.