

CHAPTER 4-8 FLOOD DAMAGE MITIGATION*

Cross references: Zoning, Ch. 4-10.

State law references: Home rule powers, V.T.C.A., Local Government Code § 51.071 et seq.; participation in national flood insurance program, V.T.C.A., Water Code § 16.311 et seq.

Sec. 4-8-1. Citation/Statutory Authorization.

The Legislature of the State of Texas has in the Flood Control Insurance Act, Texas Water Code, Section 16.315, delegated the responsibility of local government units to adopt regulations designed to minimize flood losses. Therefore, the City Commission of the City of Amarillo, Texas does ordain as follows:

This chapter shall be known and may be cited as the Flood Damage Mitigation chapter of the City of Amarillo and shall apply to all Special Flood Hazard Areas within City jurisdiction.

Sec. 4-8-2. Definitions.

For the purposes of this chapter, the following words, terms and phrases shall have the definition ascribed to them in this section, unless the context clearly indicates otherwise:

January 10, 1982: Effective date of the first FEMA Flood Insurance Study (FIS) adopted by the City.

June 4, 2010: Effective date of the current scientific and engineering report entitled "The Flood Insurance Studies (FIS) for Randall County, Texas and Incorporated Areas and Potter County, Texas and Incorporated Areas, both dated June 4, 2010 with accompanying Flood Insurance Rate Maps (FIRM).

Appeal. A request for a review by the City Commission of an interpretation by the Director of Planning of the application of this chapter.

Area of Shallow Flooding: A designated AO or AH zone on a community's Flood Insurance Rate Map (FIRM) with Base Flood depths from one (1) to three (3) feet. This condition occurs where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate.

Area of Special Flood Hazard: The land in the floodplain within the City subject to a 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 been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-A30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-V30, VE or V.

Base Flood: In a playa lake and its watershed or a natural water course, the flood having a one percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE): The elevations shown on the Flood Insurance Rate map (FIRM) and found in the accompanying Flood Insurance Study (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

percent chance of equaling or exceeding that level in any given year – also called the *Base Flood*.

Basement: Any area of a building having its floor subgrade (below ground level) on all sides.

Breakaway Wall: 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.

Critical Feature: 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: Any man-made change to 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 and materials.

Elevated Building: For insurance purposes, a non-basement building which has the top of the first floor above the Base Flood elevation by means of pilings, columns, or shear walls aligned with the flow of the water and adequately anchored to maintain the structural integrity of the building during a Base Flood; including, but not limited to, a building elevated by means of fill, slab foundation, or a perimeter wall foundation with openings sufficient to facilitate the unimpeded movement of flood waters.

Existing Construction: 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: 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 before the effective date of the floodplain management regulations adopted by the City.

Expansion to an Existing Manufactured Home Park or Subdivision: The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

FEMA: Federal Emergency Management Agency. The parent organization for the Federal Insurance Administration.

Fill or Filling: The increase of elevation in any area by the addition of material to the surface of such area.

Flood or Flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland waters, or unusual and rapid accumulation or runoff of surface waters from any source.

Flood Boundary - Floodway Map (FBFM). An official map of a community, issued by the Federal Insurance Administration in a study dated June 4, 2010 together with all subsequent

amendments thereto, where the lands within the boundary of Special Flood Hazard Areas have been designated as floodways and floodway fringe.

Flood Elevation Study: 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 Insurance Rate Map (FIRM): An official map of a community, on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the City.

Flood Insurance Study (FIS): The official report provided by the Federal Insurance Administration containing flood profiles, water surface elevations of the Base Flood, as well as flood boundary-floodway maps and flood insurance rate Maps – see *Flood Elevation Study*.

Floodplain Administrator: The City Engineer shall administer and implement the provisions of this chapter.

Floodplain or Flood-Prone Area: Any land area susceptible to being inundated by water from any source (see *Flood or Flooding*).

Floodplain Management: The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain Management Regulations: Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Flood Protection System: Those 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. These flood modifying works are those constructed in conformance with sound engineering standards.

Flood Proofing: Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway: The 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 – see *Regulatory Floodway*.

Floodway Fringe: The portion of the regulatory floodplain lying outside the floodway.

Highest Adjacent Grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure: Any Structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (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 Texas inventory of historic places under a historic preservation program approved by the Secretary of the Interior.
- (4) Individually listed on the City inventory of historic places under a historic preservation program approved by the Secretary of the Interior.

Improvement: The clearing, grading, filling, installation of public utilities or construction upon real property.

Lowest Floor: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of 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 non-elevation design requirement of Section 60.3 of the National Flood Insurance Program Regulations.

Manufactured Home or Manufactured Housing: A structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. Generally it is manufactured after June 15, 1976; however, for flood management purposes this term is used interchangeably with and includes "mobile homes" without regard to date of manufacture. For flood management purposes the term also includes recreational vehicles and other similar vehicles placed on a site for one hundred twenty (180) consecutive days or longer. The term "manufactured home" does not include "recreational vehicles" placed on site for less than 120 consecutive days.

Manufactured Home Park: A unified development of three (3) or more manufactured home spaces arranged on a tract of land under private ownership.

Manufactured Home Park or Subdivision: A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

Mean Sea Level: The 1988 North American Vertical Datum (NAVD) or other datum to which elevations shown on the Flood Insurance Rate Map are referenced.

Mobile Home: For flood management purposes it is synonymous with "manufactured home" and is used interchangeably with that term.

Natural Water Course: A creek, channel, ditch, swale, stream or river with intermittent or continuous water flow.

New Construction: 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 the City and includes any subsequent improvements to such structures.

New Manufactured Home Park or Subdivision: 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 the floodplain management regulations adopted by the City.

Playa: A naturally occurring or constructed drainage basin which functions as terminal storage for storm water runoff. The runoff in a playa lake generally flows radially inward from the surrounding terrain with no natural outlet. Evaporation and seepage are the only natural mechanisms for emptying playa lakes.

Recreational Vehicle: A vehicle which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light duty truck; (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. This definition includes campers, motor homes, fifth wheels and travel trailers, but does not include a manufactured home.

Regulatory Floodway: 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 – see *Floodway*.

Riverine: Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc...

Special Flood Hazard Area: Any area defined in the Flood Insurance Study for the City by the Federal Insurance Administration as a flood-prone area. In cases where the Federal Insurance Administration has not conducted a study, then the area defined in the Storm Water Management Master Plan by HDR Engineering, Inc. or the area defined by any approved engineering report, study, or plan as an area subject to Flooding. The more restrictive interpretation shall apply. In a playa lake and its watershed, the area encompassing the Base Flood shall constitute a Special Flood Hazard Area – see *Area of Special Flood Hazard*.

Start of Construction: Any construction work beyond initial site preparation. Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start date 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 or filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basements, 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 alternation of any wall, ceiling, floor, or other structural part of a building or structure, whether or not that alteration affects the external dimensions of the building or structure.

Structure: 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 or mobile home.

Substantial Damage: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial Improvement: Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 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 local code enforcement officials and which are the minimum necessary to assure safe living conditions or (2) Any alternation of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purposes of floodplain management regulation, the market value of the structure shall be as shown on the appraisal records of the Potter-Randall Appraisal District (PRAD) or as certified by a real estate appraiser either before the reconstruction or repair is begun, or, if the structure has been damaged and is being restored, before the damage occurred.

Variance: A grant of relief from the requirements of the floodplain management regulations, except Section 4-8-5.

Violation: The failure of a structure or other development to be fully compliant with the City's floodplain management regulations. A structure or other development without the elevation certificate, other certifications or other evidence of compliance required in 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: The height in relation to the 1988 NAVD or other accepted datum of floods.

Cross references: Definitions to apply throughout Code, § 1-2-1.

Sec. 4-8-3. Statement of Purpose.

- (a) The purpose of this chapter is to promote the public health, safety and general welfare and to minimize public harm and private losses due to flood conditions in Special Flood Hazard Areas. It has been designed to regulate and restrict uses of land that cause increases in flood heights or velocities and to prevent the construction of barriers which will divert floodwaters and subject other lands to greater flood hazards. This chapter seeks to control the alteration of natural floodplains and their protective barriers, to regulate changes to stream channels, and development which would cause greater erosion or potential flood damage.

The provisions of this chapter are designed to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for flood control projects by ensuring that developments are in compliance with comprehensive plans of the City;
- (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 Special Flood Hazard Areas;
 - (6) Help maintain a stable tax base by providing for the sound use and development of flood-prone Areas in such a manner as to minimize future flood blight areas;
 - (7) Ensure that potential buyers are able to determine that property is in a Special Flood Hazard Area.
- (b) In order to accomplish its purposes, this chapter uses the following methods:
- (1) Restricts or prohibits land uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
 - (2) Requires that land uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - (3) Controls the alteration of natural floodplains, stream channels and natural protective barriers, which are involved in the accommodation of floodwaters;
 - (4) Controls filling, grading, dredging and other development which might increase flood damage;
 - (5) Prevents or regulates the construction of flood barriers which will divert floodwaters or which might increase flood hazards to other lands.

Sec. 4-8-4. Basis for establishing.

The areas of special flood hazard identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled "The Flood Insurance Studies (FIS) for Randall County, Texas and Incorporated Areas and Potter County, Texas and Incorporated Areas", both dated June 4, 2010 with accompanying Flood Insurance Rate Maps (FIRM) dated June 4, 2010, and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter. Portions of the Storm Water Management Master Plan, April 1993 and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter. The City Engineer shall obtain, review and utilize other Base Flood Elevations and floodway data which might become available from Federal, State, local and private sources as criteria for requiring that new construction, substantial improvements or other development within the City's jurisdiction complies with this chapter. The studies shall be maintained on file in the office of the City Engineer and used as a basis for changes in the requirements of this chapter recommended to the City Commission.

Sec. 4-8-5. Excavation.

- (a) *Playa lake.*
- (1) Excavation in a playa lake shall be permitted upon application to the City Engineer and shall be contingent upon his findings that excavation in a Special Flood Hazard Area of a playa lake shall not violate the purpose of this chapter.
 - (2) Excavation in a Special Flood Hazard Area in a playa lake and the use of the excavated material to make fill in the same Special Flood Hazard Area for the purpose of contracting the area inundated by the Base Flood to salvage the greatest amount of usable land shall be permitted upon application to the City Engineer containing an excavation plan. The excavation plan will be approved by the City Engineer provided the reduced Special Flood Hazard Area will contain the Base Flood.

- (3) Any excavation plan designed to satisfy the requirements of this chapter shall contain all the following:
- a. Vehicular access easements throughout the Special Flood Hazard Area and into any excavation area;
 - b. Drainage easements from the runoff area that any excavation is designed to serve, of sufficient number, size and location to accommodate the Base Flood;
 - c. A drainage method satisfactory to the City Engineer that will provide storage in the Special Flood Hazard Area equal to the Base Flood;
 - d. Excavation or embankment slopes shall be constructed in such a manner so that any slopes shall have a one-foot drop for each four (4) feet of run to a minimum of seventy-five (75) feet from the bank of the excavation or the embankment perimeter shall have security fencing consisting of at least a six-foot chain-link fence with three (3) strands of barbed wire. The fencing and slopes shall be maintained in good condition, free of defects, at all times by the permittee or his successor in title or interest;
 - e. A certification that all easements and methods of drainage will be maintained in good condition at all times by the permittee or his successor in title or interest;
 - f. A covenant filed in the deed records that no property within the Special Flood Hazard Area may be conveyed unless the successor in title agrees to the requirements of the excavation plan;
 - g. A covenant filed in the deed records establishing the procedure for removal and final placement of material from the Special Flood Hazard Area to be utilized on other properties in the area.
 - h. Permits required by any governmental agency.
- (4) If a developer desires to transfer stormwater from one playa lake to another playa lake the following shall apply:
- a. A registered professional Engineer shall certify that there is no appreciable additional risk of flooding to the receiving playa lake;
 - b. An agreement between the developers or owners of each playa lake shall be filed of record acknowledging the transfer of stormwater and binding the successors in title to the transfer of stormwater.

(5) Any excavation in Special Flood Hazard Areas approved by the City Engineer shall not change Flood Zones unless the developer seeks and receives approval for Risk Premium Zone changes from the Federal Insurance Administration. Any reduction in stormwater elevation that reduces the boundary of the FEMA Base Flood must be approved in advance by the Federal Insurance Administration.

(b) *Natural Water Course.*

- (1) No excavation of a natural water course shall violate the purpose of this chapter. All excavation shall be approved by the City Engineer.
- (2) The topography within the floodplain shall not be altered substantially. The capacity of the natural water course either upstream or downstream of the proposed excavation shall not be substantially affected.
- (3) The excavation shall not create an adverse longitudinal grade in the natural water course.

(c) Any excavation in Special Flood Hazard Areas approved by the City Engineer shall not change Risk Premium Zones unless the developer seeks and receives approval for Risk Premium Zone changes from the Federal Insurance Administration. Any reductions in stormwater elevation that reduces the boundary of the FEMA Base Flood must be approved in advance by the Federal Insurance Administration.

Sec. 4-8-6. Development.

(a) No person may place any fill material or alter existing topography in any Special Flood Hazard Area except as provided for in section 4-8-5 above or subsection (c) below. No person may transport or direct the transportation of any material over any of the streets or alleys of the City for the purpose of placing such material in a Special Flood Hazard Area.

(b) No person shall develop within any Special Flood Hazard Area except as specifically permitted by this chapter and other applicable City codes and without obtaining a floodplain development permit from the City Engineer.

(c) Acceptable material from outside a Special Flood Hazard Area may be placed upon a tract of land within a Special Flood Hazard Area provided the developer certifies the tract of land was previously raised to or above the Base Flood Elevation with material from within the Special Flood Hazard Area.

(d) Acceptable material from outside a Special Flood Hazard Area may be placed upon a tract of land within a Special Flood Hazard Area equal to or above the Base Flood elevation if a quantity equal to such material is first removed from the Special Flood Hazard Area.

(e) Nothing in this chapter shall prohibit any public work, extension of any public utilities or roadway paving or the location and improvement of any public park, in any Special Flood Hazard Area when the project is planned or the work or contract is approved by or is done under the supervision of the City Engineer and complies with section 4-8-8(c).

(f) The developer shall obtain a Letter of Map Revision or Letter of Map Revision-F from the Federal Emergency Management Agency for development in the FEMA Base Flood floodplain unless the City allows otherwise.

(g) All development proposals, including the placement of manufactured home parks and subdivisions, shall comply with the City's floodplain management regulations as required by this chapter and shall meet the floodplain development permit requirements of Section 4-8-8(c).

(h) Base Flood Elevation data shall be generated for all development proposals, including subdivisions and the placement of manufactured home parks, which are greater than 50 lots or 5-acres, whichever is the lesser.

(i) All development proposals, including subdivisions and manufactured home parks, shall provided adequate surface drainage and vehicular access to reduce exposure to flood hazards.

(j) All development proposals, including subdivisions and manufactured home parks, shall have public utilities and facilities (i.e. sewer, gas electric, water) located and constructed to minimize or eliminate flood damage.

Sec. 4-8-7. Platting.

The Planning and Zoning Commission shall not approve any plat having property in the Base Flood unless said property is designated on the plat. Prior to issuance of a building permit, the City Engineer shall certify that the area in which a structure is to be located is not below the Base Flood Elevation. Once the City Engineer has certified that the lowest floor structure is at least one (1) foot or more above the Base Flood elevation, the developer shall replat the property to remove the designation. No final inspection for a building permit will be issued until the designation is removed.

Sec. 4-8-8. Development permit requirements.

- (a) Application for a Floodplain Development Permit in any Special Flood Hazard Area shall be made to the City Engineer. The application shall include:
- (1) Elevation in relation to mean sea level of the lowest floor (including basement) of all new and substantially improved structures, including placement of prefabricated buildings and manufactured homes, for which a development permit is requested.
 - (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed.
 - (3) Certification from a registered professional engineer or architect that the nonresidential floodproofed structure meets the floodproofing criteria of the City's adopted floodplain management regulations.
 - (4) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of the proposed development.

Furthermore when the proposed structure is situated on a platted lot created prior to the first effective date of this chapter, the following supplemental data shall be provided:

- (5) A site development plan showing at a scale of not less than two hundred (200) feet equals one (1) inch the accurate location, dimensions and elevation of all proposed and existing structures. The site development plan shall include topographical information with a one-foot contour interval on City accepted datum.
 - (6) A written statement concerning the current condition of the Special Flood Hazard Area and the cumulative effect of the proposed development when combined with all other existing and anticipated development;
- (b) Two (2) copies of the above-listed attachments shall be included with the floodplain development permit. The City Engineer shall forward one (1) copy to the Building Official who shall examine the proposed development for compliance with other City codes.
- (c) Construction or substantial improvements in Special Flood Hazard Areas shall comply with the following provisions:
- (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 flood waters into the system;
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters; and,
- (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(d) *Specific Standards.* The following specific provisions are required in all areas of special flood hazard where Base Flood Elevation data has been provided as set forth in the City's floodplain management regulations:

- (1) **Residential Construction** - New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to or at least one (1) foot above the Base Flood Elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that these standards are 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 to or at least one (1) foot above the Base Flood Elevation or together with attendant utility and sanitary facilities, be designed so that the structure below the Base Flood Elevation 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 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. 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 which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
 - a. A minimum of two (2) openings, on separate walls, 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.

(e) The City Engineer shall issue a floodplain development permit if the application meets all requirements. Approval or denial of a floodplain development permit shall be based on 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 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 service vehicles.
- (6) The costs of providing governmental services during and after the flood conditions including maintenance and repair of streets and bridges, public utilities and other 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 of the facility of a waterfront location, where applicable.
- (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed development use.

(f) The City Engineer shall keep a record of each floodplain development permit, issued in Special Flood Hazard Areas.

(g) No building permit may be issued until the floodplain development permit has been issued by the City Engineer.

Sec. 4-8-9. Expansions and substantial improvements to existing manufactured home parks or subdivisions.

The following requirements shall apply for expansions to existing manufactured home parks or subdivisions and for substantial improvements to existing manufactured home parks or subdivisions in Special Flood Hazard Areas:

- (1) Adequate surface drainage and vehicular access must be provided to reduce exposure to flood hazards.
- (2) All plans for the manufactured home park or subdivision must be on file in the office of the Emergency Management Coordinator and must contain a written and approved emergency evacuation plan.
- (3) Manufactured homes to be placed, replaced or have substantial improvement in a Special Flood Hazard Area shall be (i) placed on a permanent foundation, and the lowest floor shall be elevated at least one (1) foot above the Base Flood Elevation and shall meet all anchoring requirements in Section 4-8-10, or (ii) manufactured home chassis shall be supported by reinforced piers or similar foundation

elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement meeting the requirements in Section 4-8-10.

- (4) Expansion of an existing manufactured home park or subdivision shall remove the expanded area from the Special Flood Hazard Area.

Cross references: Manufactured home and recreational vehicle parks, Ch. 4-7.

Sec. 4-8-10. Manufactured homes and recreational vehicles.

A manufactured home shall not be placed in a Special Flood Hazard Area other than in a manufactured home park or subdivision which is in a Special Flood Hazard Area. Manufactured homes shall be installed using methods and practices which minimize flood damage. For the purposes 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 as follows:

- (1) Over-the-top ties shall be installed and maintained at each of the four (4) corners of a manufactured home, with one (1) additional tie per side at an intermediate location. Manufactured homes longer than fifty (50) feet shall have two (2) additional ties per side.
- (2) Frame ties shall be maintained at each corner with four (4) additional frame ties per side at intermediate points. Manufactured homes longer than fifty (50) feet shall have five (5) additional frame ties per side.
- (3) All components of the anchoring systems shall withstand a force of four thousand eight hundred (4,800) pounds.
- (4) Any additions to the manufactured home shall be anchored in the manner stated above.
- (5) The building pad must be elevated on compacted fill so that the lowest floor of the manufactured home will be one (1) foot or more above the Base Flood Elevation and a minimum of one (1) foot above the crown of the lowest street or alley adjacent to the site. A registered professional Engineer shall certify in writing to the City Engineer that this requirement has been met.
- (6) All existing manufactured homes within the City located in Special Flood Hazard Areas shall comply with these provisions.
- (7) Recreational Vehicles - Require that recreational vehicles placed on sites with Zones A1-30, AH, AO and AE on the community's FIRM either:
 - a. Be on the site for fewer than one hundred eighty (180) consecutive days, or
 - b. Be fully licensed and ready for highway use, or
 - c. Meet all permit requirements and the elevation and anchoring requirements for manufactured homes. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

Cross references: Manufactured home and recreational vehicle parks, Ch. 4-7.

Sec. 4-8-11. Areas of shallow flooding.

Located within Special Flood Hazard Areas 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, where the path of flooding is unpredictable or indeterminate and where velocity flow may be evident. Shallow flooding is characterized by ponding or sheet flow; therefore the following provisions apply:

- (1) All new construction and substantial improvements of **residential** structures have the lowest floor (including basement) elevated to or above the Base Flood Elevation or the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two (2) feet if no depth number is specified), or;
- (2) All new construction and substantial improvement of **non-residential structures**;
 - a. Have the lowest floor (including basement) elevated to or above the Base Flood Elevation or the highest adjacent grade at least as high as the depth number specified in feet on the 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 specified flood depth in an AO zone, or below the Base Flood Elevation in an AH zone, 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 registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this section are satisfied.
- (4) Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.

Sec. 4-8-12. Floodways and floodway fringe of natural water courses.

- (a) Typical relationships between the floodway and floodway fringe and their significance to Special Flood Hazard Area development are shown in Figure 1 Flood Schematic, Section 4-8-25.
- (b) Located within Special Flood Hazard Areas 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 of any kind are prohibited within a regulatory floodway, including fill, new construction, substantial improvements and other development **unless** it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed encroachment would not result in any increase in flood levels within the City during the occurrence of the Base Flood discharge. When the above provision is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of the City's floodplain management regulations.
 - (2) Placement of any manufactured home within a floodway is prohibited, except in an existing manufactured home park or subdivision. Placement must comply with this chapter.
 - (3) Under the provisions of 44 CFR Chapter 1, Section 65.12 of the National Flood Insurance Program Regulations, the City may permit encroachments within the adopted regulatory floodway that would result in an increase in Base Flood

Elevations, provided that the City first completes all of the provisions required by Section 65.12.

(c) As shown in Figure 1 Flood Schematic Section 4-8-25, floodway fringe may exist adjacent to a floodway. Floodway fringe is the portion of the Special Flood Hazard Area that may be developed by raising the ground level. Encroachments including fill, new construction, substantial improvements and other developments are permitted within the Floodway Fringe providing that:

- (1) In areas where the floodway is not delineated on a Flood Insurance Rate Map, encroachment will not increase the FEMA Base Flood elevation by more than one (1) foot **collectively**, where it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the cumulative effects of former, existing and anticipated development have all been accounted for in the potential increase in elevation.
- (2) The Lowest Floor of any Development is constructed a minimum of two (2) feet above the adjacent FEMA Base Flood elevation as shown on the Flood Insurance Rate Maps.
- (3) When a Base Flood elevation is not shown on a Flood Insurance Rate Map, the elevation must be determined by a registered professional engineer. The determination method and elevation must be approved by the City Engineer.

(d) The developer shall obtain a Letter of Map Revision or Letter of Map Revision-F from the Federal Emergency Management agency for development in the floodway fringe unless the City allows otherwise.

Sec. 4-8-13. Floodplain Administrator Duties and play a lake pro rata fees.

(a) The Floodplain Administrator shall administer and implement the provisions of this chapter and other appropriate sections of Title 44 CFR Chapter I Parts 59 - 78 (Emergency Management and Assistance – National Flood Insurance Program Regulations) pertaining to floodplain management.

The duties and responsibilities of the City Engineer shall include the following:

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this chapter.
- (2) Review permit applications to ensure that the proposed building site project, including the placement of manufactured homes, will be reasonably safe from flooding.
- (3) Review, approve or deny all applications for floodplain development permits required by the adoption of this chapter.
- (4) Review permits for proposed developments to assure that all necessary permits have been obtained from those Federal, State or local government agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334 regarding U.S. Army Corp of Engineer approval for discharge of dredged or fill material in any portion of the navigable waters of the United States) from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazards, make the necessary interpretation to resolve conflicts between the exact and mapped boundaries. Assist with determination of Special Flood Hazard Area boundaries.
- (6) Notify adjacent communities, Potter County, Randall County and the Texas Water Development Board (TWDB) 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 by the landowners. Flood-carrying or holding capacity shall not be diminished.
 - (8) Require the developer to provide Base Flood Elevation data if such information is not available in a technically documented report prepared under the supervision of the Engineering Department, or in an engineering study that evaluates the extent of all proposed changes to a Special Flood Hazard Area. Obtain, review and reasonably use any Base Flood Elevation data available from a Federal, State, local or other source to administer the provisions of the City's floodplain management regulations.
 - (9) When a regulatory floodway has not been designated, require that no new construction, substantial improvements or other development (including fill) shall be permitted within Zones A1-30 and AE on the City's FIRM, unless it is demonstrated 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 City.
 - (10) Under the provisions of 44 CFR Chapter 1, Section 65.12 of the National Flood Insurance Program Regulations, may approve certain developments in Zones A1-30, AE and AH on the City's FIRM which increases the water surface elevation of the Base Flood by more than one (1) foot, **provided that the City first completes all of the provisions required by Section 65.12 of the National Flood Insurance Program Regulations.**

(b) Effective June 4, 2010, pro rata fees for playa lake development shall no longer be collected by the City. Funds previously collected for pro rata playa lake fees prior to June 4, 2010 shall remain on deposit with the City until such time as the owner or owners of the area does one (1) of the following:

- (1) Makes an excavation which will contain the Base Flood;
- (2) Determines that the Base Flood area will be retained in its natural state and files legal instruments approved by the City which will prohibit future development in such area;
- (3) Installs and provides for perpetual operation of a positive drainage method.

Such funds on deposit shall be disbursed on a pro rata basis to the owner or owners of the area at the time of compliance with paragraphs (1), (2) or (3) above. Interest from funds on deposit may be utilized by the City in solving drainage-related problems within the watershed from which the funds were collected. Any interest not utilized on drainage problems will remain in the designated fund and be disbursed on a pro rata basis in accordance with this section.

Sec. 4-8-14. Board of Appraisal Review.

(a) The City Commission may appoint a Board of Appraisal Review which will be composed of three (3) members. The members of the board will be appointed and hold office for a term of three (3) years with two (2) members whose terms begin on an even-numbered year. A chairman and vice-chairman will be elected annually by the members of the board. One (1) member of the board will be a representative of the banking or savings and loan industry, one (1) member will be a licensed real estate appraiser, and one (1) member will be a member of the Amarillo Board of Realtors. Two (2) or more members shall constitute a quorum and a minimum of two (2) affirmative votes shall be necessary for the approval of items considered by the board.

- (b) The board will review and make recommendations to the City Commission on the following:
- (1) Annually review and approve or amend appraised values for playa lakes and their watersheds;
 - (2) Periodically review monies collected and the disbursement of the funds after the City Engineer has certified that the requirements for disbursement of the funds have been met in accordance with Section 4-8-13;
 - (3) Periodically review proposed revisions of watershed areas necessitated by engineering studies as they pertain to reallocation of monies from one watershed to another watershed.

(c) The Planning Department will provide the staff for the meetings and will notify the members of the board concerning necessary meetings. The board will meet within a reasonable amount of time following receipt of notifications. The board may adopt rules and regulations for conducting its duties and will render its findings and recommendations in writing to the City Commission.

Cross references: Board of appraisal review, § 2-6-221 et seq.

Sec. 4-8-15. Variance.

- (a) Applications for a variance shall be submitted in writing by the developer, subdivider or property owner to the City Engineer. The application shall state fully the grounds for the variance and all facts relied upon by the applicant.
- (b) The Planning and Zoning Commission shall have the authority to grant a variance to the requirements of this chapter only when the following shall be found:
- (1) No increase in the Base Flood Elevation will result if the variance is granted.
 - (2) No additional risk of flooding on the property will result if the variance is granted.
 - (3) The variance requested is the minimum necessary, considering the flood hazard, to afford relief.
 - (4) The variance is issued upon (i) showing good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; (iii) a determination that granting of the variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.
- (c) When the City Engineer has made the finding required in subsection (b) and has reduced the same in writing to the Planning and Zoning Commission, the requirements of this chapter may be varied for the following:
- (1) Rehabilitation of structures listed on the National Register of Historic Places or a state or local inventory of historic places provided that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
 - (2) New construction or substantial improvements to be erected on a lot of ½-acre or less in size contiguous to and surrounded by lots with existing structures equal to or above the Base Flood Elevation, provided the relevant factors of this chapter have been fully considered. As lot sizes increase above the ½-acre size, the potential for higher runoff and flooding increases, therefore, the technical justification required for issuing the variance increases accordingly.

- (3) The construction and use of storm cellars or fallout shelters in residential and nonresidential areas provided that the storm cellar or fallout shelter is not attached to any main structure and is not used for other than emergency occupancy; and provided further, that all electrical, heating and other mechanical equipment for storm cellars and fallout shelters shall be equal to or above the Base Flood Elevation.
- (4) Substantial improvements where the lowest Floor elevation is between the Base Flood Elevation and one (1) foot above the elevation of the Base Flood.

(d) The City Engineer may make a recommendation to the Planning and Zoning Commission to grant a variance for lowering the lowest floor elevation required by this chapter. All material necessary to elevate the building pad and its adjoining slopes shall be excavated from the area of the playa lake in accordance with Section 4-8-5. **In no event shall such variance reduce the lowest floor elevation below the Base Flood Elevation adopted in the City's current floodplain management regulations**, unless the City allows otherwise under an appeal in accordance with Section 4-8-16. Any such appeal sustained by the City Commission could result in an amendment to this chapter and could cause a violation of the National Flood Insurance Program Regulations.

To grant a variance, the City Engineer shall first receive an executed contract between the lake owner and the applicant requesting the variance, which authorizes the applicant to remove material from the lake. A time schedule acceptable to the City Engineer for the removal of the material and its deposit on the building site or outside of any Special Flood Hazard Area must be provided. In a lake owned by the City, the City Engineer shall allow the applicant to remove the necessary material from the lake affected. Approved variances shall not alter other requirements of this chapter.

Variances shall not be issued within any designated floodway if any increase in flood levels during the Base Flood Discharge would result.

For Playa Lake #6, Lawrence Lake, the applicant will not be required to remove material from the Special Flood Hazard Area.

Sec. 4-8-16. Variance appeals.

- (a) Any applicant, developer, subdivider or property owner who is dissatisfied with the decision of the Planning and Zoning Commission concerning a variance request may appeal to the City Commission within fifteen (15) days from the date of notification of the ruling, by filing a written request with the City Secretary that the application be heard and determined by the City Commission.
- (b) The City Engineer shall transmit to the City Commission all the papers constituting the record for which the original variance was refused.
- (c) The City Secretary shall thereupon fix a time for a hearing before the City Commission and shall notify all interested persons of the hearing.

Sec. 4-8-17. Written notice to applicants granted a Variance.

Any applicant granted a variance with the elevation of the lowest floor equal to or above the Base Flood Elevation shall be given written notice by the City Engineer that the structure shall be permitted to be constructed, that the area is subject to periods of flooding, and that the cost of flood insurance will be

commensurate with any increased hazard resulting from the reduced lowest floor elevation. Such variance shall be filed in the deed records of the proper county by the City Engineer at the applicant's cost.

Sec. 4-8-18. Record of Variances.

The City Engineer shall maintain records of all variances and shall report all variances to the Federal Emergency Management Agency upon request.

Sec. 4-8-19. Compliance with chapter.

- (a) No structure or land shall be located or altered without full compliance with the terms of this chapter and other applicable regulations.
- (b) All land located within Special Flood Hazard Areas shall remain under the requirements of this chapter regardless of what elevation changes are made within the Special Flood Hazard Areas.
- (c) Prior to a building permit or any other permit being issued by the City for any land in the Special Flood Hazard Area of a playa lake, the lot or tract of land for which such permit is sought must comply with all the requirements of this chapter.

Sec. 4-8-20. Interpretation and application.

In the interpretation of this chapter all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed neither to limit nor repeal any other powers granted to the City by State statutes.

Sec. 4-8-21. 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 further increased by manmade or natural causes. This chapter does not imply that land outside the Special Flood Hazard Areas 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 City or any official or employee thereof for any flood damages, costs or claims that result from reliance on this chapter or any administrative decision lawfully made thereunder.

Sec. 4-8-22. Conflicts and Severability.

This chapter is not intended to repeal or impair any existing easements, covenants or deed restrictions. However, where this chapter as amended from time to time and another provision of this Code conflicts or overlaps, whichever imposes the more stringent restrictions shall prevail.

If any section, clause, sentence or phrase of this chapter is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this chapter.

Sec. 4-8-23. Penalties and Violations.

This chapter is a public safety requirement. No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this chapter. A violation of this chapter shall constitute an offense punishable by a fine not to exceed one thousand dollars (\$1,000.00). Each day that a violation exists shall constitute a separate offense punishable in accordance with Section 1-1-5.

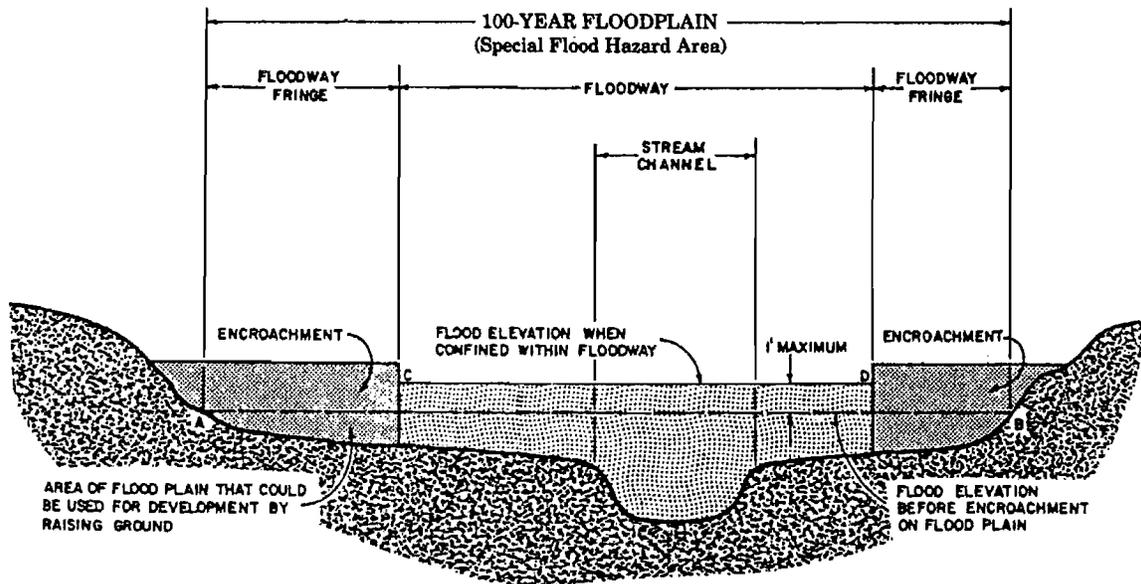
Sec. 4-8-24. Findings of Fact.

The flood hazard areas of the City of Amarillo 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. These flood losses are created by the cumulative effect of obstructions in the 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.

Sec. 4-8-25. Figure I Flood schematic.

The following is figure 1.

GRAPHIC LINK:[Floodway Schematic Figure 1](#)



LINE A-B IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE C-D IS THE FLOOD ELEVATION AFTER ENCROACHMENT

FLOODWAY SCHEMATIC

Figure 1