

## Chapter 12

### FLOOD DAMAGE PREVENTION\*

**Art. I. In General, §§ 12-1--12-35**

**Art. II. Administration and Enforcement, §§ 12-36--12-60**

**Art. III. Provisions for Flood Hazard Reduction, §§ 12-61--12-67**

#### ARTICLE I. IN GENERAL

##### Sec. 12-1. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. These definitions are derived from Title 44, Code of Federal Regulations (CFR), part 59, section 59.1.

*100-year flood.* See “base flood.”

*Administrator* shall mean the Federal Insurance Administrator (FIA).

*Alluvial fan flooding* shall mean flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment, transport, and deposition; and unpredictable flow paths.

*Apex* shall mean a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

*Appeal* shall mean a request for a review of the floodplain administrator’s interpretation of any provision of this article or a request for a variance.

*Appurtenant structure* shall mean a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

*Area of shallow flooding* shall mean a designated AO, AH, AR/AO, AR/AH or VO zone on a community’s flood insurance rate map (FIRM) with a one (1) percent or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

*Area of special flood hazard* shall mean the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. The area may be designated as Zone A on the flood hazard boundary map (FHBM). After detailed-rate making has

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\***Cross reference**—Building and construction regulations, Ch. 8; mobile homes and mobile home parks, Ch. 17; planning and development, Ch. 21; subdivisions and other developments, Ch. 26; zoning, Ch. 31.

**State law references**—Local participation in national flood insurance program, V.T.C.A., Water Code § 16.311 et seq.; authority to enforce ordinances necessary to protect and preserve health, property, good government and order, V.T.C.A., Local Government Code § 54.004.

been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AE, AH, AO,-A1-30, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V. For purposes of these regulations, the term “special flood hazard area” is synonymous in meaning with the phrase “area of special flood hazard.”

*Base flood* shall mean the flood having a one (1) percent chance of being equaled or exceeded in any given year. See “base flood elevation (BFE).”

*Base flood elevation (BFE)* shall mean the elevation shown on the FIRM and found in the accompanying FIS for Zones A, AE, AH, A1-A30, AR, V1-V30, or VE that indicates the water surface elevation resulting from the flood that has a one (1) percent chance of equaling or exceeding that level in any given year. See “base flood.”

*Basement* shall mean any area of the building having its floor subgrade (below ground level) on all sides.

*Breakaway wall* shall mean a wall that is not part of the structural support of the building and is intended, through its design and construction, to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

*Building.* See “structure.”

*Community* shall mean the city of Killeen corporate city limits, in which the city has the authority to adopt and enforce flood plain management regulations for the areas within its jurisdiction.

*Critical feature* shall mean an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

*Development* shall mean any man-made change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

*Elevated building* shall mean a non-basement building, which has its lowest elevated floor, raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

*Elevation certificate* shall mean the official document under the same name issued by the National Flood Insurance Program (NFIP) used to provide elevation information necessary to ensure compliance with the community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on Fill (LOMR-F).

*Existing construction* shall mean, for the purposes of determining rates, structures for which the “start of construction” commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. “Existing construction” may also be referred to as “existing structures.”

*Existing manufactured home park or subdivision* shall mean a manufactured home park or

subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) are completed before February 14, 1978.

*Existing structures.* See “existing construction.”

*Expansion to an existing manufactured home park or subdivision* shall mean the preparation of additional sites by the construction of facilities for servicing the lots on which manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or pouring of concrete pads).

*Flood* or *flooding* shall mean a general and temporary condition of partial or complete inundation of normally dry land areas from:

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

*Flood elevation study* shall mean an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

*Flood hazard boundary map (FHBM)* shall mean an official map of a community, issued by the Administrator, where the boundaries of the flood, mudslide (i.e., mudflow) and/or flood-related erosion areas having special hazards have been designated as Zones A, M, and/or E.

*Flood insurance rate map (FIRM)* shall mean an official map of a community, on which the federal emergency management agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

*Flood insurance study (FIS)* shall mean the official report provided by the federal emergency management agency. The report contains flood profiles, water surface elevation of the base flood, as well as the flood boundary-floodway map. See “flood elevation study.”

*Floodplain* or *flood-prone area* shall mean any land area susceptible to being inundated by water from any source. See “flood” or “flooding.”

*Floodplain administrator* shall mean the building official of the city as designated under section 12-36 of this article.

*Floodplain development permit* shall mean a permit required to be obtained prior to development as defined hereunder.

*Floodplain management* shall mean the operation of an overall program of corrective and preventive measure for reducing flood damage, including but no limited to emergency preparedness plans, flood control works and floodplain management regulations.

*Floodplain management regulations* shall mean zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance,

grading ordinance, and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, or any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

*Flood protection system* shall mean those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a “special flood hazard” and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

*Flood proofing* shall mean 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.

*Floodway (regulatory floodway)* shall mean 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 a designated height.

*Freeboard* shall mean a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. “Freeboard” tends to compensate for many unknown factors that could contribute to flood heights greater than the height calculated for a selected sized flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

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

*Highest adjacent grade* shall mean the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

*Historic structure* shall mean 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 the state inventory of historic places; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified, either by the approved state program as determined by the Secretary of the Interior, or directly by the Secretary of the Interior.

*Improved drainage course* shall mean any drainage course which, when altered in any

manner, changes the boundaries of the floodplain.

*Levee* shall mean a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

*Levee system* shall mean a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

*Lowest floor* shall mean the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking or vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirement of section 60.3 of the National Flood Insurance Program regulations.

*Manufactured home* shall mean a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreation vehicle."

*Manufactured home park or subdivision* shall mean a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

*Map* shall mean the flood hazard boundary map (FHBM) or the flood insurance rate map (FIRM) for a community issued by the federal emergency management agency.

*Mean sea level* shall mean, for purposes of the national flood insurance program, the North American vertical datum (NAVD) of 1988 or other datum, to which base flood elevations shown on a community's flood insurance rate map (FIRM) are referenced.

*New construction* shall mean, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structure.

*New manufactured home park or subdivision* shall mean a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the community.

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

*Recreational vehicle* shall mean a vehicle that is:

- (1) Built on a single chassis;
- (2) Four hundred (400) square feet or less when measured at the largest horizontal projection;
- (3) Designed to be self-propelled, or permanently towable by a light duty truck; and
- (4) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use.

*Riverine* shall mean relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

*Special flood hazard area.* See “area of special flood hazard.”

*Start of construction* (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)), includes substantial improvement and shall mean the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation of or 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.

*Structure* shall mean, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

*Substantial damage* shall mean damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damage conditions would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

*Substantial improvement* shall mean any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure, before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
- (2) Any alteration of a structure listed on the national register of historic places or a state inventory of historic places provided that the alteration will not preclude the

structure's continued designation as a "historic structure."

*Variance* shall mean a grant of relief by a community to a person from the terms of a floodplain management regulation. (For full requirements, see 44 CFR section 60.6 of the National Flood Insurance Program regulations).

*Violation* shall mean the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 44 CFR, section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) of the National Flood Insurance Program regulations, is presumed to be in violation until such time as that documentation is provided.

*Water surface elevation* shall mean the height, in relation to the North American vertical datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.  
(Code 1963, Ch. 9, art. 6, § 2 [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § I, 10-13-87]; Ord. No. 08-081, § I, 9-23-08)

### **Sec. 12-2. Findings of fact.**

(a) The flood hazard areas of the city are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.  
(Code 1963, Ch. 9, art. 6, § 1(B) [Ord. No. 87-20, § I, 4-14-87])

### **Sec. 12-3. Statement of purpose.**

It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such manner as to minimize future flood blight areas; and
- (7) Ensure that data are made available that will allow potential buyers to determine whether property is located in a floodplain.

(Code 1963, Ch. 9, art. 6, § 1(C) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § I, 9-23-08)

#### **Sec. 12-4. Methods of reducing flood losses.**

In order to accomplish its purposes, this chapter uses the following methods:

- (1) Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which service such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- (4) Control filling, grading, dredging and other development which may increase flood damage;
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

(Code 1963, Ch. 9, art. 6, § 1(D) [Ord. No. 87-20, § I, 4-14-87])

#### **Sec. 12-5. Application of chapter.**

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the city. (Code 1963, Ch. 9, art. 6, § 3(A) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § I, 9-23-08)

#### **Sec. 12-6. Compliance.**

No structure or land shall be located, altered or have its use changed without full compliance with the terms of this chapter and other applicable regulations. (Code 1963, Ch. 9, art. 6, § 3(D) [Ord. No. 87-20, § I, 4-14-87])

#### **Sec. 12-7. Basis for establishing the areas of special flood hazard.**

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study, Bell County, Texas," dated September 26, 2008, with accompanying flood insurance rate maps and flood boundary-floodway maps (FIRMs and FBFM) and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter. (Code 1963, Ch. 9, art. 6, § 3(B) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § I, 9-23-08)

#### **Sec. 12-8. Abrogation and greater restrictions.**

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Code 1963, Ch. 9, art. 6, § 3(E) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § I, 9-23-08)

#### **Sec. 12-9. Interpretation.**

In the interpretation and application of this chapter, all provisions shall be:



- (1) Considered as minimum requirements;
  - (2) Liberally construed in favor of the city council; and
  - (3) Deemed neither to limit nor repeal any other powers granted under state statutes.
- (Code 1963, Ch. 9, art. 6, § 3(F) [Ord. No. 87-20, § I, 4-14-87])

**Sec. 12-10. Warning and disclaimer of liability.**

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. (Code 1963, Ch. 9, art. 6, § 3(G) [Ord. No. 87-20, § I, 4-14-87])

**Secs. 12-11--12-35. Reserved.**

**ARTICLE II. ADMINISTRATION AND ENFORCEMENT**

**Sec. 12-36. Floodplain administrator--Designation.**

The building official is hereby appointed the floodplain administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (National Flood Insurance Program regulations) pertaining to floodplain management. (Code 1963, Ch. 9, art. 6, § 4(A) [Ord. No. 87-20, § I, 4-14-87])

**Sec. 12-37. Same--Duties and responsibilities.**

The duties and responsibilities of the floodplain administrator shall include, but not be limited to, the following:

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this chapter.
- (2) Review permit applications to determine whether the proposed building site will be reasonably safe from flooding.
- (3) Review, approve or deny all applications for development permits required by adoption of this chapter.
- (4) Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. 1334) from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the floodplain administrator shall make the necessary interpretation.
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agencies which are the Texas Water Development Board (TWDB) and the Texas Commission on

Environmental Quality (TCEQ), or successor agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the federal emergency management agency.

- (7) Assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) When base flood elevation data has not been provided in accordance with section 12-7, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, in order to administer the provisions of article III of this chapter.
- (9) When a regulatory floodway has not been designated, the floodplain administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated (through hydrologic and hydraulic analyses) that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.
- (10) Under provisions of 44 CFR, chapter 1, section 65.12 of the National Flood Insurance Program regulations, a community may approve certain development in Zones A1-30, AE, or AH on the community's FIRM, which increases the water surface elevation of the base flood by more than one (1) foot, provided that the community first applies for and obtains a conditional FIRM revision through the federal emergency management agency. Permittee shall incur all expenses associated with the preparation, design, application, and obtainment of the conditional FIRM revision.

(Code 1963, Ch. 9, art. 6, § 4(B) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § II, 9-23-08)

### **Sec. 12-38. Establishment of development permit.**

A development permit shall be required to ensure compliance with the provisions of this chapter. No development shall occur without first obtaining a floodplain development permit. (Code 1963, Ch. 9, art. 6, § 3(C) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § II, 9-23-08)

### **Sec. 12-39. Permit procedures.**

(a) Application for a development permit shall be presented to the floodplain administrator on forms furnished by him and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:

- (1) Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures.
- (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed.
- (3) A certificate from a Texas registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of section 12-62(2).
- (4) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

(5) Maintain a record of all such information in accordance with section 12-37(1).

(b) Approval or denial of a floodplain development permit by the floodplain administrator shall be based on all of the provisions of this chapter and the following relevant factors:

- (1) The danger to life and property due to flooding or erosion damage.
- (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (3) The danger that the materials may be swept onto other lands to the injury of others.
- (4) The compatibility of the proposed use with existing and anticipated development.
- (5) The safety of access to the property in times of flood for ordinary and emergency vehicles.
- (6) The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems.
- (7) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
- (8) The necessity to the facility of a waterfront location, where applicable.
- (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
- (10) The relationship of the proposed use to the comprehensive plan, to include the city's various comprehensive plans including, but not limited to, the drainage master plan and the water and wastewater master plan, as amended, for the area.
- (11) Technical review of permits for sound engineering practices may be performed by the city engineer or by an appointed Texas registered professional engineer.

(Code 1963, Ch. 9, art. 6, § 4(C) [Ord. No. 87-20, § I, 4-14-87]; Ord. No. 08-081, § II, 9-23-08)

#### **Sec. 12-40. Variance procedures.**

(a) The zoning board of adjustment as established by the city council shall hear and render judgment on requests for variances from the requirements of this chapter.

(b) The zoning board of adjustment shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this chapter.

(c) Any person aggrieved by the decision of the appeal board may appeal such decision in the courts of competent jurisdiction.

(d) The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the federal emergency management agency upon request.

(e) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the national register of historic places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this chapter.

(f) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the relevant factors in section 12-

39(b) have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

(g) Upon consideration of the factors noted above and the intent of this article, the zoning board of adjustments may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this chapter.

(h) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(i) The prerequisites for granting variances under this section shall be as follows:

(1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(2) Variances shall only be issued upon:

- a. Showing a good and sufficient cause;
- b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expenses, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(3) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

(j) Variances may be issued by a community for new construction and substantial improvement and for other development necessary for the conduct of a functionally dependent use provided that:

(1) The criteria outlined in (a) through (i) above are met, and

(2) The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(Code 1963, Ch. 9, art. 6, § 4(D) [Ord. No. 87-20, § I, 4-14-87])

**Secs. 12-41--12-60. Reserved.**

### **ARTICLE III. PROVISIONS FOR FLOOD HAZARD REDUCTION**

**Sec. 12-61. General standards.**

In all areas of special flood hazard the following provisions are required for all new construction and substantial improvements:

(1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
  - (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
  - (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
  - (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
  - (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters; and
  - (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (Code 1963, Ch. 9, art. 6, § 5(A) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87])

### **Sec. 12-62. Specific standards.**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in section 12-7, section 12-37(8), or section 12-63(c), the following provisions are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including basement), elevated at least two (2) feet above the base flood elevation. A Texas registered professional engineer, architect, or land surveyor shall submit a certification to the floodplain administrator that the standard of this section as proposed in section 12-39(a)(1), is satisfied.
- (2) *Nonresidential construction.* New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated at least two (2) feet above the base flood level (confirmed by an elevation certification submitted by a Texas registered professional engineer, architect, or land surveyor) or, together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A Texas registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification, which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the floodplain administrator.
- (3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and are subject to flooding shall be designed to automatically equalize hydrostatic flood force on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a Texas registered professional engineer or architect, or meet or exceed the following minimum criteria:

- a. A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided.
- b. The bottom of all openings shall be no higher than one (1) foot above grade.
- c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(4) *Manufactured homes.*

- a. Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- b. Require that all manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated two (2) feet above the base flood elevation; and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement on sites located:
  - 1. Outside of a manufactured home park or subdivision;
  - 2. In a new manufactured home park or subdivision;
  - 3. In an expansion to an existing manufactured home park or subdivision; or
  - 4. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood.
- c. Require that manufactured homes placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH, and AE on the community's FIRM that are not subject to the provisions of this section be elevated so that either:
  - 1. The lowest floor of the manufactured home is two (2) feet above the base flood elevation or higher, or
  - 2. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(5) *Recreational vehicles.* Require that recreational vehicles placed on sites within Zones A1-30, AH, and AE on the community's FIRM either:

- a. Be on the site for fewer than 180 consecutive days;
- b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has had no permanently attached additions; or
- c. Meet the permit requirements of section 12-39 of this chapter, and the elevation and

anchoring requirements for “manufactured homes” in this section.  
(Code 1963, Ch. 9, art. 6, § 5(B) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87; Ord. No. 89-62, § 1, 8-8-89]; Ord. No. 08-081, § III, 9-23-08)

### **Sec. 12-63. Standards for subdivision proposals.**

(a) All subdivision proposals including manufactured home parks and subdivisions shall be consistent with sections 12-2, 12-3 and 12-4.

(b) All proposals for the development of subdivisions including manufactured home parks and subdivisions shall meet the floodplain development permit requirement of sections 12-38, 12-39, and the provisions of this article.

(c) Base flood elevation data shall be generated for subdivision proposals and other proposed developments, including manufactured home parks and subdivisions, which are greater than fifty (50) lots or five (5) acres, whichever is lesser, if not otherwise provided pursuant to section 12-7 or section 12-37(8).

(d) All subdivision proposals including manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.

(e) All subdivision proposals including manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

(Code 1963, Ch. 9, art. 6, § 5(C) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87]; Ord. No. 08-081, § III, 9-23-08)

### **Sec. 12-64. Standards for areas of shallow flooding.**

Located within the areas of special flood hazard established in section 12-7 are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

(1) All new construction and substantial improvement of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least two (2) feet higher than the depth number specified in feet on the community’s FIRM (at least two (2) feet if no depth number is specified).

(2) All new construction and substantial improvements of nonresidential structures shall:

- a. Have the lowest floor (including basement) elevated above the highest adjacent grade at least two (2) feet higher than the depth number specified in feet on the community’s FIRM (at least two (2) feet if no depth number is specified); or
- b. Together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

(3) A Texas registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this section, as proposed in section 12-39, are satisfied.

(4) Require within Zone AH or AO adequate drainage paths around structures on slopes, to guide floodwaters around and away from proposed structures.

(Code 1963, Ch. 9, art. 6, § 5(D) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87] Ord. No. 08-081, § III, 9-23-08)

### **Sec. 12-65. Floodways.**

Located within areas of special flood hazard established in section 12-7 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

(1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development, unless certification by a Texas registered professional engineer is provided demonstrating (through hydrologic and hydraulic analyses) that encroachments shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

(2) If (1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this article.

(3) Under provisions of 44 CFR, chapter 1, section 65.12 of the National Flood Insurance Program regulations, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first applies for and obtains a conditional FIRM and floodway revision through the federal emergency management agency. Permittee shall incur all expenses associated with the preparation, design, application, and obtainment of the conditional FIRM and floodway revision.

(Code 1963, Ch. 9, art. 6, § 5(E) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87] Ord. No. 08-081, § III, 9-23-08)

### **Sec. 12-66. Improved drainage courses and structures.**

(a) *Design.* All improvements to open drainage courses and enclosed drainage structures in areas of special flood hazard shall be designed by a Texas registered professional engineer in accordance with the adopted drainage design standards, as amended, and constructed to accommodate the one-hundred-year flood event.

(1) Upon completion, the design engineer shall certify in writing that the improvements made comply with those designed.

(2) Improved drainage courses and structures in areas of special flood hazard may be of earthen channel or concrete-lined channel, provided the type of channel used satisfies the design criteria (velocity/type of soil, etc.) in accordance with the adopted drainage design standards, as amended.

(3) The design and construction of improved drainage courses and structures shall provide for adequate access to such drainage courses for the performance of necessary maintenance.



(b) *Dedication.* All improved drainage courses and structures in areas of special flood hazard shall be dedicated to the city and accepted for maintenance by the city upon approval of the construction by the public works department.

(c) *Maintenance.* The city shall maintain all improved open drainage courses and enclosed drainage structures in areas of special flood hazard provided that the requirements of section 12-66(a) and (b) are satisfied. The areas of special flood hazard shall be inspected on an annual basis under the supervision of the city engineer or his designee to determine if required maintenance is being performed. Maintenance required by this section shall be performed as often as necessary to keep the area free of debris and any rank growth above the height of eighteen (18) inches above the finished grade of the improved drainage courses. Inspection for sedimentation shall be conducted as determined by the city engineer or his designee. Maintenance will be performed as often as necessary to keep the sedimentation from exceeding twelve (12) inches in depth above the finished grade of the improved drainage courses. All bottom profile inspections to determine the depth of sedimentation will be coordinated and reviewed by the city engineer or his designee. (Code 1963, Ch. 9, art. 6, § 5(F) [Ord. No. 87-20, § I, 4-14-87; Ord. No. 87-73, § II, 10-13-87] Ord. No. 08-081, § III, 9-23-08)

### **Sec. 12-67. Violations, stop work orders, and penalty clause.**

(a) *Violations and stop work orders.*

- (1) *Violations.* It shall be unlawful and considered a violation of this chapter for any person or entity to commence or continue development (as defined in this chapter) or cause the same to be done, in conflict with or in violation of any of the provisions of this chapter.
- (2) *Notice of violation and stop work order.* The floodplain administrator is authorized to serve a notice of a violation or a stop work order on the person or entity responsible for any violation under this chapter, or in violation of a floodplain permit issued under the provisions of this chapter. Any such notice of violation shall direct the discontinuance of the violation or condition and the abatement of the violation.

Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason(s) for the order, and the conditions under which the cited work will be permitted to resume. Any person or entity who shall continue any work after having been served a stop work order, except such work as that person or entity is directed to perform to remove a violation of unsafe condition (provided that such person or entity shall remain responsible for advising the floodplain administrator and removing any unsafe condition, pursuant to the direction of the floodplain administrator, that is known to exist but is not readily determinable by the floodplain administrator), shall be subject to penalties as prescribed by law.

- (3) *Prosecution of violation.* If a notice of violation is not complied with within three (3) calendar days, or an extension requested and granted by the floodplain administrator, or the stop work order complied with immediately, the floodplain administrator is authorized to request that the city attorney institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to enforce compliance with the terms of a stop work order. Failure to comply with a stop work order shall be immediately prosecutable as a violation.

(b) *Penalties.* Unless stated otherwise, violations of this chapter shall be punished as a safety

violation as provided in section 1-8 of this code. A violation of this chapter shall constitute a misdemeanor. A person convicted of a violation of this code shall be punished by a fine not exceeding two thousand dollars (\$2,000.00). Each day of any such violation shall constitute a separate offense. Proof of a culpable mental state shall not be required for a conviction under this chapter.

(Ord. No. 08-081, § III, 9-23-08)