

**TREDYFFRIN TOWNSHIP  
CHESTER COUNTY, PENNSYLVANIA**

**Ordinance No. HR-\_\_**

**AN ORDINANCE OF TREDYFFRIN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, AMENDING THE TREDYFFRIN TOWNSHIP ZONING ORDINANCE OF 1939, AS AMENDED, WHICH IS CODIFIED IN CHAPTER 208 OF THE CODE OF TREDYFFRIN TOWNSHIP, (ENTITLED "ZONING"), BY AMENDING AND RESTATING CHAPTER 208, ARTICLE V (ENTITLED "FLOOD HAZARD DISTRICTS") TO REQUIRE ALL PERSONS, PARTNERSHIPS, BUSINESSES, AND CORPORATIONS TO OBTAIN A PERMIT FOR ANY CONSTRUCTION OR DEVELOPMENT; PROVIDING FOR THE ISSUANCE OF SUCH PERMITS; PROHIBITING, OR SETTING FORTH CERTAIN MINIMUM REQUIREMENTS FOR, NEW CONSTRUCTION AND DEVELOPMENT WITHIN AREAS OF THE TOWNSHIP WHICH ARE SUBJECT TO FLOODING; AND ESTABLISHING PENALTIES FOR ANY PERSONS WHO FAIL, OR REFUSE TO COMPLY WITH, THE REQUIREMENTS OR PROVISIONS OF THIS ORDINANCE. EFFECTIVE FIVE DAYS FROM ENACTMENT; AND BY ADDING, AMENDING AND DELETING CERTAIN DEFINITIONS RELATED TO THE FOREGOING.**

**BE IT AND IT IS HEREBY ENACTED** by the Board of Supervisors of Tredyffrin Township, Chester County, as follows:

**SECTION 1.** § 208-6.B., Definitions, of the Township Code is hereby amended to add and/or replace existing definitions with the following definitions:

**BASE FLOOD**

A flood which has a one percent chance of being equaled or exceeded in any given year (also called the "100-year flood" or one-percent (1%) annual chance flood).

**BASE FLOOD ELEVATION (BFE)**

The elevation shown on the Flood Insurance Rate Map (FIRM) for Zones AE, AH, A1-30 that indicates the water surface elevation resulting from a flood that has a 1-percent or greater chance of being equaled or exceeded in any given year.

**BASEMENT**

An enclosed area of a building partly or completely below grade; provided, however, for purposes of Article V of this Chapter, basement is defined as any area of the building having its floor below ground level on all sides.

**BUILDING or STRUCTURE**

Any combination of materials for which a building permit is required by Chapter 80, Building Construction, of the Tredyffrin Township Code; any combination of materials forming any structure, whether or not affixed to the land, designed, intended or arranged for the housing, sheltering, enclosure or structural support of any persons, animals, process, equipment, goods, materials or property of any kind, including all manufactured homes, recreational vehicles and trailers to be used for human habitation; mechanical equipment; and decks, walls and/or fences if more than four feet in height. Notwithstanding the foregoing, for purposes of Article V of this Chapter, a structure is defined as a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

### **CHANNEL**

A natural or artificial watercourse that conveys, continuously or periodically, flowing water. Channels include, but shall not be limited to, natural and human-made drainageways, swales, streams, ditches, canals, and pipes flowing partly full.

### **FLOOD HAZARD DISTRICT AREA**

The land within the Township designated as Flood Hazard District Area pursuant to §208-14.1.

### **FLOOD INSURANCE RATE MAP (FIRM)**

The official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the Township.

### **FLOOD INSURANCE STUDY (FIS)**

The official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Insurance Rate Map, the Flood Boundary and Floodway Map, and the water surface elevation of the base flood.

### **FREEBOARD SAFETY FACTOR**

A vertical distance between the elevation of the high-water and the top of bank of any watercourse. The space is required as a safety margin in a watercourse.

### **HISTORIC STRUCTURE**

Any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
- (4) Identified as a Historical Resource in Chapter 208, Article XXIVA of the Code of Tredyffrin Township.

## **NEW CONSTRUCTION**

For purposes of Article V of this Chapter 208, new construction is defined as structures for which the start of construction commenced on or after September 18, 2017 and includes any subsequent improvements to such structures. Any construction started after April 17, 1978 and before the effective start date of this floodplain management ordinance is subject to the ordinance in effect at the time the permit was issued, provided the start of construction was within 180 days of permit issuance.

## **REGULATORY FLOOD ELEVATION**

The base flood elevation (BFE) or estimated flood height as determined using simplified methods plus a freeboard safety factor of one and one-half (1 ½) feet. The freeboard safety factor also applies to utilities and ductwork.

## **SPECIAL FLOOD HAZARD AREA (SFHA)**

The area in the floodplain subject to a 1 percent or greater chance of flooding in any given year as designated Flood Insurance Study, shown on the FIRM as Zones A, AO, A1-A30, AE, A99, or, AH.

## **START OF CONSTRUCTION**

For purposes of Article V of this Chapter, start of construction includes substantial improvement and other proposed new development and means the date the permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days after the date of the permit and shall be completed within twelve (12) months after the date of issuance of the permit unless a time extension is granted, in writing, by the Floodplain Administrator. 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 manufacture 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 walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units 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.

## **STREAM**

A natural watercourse with perennial or intermittent flow.

## **STREAM, INTERMITTENT**

A stream that flows only part of the time. Flow generally occurs for several weeks or months in response to seasonal precipitation or groundwater discharge.

## **SUBSTANTIAL IMPROVEMENT**

Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% 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 by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

**TOP-OF-BANK**

Highest point of elevation in a stream channel cross section at which a rising water level just begins to flow out of the channel and over the floodplain.

**VIOLATION**

For purposes of Article V of this Chapter, the failure to be fully compliant with Article V of this Chapter, including, without limitation, the failure to provide documentary evidence of compliance with 44 CFR §60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5).

**WATERCOURSE**

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

**SECTION 2.** Chapter 208, Article V (§§ 208-14 through 208-15.1) (“Flood Hazard Districts”) of the Township Code is hereby deleted in its entirety and replaced with the following:

**Article V – Flood Hazard Districts**

**§ 208-14 STATUTORY AUTHORIZATION AND PURPOSE.**

- A. Statutory Authorization. The Legislature of the Commonwealth of Pennsylvania has, by the passage of the Pennsylvania Flood Plain Management Act of 1978, delegated the responsibility to local governmental units to adopt floodplain management regulations to promote public health, safety, and the general welfare of its citizenry. Therefore, the Board of Supervisors of Tredyffrin Township does hereby order as follows.
- B. Purpose. It is the purpose of this article to promote the public health, safety and general welfare and to minimize those losses described in § **208-15** by provisions designed to:
  - (1) Restrict or prohibit uses which are dangerous to health, safety or property in times of flood or which would cause increased flood heights or velocities.
  - (2) Protect the quality and quantity of surface and subsurface water supplies adjacent to and underlying flood hazard areas.
  - (3) Provide areas for the deposition of sediment.
  - (4) Require that uses vulnerable to floods, including public facilities, be constructed so as to be protected against flood damage.

- (5) Preserve the integrity of stream banks and their immediate vicinity from erosion and degradation of natural vegetation.
- (6) Require that where uses are permitted by grant of variance, notice be given to prospective purchasers and/or lessees that land under agreement of sale or to be placed under such agreement or under lease or to be leased is designated as lying either totally or partially within the flood hazard area.

## 208-14.1 IDENTIFICATION OF FLOODPLAIN AREAS

A. Identification. The Flood Hazard District Area shall include:

- (1) Any areas of the Township, classified as Special Flood Hazard Areas (SFHAs) in the Flood Insurance Study (FIS) and the accompanying Flood Insurance Rate Maps (FIRMs) dated September 29, 2017 and issued by the Federal Emergency Management Agency (FEMA) or the most recent revision thereof, including all digital data developed as part of the Flood Insurance Study; and
- (2) For areas of the Township not classified as SHFA's, that land which includes the floodway ~~or~~and floodway fringe adjoining any watercourse, including any perennial, intermittent, ephemeral or losing stream, or adjoining any ponds or lakes, which is within 50 feet of the banks thereof (or less than 50 feet if ~~confirmed by a an applicant provides- hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information, in accordance with standard engineering practice prepared by a professional engineer licensed in Pennsylvania, that such smaller area is the limit of area subject to flooding in a one-hundred-year flood field survey prepared by a professional engineer licensed in Pennsylvania~~), and extends for such additional distance from said banks as is, or may be, subject to flooding in a one-hundred-year flood; and
- (3) Any areas described in subsection B. below, and any areas designated as floodplain area by the Board of Supervisors in compliance with the National Flood Insurance Program when:
  - (a) There are changes through natural or other causes; or
  - (b) Changes are indicated by future detailed hydrologic and hydraulic studies. All changes in said delineation shall be subject to the review and comment of the Federal Emergency Management Agency.

The above referenced FIS and FIRMs, and any subsequent revisions and amendments are hereby adopted by Tredyffrin Township and declared to be a part of this Ordinance.

B. Description and Special Requirements of Flood Hazard District Areas. The Flood Hazard District Area shall consist of the following specific areas:

- (1) The Floodway Area shall be those areas identified in the FIS and the FIRM as floodway and which represent the channel of a watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without increasing the water surface elevation by more than one (1) foot at any point. This term shall also include floodway areas which have been identified in other available studies or sources of information for those Special Flood Hazard Areas where no floodway has been identified in the FIS and FIRM.

- (a) Within any floodway area, no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted except as expressly permitted in this Article.
  - (b) Within any floodway area, no new construction or development shall be allowed, unless the appropriate permit is obtained from the Department of Environmental Protection Regional Office.
  - (c) For the purpose of this section, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.
- (2) The AE Area/District shall be those areas identified as an AE Zone on the FIRM included in the FIS prepared by FEMA for which Base Flood Elevations have been provided.
- (a) The AE Area adjacent to the floodway shall be those areas identified as an AE Zone on the FIRM included in the FIS prepared by FEMA for which Base Flood Elevations have been provided and a floodway has been delineated.
  - (b) The AE Area without floodway shall be those areas identified as an AE zone on the FIRM included in the FIS prepared by FEMA for which Base Flood Elevations have been provided but no floodway has been determined.
  - (c) The AE Area shall also include any flood fringe area adjacent to a floodway in areas of the Township that are not shown as such on the FIRM included in the FIS.
    - [1] No encroachments, including fill, new construction, substantial improvements, or other development shall be permitted in an AE Zone without floodway.
    - [2] No new construction or development shall be located within the area measured fifty (50) feet landward from the top-of-bank of any watercourse, unless the appropriate permit is obtained from the Department of Environmental Protection Regional Office.
- (3) The A Area/District shall be those areas identified as an A Zone on the FIRM included in the FIS prepared by FEMA and for which no Base Flood Elevations have been provided. For these areas, elevation and floodway information from other Federal, State, or other acceptable sources shall be used when available. Where other acceptable information is not available, the Base Flood Elevation shall be determined by using the elevation of a point on the boundary of the Flood Hazard District Area which is nearest the construction site.

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 municipality. In the absence of any of the above data or documentation, the Township may require elevation of the lowest floor to be at least three feet above the highest adjacent grade.

- (4) The AO and AH Area/ District shall be those areas identified as Zones AO and AH on the FIRM and in the FIS. These areas are subject to inundation by 1-percent-annual-chance shallow flooding where average depths are between one and three feet. In Zones AO and AH, drainage paths shall be established to guide floodwaters around and away from structures on slopes.

~~(5) Township Identified Flood Hazard Areas shall be those areas where the Township has identified local flood hazard or ponding areas, as 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, soils or approximate study methodologies.~~

~~(6)~~(5) Additional areas.

~~(a) To the extent that there shall be any lands in the Township not covered by the Flood Insurance Study referred to above, the Floodplain Conservation District shall be as shown on other official zoning maps of the Township or a map or maps specifically designated as a Tredyffrin Township Floodplain Conservation District Map, either or both or all of which are hereby made a part of this article and which shall be available to the public at the Township offices [VD1].~~

~~(b)~~(a) The ~~Floodplain Conservation District~~Flood Hazard District Area shall include all lands designated by the following map symbols and mapping unit names on map sheets of the Chester and Delaware Counties soil reports of the Soil Conservation Service, United States Department of Agriculture:

Map Symbol	Mapping Unit Name
We	Wehadkee silt loam
Ch	Chewacla silt loam

~~(c)~~(b) Silt loams and local alluvium, while not displaying all of the characteristics common to the alluvial soils indicated in the preceding tables, may be subject to periodic flooding. For this reason, they shall be considered an integral part of a floodplain network. However, they may be exempted from the provisions of this article where it is determined that such exemption would not have the effect of nullifying the purpose of this article. Those cases in which silt loams and local alluvium are involved shall be referred to the **Planning**

~~Commission~~ Floodplain Administrator, which shall examine such case and recommend either compliance with or exemption from the provisions of this article and shall attach any conditions appropriate to meet the purposes of this article; provided, however, that this subsection shall not apply to any areas in Township covered by the Flood Insurance Study referred to above.

#### C. Changes in Identification of Area

The Flood Hazard District Area may be revised or modified by the Board of Supervisors where studies or information provided by a qualified agency or person documents the need for such revision. However, prior to any such change to the Special Flood Hazard Area, approval must be obtained from FEMA. Additionally, as soon as practicable, but not later than six (6) months after the date such information becomes available, the Township shall notify FEMA of the changes to the Special Flood Hazard Area by submitting technical or scientific data. See §208-15.1.J.(1). for situations where FEMA notification is required.

#### D. Rules for Interpreting Boundaries; Boundary Disputes

- (1) The boundaries of the Flood Hazard District Area shall be determined by scaling distances from the flood hazard maps maintained by the Township. Where interpretation is needed to determine the exact location of the boundaries of the district as shown on the flood hazard map, as for example, where there appears to be a conflict between a mapped boundary and actual field conditions, the Zoning Hearing Board shall, on appeal to it, make the necessary interpretation. The person contesting the location of the district boundary shall have the burden of establishing that land does not lie within the Flood Hazard District Area.
- (2) Should a dispute concerning any identified floodplain boundary arise, an initial determination shall be made by the Township and any party aggrieved by this decision or determination may appeal to the ~~Board of Supervisors~~ Zoning Hearing Board. The burden of proof shall be on the appellant.

#### E. Jurisdictional Boundary Changes

Prior to development occurring in areas where annexation or other corporate boundary changes are proposed or have occurred, the Township shall review flood hazard data affecting the lands subject to boundary changes. The Township shall adopt and enforce floodplain regulations in areas subject to annexation or corporate boundary changes which meet or exceed those in CFR 44 60.3.

## § 208-15 DISTRICT REGULATIONS.

### A. Findings of fact.

- (1) Losses resulting from periodic flooding. The flood hazard areas of this Township are subject to periodic inundation which would result or have resulted in loss of property, damage to structures and may result in loss of life, injury to people, disruption of public and private activities and services, burdensome public expenditures for flood protection and relief and impairment of the tax base, all of which do or may adversely affect the public health, safety and general welfare.
- (2) General causes of these flood losses. These flood losses are or will be caused by:
  - (a) The cumulative effect of obstructions in flood hazard areas causing increases in flood heights and velocities.
  - (b) The occupancy of flood hazard areas by uses vulnerable to floods.
  - (c) The cumulative effect of impervious surfaces and stormwater management practices within the same watershed as a flood hazard area, causing increases in the rate and/or volume of stormwater runoff to surface water conveyances relative to that which existed naturally.

### B. General provisions.

- (1) Compliance. No structure, land or water shall hereafter be used and no structure shall be located, extended, converted or structurally altered in the Flood Hazard District Area unless full compliance with the terms of this chapter and other applicable regulations is demonstrated by the applicant.
- (2) Permits. Permits shall be required before any construction or development is undertaken within any area of the Township.
  - (a) The Standards and Specifications contained in 34 Pa. Code (Chapters 401-405), as amended, and Chapter **80**, Building Construction, of the Township Code, shall apply to this article, to the extent that they are more restrictive and/or supplement the requirements of this chapter.
  - (b) The requirements of 34 Pa. Code Chapter 401-405, as amended, and the 2009 IRC (Secs. R102.7.1, R105.3.1, R105.3.1.1, and Appendixes E and J) or the latest revision thereof and the 2009 IBC (Secs. 101.3, 3403.1, and Appendix G) or the latest revision thereof shall also be utilized in conjunction with the provisions of this section.
- (3) State and federal permits. Prior to the issuance of any zoning permit, the Building Permit 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, Section 404, 33 U.S.C. 1344. No permit shall be issued until this

determination has been made.

- (4) Preservation of other restrictions. It is not intended by this chapter to repeal, abrogate or impair any existing zoning or subdivision regulations, easements, covenants or deed restrictions, except that where this chapter imposes greater restrictions, the provisions of this chapter shall prevail.
  - (5) Warning and disclaimer of liability. While the degree of flood protection by this chapter is considered reasonable for regulatory purposes, larger floods may occur on rare occasions or the flood height may be increased by man-made or natural causes. In such instances, areas outside the Flood Hazard District Area or land uses permitted within the district may be subject to flooding or flood damage. This chapter shall not create liability on the part of the Township or any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.
  - (6) Liability. Neither the approval or granting of any construction permit or proposed subdivision or land development plan involving any land governed by the provisions of this section, by an officer, employee or agency of the Township, shall constitute a representation, guarantee or warranty of any kind by the Township, or its employees, officials or agencies, of the practicality or safety of any structure, use or subdivision, and shall create no liability upon, or cause action against such public body, official or employee for any damage that may result pursuant thereto.
  - (7) Severability. The provisions of this chapter shall be severable and if any of the provisions hereof shall be held to be unconstitutional, invalid or illegal by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this chapter. To the extent that any holding that provisions of this chapter are invalid or illegal makes this chapter no longer applicable to any or all land within the Flood Hazard District Area, the zoning classification of that land shall revert to that of the district as designated in the Zoning Ordinance.
- C. If a variance is sought in the Flood Hazard District Area, the Zoning Hearing Board shall determine that the standards and criteria enumerated in § 910.2 of the MPC are met before granting the request.
- (1) In considering whether the variance, if granted, would be injurious to the public health, welfare or safety, the Zoning Hearing Board shall consider the following factors:
    - (a) The danger to life and property due to increased flood heights or velocities caused by encroachment.
    - (b) The danger that materials may be swept on to other lands or downstream to the injury of others.
    - (c) The proposed water supply and sanitation systems and ability of these systems to avoid causing disease, contamination and unsanitary conditions.
    - (d) The susceptibility of the proposed use to flood damage and the effect of such damage on the owner.

- (e) The importance of the proposed use to the Township.
  - (f) The availability of alternative locations not subject to flooding for the proposed use.
  - (g) The compatibility of the proposed use with existing and foreseeable nearby uses.
  - (h) The relationship of the proposed use to the Comprehensive Plan.
  - (i) The safety of access to the property in times of flood for ordinary and emergency vehicles.
  - (j) The expected heights, velocity, duration, rate or rise and sediment transport of the floodwaters expected at the site.
  - (k) Such other factors as are relevant to the purposes of this chapter.
- (2) As part of a petition for a variance hereunder, the applicant shall furnish such of the following material as the Township Engineer shall deem necessary for a complete consideration of the matter by the Zoning Hearing Board.
- (a) Plans drawn to scale showing the nature, location, dimensions and elevation of the lot and existing and proposed uses; and photographs or drawings showing existing uses and vegetation, soil types and other pertinent information.
  - (b) A series of cross sections at such intervals as the Township Engineer may deem necessary along the lot shoreline, showing the stream channel or the lake or pond bottom, elevation of adjoining land areas to be occupied by the proposed uses and high water information.
  - (c) Profile showing the slope of the bottom of the channel, lake or pond.
  - (d) Specifications for building materials and construction, flood proofing, filling, dredging, grading, landscaping, storage, water supply and sanitary facilities.
  - (e) Computation of the increase, if any, in the height of flood stages which would be attributable to any proposed uses.
  - (f) The proposed lowest floor elevation of any proposed building and Base Flood Elevation based upon North American Vertical Datum of 1988.
- (3) Reports.
- (a) In considering any appeal for a variance, the Zoning Hearing Board may, before the hearing, request reports from the Township Engineer concerning the extent to which the proposed use would:
    - [1] Diminish the capacity of the floodplain to store and absorb floodwaters, to moderate flood velocities and to accommodate sediment;
    - [2] Be subject to flood damage; and
    - [3] Cause soil erosion and impair the amenity of the Flood Hazard District Area.

- (b) All written reports submitted to the Zoning Hearing Board in advance of or at the public hearing shall be made available for inspection at the public hearing by any party thereto.
- (4) Upon consideration of the purposes of this chapter, the Zoning Hearing Board shall attach such conditions to the granting of a variance as it deems necessary to further the purposes of this chapter. Among such conditions, without limitation because of specific enumeration, may be included:
- (a) Modification of waste disposal and water supply facilities.
  - (b) Limitations on periods of use and operation.
  - (c) Imposition of operational controls, sureties and deed restrictions.
  - (d) Requirements for floodproofing measures, such as anchoring to prevent flotation, collapse or lateral movement of the structure; the use of construction materials and utility equipment which are resistant to flood damage; and the use of construction methods and practices which will prevent or lessen damage to a building located in the Flood Hazard District Area or to the health of the occupant thereof.
- (5) In any case where the Zoning Hearing Board shall grant a variance to permit the erection of a structure in the Flood Hazard District Area and it shall appear that such premises is to be offered for sale or lease or the Zoning Hearing Board grants a variance to permit a change in nonconforming use of a structure already existing in the Flood Hazard District Area and it shall appear that the premises is to be offered for sale or lease, the Zoning Hearing Board shall, for the protection of prospective purchasers and lessees, impose the following conditions:
- (a) Require the applicant to advise prospective purchasers and/or lessees that the lot is located, either entirely or partially, as the case may be, in the Flood Hazard District Area.
  - (b) Require that, before settlement or change in a nonconforming use, as the case may be, may take place, the purchaser or lessee shall signify in writing that he has been advised that the premises lies partially or entirely in the Flood Hazard District Area, and a signed copy of such signification shall be delivered to the Township.
  - (c) Where the premises are to be conveyed, the deed shall contain the following provision: "This lot is entirely (partially) within the Flood Hazard District Area of the Township of Tredyffrin, Chester County, Pennsylvania."
- (6) Variances may only be granted upon:
- (a) Showing of good and sufficient cause;
  - (b) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - (c) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense, create nuisances or cause fraud on or victimization of the public; and

- (d) A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (7) Whenever a variance is granted, the Township Zoning Hearing Board shall notify the applicant in writing that:
  - (a) The granting of the variance may result in increased premium rates for flood insurance; and
  - (b) such variances may increase the risks to life and property
- D. All applicable regulations for floodproofing required by the National Flood Insurance Program (Subsection 60.3 of 44 CFR) shall be made an implied condition to the granting of any conditional use, special exception or variance within the Flood Hazard District Area.
- E. In no case shall any conditional use, special exception or variance be granted within the floodway if any increase in the one-hundred-year flood elevations would result, which shall be demonstrated by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information prepared by a licensed professional engineer in accordance with standard engineering practice.
- F. Designation of the Floodplain Administrator

The Zoning Officer is hereby appointed to administer and enforce this ordinance and is referred to herein as the Floodplain Administrator. The Floodplain Administrator may: (1) Fulfill the duties and responsibilities set forth in these regulations, (2) Delegate duties and responsibilities set forth in these regulations to qualified technical personnel, plan examiners, inspectors, and other employees, or (3) Enter into a written agreement or written contract with another agency or private sector entity to administer specific provisions of these regulations. Administration of any part of these regulations by another entity shall not relieve the Township of its responsibilities pursuant to the participation requirements of the National Flood Insurance Program as set forth in the Code of Federal Regulations at 44 C.F.R. Section 59.22.

In the absence of a designated Floodplain Administrator, the Floodplain Administrator duties are to be fulfilled by the Chairman of the Board of Supervisors.

- G. Duties and Responsibilities of the Floodplain Administrator
  - (1) The Floodplain Administrator shall issue a 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.
  - (2) Prior to the issuance of any permit, the Floodplain Administrator 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, Section 404, 33, U.S.C. 1344. No permit shall be issued until this determination has been made.

- (3) In the case of existing structures, prior to the issuance of any permit, the Floodplain Administrator shall review the proposed cost of improvements or repairs and the pre-improvement market value of the structure, so that a substantial improvement/substantial damage determination can be made, in accordance with FEMA's Substantial Improvement/Substantial Damage Desk Reference.
- (4) In the case of existing structures, prior to the issuance of any permit, the Floodplain Administrator shall review the history of repairs to the subject building, so that any cumulative substantial damage concerns can be addressed before the permit is issued.
- (5) During the construction period, the Floodplain Administrator or other authorized official shall inspect the premises to determine that the work is progressing in compliance with the information provided on the permit application and with all applicable municipal laws and ordinances. He/she shall make as many inspections during and upon completion of the work as are necessary.
- (6) In the discharge of his/her duties, the Floodplain Administrator shall have the authority to enter any building, structure, premises or development in the Flood Hazard District Area, upon presentation of proper credentials, at any reasonable hour to enforce the provisions of this ordinance.
- (7) In the event the Floodplain Administrator 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 permit and ~~report such fact to the Board of Supervisors for whatever action it considers necessary~~ pursue available remedies for violations.
- (8) The Floodplain Administrator shall maintain in perpetuity, or for the lifetime of the structure, all records associated with the requirements of this ordinance including, but not limited to, finished construction elevation data, permitting, inspection and enforcement.
- (9) The Floodplain Administrator is the official responsible for submitting a biennial report to FEMA concerning community participation in the National Flood Insurance Program as requested.
- (10) The responsibility, authority and means to implement the commitments of the Floodplain Administrator can be delegated from the person identified. However, the ultimate responsibility lies with the person identified in the floodplain ordinance as the floodplain administrator/manager.
- (11) The Floodplain Administrator shall consider the requirements of the 34 PA Code and the 2009 IBC and the 2009 IRC, or the latest revision thereof as adopted by the Commonwealth of Pennsylvania.

## H. Application Procedures and Requirements

- (1) Application for such a permit shall be made, in writing, to the Floodplain Administrator on forms supplied by the Township. Such application shall contain the following:
  - (a) Name and address of applicant.
  - (b) Name and address of owner of land on which proposed construction is to occur.
  - (c) Name and address of contractor.
  - (d) Site location including address.
  - (e) Listing of other permits required.
  - (f) Brief description of proposed work and estimated cost, including a breakout of flood-related cost and the market value of the building before the flood damage occurred where appropriate.
  - (g) A plan of the site showing the exact size and location of the proposed construction as well as any existing buildings or structures.
- (2) If any proposed construction or development is located entirely or partially within any Flood Hazard District Area, applicants for permits shall provide all the necessary information in sufficient detail and clarity to enable the Floodplain Administrator to determine that:
  - (a) All such proposals are consistent with the need to minimize flood damage and conform with the requirements of this and all other applicable codes and ordinances;
  - (b) All utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage;
  - (c) Adequate drainage is provided so as to reduce exposure to flood hazards;
  - (d) Structures will be anchored to prevent floatation, collapse, or lateral movement;
  - (e) Building materials are flood-resistant;
  - (f) Appropriate practices that minimize flood damage have been used;
  - (g) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities have been designed and located to prevent water entry or accumulation; and
  - (h) Water and Sanitary Sewer Facilities and Systems.
    1. All new or replacement water supply 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 waste disposal system shall be located within any Flood Hazard District Area.
  4. The design and construction provisions of the UCC and FEMA #348, "Protecting Building Utilities From Flood Damages" and "The International Private Sewage Disposal Code" shall be utilized.
- (3) Applicants shall file the following minimum information plus any other pertinent information as may be required by the Floodplain Administrator to make the above determination:
- (a) A completed permit Application Form.
  - (b) A plan of the entire site, clearly and legibly drawn at a scale of one (1) inch being equal to one hundred (100) feet or less, showing the following:
    - [1] North arrow, scale, and date;
    - [2] Topographic contour lines, if available;
    - [3] The location of all existing and proposed buildings, structures, and other improvements, including the location of any existing or proposed subdivision and development;
    - [4] The location of all existing streets, drives, and other access ways; and
    - [5] The location of any existing bodies of water or watercourses, Flood Hazard District Areas, and, if available, information pertaining to the floodway, and the flow of water including direction and velocities.
  - (c) Plans of all proposed buildings, structures and other improvements, drawn at suitable scale showing the following:
    - [1] The proposed lowest floor elevation of any proposed building based upon North American Vertical Datum of 1988;
    - [2] The elevation of the base flood;
    - [3] Supplemental information as may be necessary under 34 PA Code, the 2009 IBC or the 2009 IRC, or the latest revision thereof as adopted by the Commonwealth of Pennsylvania.
  - (d) The following data and documentation:
    - [1] Detailed information concerning any proposed floodproofing measures and corresponding elevations.
    - [2] If available, information concerning flood depths, pressures, velocities, impact and uplift forces and other factors associated with a base flood.

- [3] Documentation, certified by a registered professional engineer or architect, to show that the cumulative effect of any proposed development within any Flood Hazard District Area when combined with all other existing and anticipated development, will not cause any increase in the Base Flood Elevation.
  - [4] A document, certified by a registered professional engineer or architect, which states that the proposed construction or development has been adequately designed to withstand the pressures, velocities, impact and uplift forces associated with the base flood. Such statement shall include a description of the type and extent of flood proofing measures which have been incorporated into the design of the structure and/or the development.
  - [5] Detailed information needed to determine compliance with §208-15.1.I(9), including:
    - i. the amount, location and purpose of any materials or substances referred to in §208-15.1.I(9) which are intended to be used, produced, stored or otherwise maintained on site.
    - ii. a description of the safeguards incorporated into the design of the proposed structure to prevent leaks or spills of the dangerous materials or substances listed in §208-15.1.I(9) during a base flood.
  - [6] The appropriate component of the Department of Environmental Protection's "Planning Module for Land Development."
  - [7] Where any excavation or grading is proposed, a plan meeting the requirements of the Department of Environmental Protection, to implement and maintain erosion and sedimentation control.
- (4) Applications for permits shall be accompanied by a fee, payable to the municipality in an amount set by resolution of the Township.

I. Review by Chester County Conservation District

A copy of all applications and plans for any proposed construction or development in any Flood Hazard District Area to be considered for approval may be submitted by the Floodplain Administrator to the County Conservation District for review and comment prior to the issuance of a permit. The recommendations of the Conservation District shall be considered by the Floodplain Administrator for possible incorporation into the proposed plan.

J. Review of Application by Others

A copy of all plans and applications for any proposed construction or development in any Flood Hazard District Area to be considered for approval may be submitted by the Floodplain Administrator to any other appropriate agencies and/or individuals (e.g. planning commission, municipal engineer, etc.) for review and comment.

#### K. Changes

After the issuance of a permit 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 submitted with the application without the written consent or approval of the Floodplain Administrator. Requests for any such change shall be in writing, and shall be submitted by the applicant to Floodplain Administrator for consideration.

#### L. Placards

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

#### M. Start of Construction

Work on the proposed construction or development shall begin within 180 days after the date of issuance of the development permit. Work shall also be completed within twelve (12) months after the date of issuance of the permit or the permit shall expire unless a time extension is granted, in writing, by the Floodplain Administrator. The issuance of development permit does not refer to the zoning approval.

The actual start of construction 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 buildings, 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.

Time extensions shall be granted only if a written request is submitted by the applicant, who sets forth sufficient and reasonable cause for the Floodplain Administrator to approve such a request and the original permit is compliant with the ordinance & FIRM/FIS in effect at the time the extension is granted.

#### N. Enforcement

##### (1) Notices

Whenever the Floodplain Administrator or other authorized municipal representative determines that there are reasonable grounds to believe that there has been a violation of any provisions of this Ordinance, or of any regulations adopted pursuant thereto, the Floodplain Administrator shall give notice of such alleged violation as hereinafter provided. Such notice shall:

- (a) Be in writing;
- (b) Include a statement of the reasons for its issuance;
- (c) Allow a reasonable time not to exceed a period of thirty (30) days for the performance of any act it requires;
- (d) Be served upon the property owner or his agent as the case may require; provided, however, that such notice or order shall be deemed to have been properly served upon such owner or agent when a copy thereof has been served with such notice by any other method authorized or required by the laws of this State;
- (e) Contain an outline of remedial actions which, if taken, will effect compliance with the provisions of this Ordinance.

(2) Penalties

Refer to Article XXIX Violations; Penalties; Remedies of this Chapter 208.

O. Appeals

- (1) Any person aggrieved by any action or decision of the Floodplain Administrator concerning the administration of the provisions of this Ordinance, may appeal to the Zoning Hearing Board. Such appeal must be filed, in writing, within thirty (30) days after the decision, determination or action of the Floodplain Administrator.
- (2) Upon receipt of such appeal the Zoning Hearing Board shall consider the appeal in accordance with the Municipalities Planning Code and any other local ordinance.
- (3) Any person aggrieved by any decision of the Zoning Hearing Board may seek relief therefrom by appeal to court, as provided by the laws of this State including the Pennsylvania Flood Plain Management Act.

## § 208-15.1 USE REGULATIONS; TECHNICAL REQUIREMENTS.

Within the Flood Hazard District Area, all uses not allowed as permitted uses or authorized by grant of variance shall be prohibited. The following uses and no others shall be permitted within the Flood Hazard District Area and then only to the extent that they are not prohibited by any other ordinance or any other section of this chapter and only in strict compliance with the technical requirements set forth in this Section, including, without limitation, the requirement to secure permits.

- A. Agricultural uses that do not require structures, as follows: general farming, pasture, orchard, grazing, outdoor plant nurseries, truck farming, forestry and wild crop harvesting.
- B. Recreation uses that do not require structures, as follows: park, picnic grounds, fairs, boating, golf course, archery, hiking, riding, hunting, fishing, game farm, fish hatchery, wildlife sanctuary, nature preserve and swimming areas.
- C. Three-quarters of the front, side or rear yard setback required for development of any lot or tract in any district contiguous to the Flood Hazard District Area; provided, however, that no building shall be placed less than 25 feet from the boundary of any Flood Hazard District Area.
- D. Sanitary sewers and sewage pumping stations, provided that the construction is floodproof and compliant with § 208-15.H.(2)(h).
- E. Waterlines and sealed wells.
- F. Dams, impoundment basins, culverts and bridges approved by the commonwealth.
- G. Storm sewers and sanitary sewer outlets, subject to the approval of the Township Engineer.
- H. When authorized as a conditional use, the following uses are subject to the general standards prescribed in §§ **208-105** and **208-117**, and the specific standards set forth in subsection J(3) below, provided that the applicant demonstrates to the reasonable satisfaction of the Planning Commission and Board of Supervisors that the grant thereof will not result in increasing the elevation of the base flood. No conditional use may be granted within the floodway if any increase in the Base Flood Elevations would result, which shall be demonstrated by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information prepared by a licensed professional engineer in accordance with standard engineering practice.
  - (1) Any use permitted under § **208-15.1A** through **G** above requiring a temporary structure. A "temporary structure" shall be defined as that which will remain in place for a period of time not to exceed 12 months from the date of installation.
  - (2) Permeable improved parking areas and roads to serve other permitted uses in the Flood Hazard District Area or where required by the regulations for any contiguous district.
  - (3) Railroads, roads, bridges and utility transmission lines.
  - (4) Docks and piers for boating.
  - (5) A change in grade by either cut or fill, or a combination of both, may be permitted as a

conditional use, but only upon the following conditions:

- (a) The effect is not to alter the cross-sectional area of the profile of the floodplain.
- (b) The effect is not to increase the elevation of the base flood.
- (c) The effect is not to increase the runoff characteristics of the area disturbed.

I. The following uses and activities are specifically prohibited in any Flood Hazard District Area and no variances shall be granted therefor:

- (1) The construction, enlargement, substantial improvement, placement or expansion of any structure.
- (2) Sod farming.
- (3) Removal of topsoil.
- (4) Cutting or removal of trees or other flora except where the area is devoted to forestry or nursery use, or except for certain permitted uses like a park or golf course where routine maintenance and care occurs, in which case cutting or removal shall be on a selective basis with appropriate reforestation measures practiced.
- (5) Fences.
- (6) Swimming pools.
- (7) On-site sewage systems.
- (8) Storage of any material that may be hazardous to the health and welfare of the surrounding population or which is in violation of the Clean Streams Act (35 P.S. § 691.901 *et. seq.*) or regulations of the Department of Environmental Protection.
- (9) The open storage of any hazardous materials or substances or the construction of substantial improvements of any structure which will be used for the production, storage or maintenance of, or used for activities requiring the maintenance of, a supply of any hazardous materials or substances, including but not limited to the following:
  - (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 and the like).
  - (m) Phosphorous.
  - (n) Potassium.
  - (o) Sodium.
  - (p) Sulphur and sulphur products.
  - (q) Pesticides (including insecticides, fungicides and rodenticides).
  - (r) The construction or substantial improvements of any structure which will be used for the production, storage, use of, or used for activities requiring the maintenance of, a supply of any amount of radioactive substances.
- (10) The filling or relocation of any watercourse.
  - (11) Sanitary landfill.
  - (12) Junkyard or dump.
  - (13) Outdoor storage of vehicles or materials.
  - (14) Hospitals
  - (15) Nursing Homes
  - (16) Jails or prisons
  - (17) The commencement of, or any construction of, a new manufactured home, manufactured home park or manufactured home subdivision, or substantial improvement to an existing manufactured home park or manufactured home subdivision.
  - (18) Recreational Vehicles

## J. Technical Requirements

- (1) Alteration or Relocation of Watercourse
  - (a) 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 municipality, and until all required permits or approvals have first been obtained from the Department of Environmental Protection Regional Office.
  - (b) No encroachment, alteration, or improvement of any kind shall be made to any watercourse unless it can be shown that the activity will not reduce or impede the flood carrying capacity of the watercourse in any way.

- (c) In addition, FEMA and the Pennsylvania Department of Community and Economic Development, shall be notified prior to any alteration or relocation of any watercourse.
- (2) Any uses or activities allowed within any Flood Hazard District Area shall be undertaken in strict compliance with the provisions contained in this Ordinance and any other applicable codes, ordinances and regulations.
  - (3) For all conditional uses permitted under this District, the Township shall consider all relevant factors and procedures specified in other sections of the Code and the following:
    - (a) The danger to life and property due to increased flood heights or velocities caused by encroachments. No proposed use, development or activity shall be permitted that will cause any increase in flood levels in the Flood Hazard District Area.
    - (b) The danger that materials may be swept onto other lands or downstream to the injury of others.
    - (c) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination and unsanitary conditions.
    - (d) The susceptibility of the proposed use and its contents to flood damage, and the effect of such damage on the individual owners.
    - (e) The importance of the services provided by the proposed use to the Township.
    - (f) The requirements of the use for a waterfront location.
    - (g) The availability of alternative locations not subject to flooding for the proposed use.
    - (h) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
    - (i) The relationship of the proposed use to the Comprehensive Plan and floodplain management program for the area.
    - (j) The safety of access to the property in times of flood for ordinary and emergency vehicles.
    - (k) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters expected at the site.
    - (l) The potential direct or indirect impacts to the Flood Hazard District Area from the use proposed.
    - (m) The potential direct or indirect impacts to those portions of ~~the Ridley and Crum Creeks that are any watercourse~~ designated as "exceptional value" or "high-quality special protection waters" by the Commonwealth of Pennsylvania.

## K. Elevation and Floodproofing Requirements

Within any Flood Hazard District Area any new construction or substantial improvements shall be prohibited. If a variance is obtained for new construction or substantial improvements in the Flood Hazard District Area in accordance with §208-15, then the following provisions apply:

### (1) Residential Structures

- (a) In AE, A1-30, and AH Zones, any new construction or substantial improvement shall have the lowest floor (including basement) elevated up to, or above, the Regulatory Flood Elevation.
- (b) In A Zones, where there are no Base Flood Elevations specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated up to, or above, the Regulatory Flood Elevation determined in accordance with § 208-14.1.B.(3) of this ordinance.
- (c) In AO Zones, any new construction or substantial improvement shall have the lowest floor (including basement) at or above the highest adjacent grade at least as high as the depth number specified on the FIRM.
- (d) The design and construction standards and specifications contained in the 2009 International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the latest edition thereof adopted by the Commonwealth of Pennsylvania, and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized, where they are more restrictive.

### (2) Non-residential Structures

- (a) In AE, A1-30 and AH Zones, any new construction or substantial improvement of a non-residential structure shall have the lowest floor (including basement) elevated up to, or above, the Regulatory Flood Elevation, or be designed and constructed so that the space enclosed below the Regulatory Flood Elevation:
  - [1] Is floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water and,
  - [2] Has structural components with the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy:
- (b) In A Zones, where no Base Flood Elevations are specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated or completely floodproofed up to, or above, the Regulatory Flood Elevation determined in accordance with § 208-14.1.B.(3) of this ordinance.
- (c) In AO Zones, any new construction or substantial improvement shall have their lowest floor elevated or completely floodproofed above the highest adjacent grade to at least as high as the depth number specified on the FIRM.

- (d) Any non-residential structure, or part thereof, made watertight below the Regulatory Flood Elevation shall be floodproofed in accordance with the W1 or W2 space classification standards contained in the publication entitled "Flood-Proofing Regulations" published by the U.S. Army Corps of Engineers (June 1972, as amended March 1992) or with some other equivalent standard. All plans and specifications for such floodproofing shall be accompanied by a statement certified by a registered professional engineer or architect which states that the proposed design and methods of construction are in conformance with the above referenced standards. There should be a statement submitted with the permit application and a statement submitted with the as-built Floodproofing Certificate prior to the issuance of the Certificate of Occupancy.
- (e) Any non-residential structure that will be floodproofed must submit the following to the Floodplain Administrator along with the non-residential Floodproofing Certificate and prior to the issuance of the Certificate of Occupancy:
- [1] An Inspection and Maintenance Plan detailing the annual maintenance of floodproofed components ensuring that all components will operate properly under flood conditions. Components that must be inspected include at a minimum:
    - i. Mechanical equipment such as sump pumps and generators,
    - ii. Flood shields and closures,
    - iii. Walls and wall penetrations, and
    - iv. Levees and berms (as applicable)
  - [2] Flood Emergency Operation Plan detailing the procedures to be followed during a flooding event, and must include information pertaining to how all components will operate properly under all conditions, including power failures. The design professional must produce the plan. An adequate plan must include the following:
    - i. An established chain of command and responsibility with leadership responsibilities clearly defined for all aspects of the plan.
    - ii. A procedure for notification of necessary parties when flooding threatens and flood warnings are issued. Personnel required to be at the building should have a planned and safe means of ingress and should have no other emergency response duties during a flood event. Alternates should be assigned in the event that the primary persons responsible are unable to complete their assigned duties under the plan.
    - iii. A list of specific duties assigned to ensure that all responsibilities are addressed expeditiously. The locations of materials necessary to properly install all floodproofing components must be included in the list.

- iv. An evacuation plan for all personnel or occupants; those without duties for the flood emergency as well as those with duties for implementing the plan. All possible ingress and egress routes must be identified.
    - v. A periodic training and exercise program to keep personnel and occupants aware of their duties and responsibilities. Training drills should be held at least once a year and should be coordinated with community officials.
  - (f) The design and construction standards and specifications contained in the 2009 International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the latest revision thereof as adopted by the Commonwealth of Pennsylvania, and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized, where they are more restrictive.
- (3) Space below the lowest floor
  - (a) Fully enclosed space below the lowest floor (excluding basements) 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 "fully enclosed space" also includes crawl spaces.
  - (b) Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
    - [1] A minimum of two openings having a net total area of not less than one
      - (1) square inch for every square foot of enclosed space installed on two
      - (2) separate walls
    - [2] The bottom of all openings shall be no higher than one (1) foot above grade.
    - [3] Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(4) Historic Structures

Historic structures, as defined in subsections (1) through (3) only in §208-6 of said definition, undergoing repair or rehabilitation that would constitute a substantial improvement as defined in this ordinance, must comply with all ordinance requirements that do not preclude the structure's continued designation as a historic structure. Documentation that a specific ordinance requirement will cause removal of the structure from the National Register of Historic Places or the State Inventory of Historic places must be obtained from the Secretary of the Interior or the State Historic Preservation Officer. Any exemption from ordinance requirements will be the minimum necessary to preserve the historic character and design of the structure.

L. Design and Construction Standards

In the event that a variance is secured for any activity for which a variance is required hereunder, the following minimum standards shall apply for all construction and development proposed within any Flood Hazard District Area:

(1) Fill

Within any Flood Hazard District Area the use of fill shall be prohibited. No variance shall be granted.

(2) Drainage Facilities

Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall ensure 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.

(3) Water and Sanitary Sewer Facilities and Systems

(a) All new or replacement water supply and sanitary sewer facilities and systems shall be located, designed and constructed to minimize or eliminate flood damages and the infiltration of flood waters.

(b) Sanitary sewer facilities and systems shall be designed to prevent the discharge of untreated sewage into flood waters.

(c) No part of any on-site waste disposal system shall be located within any Flood Hazard District Area.

(d) The design and construction provisions of the UCC and FEMA #348, "Protecting Building Utilities From Flood Damages" and "The International Private Sewage Disposal Code" shall be utilized.

(4) 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.

(5) Streets

The finished elevation of all new streets shall be no more than one (1) foot below the Regulatory Flood Elevation.

(6) 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 §208-15.1.I(9) shall be stored at or above the Regulatory Flood Elevation or floodproofed to the maximum extent possible.

(7) 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.

(8) Anchoring

- (a) All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement.
- (b) 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.

(9) Floors, Walls and Ceilings

- (a) 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.
- (b) Plywood used at or below the Regulatory Flood Elevation shall be of a "marine" or "water-resistant" variety.
- (c) 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.
- (d) Windows, doors, and other components at or below the Regulatory Flood Elevation shall be made of metal or other "water-resistant" material.

(10) Paints and Adhesives

- (a) Paints and other finishes used at or below the Regulatory Flood Elevation shall be of "marine" or "water-resistant" quality.
- (b) Adhesives used at or below the Regulatory Flood Elevation shall be of a "marine" or "water-resistant" variety.
- (c) 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.

(11) Electrical Components

- (a) Electrical distribution panels shall be at least three (3) feet above the Base Flood Elevation.
- (b) Separate electrical circuits shall serve lower levels and shall be dropped from above.

(12) Equipment

- (a) 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 and shall be anchored to resist floatation, collapse, and lateral movement

- (b) Ductwork shall be elevated to or above the Regulatory Flood Elevation or floodproofed to remain water resistant.

(13) 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.

(14) Uniform Construction Code Coordination

The Standards and Specifications contained in 34 PA Code (Chapters 401-405), as amended and not limited to the following provisions shall apply to the above and other sections and sub-sections of this ordinance, to the extent that they are more restrictive and supplement the requirements of this ordinance.

International Building Code (IBC) 2009 or the latest revision thereof as adopted by the Commonwealth of Pennsylvania:

Secs. 801, 1202, 1403, 1603, 1605, 1612, 3402, and Appendix G.

International Residential Building Code (IRC) 2009 or the latest revision thereof as adopted by the Commonwealth of Pennsylvania:

Secs. R104, R105, R109, R322, Appendix E, and Appendix J.

M. Special Requirements for Subdivisions and Development

All subdivision proposals and land development proposals containing at least 10 lots or at least 5 acres, whichever is the lesser, in Flood Hazard District 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 information. The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR). Submittal requirements and processing fees shall be the responsibility of the applicant.