

# MONROE COUNTY CONSERVATION DISTRICT FLOOD PLAIN MANAGEMENT STANDARDS

PROPOSED AS PART OF THE MUNICIPAL ZONING ORDINANCE

## §aaa Flood Plain Overlay District

The Flood Plain Overlay District is hereby created to be coterminous with the areas which are subject to the one hundred (100) year flood, as identified in the most current *Flood Insurance Study* and the accompanying *FIRM - Flood Insurance Rate Map* issued for the **Township/Borough** by the Federal Emergency Management Agency. In addition to all other applicable standards of this Zoning Ordinance, the flood plain regulations in §xxx shall apply in the Flood Plain Overlay District.

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## §xxx Flood Plain and Buffer for Water Bodies

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## §xxx Flood Plain and Buffer for Water Bodies

This Section shall apply to all new construction, development, and improvements in any identified flood plain area which constitutes the Flood Plain Overlay District established by §aaa of this Zoning Ordinance.

### xxx.1 General Provisions

A. Intent - The intent of this Section is to meet the requirements of the National Flood Insurance Program and the Pennsylvania Flood Plain Management Act (Act 166-1978). More specifically, this Article contains all the provisions necessary to comply with the requirements of §60.3 (insert appropriate subsection) of the National Flood Insurance Program as well as the requirements of Pennsylvania Act 1978-166 and the associated regulations adopted by the Pennsylvania Department of Community and Economic Development pursuant to that Act. This Section is also intended to:

1. Promote the general health, welfare, and safety of the community.
1. Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
1. Minimize danger to public health by protecting water supply and natural drainage.
1. Reduce financial burdens imposed on the community, its governmental units, and its residents by preventing excessive development in areas subject to flooding.
1. Maintain the existing hydrologic regime through the sound management of flood plains for

their capacity to convey, transport, store and dissipate flood flow volumes and velocities, to protect water quality and to maintain stream channel stability.

1. Eliminate disturbance in flood plains of watercourses with a channel identified as vulnerable to destabilization due to disturbance and development within the flood plain.
1. Maintain and restore stream buffers and their water quality values.

B. Zoning Permit Coordination

1. The Zoning Officer shall issue a zoning permit only after it has been determined that the proposed work to be undertaken will be in conformance with the requirements of this and all other applicable codes and ordinances.
1. Prior to the issuance of any zoning/development permit, the Zoning Officer shall review the application for the permit to determine if all other necessary government permits required by State and Federal laws have been obtained, such as those required by the Pennsylvania Sewage Facilities Act (Act 1966-537, as amended); the Pennsylvania Dam Safety and Encroachments Act (Act 1978-325, as amended); the Pennsylvania Clean Streams Act (Act 1937-394, as amended); and the U.S. Clean Water Act, §404, 33, U.S.C. 1344. No permit shall be issued until this determination has been made.
1. No encroachment, alteration, or improvement of any kind shall be made to any watercourse until all adjacent municipalities which may be affected by such action have been notified by the **Township/Borough** and until all required permits or approvals have been first obtained from the Department of Environmental Protection, Bureau of Dams, Waterways and Wetlands. In addition, the Federal Insurance Administrator and Pennsylvania Department of Community and Economic Development, Strategic Planning and Operations Office, shall be notified by the **Township/Borough** prior to any alteration or relocation of any watercourse.

- C. Warning and Disclaimer of Liability - The degree of flood protection sought by the provisions of this Ordinance is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. Larger floods may occur, Flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This Ordinance does not imply that areas outside any identified flood plain areas, or that land uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the **Township/Borough** or any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

- C. Abrogation and Greater Restrictions - This ordinance supersedes any other conflicting provisions which may be in effect in identified flood plain areas. However, any other ordinance provisions shall remain in full force and effect to the extent that those provisions are more restrictive. If there is any conflict between any of the provisions of this Ordinance, the more restrictive shall apply.

**xxx.2 Basic Development Standard**

In designated flood plain areas, only the following types of activities/development will be permitted:

- A. Activities/Development that are compatible with maintaining the existing hydrologic regime and do not alter the cross sectional dimension of the flood plain and its storage capacity.
- A. Activities/Development permitted under Title 25, Chapter 105 of the Pennsylvania Code, or conveyances required by Title 25, Chapter 102.

- A. Activities/Development specifically authorized by this §xxx.

**xxx.3 Identification of Flood Plain Areas**

The identified flood plain area shall be those areas of \_\_\_\_\_ **Township/Borough**, Monroe County, Pennsylvania, which are subject to the one-hundred-year flood, as identified in the most current *Flood Insurance Study* (FIS), and the accompanying *FIRM - Flood Insurance Rate Map* prepared for the **Township/Borough** by the Federal Emergency Management Agency (FEMA).

- C. Specific Areas - The identified flood plain area shall consist of the following specific areas:
  - 1. FW (Floodway Area) - the areas identified as *Floodway* in the AE Zone in the Flood Insurance Study prepared by the FEMA. The term shall also include floodway areas which have been identified in other available studies or sources of information for those flood plain areas where no floodway has been identified in the Flood Insurance Study.
  - 1. FF (Flood-Fringe Area) - the remaining portions of the one hundred (100) year flood plain elevation in those areas identified as an AE Zone in the Flood Insurance Study where a floodway has been delineated. The basis for the outermost boundary of this area shall be the one hundred (100) year flood elevations as shown in the flood profiles contained in the Flood Insurance Study.

**NOTE:** It is possible that the following provisions pertaining to an FE area may not be needed. In some instances, a Flood Insurance Study will be prepared which will not include this kind of flood plain area. In that case, the following provisions, as well as all references to an FE area, should be deleted.

- 1. FE (Special Flood Plain Area) - the areas identified as Zone AE in the Flood Insurance Study, where one hundred (100) year flood elevations have been provided, but no floodway has been delineated.
- 1. FA (General Flood Plain Area) - the areas identified as Zone A in the FIS for which no one hundred (100) year flood elevations have been provided. When available, information from other Federal, State and other acceptable sources shall be used to determine the one hundred (100) year flood elevation, as well as a floodway area, if possible. When no other information is available, the one hundred (100) year flood elevation shall be determined by using a point on the boundary of the identified flood plain area which is nearest the construction site in question.

In lieu of the above, the municipality may require the applicant to determine the elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers, or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc. shall be submitted in sufficient detail to allow a thorough technical review by the **Township/Borough**.

- B. Changes in Identification of Area - The identified flood plain area may be revised or modified by the **Township/Borough** where studies or information provided by a qualified agency or person documents the need for such revision. However, prior to any such change, approval must be obtained from the Federal Insurance Administration (FIA).
- B. Boundary Disputes - Should a dispute concerning any identified flood plain boundary arise, the determination shall be made by the Zoning Officer and any party aggrieved by this decision or determination may appeal to the Zoning Hearing Board. The burden of proof shall be on the appellant.

**xxx.4 Prohibited Development**

In identified flood plain areas, the following shall be prohibited:

- A. Buildings - All walled or roofed buildings and substantial improvements to walled or roofed buildings.
- B. Certain Structures - All structures or development that will in any manner retard, divert or alter the natural flow of flood waters on the site except activities permitted by the Pennsylvania Department of Environmental Protection under Title 25, Chapter 105 of the Pennsylvania Code, or conveyances required by Title 25, Chapter 102. (See definition of *development*.)
- C. Sewage Disposal - On-lot or community subsurface sewage disposal systems.
- D. Developments of Special Concern
  - 1. The commencement of any of the following activities, or the construction enlargement, or expansion of any structure used, or intended to be used, for any of the following activities shall be prohibited:
    - a. Hospitals
    - b. Nursing homes
    - c. Jails or prisons
  - 2. The commencement of, or any construction of, a new manufactured home park or manufactured home subdivision, or substantial improvement to an existing manufactured home park or manufactured home subdivision.
  - 3. Any type of development or activity shall be prohibited which will be used for the production or storage of any of the following dangerous materials or substances; or, which will be used for any activity requiring the maintenance of a supply of more than five hundred and fifty (550) gallons, or other comparable volume, of any of the following dangerous materials or substances on the premises; or, which will involve the production, storage, or use of any amount of radioactive substances. The following list of materials and substances are considered dangerous to human life:
    - a. Acetone
    - b. Ammonia
    - c. Benzene
    - d. Calcium carbide
    - e. Carbon disulfide
    - f. Celluloid
    - g. Chlorine
    - h. Hydrochloric acid
    - i. Hydrocyanic acid
    - j. Magnesium
    - k. Nitric acid and oxides of nitrogen
    - l. Petroleum products (gasoline, fuel oil, etc.)
    - m. Phosphorus
    - n. Potassium
    - o. Sodium
    - p. Sulphur and sulphur products
    - q. Pesticides (including insecticides, fungicides, and rodenticides)
    - r. Radioactive substances, insofar as such substances are not otherwise regulated
    - s. Any other substance as determined by the **Township/Borough**.

**xxx.5 Permitted Activities/Development**

The following activities/development are permitted in identified flood plain areas provided such activity/development does not involve any development prohibited by §xxx.4 or §xxx.8:

- A. Agricultural activities.
- B. Plant nurseries.
- C. Forestry and seed production.
- D. Fish hatcheries.
- E. Parking lots constructed to existing grade.
- F. Temporary fairs or carnivals.
- G. Accessory uses for residential purposes.
- H. Private sportsmen's club activities (for example, archery, hunting, horse shoes etc.).
- I. Athletic facilities.
- J. Orchards.
- K. Wildlife sanctuaries.
- L. Boat launch sites constructed to existing grade.

**xxx.6 Unspecified Activities/Development**

Any activity/development not expressly permitted in §xxx.5 shall be considered a special exception subject to all applicable special exception standards and procedures of this Zoning Ordinance. However, no activity/development shall be permitted which involves any development expressly prohibited by §xxx.4.

**xxx.7 Watercourses; Stream Banks**

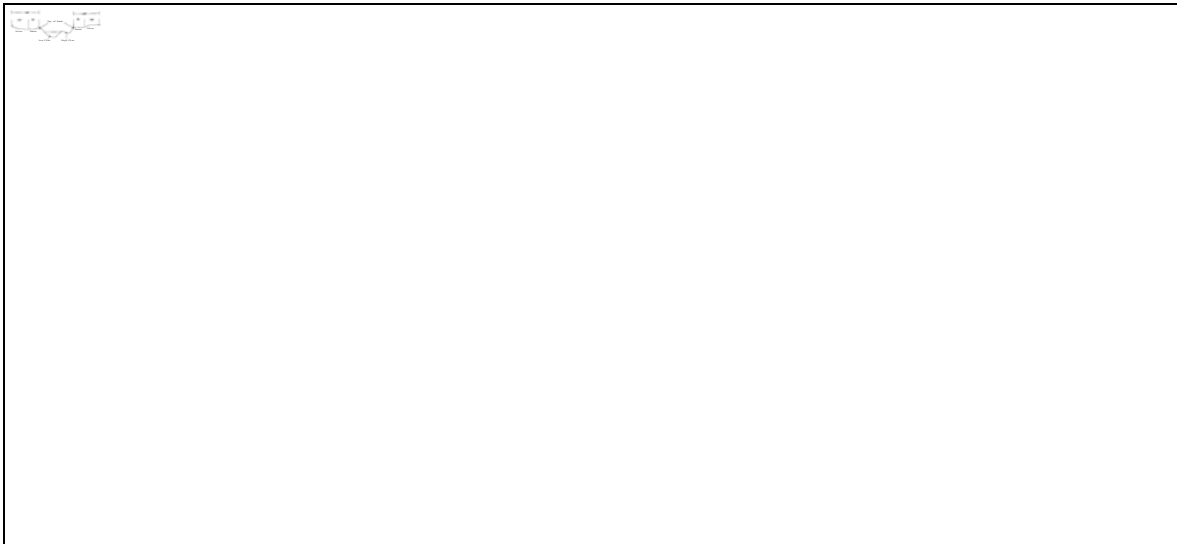
- A. Notice; Permits - No encroachment, alteration, improvement or development of any kind shall be made to any watercourse until all adjacent municipalities which may be affected by such action, the Federal Emergency Management Agency and the Pennsylvania Department of Community and Economic Development have been notified in writing by the applicant by certified mail, and until all required permits or approvals have been first obtained from the Department of Environmental Protection, Northeast Regional Office, and other applicable agencies. The applicant shall provide the **Township/Borough** with proof of the required notifications and copies of any responses.
- B. Restoration of Unstable Stream Banks - No stream bank restoration or stabilization projects shall be undertaken until the applicant provides a detailed report addressing the fluvial geomorphology of stable reaches above and below the unstable reach. Any restoration or stabilization project shall include all necessary measures to ensure the maintenance of stability in the adjacent stable reaches of the stream channel.

**xxx.8 Buffers**

- A. Applicability - In addition to the other restrictions of this §xxx, buffers shall be provided in accord with this §xxx.8.
- B. Buffer Overlap - Where resource buffers may overlap the more restrictive requirements shall apply.
- C. Pre-existing Lots or Parcels/Development in Outer Buffers - In the case of legally preexisting lots or parcels (approved prior to the effective date of this Ordinance) where the useable area of a lot or parcel lies within an outer buffer area which precludes development of the lot or parcel in accord with this Ordinance, the development may only be permitted by variance.

- D. Improvements to Existing Structures in Outer Buffers - The provisions of this §xxx.8 do not require any changes or improvements to be made to lawfully existing structures in buffers. However, when any substantial improvement to a structure is proposed which results in a horizontal expansion of that structure, the improvement may only be permitted by variance.
- E. Wetlands and Vernal Ponds
1. Wetland Identification - Wetlands shall be identified in accord with the 1987 U.S. Army Corps of Engineers Manual for Identifying and Delineating Wetlands, and properly flagged and surveyed on site to ensure they are protected.
  2. Wetland and Vernal Pond Buffer Delineation - A fifty (50) foot inner buffer and one hundred (100) foot outer buffer, measured perpendicular to and horizontally from the edge of the delineated wetland or vernal pond for a total distance of one hundred-fifty (150) feet, shall be maintained for all wetlands and vernal ponds.
    - a. Inner Buffer - Measured perpendicular to and horizontally from the edge of the delineated wetland or vernal pond, for a distance of fifty (50) feet.
      - 1) Stormwater conveyance required by the **Township/Borough**, buffer maintenance and restoration, the correction of hazardous conditions, stream crossings permitted by DEP and unpaved trails shall be permitted.
      - 2) No other earth disturbance, grading, filling, buildings, structures, new construction, or development shall be permitted.
    - b. Outer Buffer - Measured perpendicular to and horizontally from the outer edge of the inner buffer for a distance of one hundred (100) feet resulting in a total buffer of one hundred-fifty (150) feet.
      - 1) Stormwater conveyance required by the **Township/Borough**, buffer maintenance and restoration, the correction of hazardous conditions, stream crossings permitted by DEP, unpaved trails, and limited forestry activities that do not clear cut the buffer (e.g., selective regeneration harvest) in accord with a forestry management plan shall be permitted provided no buildings are involved, and those activities permitted under §xxx.8,C and §xxx.8,D.
      - 2) The area of the buffer impacted shall not exceed twenty (20) percent of the outer buffer.
- F. Lakes and Ponds
1. Inner Buffer - An inner buffer around lakes and ponds shall not be required.
  2. Lake and Pond Outer Buffer Delineation - A fifty (50) foot outer buffer measured perpendicular to and horizontally from the edge of any water body, shall be maintained around any water body.
  3. Permitted Activities/Development - Stormwater conveyance required by the **Township/Borough**, buffer maintenance and restoration, the correction of hazardous conditions, lake front views, boat docks and unpaved trails shall be permitted provided no buildings are involved. The area of the buffer impacted by permitted activities shall not exceed thirty-five (35) percent of the buffer on the subject parcel.
- G. Streams

1. Stream Buffer Delineation - A fifty (50) foot inner buffer and one hundred (100) foot outer buffer, measured perpendicular to and horizontally from the top-of-bank on both sides of any stream, for a total distance of one hundred fifty (150) feet, shall be maintained on both sides of any stream. See the following Figure.
  - a. Inner Buffer - Measured perpendicular to and horizontally from the top-of-bank of the stream for a distance of fifty (50) feet.
    - 1) Stormwater conveyance required by the **Township/Borough**, buffer maintenance and restoration, the correction of hazardous conditions, stream crossings permitted by DEP, fish hatcheries, wildlife sanctuaries and boat launch sites constructed so as not to alter the flood plain cross section, and unpaved trails shall be permitted providing no buildings are involved.
    - 2) No other earth disturbance, grading, filling, buildings, structures, new construction, or development shall be permitted.



Stream Buffers

b.Outer Buffer - Measured perpendicular to and horizontally from the outer edge of the inner buffer for a distance of one hundred (100) feet resulting in a total buffer of one hundred-fifty (150) feet.

- 1) Stormwater conveyance required by the **Township/Borough**, buffer maintenance and restoration, the correction of hazardous conditions, agricultural activities, plant nurseries, parking lots constructed to existing grade, temporary fairs and carnivals, accessory uses for residential purposes, private sportsmen’s club activities, athletic facilities, orchards, wildlife sanctuaries, boat launch sites, stream crossings permitted by DEP and unpaved trails shall be permitted provided no buildings are involved.
- 2) In areas of the outer buffer which are not wetlands, vernal ponds or slopes of more than fifteen (15) percent, stormwater management facilities which improve water quality of stormwater discharge shall be permitted unless prohibited by other **Township/Borough** or state requirements.
- 3) No other earth disturbance, grading, filling, buildings, structures, new construction, or development shall be permitted, except as provided for in §xxx.8,C and §xxx.8,D.
- 4) Limited forestry activities that do not clear cut the buffer (e.g. selective regeneration harvest) in accord with a forestry management plan shall be permitted provided no buildings are involved.

**xxx.9 Existing Structures in Flood Plain Area**

The provisions of this §xxx do not require any changes or improvements to be made to lawfully existing structures. However, when an improvement is made to any existing structure in the identified flood plain area, the following provisions shall apply:

- A. Expansions - Any substantial improvement to an existing structure which results in the horizontal expansion of the structure shall be prohibited.
- B. Floodways - No expansion or enlargement of an existing structure shall be allowed within any floodway area that would cause any increase in the elevation of the one hundred (100) year flood.
- C. Danger to Human Life - No modification, alteration, reconstruction, or improvement of any kind to an existing structure shall be permitted which involves any activity which may endanger human life as listed in §xxx.10,I,3.

**xxx.10 Existing Lots or Parcels of Record and Newly Created Lots of Parcels**

- A. Existing Lots or Parcels of Record - In the case where an existing lot or parcel of record is located wholly within an identified flood plain area, or where the useable area of a lot or parcel partially within any



identified flood plain area is found to be inadequate for the proposed development, the development may only be permitted by variance in accord with §xxx.11.

B. Newly Created Lots or Parcels

1. After the effective date of this §xxx, every lot or parcel created for development purposes shall contain an area adequate for the proposed use outside of an identified flood plain area, except as provided in §2 below. The subdivision plan and deed for any such lot or parcel shall include a restriction that the lot or parcel shall not be used for any development which does not comply with the **Township/Borough** flood plain regulations in effect when such development is proposed.
2. After the effective date of this §xxx, the subdivision plan and deed for any lot or parcel created for non-development purposes (e.g., forestry or agriculture) which contains any identified flood plain shall include a restriction that the lot or parcel shall not be used for any development which does not comply with the **Township/Borough** flood plain regulations in effect when such development is proposed.
3. No variance shall be granted for any development in any identified flood plain area contained in any lot or parcel created, or on any development plans submitted, after the effective date of this §xxx.

**xxx.11 Variances**

Requests for variances shall be considered by the **Township/Borough** Zoning Hearing Board in accord with the variance provisions of this Zoning Ordinance and the following:

- A. Elevation Required - Any building permitted by variance shall be elevated to the regulatory flood elevation (1.5 feet above the one hundred-year flood elevation). Within any identified flood plain area, any new construction or substantial improvement of a residential structure or non-residential structure shall have the lowest floor (including basement) elevated up to, or above, the regulatory flood elevation. The regulatory flood elevation is defined as the one hundred (100) year flood elevation plus a freeboard safety factor of one and one-half (1.5) feet.
- B. Design and Construction Standards - Any development permitted by variance shall comply with the requirements of §xxx.12 and all other applicable requirements of the National Flood Insurance Program.
- C. Substantial Improvements - The Zoning Hearing Board may grant a variance to the prohibition of substantial improvements to existing structures in identified flood plain areas provided all requirements of this §xxx.10 are satisfied.
- D. Floodway - No variance shall be granted for any construction, development, use, or activity within any floodway area that would cause any increase in the one hundred (100) year flood elevation.
- E. Identified Flood Plain Area - No variance shall be granted for any construction, development, use, substantial improvement or activity within any identified flood plain area that would, together with all other existing and anticipated development, increase the one hundred (100) year flood elevation more than one (1) foot at any point.
- F. Newly Created Lots or Parcels - No variance shall be granted for any development in any identified flood plain area contained in any lot or parcel created after the effective date of this §xxx.
- G. Least Modification - If granted, a variance shall involve only the least modification necessary to provide relief.

- H. Conditions - In granting any variance, the Zoning Hearing Board shall attach whatever reasonable conditions and safeguards it considers necessary in order to protect the public health, safety, and welfare, and to achieve the objectives of this Ordinance.
- I. Developments of Special Concern - No variance shall be granted for any development of special concern identified in §xxx.4,D.
- J. Written Notice - Whenever a variance is granted, the Zoning Hearing Board shall notify the applicant in writing that:
1. The granting of the variance may result in increased premium rates for flood insurance.
  2. Such variances may increase the risks to life and property.
- K. Review Factors - In reviewing any request for a variance, the Zoning Hearing Board shall consider that the granting of the variance will not:
1. Result in an unacceptable or prohibited increase in flood heights, additional threats to public safety, or extraordinary public expense,.
  2. Create nuisances, cause fraud on, or victimize the public, or conflict with any other applicable state or local ordinances and regulations.
- L. Record - A complete record of all variance requests and related actions shall be maintained by the **Township/Borough**. In addition, a report of all variances granted under this §xxx.10 shall be included in the required reports to the Federal Emergency Management Agency.

### **xxx.12 Design and Construction Standards**

The following minimum standards, in addition to all applicable National Flood Insurance Program requirements, shall apply to any construction and development approved within any identified flood plain area:

- A. Space Below the Lowest Floor
1. Fully enclosed space below the lowest floor (including basement) is prohibited.
  2. Partially enclosed space below the lowest floor (including basement) which will be used solely for the parking of a vehicle, building access, or incidental storage in an area other than a basement, shall be designed and constructed to allow for the automatic entry and exit of flood waters for the purpose of equalizing hydrostatic forces on exterior walls. The term *partially enclosed space* also includes crawl spaces.
  3. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
    - a. a minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
    - b. the bottom of all openings shall be no higher than one (1) foot above grade.
    - c. openings may be equipped with screens, louvers, etc. or other coverings or devices provided that

they permit the automatic entry and exit of flood waters.

B. Accessory Structures - Structures accessory to a principal building need not be elevated or floodproofed to remain dry, but shall comply, at a minimum, with the following requirements:

1. the structure shall not be designed or used for human habitation, but shall be limited to the parking of vehicles, or to the storage of tools, material, and equipment related to the principal use or activity.
2. floor area shall not exceed 600 square feet.
3. the structure shall have a low damage potential.
1. the structure shall be located on the site so as to cause the least obstruction to the flow of flood waters.
1. power lines, wiring, and outlets shall be at least one and one-half (1.5) feet above the 100-year flood elevation.
6. permanently affixed utility equipment and appliances such as furnaces, heaters, washers, dryers, etc. are prohibited.
7. sanitary facilities are prohibited.
8. the structure shall be adequately anchored to prevent flotation or movement and shall be designed to automatically provide for the entry and exit of flood water for the purpose of equalizing hydrostatic forces on the walls. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
  - a. a minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
  - b. the bottom of all openings shall be no higher than one (1) foot above grade.
  - c. openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

C. Fill - If fill is used, it shall:

1. extend laterally at least fifteen (15) feet beyond the building line from all points;
2. consist of soil or small rock materials only - sanitary landfills shall not be permitted;
3. be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling;
3. be no steeper than one (1) vertical to two (2) horizontal feet unless substantiated data, justifying steeper slopes are submitted to, and approved by the Township; and,
5. be used to the extent to which it does not adversely affect adjacent properties.

- D. Drainage Facilities - Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner in accord with all applicable Township storm water control requirements. The system shall insure proper drainage along streets, and provide positive drainage away from buildings. The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.
- E. Water and Sanitary Sewer Facilities and Systems
1. All new or replacement water and sanitary sewer facilities and systems shall be located, designed and constructed to minimize or eliminate flood damages and the infiltration of flood waters.
  2. Sanitary sewer facilities and systems shall be designed to prevent the discharge of untreated sewage into flood waters.
  3. No part of any on-site sewage system shall be located within any identified flood plain area except in strict compliance with all state and local regulations for such systems. If any such system is permitted, it shall be located so as to avoid impairment to it, or contamination from it, during a flood.
- F. Other Utilities - All other utilities such as gas lines, electrical and telephone systems shall be located, elevated (where possible) and constructed to minimize the chance of impairment during a flood.
- G. Streets - The finished elevation of all new streets shall be no more than one (1) foot below the Regulatory Flood Elevation.
- H. Storage - All materials that are buoyant, flammable, explosive or, in times of flooding, could be injurious to human, animal, or plant life, and not listed in §1104.5, Development Which May Endanger Human Life, shall be stored at or above the Regulatory Flood Elevation and/or flood proofed to the maximum extent possible.
- I. Placement of Buildings and Structures - All buildings and structures shall be designed, located, and constructed so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum effect upon the flow and height of flood water.
- J. Anchoring
1. All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement.
  2. All air ducts, large pipes, storage tanks, and other similar objects or components located below the regulatory flood elevation shall be securely anchored or affixed to prevent flotation.
- K. Floors, Walls and Ceilings
1. Wood flooring used at or below the Regulatory Flood Elevation shall be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain without causing structural damage to the building.
  2. Plywood used at or below the Regulatory Flood Elevation shall be of a *marine* or *water-resistant* variety.
  3. Walls and ceilings at or below the Regulatory Flood Elevation shall be designed and constructed of materials that are *water-resistant* and will withstand inundation.

4. Windows, doors, and other components at or below the Regulatory Flood Elevation shall be made of metal or other *water-resistant* material.

L. Paints and Adhesives

1. Paints and other finishes used at or below the Regulatory Flood Elevation shall be of *marine* or *water-resistant* quality.
2. Adhesives used at or below the Regulatory Flood Elevation shall be of a *marine* or *water-resistant* variety.
3. All wooden components (doors, trim, cabinets, etc.) used at or below the Regulatory Flood Elevation shall be finished with a *marine* or *water-resistant* paint or other finishing material.

M. Electrical Components

1. Electrical distribution panels shall be at least three (3) feet above the one hundred (100) year flood elevation.
2. Separate electrical circuits shall serve lower levels and shall be dropped from above.

N. Equipment - Water heaters, furnaces, air conditioning and ventilating units, and other electrical, mechanical or utility equipment or apparatus shall not be located below the Regulatory Flood Elevation.

O. Fuel Supply Systems - All gas and oil supply systems shall be designed to prevent the infiltration of flood waters into the system and discharges from the system into flood waters. Additional provisions shall be made for the drainage of these systems in the event that flood water infiltration occurs.

**xxx.13 Definitions**

For the purposes for this §xxx, the following definitions shall supplement the definitions in **Article \_\_\_\_\_** of this Zoning Ordinance:

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

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

Buffer: The area of land immediately adjacent to any wetland, lake, pond, vernal pond, or stream, measured perpendicular to and horizontally from the delineated edge of the wetland, lake, pond, or vernal pond, or the top-of-bank on both sides of a stream

Building: A combination of materials to form a permanent structure having walls and a roof. Included shall be all manufactured homes and trailers to be used for human habitation.

Completely Dry Space: A space which will remain totally dry during flooding; the structure is designed and constructed to prevent the passage of water and water vapor.

Development: Any man-made change to improved or unimproved real estate, including but not limited to the construction, reconstruction, renovation, repair, expansion, or alteration of buildings or other structures; the placement of manufactured homes; streets, and other paving; utilities; filling, grading and excavation; mining; dredging; drilling operations; storage of equipment or materials; and the subdivision of land.

Essentially Dry Space: A space which will remain dry during flooding, except for the passage of some water vapor or minor seepage; the structure is substantially impermeable to the passage of water.

Flood: A temporary inundation of normally dry land areas.

Flood Plain Area: A relatively flat or low land area which is subject to partial or complete inundation from an adjoining or nearby stream, river or watercourse; and/or any area subject to the unusual and rapid accumulation of surface waters from any source.

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.

Floodway: The designated area of a flood plain required to carry and discharge flood waters of a given magnitude. For the purposes of this Ordinance, the floodway shall be capable of accommodating a flood of the one hundred (100) year magnitude.

Historic Structure: Any structure that is any of the following:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.
- 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.
- C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior.
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs

Identified Flood Plain Area: The flood plain area specifically identified in this Ordinance as being inundated by the one hundred (100) year flood.

Lowest Floor: The lowest floor of the lowest fully enclosed area (including basement). An unfinished, flood resistant partially enclosed area, used solely for parking of vehicles, building access, and incidental storage, in an area other than a basement area is not considered the lowest floor of a building, provided that such space is not designed and built so that the structure is in violation of the applicable non-elevation design requirements of this ordinance.

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 attached to the required utilities. The term includes park trailers, travel trailers, recreational and other similar vehicles which are placed on a site for more than 180 consecutive days.

Manufactured Home Park: A parcel of land which has been planned and improved for the placement of two or more manufactured homes for non-transient use.

**Minor Repair:** The replacement of existing work with equivalent materials for the purpose of its routine maintenance and upkeep, but not including the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the exit-way requirements; nor shall minor repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, oil, waste, vent, or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

**New Construction:** Structures for which the start of construction commenced on or after (enter date), the date of the first flood plain development standards adopted by the **Township/Borough**, and includes any subsequent improvements thereto.

**One Hundred Year Flood:** A flood that, on the average, is likely to occur once every one hundred (100) years (i.e., that has one [1] percent chance of occurring each year, although the flood may occur in any year).

**Recreational Vehicle:** A vehicle which is (i) built on a single chassis; (ii) not more than 400 square feet, measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light-duty truck; (iv) not designed for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Regulatory Flood Elevation:** The one hundred (100) year flood elevation plus a freeboard safety factor of one and one-half (1.5) feet.

**Stream:** See *watercourse*.

**Structure:** Anything constructed or erected on the ground or attached to the ground including, but not limited to buildings, sheds, manufactured homes, fences, and other similar items. This term includes any man-made object having an ascertainable stationary location on or in land or water whether or not affixed to land.

**Substantial Damage:** Damage from any cause sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty (50) percent or more 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 fifty (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 either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or;
2. Any alteration of a *historic structure*, provided that the alteration will not preclude the structure's continued designation as a historic structure.

**Vernal Pond:** An isolated, contained basin depression that holds water for at least two (2) months in the spring and summer, critical to several amphibian, reptile and invertebrate species. It also provides important storage for stormwater runoff and spring snowmelt that would otherwise contribute to down stream flooding. A vernal pond is no bigger than three hundred (300) feet long and one hundred and twenty (120) feet wide and is often much smaller.

Water Body: Any natural or manmade pond, lake or stream. This shall not include any pond or facility designed and constructed solely to contain storm water.

Watercourse: Any channel of conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial, intermittent or seasonal flow.

Wetland: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, and similar areas.

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