

## **ARTICLE XVI**

### **Flood Hazard Overlay District**

#### **SECTION 162-1601. STATUTORY AUTHORIZATION, FINDINGS OF FACT, AND LEGISLATIVE INTENT.**

**A. Statutory authorization.**

1. Protection against serious consequences of flooding has become an objective of primary importance to Pennsbury Township. Studies of the Brandywine Creek and its tributaries by the U.S. Army Corps of Engineers, the Federal Emergency Management Agency (FEMA), and Chester County agencies have delineated areas prone to flooding and which must be open for movement of floodwaters; a part of such areas is found within the Township.
2. The Township further considers floodplain areas as particularly desirable for uses wherein most structures are unnecessary, among which include forestry, agriculture and recreation, and wishes to preserve these areas for such uses.
3. Therefore, pursuant to the authorization set forth in the Pennsylvania Flood Plain Management Act, Act 166 of 1978 (32 P.S. § 679.101 et seq.), which delegated the responsibility to local governmental units to adopt floodplain management regulations to promote public health, safety, and the general welfare of its citizenry, along with the provisions of the National Flood Insurance program and the Pennsylvania Municipalities Planning Code, the Township of Pennsbury, Chester County, Pennsylvania adopts this Article.

**B. Findings of fact.**

1. Losses resulting from periodic flooding. The Flood Hazard Overlay District (also known as the Flood Hazard District) of Pennsbury Township is subject to periodic inundation which results in loss of property, loss of life, damage to structures, 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 adversely affect the public health, safety, and general welfare.
2. General causes of these flood losses. These flood losses are caused by the cumulative effect of obstructions in the Flood Hazard District causing increases in flood heights and velocities and the occupancy of Flood Hazard District by uses vulnerable to floods.

**C. Intended purpose.** In addition to the general goals listed in statement of purposes and community development objectives, it is the purpose of this Article to minimize those losses described above by provisions designated:

1. To regulate or prevent the erection of buildings and other structures in areas unfit for development by reason of periodic flooding.
2. To protect public health by preventing pollution of surface and subsurface water supplied and providing surface area to absorb and retain runoff for maintenance of the subsurface water supply.

3. To protect the public safety by preserving natural floodplains and valley flats in order to prevent the increase in flood volume and rate of flow which results from covering the floodplains with impervious surfaces, constructing natural drainage channels, and providing areas for the deposition of sediment.
4. To prevent added downstream damage from increased flood volume and rate of flow and to permit uses of the floodplain compatible with the preservation of natural conditions and the maintenance of the stream flow throughout the year.
5. To minimize the financial burden imposed on the community, its governmental bodies, and individuals by floods.
6. To incorporate by reference thereto the areas of Pennsbury Township as identified in the Chester County Flood Insurance Study prepared by FEMA dated September 29, 2017, or the most recent revision thereof.

#### **SECTION 162-1602. GENERAL PROVISIONS.**

- A. **Compliance.** No structure, wall, fence or other obstruction shall be erected, extended or converted, without full compliance with the terms of this Chapter and other applicable regulations.
- B. **Abrogation and greater restriction.** It is not intended by this Article to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this Article imposes greater restrictions, the provisions of this Article shall prevail. All other ordinances inconsistent with this Article are hereby repealed to the extent of the inconsistency only. If there is any conflict between any of the provisions of this Chapter, the more restrictive shall apply.
- C. **Severability.** The provisions of this Article 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 decisions shall not affect the validity of any of the remaining provisions of this Chapter.
- D. **Warning and disclaimer of liability.** The degree of flood protection required by this Article is considered reasonable for regulatory purposes and is based on scientific study. Larger floods may occur on rare occasions or the flood height may be increased by man-made or natural causes such as ice jams or bridge openings obstructed by debris. In such instances, areas outside the Flood Hazard District or land uses permitted within the District may be subject to flooding or flood damages. This Article shall not increase liability on the part of Pennsbury Township or any officers or employees thereof for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made there under.
- E. For the purposes of this Article, structure shall mean a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.
- F. When references in this Article XVI are to the International Building Code (IBC), International Residential Code (IRC), International Fuel Gas Code (IFGC) or any other code or regulation, the latest edition of the referenced code or regulation shall apply.

**SECTION 162-1603. IDENTIFICATION AND ESTABLISHMENT.**

A. Identification of Flood Hazard District. The Flood Hazard District or flood plain is defined as the land area contained within any of the following, whichever is greater:

1. The identified floodplain area shall be any areas of the Township of Pennsbury, 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 FEMA or the most recent revision thereof, including all digital data developed as part of the FIS.

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

This includes the following:

- a. Floodway Areas (FW). The areas identified as “Floodway” in the AE Zone in the FIS prepared by FEMA. The term shall also include floodway areas which have been identified in other available studies or sources of information for those floodplain areas where no floodway has been identified in the FIS. This is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.
  - b. Flood Fringe Area (FF).
    1. The areas identified as Zones AE and A1-30 in the FIS which are subject to inundation by the one (1) percent annual chance flood event determined by detailed methods and have base flood elevations (BFEs) shown.
    2. The basis for the outermost boundary shall be the base flood elevations as shown in the flood profiles contained in the FIS.
  - c. General Floodplain Area (FA). The areas within Zone A in the FIS for which no base elevations have been provided. When available, information from other federal, state, and other acceptable sources shall be used to determine the base elevation, as well as a floodway area, if possible. When no other information is available, the base elevation shall be determined by using a point on the boundary of the identified floodplain area which is nearest the construction site in question.
2. Areas delineated by engineering study.
    - a. In lieu of Subsection A.1.c above, the Township may require the applicant to determine the floodplain elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers, certified soil scientists, or other 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 Engineer. If the applicant disagrees with the findings of the Township Engineer, he may appeal the findings to the Zoning Hearing Board.

- b. All identified Flood Hazard Districts 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, approval must be obtained from the FEMA. Additionally, as soon as practicable, but not later than six (6) months after the date such information becomes available, a community shall notify the FEMA of the changes by submitting technical or scientific data.
3. Land within fifty (50) feet of any stream, wetland, or body of water in the Township adjacent to a flowing stream, shown on the U.S. Geological Survey Topographic Maps of the Regional Base Map Series of 1985 for the Unionville, West Chester, Kennett Square, and Wilmington North series unless an engineering study consistent with Subsection 2, above indicates such area is not within the Flood Hazard District.
  4. Land denoted as being alluvial soils for Chester County by the U.S. NRCS unless an engineering study consistent with Subsection 2, above indicates such area is not within the Flood Hazard District.
  5. All areas which have been flooded within the last one-hundred (100) years, as recorded or indicated by written or other objective records, such as the United States Army Corps of Engineers survey.
- B. Zoning Map overlay. The Flood Hazard District Map of Pennsbury Township based on the delineations cited in Subsection A. above, shall be deemed an overlay on the applicable zoning districts. The Flood Hazard District Map shall be used as a general guideline only and shall not be considered to include all floodplain areas within the Township as defined in Subsection A. above.

#### **SECTION 162-1604. GENERAL REGULATIONS.**

- 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 Township, and until all required permits or approvals have been first obtained from the Department of Environmental Protection Regional Office. In addition, FEMA and the Pennsylvania Department of Community and Economic Development shall be notified prior to any alteration or relocation of any watercourse.
- B. Any new construction, uses, activities, or development occurring within any identified floodplain district shall be undertaken only in strict compliance with the provisions of this Chapter and with all other applicable codes, ordinances, and regulations including the Township Building Code and Chapter 138, Subdivision and Land Development.
- C. Under no circumstances shall any new construction, use, activity and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch or any other drainage facility or system.
- D. Requirements for Identified Floodplain Areas.

1. Within any FW (Floodway Areas), the following provisions apply:
    - a. Within any floodway area, no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
    - b. No new construction or development shall be allowed, unless a permit is obtained from the Department of Environmental Protection Regional Office.
  2. Within the Flood Fringe Area (AE District) 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.
    - a. No permit shall be granted within any AE Zone without floodway, no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed development together with all other existing and anticipated development, would not result in an increase in flood levels of more than one foot within the entire community during the occurrence of the base flood discharge.
  3. 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 a permit is obtained from the PA Department of Environmental Protection Regional Office.
- F. Special Requirements for Subdivisions. All subdivision proposals and development proposals in flood hazard areas where base flood elevation data are not available, shall be supported by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information. The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and processing fees shall be the responsibility of the applicant.
- G. Special Requirements for Recreational Vehicles. Recreational vehicles in Zones A1 – 30, AH, or AE must either:
1. be on the site for fewer than 180 consecutive days;
  2. be fully licensed and ready for highway use; or
  3. be removed from the floodplain if a flood warning is issued.

#### **SECTION 162-1605. USE REGULATIONS.**

- A. Permitted uses and limitations. The following uses shall be permitted within the Flood Hazard District to the extent that they are not prohibited by any other ordinance or provisions of this Chapter and provided that they do not require structure, fill, or storage of

materials or equipment or cause any increase in flood levels in the Township, during a base flood.

1. Agricultural uses, excluding structures, such as: general farming, pasture, orchard, grazing, outdoor plant nurseries, truck farming, forestry, and wild crop harvesting. Agricultural practices shall not cause alluvial deposits to build up in watercourses or cause undue erosion to the Flood Hazard District.
  2. Forestry, lumbering, and reforestation, according to recognized soil conservation practices subject to the provisions of Subsection E. 3, below and excluding storage and mill structures.
  3. Recreation uses such as: parks, camps, picnic grounds, golf courses, archery and shooting ranges, hiking and riding trails, hunting and fishing areas, game farm fish hatchery, wildlife sanctuary, nature preserve, arboretum, swimming area and boat launching sites; excluding structures with the exception of anchored picnic tables.
  4. Permeable parking areas and roads to serve other permitted uses in the Flood Hazard District or where required by the regulations for any contiguous district.
  5. In no event shall any kind of fill including but not limited to earth, trash, garbage or any material whatsoever be deposited in the floodplain area without the issuance of a special exception by the Zoning Hearing Board and then only after a permit is issued by the Department of Environmental Protection, Bureau of Dams and Waterways Management, of the Commonwealth of Pennsylvania.
  6. No change in grade either by fill or cut shall be allowed except as stated in Subsection 5, above. All requests for a change of grade shall be accompanied by a detailed engineering report including maps showing all existing contours and proposed contours, trees and structures together with the reasons for requesting the change. In no case shall fill be used which in any way will contaminate or pollute the streams if the requested change is allowed.
- B. Uses by special exception. Any of the following uses shall be permitted in the Flood Hazard District as a special exception when authorized by the Zoning Hearing Board subject to the standards of Section 162-1608.E, Section 162-2408, and the following specific standards. In determining any application hereunder, the Zoning Hearing Board shall consider the recommendations of the Board of Supervisors, the Township Planning Commission and the Township Engineer and shall consider the extent to which the requested uses will increase an elevation of flood stages, contribute to groundwater pollution and cause erosion during and after construction. No construction and/or development shall be permitted which would cause any increase in flood levels in the Township during a base flood.
1. Nonstructural accessory uses customarily incidental to any of the foregoing permitted uses.
  2. Circuses, festivals and similar transient amusement enterprises.
  3. Boat rentals, docks and piers.

4. Sealed water supply wells, water pipelines, and sanitary sewer line systems provided they are designed and constructed to eliminate infiltration of floodwater into the systems and discharges from the systems into waters of the Commonwealth.
  5. Storm and sanitary sewer effluent outlets, sewage treatment plants and pumping stations and water treatment plants, and storm sewer systems, subject to approval of the Department of Environmental Protection of the Commonwealth and the Township Engineer; provided that such facilities shall be designed and constructed to eliminate infiltration of floodwaters into the systems and discharges from system into the waters of the Commonwealth.
  6. Grading of fill provided that the effect is not to alter substantially the cross-sectional profile of the stream basin at the point of the proposed use. A prerequisite to the granting of a special exception for fill or grading shall be the issuance of necessary permits from the Department of Environmental Protection, Regional Office. All requests for a change of grade shall be accompanied by a detailed engineering report, including maps showing all existing contours and with the reasons for requesting the change. In no case shall fill be used which in any way will contaminate or pollute the streams if the requested change is allowed.
  7. Dams, culverts, and bridges when approved by the Department of Environmental Protection, Regional Office.
- C. Elevation and Floodproofing Requirements. If a residential or non-residential structure is permitted in the Flood Hazard Overlay District by this Article XVI or by decision of the Zoning Hearing Board, the following requirements shall apply:
1. Residential Structures. Within any identified floodplain area, any new construction or substantial improvement of a residential structure shall have the lowest floor (including basement) elevated up to, or above, the regulatory flood elevation. The design and construction standards and specifications contained in the 2009 IBC (Sec. 1612.4, 1603.1.6 and 3403.1) and in the 2009 IRC (Sec. R323.1.4, R323.2.1, and R323.2.2) and ASCE 24 (Sec. 2.4 and 2.5, Chapter 5) and 34 PA Code (Chapters 401-405 as amended) shall be utilized.
  2. Non-residential Structures.
    - a. Within any identified floodplain area, 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 by such structure shall remain either completely or essentially dry during any flood up to that height.
    - b. Any non-residential structure, or part thereof, having a lowest floor which is not elevated to at least one and one half (1 ½) feet above the base flood elevation, shall be floodproofed in a completely or essentially dry manner 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.

- c. The design and construction standards and specifications contained in the IBC (Sections 1603.1.2, 1603.1.6, 1605.2.2, 1606.5, 1612.5.1 and 3403.1.) and ASCE 24 (Section 2.4 and Chapter. 7) and 34 PA Code (Chapters 401-405 as amended) shall be utilized.

3. Space below the lowest floor.

- a. Fully enclosed space below the lowest floor (including basement) is prohibited.
- b. Partially enclosed space below the lowest floor (excluding 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. 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.
  - 2) The bottom of all openings shall be no higher than one (1) foot above grade.
  - 3) Openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- c. Consideration may be given to the requirements of 34 PA Code (Chapters 401-405 as amended) and the 2009 IRC (Sections R323.2.2 and R323.1.4) and the 2009 IBC (Sections 1612.4, 1612.5, 1202.3.2 and 1203.3.3).

D. Design and Construction Standards. The following minimum standards shall apply for all construction and development permitted within any identified floodplain area:

1. Fill. If fill is used, it shall:
  - a. extend laterally at least fifteen (15) feet beyond the building line from all points;
  - b. consist of soil or small rock materials only - Sanitary Landfills shall not be permitted;
  - c. be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling;
  - d. 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 Floodplain Administrator (as hereinafter defined); and,



- e. be used to the extent to which it does not adversely affect adjacent properties. The provisions contained in the 2009 IBC (Sections 1801.1 and 1803.4) shall be utilized.
2. Water and Sanitary Sewer Facilities and Systems.
    - a. 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.
    - 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 sewage system shall be located within any identified floodplain 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.
  3. 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.
  4. 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.
  5. 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.
    - c. The design and construction requirements of the UCC pertaining to this Subsection as referred to in 34 PA Code (Chapters 401-405 as amended) and contained in the 2009 IBC (Sections 1605.2.2, 1605.3.1.2, 1612.4 and Appendix G501.3), the IRC (Sections R301.1 & R323.1.1) and ASCE 24-98 (Sec. 5.6) shall be utilized.
  6. 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.
  - e. The provisions of the UCC pertaining to this Subsection and referenced in the 34 PA Code (Chapters 401-405 as amended) and contained in the 2009 IBC (Sections 801.1.3, 1403.2, 1403.4, 1403.6 and 1404.2), the 2009 IRC (Sections R323.1.7 & R501.3) and ASCE 24-98 (Chapter 6).
7. 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.) shall be finished with a "marine" or "water-resistant" paint or other finishing material.
  - d. The standards and specifications contained in 34 PA Code (Chapters 401-405, as amended) the 2009 IBC (Sections 801.1.3, 1403.7 and Appendix G) and the 2009 IRC (Sections R323.1.7).
8. 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.
  - c. The provisions pertaining to the above provisions and referenced in the UCC and 34 PA Code (Chapters 401-405) as amended and contained in the 2009 IBC (Section 1612.4), the IRC (Section R323.1.5), the 2000 IFGC (Sections R301.5 and R1601.3.8) and ASCE 24 (Chapter 8) shall be utilized.
9. 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.
  - b. The provisions pertaining to the above provision and referenced in the UCC and 34 PA Code (Chapters 401-405), as amended and contained in the 2009 IBC (Section 1612.4), the 2009 IRC (Section R323.1.5) the 2000 IFGC (Sections R301.5 and R1601.3.8) and ASCE 24 (Chapter 8) shall be utilized
- E. Prohibited uses and activities. The following uses and activities are specifically prohibited if located either partially or entirely within any Flood Hazard District.

1. Sod farming.
2. Removal of topsoil.
3. Cutting or removal of live trees or other flora except invasive species and except where the area is devoted to forestry or nursery use in which case precautions shall be taken to ensure:
  - a. The maintenance of existing runoff characteristics associated with the base frequency, twenty-four-hour duration storm.
  - b. The control of erosion and sedimentation.
4. Installation or maintenance of wells.
5. The placement or substantial improvement of a mobile or manufactured home.
6. Junkyard or storage yard or the storage of any material which, if inundated, would float.
7. Schools.
8. Fire Stations.
9. Emergency management facilities.
10. Hospitals - public or private.
11. Nursing Homes - public or private.
12. Jails/Penal Institutions.
13. New individual mobile/manufactured homes or new mobile/manufactured home parks or new mobile/manufactured home subdivisions and substantial improvements to existing mobile/manufactured home parks or mobile/manufactured home subdivisions.
14. Hazardous Materials. In accordance with the Pennsylvania Floodplain Management Act (Act 166) the Clean Streams Law, the regulations promulgated there under and the regulations adopted by the Department of Community and Economic Development no structure may be used for:
  - a. The production or storage of any of the following dangerous materials or substances:
    - 1) Acetone.
    - 2) Ammonia.
    - 3) Benzene.
    - 4) Calcium carbide.

- 5) Carbon disulfide.
  - 6) Celluloid.
  - 7) Chlorine.
  - 8) Hydrochloric acid.
  - 9) Hydrocyanic acid.
  - 10) Magnesium.
  - 11) Nitric acid and oxides of nitrogen.
  - 12) Petroleum products (gasoline, fuel, oil, etc.).
  - 13) Phosphorous.
  - 14) Potassium.
  - 15) Sodium.
  - 16) Sulfur and sulfur products.
  - 17) Pesticides (including insecticides, fungicides, and rodenticides).
  - 18) Radioactive substances.
  - 19) Other substances as may be defined as hazardous by the Pennsylvania Department of Community and Economic Development or Environmental Protection.
15. Alteration or relocation of any watercourse, unless and until the applicant has notified the governing bodies of adjacent municipalities and the Pennsylvania Department of Community and Economic Development, with copies of such notices being sent to FEMA, and demonstrated to the satisfaction of the Township Engineer that the flood-carrying capacity of the watercourse as altered or relocated is maintained at a level equal to or better than the existing flood-carrying capacity. This requirement shall be in addition to the requirements of the Department of Environmental Protection, Regional Office pertaining to such alteration or relocation.

#### **SECTION 162-1606. EXISTING STRUCTURES AND USES.**

Structures and uses existing in the Flood Hazard District which legally existed prior to the enactment of this Chapter, but which are not in compliance with these provisions, may continue. However, when an improvement is proposed and permitted to be made to an existing structure in the Flood Hazard District, it shall be subject to the following conditions:

- A. No expansion or enlargement of an existing structure and/or use shall be allowed within any Flood Hazard District that would cause any increase in the elevation of the base flood.

- B. No expansion or enlargement of an existing structure shall be allowed within any AE area that would, together with all other existing and anticipated development, increase the base flood elevation more than one (1) foot at any point.
- C. Any modification, alteration, reconstruction, or improvement, of any kind to an existing structure, to an extent or amount of fifty (50) percent or more of its market value, shall constitute a substantial improvement and shall be undertaken only in full compliance with the provisions of this Chapter and 44 CFR60.3d and the International Residential Code and International Building Code, 2009 as amended.
- D. Any modification, alteration, reconstruction, or improvement of any kind to an existing structure, to an extent or amount of less than fifty (50) percent of its market value, shall be elevated a minimum of one and one-half (1½) feet above the one-hundred (100) year flood elevation of the site and/or floodproofed to the greatest extent possible and to the satisfaction of the Township Engineer, except as provided for in Subsection E, below.
- E. Any modification, alteration, reconstruction, or improvement of any kind that meets the definition of “repetitive loss” shall be undertaken only in full compliance with this Chapter and 44 CFR60.3d and the International Residential Code and International Building Code, 2009 as amended.
- F. Uniform Construction Code Coordination. The Standards and Specifications contained in 34 PA Code (Chapter 401-405), as amended and including but not limited to the following provisions shall apply to the above and other Sections and Subsections of this Chapter, to the extent that they are more restrictive and/or supplement the requirements of this Chapter:
  - 1. International Building Code (IBC) 2009 or the latest edition thereof: Sections 801, 1202, 1403, 1603, 1605, 1612, 3402, and Appendix G.
  - 2. International Residential Building Code (IRC) 2009 or the latest edition thereof: Sections R104, R105, R109, R323, Appendix AE101, Appendix E and Appendix J.

**SECTION 162-1607. USES BY VARIANCE.**

- A. General. If compliance with any of the requirements of this Chapter would result in an unnecessary hardship for a prospective builder, developer or landowner, the Zoning Hearing Board may, upon request, grant relief from the strict application of the requirements except as to those uses listed in Subsection B, below.
- B. In accordance with the Pennsylvania Floodplain Management Act, issuance of a variance for the following uses is prohibited:
  - 1. Hospitals and medical facilities (public or private);
  - 2. Nursing homes (public or private);
  - 3. Jails and penitentiaries;
  - 4. New mobile and manufactured home parks and subdivisions, and substantial improvements to such parks and subdivisions.
  - 5. Schools.

6. Fire Stations.
  7. Emergency management facilities.
  8. The production or storage of any of the dangerous materials or substances listed in Section 162-1605.E.14
- C. Variance Procedures and Requirements. Requests for variances shall be considered by the Zoning Hearing Board in accordance with Section 162-2408 of this Chapter, Section 910.2 of the Municipalities Planning Code and with the following:
1. No variance shall be granted for any construction, development, use or activity within any floodway area that would cause any increase in the base flood elevation.
  2. No variance shall be granted for any construction, development, use, or activity within any AE areas 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.
  3. No variance shall be granted for any of the uses listed in Subsection B, above.
  4. If granted, a variance shall involve only the least modification necessary to provide relief.
  5. 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 Chapter.
  6. Whenever a variance is granted, the 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.
    - b. Such variances may increase the risks to life and property.
  7. In reviewing any request for a variance, the Zoning Hearing Board shall consider, but not be limited to the following:
    - a. There is good and sufficient cause for the variance.
    - b. Failure to grant the variance would result in exceptional hardship to the applicant.
    - c. The granting of the variance will not result in an unacceptable or prohibited increase in flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with any other applicable state or local ordinance regulations.
    - d. The review factors listed in Section 1608.F, below.

8. A complete record of all variance requests and related actions shall be maintained by the Township. In addition, a report of all variances granted during the year shall be included in the annual report to FEMA.
9. Notwithstanding any of the above, however, all structures, whether residential or non-residential, shall be designed, located, constructed and maintained so as to have the capability of resisting the base flood or the five hundred (500) year flood where mapped. In addition, such structures shall be in compliance with this Chapter.

#### **SECTION 162-1608. ADMINISTRATION.**

- A. **Zoning Permits Required.** Zoning permits shall be required before any construction or development is undertaken within the Flood Hazard Overlay District of Pennsbury Township. Applications shall be filed in triplicate and on forms furnished by the Township and shall be accompanied by detailed plans, drawings, specifications, and other such information deemed necessary by the Zoning Officer to ascertain compliance of this Chapter.
- B. **Issuance of Zoning Permit.** No requirement or standard of this Article XVI applicable to structures or uses in the floodplain shall imply that such structure or use is permitted in the floodplain.
  1. The Zoning Officer is hereby appointed to administer and enforce this Chapter and is referred to herein as the Floodplain Administrator. Zoning permits shall be issued as per Article XXIII, and floodplain violations shall be addressed as per this Article, as well as Articles XXIII and XXVI.
  2. In the case of existing structures, prior to issuance of any zoning permit, the Floodplain Administrator shall review the history of repairs to the subject building, so that any repetitive loss issues can be addressed before the permit is issued.
  3. 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 and until all required permits or approvals have been first obtained from the Pennsylvania Department of Environmental Protection Regional Office. In addition, FEMA and Pennsylvania Department of Community and Economic Development shall be notified by the Township prior to any alteration or relocation of any watercourse.
  4. 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.
- C. **Application Procedures and Requirements.**

1. Application for a zoning permit shall be made, in writing, to the Floodplain Administrator on forms supplied by Pennsbury Township. Such application shall include the following:
  - a. Brief description of proposed work and estimated cost, including a breakout of the flood-related cost and the market value of the building before the flood damage occurred.
  - b. 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) If available, information concerning flood depths, pressures, velocities, impact and uplift forces and other factors associated with a base flood.
    - 4) Detailed information concerning any proposed flood proofing measures.
    - 5) Supplemental information as may be necessary under 34 PA Code, Chapter 401-405 as amended, and Sec. 1612.5.1 and 109.3 of the 2009 IBC and Section R106.1.3 and R104.7 of the 2009 IRC as referenced in the Uniform Construction Code.
  - c. 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 base flood elevations, 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.
  - d. The appropriate component of the Pennsylvania Department of Environmental Protection "Planning Module for Land Development."
  - e. Documentation, certified by a registered professional engineer or architect, to show that the cumulative effect of any proposed development within a FF (Flood Fringe) Area when combined with all other existing and anticipated development, will not increase the base flood elevation more than one (1) foot at any point.
2. If any proposed construction or development is located entirely or partially within any identified floodplain area, applicants for zoning 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 Chapter 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; and
  - 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; and
  - g. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities have been designed and located to prevent water entry or accumulation.
3. Review of Application by County Conservation District. A copy of all applications and plans for any proposed construction or development in the Flood Hazard District to be considered for approval shall be submitted by the Floodplain Administrator to the Chester County Conservation District for review and comment prior to the issuance of a zoning permit. The recommendations of the Conservation District shall be considered by the Floodplain Administrator for possible incorporation into the proposed plan.
  4. Review of Application by Others. A copy of all plans and applications for any proposed construction or development in the Flood Hazard District to be considered for approval may be submitted by the Floodplain Administrator to any other appropriate agencies or individuals (e.g., Planning Commission, Township Engineer, etc.) for review and comment. Where the plan is classified as a subdivision or land development, the appropriate Township procedures for the review of such plans shall be followed.
- D. Special exception procedures for Flood Hazard District. Upon receiving an application for a special exception permit, the Zoning Hearing Board shall, prior to rendering a decision thereon, require the applicant to furnish such of the following material as is deemed necessary by the Board.
1. Plans in triplicate drawn to scale showing the nature, location, dimension and elevation of the lot and existing and proposed uses; photographs showing existing uses and vegetation; soil types and other pertinent information.
  2. A series of cross-sections at twenty-five-foot intervals along the lot shoreline, showing the stream channel or the lake or pond bottom, and elevation of adjoining land areas, to be occupied by the proposed uses, and high water information.
  3. Profile showing the slope of the bottom of the stream channel.
  4. Specifications for building materials and construction, floodproofing, filling, dredging, grading, storage, water supply and sanitary facilities.
  5. Computation of the increase, if any, in the height of flood stages which would be attributable to any proposed uses.
  6. Provisions to ensure that adequate drainage shall be required to minimize flood hazard.

7. The location of any existing bodies of water or watercourse, identified floodplain areas, and, if available, information pertaining to the floodway, and the flow of water including direction and velocities.
  8. Plans of all proposed buildings, structures, and other improvements, drawn at a suitable scale showing the following:
    - a. The proposed lowest floor elevation of any proposed building based upon North American Vertical Datum of 1988;
    - b. The elevation of the one-hundred (100) year flood;
    - c. If available, information concerning flood depths, pressures, velocities, impact and uplift forces, and other factors associated with a base flood; and
    - d. Detailed information concerning any proposed floodproofing measures.
  9. A document, certified by a registered professional engineer or architect, which states that the proposed construction or development has been designed to withstand the pressures, velocities, impact and uplift forces associated with the one-hundred (100) year flood. Such statement shall include a description of the type and extent of floodproofing measures which have been incorporated into the design of the structure and/or development.
- E. Supplemental Technical Review. In considering any application for a special exception, the Zoning Hearing Board shall invite the participation of other technical experts to determine the extent to which the proposed use would diminish the capacity of the Flood Hazard District to store and absorb floodwaters, to moderate flood velocities and to accommodate sediment; be subject to flood damage; and cause erosion and impair the amenity of the Flood Hazard District.
- F. Additional Factors to be considered by the Zoning Hearing Board.
1. In considering each application for a special exception or variance, the Board shall consider, in addition to the criteria in Sections 162-2408 and 162-2409 respectively:
    - a. The danger to life and property due to increased flood heights or velocities caused by encroachments.
    - b. The danger that materials may be swept onto other lands or downstream to the injury of others. In no event shall any materials which are capable of floating, toxic (to humans, animals or vegetation) or explosive or any junk materials be placed within a Flood Hazard District.
    - c. The proposed water supply and sanitation systems and the 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 community.

- f. The requirements of the use of 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 and foreseeable nearby uses.
  - i. The relationship of the proposed use to the *Pennsbury Township Comprehensive Plan*.
  - 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 impact on habitat for wildlife, fish and plant life.
  - m. Such other factors which are relevant to the purposes of this Chapter.
- G. Conditions. Upon consideration of the factors listed above and the purposes of this Chapter, the Board shall attach such conditions to the granting of a special exception permit as it deems necessary to further the purposes of this Chapter.
- 1. Any new construction and/or substantial improvement to an existing structure shall have the lowest floor (including basement) elevated to at least one and one-half (1 ½) feet above the base flood elevation of the Flood Hazard District at the place of construction. The required elevations shall be as determined in the FIS. For those areas in which the base flood elevations are not given in the FIS, the elevation shall be determined by selecting the point on the boundary of the Flood Hazard District nearest to the site in question and elevating the lowest floor of the structure to one and one-half (1 ½) feet above such elevation.
  - 2. All such structures shall be securely anchored to prevent flotation, collapse and lateral movements; all such structures shall employ construction materials and techniques to minimize flood damages. Adequate drainage shall be provided. The elevation of the proposed lowest floor shall be indicated on the application for a building permit. The provisions of the National Flood Insurance Program Regulations (4) CFR 60.3(d) are applicable to such construction. Among such conditions, without limitation because of specific enumeration, may be included:
    - a. Installation of watertight doors, bulkheads, and shutters.
    - b. Reinforcement of walls to resist water pressure.
    - c. Use of paints, membranes or mortars to reduce seepage of water through walls.
    - d. Addition of mass or weight to structures to resist flotation.
    - e. Installation of pumps to lower water levels in structure.

- f. Construction of water supply and waste treatment systems so as to prevent the entrance of floodwaters.
- g. Pumping facilities for subsurface external foundation wall and basement floor pressures.
- h. Construction to resist rupture or collapse caused by water pressure or floating debris.
- i. Cutoff valves on sewer lines or the elimination of gravity flow basement drains.
- j. Elevation of structure to reduce likelihood of flood damage.
- k. Uniform Construction Code Coordination. The Standards and Specification 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 Subsections of this Chapter, to the extent that they are more restrictive and/or supplement the requirements of this Chapter.

International Building Code (IBC) 2009 or the latest edition thereof: Sections 801, 1202, 1403, 1603, 1605, 1612, 3402, and Appendix G.

International Residential Building Code (IRC) 2009 or the latest edition thereof: Sections R104, R105, R109, R323, Appendix AE101, Appendix E and Appendix J.

- 3. The following provisions shall apply whenever any improvement is made to an existing structure located within any identified floodplain area:
  - a. 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 base flood.
  - b. No expansion or enlargement of an existing structure shall be allowed within any Flood Fringe Area (FF) that would, together with all other existing and anticipated development, increase the base flood elevation (BFE) more than one (1) foot at any point.
  - c. Any modification, alteration, reconstruction, or improvement of any kind to an existing structure, to an extent or amount of less than fifty (50) percent of its market value, shall be elevated and/or floodproofed to the greatest extent possible.
  - d. Any modification, alteration, reconstruction, or improvement of any kind that meets the definition of “repetitive loss” shall be undertaken only in full compliance with the provisions of this Chapter.
  - e. The requirements of 34 PA Code Chapter 401-405, as amended and the 2009 IRC (Sections R102.7.1, R105.3.1, R105.3.1.1 and Appendices E and J) or the latest revision thereof and the 2009 IBC (Sections 101.3, 3403.1 and Appendix G) or the latest revision thereof shall also be utilized in conjunction with the provisions of this Section.

- H. Declaration of flood hazard status. In any case where the Zoning Hearing Board shall grant a special exception or a variance to permit the erection of a structure in the Flood Hazard District, or a special exception or a variance to permit a change in nonconforming use of a structure already existing in the Flood Hazard District, the Board shall, for the protection of prospective purchasers and leases, impose the following conditions:
1. 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.
  2. Require that, before settlement or change in 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 and signed copy of such certification shall be delivered to the Township by the applicant.
  3. A deed restriction shall be created and placed on record to run as a covenant with the land, which restriction shall contain the following provisions: "This lot is entirely (partially) within the Flood Hazard District as defined by Section 162-1603 of the Pennsbury Township Zoning Ordinance."
- I. Additional Floodplain Administrator Responsibilities
1. 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.
  2. In the discharge of his/her duties, the Floodplain Administrator shall have the authority to enter any building, structure, premises or development in the identified floodplain area, upon presentation of proper credentials, at any reasonable hour to enforce the provisions of this Article.
  3. 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.
  4. The Floodplain Administrator shall maintain in perpetuity all records associated with the requirements of this ordinance including, but not limited to, permitting, inspection and enforcement.
  5. The Floodplain Administrator shall consider the requirements of the 34 PA Code and the 2009 IBC and the 2009 IRC or latest revisions thereof.
- J. Appeals
1. Any person aggrieved by any action or decision of the Floodplain Administrator concerning the administration of the provisions of Articles XVI, XXIII, or XXVI 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 schedule, hear and decide the appeal in accordance with Article XXIV.
3. Any person aggrieved by any decision of the Zoning Hearing Board may seek relief there from by appeal to court, as provided by Act 247 and including the Pennsylvania Flood Plain Management Act.