

CHAPTER 8

FLOOD PLAIN REGULATIONS

Part 1

Construction in Flood Plains

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(See also Zoning [27, §1101] Flood Plain Districts)

Part 1

Construction in Flood Plains

§101. Flood Damage Control Regulations. In order to prevent excessive damage to buildings and structures due to conditions of flooding, the following restrictions shall apply to construction, development, and substantial improvements occurring in any designated Flood Plain Districts.

1. Basements and First Floors -

A. Lowest floor levels including basements in non-residential structures and substantial improvements thereto shall be constructed at or above an elevation of two feet (2') above the Regulatory Flood or they may be constructed below the level of the one-hundred (100) year flood provided that they are floodproofed and designed to preclude inundation to an elevation of at least two feet (2') above the Regulatory Flood Elevation and to withstand the hydrostatic and hydrodynamic load of the Regulatory Flood.¹

B. The lowest floor levels including basements in residential structures and substantial improvements thereto shall be constructed at or above an elevation of two feet (2') above the Regulatory Flood Elevation.

2. Fill - If fill is used to raise the finished surface of the lowest floor two feet (2') above the Regulatory Flood Elevation:

A. Fill shall extend laterally fifteen feet (15') beyond the building line from all points;

B. Fill shall consist of soil or small rock materials only. Sanitary land fills shall not be permitted.

C. Fill material shall be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling;

D. Fill slopes shall be no steeper than one (1) vertical on two (2) horizontal, unless substantiating data, justifying steeper slopes are submitted to and approved by the Zoning Officer;

E. Fill shall be used only to the extent to which it does not adversely affect adjacent properties.

3. Placement of Buildings and Structures -

A. All building and structures, including mobile homes, shall be constructed and placed on the lot 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.

1. Note should be made of the publication entitled, "Flood-Proofing Regulations" prepared by the U.S. Army Corps of Engineers, which contains extensive information which can be of substantial benefit to municipalities in regulating activities in areas subject to flooding.

B. The following shall not be placed or caused to be placed in any of the designated Flood Plain Districts: Fences, except two-wire fences, other structures, or other matter which may impede, retard, or change the direction of the flow of water, or that will catch or collect debris carried by such water, or that is placed where the natural flow of the stream of flood waters would carry the same downstream to the damage or detriment of either public or private property adjacent to the flood plain.

4. Anchoring -

A. All buildings, mobile homes, and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement, thus reducing the threat to life and property and decreasing the possibility of the blockage of bridge openings and other restricted sections of the watercourse.

B. All air ducts, large pipes and storage tanks located at or below the Regulatory Flood Elevation shall be firmly anchored to prevent flotation, collapse, or lateral movement.

5. Mobile Home - Special Anchoring and Site Requirements - All mobile homes to be located in any designated Flood Plain District shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground anchors as well as additional precautions in the following manner:

A. Over-the-top ties shall be provided at each of the four (4) corners of the mobile home, with two (2) additional ties per side at intermediate locations and mobile homes less than fifty feet (50') long requiring one (1) additional tie per side.

B. Frame ties shall be provided at each corner of the home with five (5) additional ties per side at intermediate points for mobile homes fifty feet (50') or more in length and mobile homes less than fifty feet (50') long requiring four (4) additional ties per side.

C. All components of the anchoring system shall be capable of carrying a force of 4,800 pounds.

D. Any additions to mobile homes shall be similarly anchored.

E. All individual mobile homes, new mobile home parks and mobile home subdivisions, expansion to existing mobile home parks and mobile home subdivisions, existing mobile home parks and mobile home subdivisions where the repair, reconstruction, or improvement of the streets, utilities and pads equals or exceeds fifty percent (50%) of the value of the streets, utilities, and pads before the repair, reconstruction, or improvements have commenced, shall be located and/or designed so that:

(1) Stands or lots are elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be at or above an elevation of at least two feet (2') above the Regulatory Flood Elevation.

(2) Adequate surface drainage and access for a hauler are provided.

F. Where piers or pilings are used to elevate mobile homes, they shall be:

- (1) Placed on lots large enough to permit steps,
- (2) Placed on piling foundations in stable soil no more than ten feet (10') apart, and
- (3) Adequately reinforced if more than six feet (6') above ground level.

G. An evacuation plan indicating alternate vehicular access and escape routes for mobile home parks and mobile home subdivisions shall be filed with the appropriate local officials where appropriate.

H. Mobile homes shall not be placed in the Floodway or Approximated Flood Plain Districts, except in existing mobile home parks and existing mobile home subdivisions.

6. Floors, Walls, and Ceilings -

A. Wood flooring used at or below the lowest floor level shall be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain, without incurring structural damage to the building.

B. Plywood used at or below the lowest floor level shall be of any exterior or marine grade and of a water-resistant or waterproof variety.

C. Basement ceilings in non-residential structures shall have sufficient wet strength and be so installed as to survive inundation.

D. Window frames, door frames, and door jambs used at or below the lowest floor level shall be made of metal.

7. Electrical Systems -

A. All electric water heaters, electric furnaces, electric air conditioning and ventilating systems, and other critical electrical installation shall be permitted only at elevations of two feet (2') or more above the Regulatory Flood Elevation.

B. No electrical distribution panels shall be allowed at an elevation of less than two feet (2') above the level of the Regulatory Flood Elevation.

C. Separate electrical circuits shall serve lower levels and shall be dropped from above.

8. Plumbing -

A. Water heaters, furnaces and other critical mechanical installations shall be permitted only at elevations of two feet (2') or more above the Regulatory Flood Elevation.

B. No part of any on-site sewage disposal system shall be constructed within any Flood Plain District.

C. Water supply systems and sanitary sewage systems shall be designed and located to preclude infiltration of flood waters into the system and discharges from the system into flood water.

D. All gas and oil supply systems shall be designed to preclude the infiltration of flood waters into the system and discharges from the systems into flood waters. Additional provisions shall be made for the drainage of these systems in the event that flood water infiltration occurs.

9. Paints and Adhesives -

A. Adhesive used at or below the lowest floor level shall have a bonding strength that is unaffected by inundation.

B. Doors and all wood trim at or below the lowest floor level shall be sealed with a waterproof paint or similar product.

C. Paints or other finishes used at or below the lowest floor level shall be capable of surviving inundation.

10. Storage -

A. No materials that are buoyant, flammable, explosive or in times of flooding, could be injurious to human, animal, or plant life, shall be stored below an elevation two feet (2') above the Regulatory Flood Elevation.

(Ord. 8-4-81B, 8/4/1981, Article I)

§102. Administration. To insure that the aforementioned flood damage controls are being employed in all construction, development, and substantial improvements within any Flood Plain District, the Zoning Officer shall provide the applicant with information concerning the location of the Floodway, Flood Fringe, and Approximated Flood Plain District boundary relative to his proposed construction and the water surface elevation of the Regulatory Flood at the proposed construction site.

1. Plan Requirements - The Zoning Officer shall require the following specific information to be included as part of an application for a building permit and shall maintain a permanent record of all such information.

A. A plan which details size of structure, finished ground elevation, finished floor elevation, elevation of lowest floor (including basement), whether or not such structures contain a basement, the elevation of the first floor and other elevations which indicate the level of floodproofing.

B. A document certified by a registered professional engineer or architect that the design of any proposed building or structure, and plans for the proposed development of the site comply with the provisions of this Part 1 and any other applicable ordinance and that the floodproofing measures applied to such development are adequate to withstand flood depths and pressures, velocities, impacts, and uplift forces, and any other factors associated with the Regulatory Flood.

C. A record of such certificates indicating the specific elevation (in relation to National Geodetic Vertical Datum of 1929) to which such structures are floodproofed shall be maintained by the Zoning Officer.

D. All other necessary governmental permits such as those required by State and Federal law including Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1334) shall be presented for review upon permit application.

2. Review by the County Conservation District -

A. A copy of all plans for proposed development in any designated Flood Plain District shall be submitted by the Zoning Officer to the County Conservation District for review and comment prior to the issuance of a permit. The recommendations of the County Conservation District may be incorporated into the plan to provide for protection against predictable hazards.

(Ord. 8-4-81B, 8/4/1981, Article II)

§103. Definitions. Approximated FLOOD PLAIN DISTRICT - The Approximated Flood Plain District shall be that flood plain area for which no specific flood profiles have been provided. Where the specific 100 year flood elevation cannot be determined for this area using other sources of data such as the U.S. Army Corps of Engineers, Flood Plain Information Reports, U.S. Geological Survey Flood Prone Quadrangles, etc., then the applicant for the proposed use, development and/or activity shall determine this elevation in accordance with hydrologic and hydraulic engineering techniques. Consideration shall be given to the methods specified by the U.S. Water Resource Council's Technical Bulletin No. 17. This elevation information shall be subject to review by the Municipality and other agencies that it shall designate such as the Corps of Engineers, the Department of Environmental Resources, a River Basin Commission, etc.

CONSTRUCTION - The term "construction" shall include the building, reconstruction, extension, expansion, alteration, substantial improvements, erection or relocation of a building or structure, including mobile homes. For flood plain purposes, "construction" includes structures for which the "start of construction" commenced on or after the effective date of a flood plain management regulation adoption by the municipality.

FLOOD PLAIN DISTRICT - The zoning district that establishes the bounds of the 100 year flood plain as identified by the Federal Insurance Administrator with flood elevations so that necessary flood plain management control measures can be instituted in flood prone areas. This district has been divided into three (3) subdistricts: The Floodway, Flood Fringe, and Approximated Flood Plain District.

FLOODPROOFING - Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents. It is additionally defined as constructing or altering a structure to be watertight with walls substantially impermeable to the passage of water. Furthermore, structural components have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. (See the Army Corps of Engineers publication concerning Floodproofing, June 1972 for details on floodproofing methods.)

MOBILE HOME - Means a transportable, single family dwelling intended for permanent occupancy, office or place of assembly contained in one unit or in two units, designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation.

ONE-HUNDRED (100) YEAR FLOOD (REGULATORY FLOOD) - A flood that, on the average, is likely to occur once every 100 years (i.e. that has a one percent (1%) chance of occurring each year, although the flood may occur in any year).

REGULATORY FLOOD - The flood which has been selected to serve as the basis upon which the flood plain management provisions of this and other ordinances have been prepared, for the purposes of this Ordinance, the one-hundred (100) year flood, as defined by the Federal Insurance Administrator.

REGULATORY FLOOD ELEVATION - The one-hundred (100) year flood elevation based upon the information contained in the Official Flood Insurance Study. Where flood elevations have not been provided, the regulatory flood elevation shall be the elevation at a point on the boundary of the identified flood plain area which is nearest to the construction site in question.

SUBSTANTIAL IMPROVEMENT - Any reconstruction, major alteration, or improvement (not including general maintenance or repair) of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structures either, (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purposes of this Ordinance, substantial improvement is considered to have occurred 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. The term does not, however, include either (1) any project for improvement of a structure to comply with existing or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

(Ord. 8-4-81B, 8/4/1981, Article III)