

Tulsa County Inspections

# Memo

**To:** Tulsa County Board of County Commissioners

**From:** Teresa Tosh, County Inspector, FPA

**Date:** December 4, 2024

**Subject:** Resolution Repealing and Replacing Floodplain Management Regulations

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We present for your approval the attached resolution adopting new floodplain management regulations that would repeal and replace those currently existing.

The proposed regulations reorganize pertinent sections of the existing regulations to provide clarity and make them easier to navigate. Additionally, several sections have been strengthened to provide a greater degree of flood protection for the citizens of Tulsa County and uniformity to the regulations.

All the proposed changes would meet current FEMA guidelines.

We would recommend approval.

**BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF TULSA**

**RESOLUTION REPEALING AND REPLACING  
TULSA COUNTY'S FLOODPLAIN MANAGEMENT REGULATIONS**

WHEREAS, the Legislature of the State of Oklahoma conferred upon local governments the authority to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry, including the authority to adopt regulations designed to minimize flood losses;

WHEREAS, the Federal Emergency Management Agency has identified special flood hazard areas within the boundaries of Tulsa County and such areas may be subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare;

WHEREAS, Tulsa County participates in the National Flood Insurance Program ("NFIP") and desires to continue to meet the requirements necessary for such participation;

WHEREAS, on August 3, 2009, the Board of County Commissioners of the County of Tulsa adopted Floodplain Management Rules by Resolution (CMF# 215322), which have been amended from time to time;

WHEREAS, it is the desire of the Board of County Commissioners of the County of Tulsa to reorganize the structure and format of Tulsa County's Floodplain Management Regulations to provide clarity and make them easier to navigate, and to strengthen certain provisions therein;

**NOW, THEREFORE, BE IT RESOLVED** by the Board of County Commissioners of the County of Tulsa that:


1. This resolution shall apply to all areas of special flood hazard within the unincorporated areas of Tulsa County;
2. The proposed Floodplain Management Regulations, in the form attached hereto, are hereby adopted, and shall be marked and designated as the "Tulsa County Floodplain Management Regulations";
3. The Tulsa County Floodplain Management Regulations adopted by this Resolution shall be a complete replacement of the floodplain regulations adopted by the August 3, 2009, Resolution (CMF# 215322), and all amendments thereto (CMF# 225904, CMF# 239228, CMF# 20241697). The above-listed Resolutions (CMF# 215322, CMF# 225904, CMF# 239228, CMF# 20241697) are hereby repealed; and

4. The Tulsa County Floodplain Administrator is authorized to submit a certified copy of the Tulsa County Floodplain Management Regulations adopted by this Resolution to the Oklahoma Water Resources Board.

Approved in an open meeting of the Board of County Commissioners of the County of Tulsa this 9<sup>th</sup> day of December, 2024, by an affirmative majority vote. The Tulsa County Floodplain Management Regulations adopted by this Resolution shall go into effect on January 8, 2025, and shall be published as required by law.

  
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**Stan Sallee, Chairman**

  
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**Karen Keith, Member**

  
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**Kelly Dankerley, Member**

Attest:

  
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Tulsa County Clerk by Kenneth Yates, Chief of Staff

(SEAL)

Approved as to Procedure:

  
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Assistant District Attorney



# Tulsa County Floodplain Management Regulations

Adopted by Resolution

December 9, 2024

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**TULSA COUNTY**  
**FLOODPLAIN MANAGEMENT REGULATIONS**

**SECTION 1: STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND METHODS**

**SECTION 1.1 STATUTORY AUTHORIZATION**

- 1) The Legislature of the State of Oklahoma has in the Oklahoma Floodplain Management Act, Sections 1601 through 1620.1 of Title 82 of the Oklahoma Statutes, authorized local governmental units to adopt regulations designed to minimize flood losses;
- 2) Title 19, Oklahoma Statutes, Section 863.13A, authorizes boards of county commissioners to provide for the enforcement of their floodplain regulations and establish fines, penalties, and other remedies for any offense in violation of said regulations;
- 3) Title 50, Oklahoma Statutes, Section 20, grants authority to the board of county commissioners of any county in this state with a population in excess of five hundred fifty thousand (550,000) to declare what shall constitute a nuisance, and provide for the prevention, removal and abatement of nuisances for those properties acquired by the county through resale and any property located within an unincorporated area of the county;

Therefore, the Board of County Commissioners of the County of Tulsa does hereby ordain that these Tulsa County Floodplain Management Regulations as set forth herein, including Sections 1 through 6, be hereby enacted.

**SECTION 1.2 FINDINGS OF FACT**

- 1) The flood hazard areas of Tulsa County 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.
- 2) 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.

**SECTION 1.3 STATEMENT OF PURPOSE**

It is the purpose of these regulations 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 a manner as to minimize future flood blight areas; and
- 7) Ensure that potential buyers are notified that property is in a flood area.

#### **SECTION 1.4 METHODS OF REDUCING FLOOD LOSSES**

In order to accomplish its purposes, these regulations use 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 serve 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 flood waters;
- 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 flood waters or which may increase flood hazards to other lands.

## SECTION 2: DEFINITIONS

Unless specifically defined below, words or phrases used in these floodplain regulations shall be interpreted to give them the meaning they have in common usage and to give these regulations their most reasonable application.

**ACCESSORY STRUCTURE** – Structures which are on the same parcel of property as the principle structure and the use of which is incidental to the use of the principal structure, but not limited to garages and storage sheds.

**ALLUVIAL FAN FLOODING** – means 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** – means 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.

**AREA OF FUTURE CONDITIONS FLOOD HAZARD** – means the land area that would be inundated by the 1-percent-annual chance (100 year) flood based on future conditions hydrology.

**AREA OF SHALLOW FLOODING** – means a designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 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** – is the land in the floodplain within a community 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, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V.

**BASE FLOOD** – means the flood having a 1 percent chance of being equaled or exceeded in any given year also known as 100-year flood.

**BASE FLOOD ELEVATION (BFE)** – The elevation shown on the Flood Insurance Rate Map (FIRM) and found in the accompanying Flood Insurance Study (FIS) for zones A, AE, AH, A130 and AR that indicates the water surface elevation resulting from the flood that has a 1% chance of equaling or exceeding in any given year – also called the base flood or 100-year flood.

**BASEMENT** – means any area of the building having its floor subgrade (below ground level) on all sides.



**BREAKAWAY WALL** – means 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 FACILITIES** – are specific assets of the built environment that provide services that are essential for life, safety, and economic viability, such as, but not limited to, schools, hospitals, some utilities infrastructure, or government operations.

**CRITICAL FEATURE** – means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

**COMPENSATORY STORAGE** – means an artificially excavated, hydraulically equivalent volume of storage within the Special Flood Hazard Area used to balance the loss of natural flood storage capacity when artificial fill or structures are placed within the floodplain. The uncompensated loss of natural floodplain storage can increase off-site floodwater elevations and flows.

**DEVELOPMENT** – means any man-made change to improved and unimproved real estate, including but not limited to the construction or placement of buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

**ELEVATED BUILDING** – means, for insurance purposes, a non-basement building, which has its lowest elevated floor, raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

**EXISTING CONSTRUCTION** – means 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** – means 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 a community.

**EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION** – means 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).

**FILL** – means any material, including but not limited to soil, gravel, or crushed stone, placed in an area that increases ground elevations or changes soil properties.

**FLOOD OR FLOODING** – means 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** – means 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)** – means 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 community.

**FLOOD INSURANCE STUDY (FIS)** – see *Flood Elevation Study*

**FLOODPLAIN OR FLOOD-PRONE AREA** – means any land area susceptible to being inundated by water from any source (see definition of flooding).

**FLOODPLAIN MANAGEMENT** – means 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** – means zoning regulations, subdivision regulations, building codes, health regulations, special purpose regulations (such as a floodplain regulation, grading regulations and erosion control regulations) 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** – means 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 area 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** – means 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** – see *Regulatory Floodway*

**FUNCTIONALLY DEPENDENT USE** – means 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 ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

**HIGHEST ADJACENT GRADE** – means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**HISTORIC STRUCTURE** – means 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 a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- 4) Individually listed on a local inventory or historic places in communities with historic preservation programs that have been certified either:
  - a) By an approved state program as determined by the Secretary of the Interior or;
  - b) Directly by the Secretary of the Interior in states without approved programs.

**LEVEE** – means 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** – means 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** – means 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 non-elevation design requirement of Section 60.3 of the National Flood Insurance Program regulations.

**MANUFACTURED HOME** – means 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. The term "manufactured home" does not include a "recreational vehicle."

**MANUFACTURED HOME PARK OR SUBDIVISION** – means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**MEAN SEA LEVEL** – means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or the North American Vertical Datum (NAVD) of 1988, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

**NEW CONSTRUCTION** – means, 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 Tulsa County and includes any subsequent improvements to such structures. "New construction" includes structures built offsite and placed on a property within a special flood hazard area.

**NEW MANUFACTURED HOME PARK OR SUBDIVISION** – means 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 a community.

**NON-CONVERSION AGREEMENT** – an agreement that states that the owner will not convert or alter what has been constructed and approved.

**RECREATIONAL VEHICLE** – means 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; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**REGULATORY FLOODWAY** – means 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.

**RIVERINE** – means 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 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 means either the first placement of permanent construction of a

structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for 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** – means 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** – means 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 or any damage occurring cumulatively within a 10-year period.

**SUBSTANTIAL IMPROVEMENT** – means any cumulative 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 "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 "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."

**VARIANCE** – means a grant of relief by Tulsa County from one or more terms of its floodplain management regulations.

**VIOLATION** – means the failure of a structure or other development to be fully compliant with the Tulsa County Floodplain Management Regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by these regulations is presumed to be in violation until such time as that documentation is provided.

**WATER SURFACE ELEVATION** – means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 or the North American Vertical Datum (NAVD) of 1988, of floods of various magnitudes and frequencies in floodplains.

## **SECTION 3: GENERAL PROVISIONS**

### **SECTION 3.1 LANDS TO WHICH THESE REGULATIONS APPLY**

These regulations shall apply to all areas of special flood hazard with the jurisdiction of Tulsa County, Oklahoma.

### **SECTION 3.2 BASIS FOR ESTABLISHING AREAS OF SPECIAL FLOOD HAZARD**

The areas of special flood hazard identified by the Federal Emergency Management Agency (“FEMA”) in the current scientific and engineering report entitled, “The Flood Insurance Study (FIS) for Tulsa County and Incorporated Areas,” dated September 12, 2024, with accompanying Flood Insurance Rate Maps (FIRM) dated September 12, 2024, are hereby adopted by reference and declared to be a part of the Tulsa County Floodplain Management Regulations. The FIRM is available in digital format on FEMA’s website at <https://msc.fema.gov/portal/home>, and is also available through Tulsa County’s website at <https://www2.tulsacounty.org/government/departments-offices/inspections/> (click on “GIS Flood Map” hyperlink in the left-hand column).

### **SECTION 3.3 COMPLIANCE**

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of these regulations and other applicable regulations.

### **SECTION 3.4 ABROGATION AND GREATER RESTRICTIONS**

These regulations are not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where these regulations and other resolutions, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

### **SECTION 3.5 INTERPRETATION**

In the interpretation and application of these regulations, 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 under State statutes.

### **SECTION 3.6 WARNING AND DISCLAIMER OR LIABILITY**

The degree of flood protection required by these regulations 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 man-made or natural causes. These regulations do not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. These regulations shall not create liability on the part of Tulsa County or any official or employee thereof for any flood damages that result from reliance on these regulations, or any administrative decision lawfully made hereunder.

## **SECTION 4: ADMINISTRATION**

### **SECTION 4.1 DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR**

The County Inspector is hereby appointed the Floodplain Administrator to administer and implement the provisions of these regulations.

### **SECTION 4.2 DEVELOPMENT PERMIT REQUIRED**

A Floodplain Development Permit shall be required to ensure conformance with the provisions of these regulations. No person, firm, corporation, government agency, or other entity shall initiate any floodplain development or cause the same to be done without first obtaining a Floodplain Development Permit from the Floodplain Administrator.

### **SECTION 4.3 DUTIES & RESPONSIBILITIES OF FLOODPLAIN ADMINISTRATOR**

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 these regulations.
- 2) Review permit applications to determine whether to ensure that the proposed building site projects, including the placement of manufactured homes, will be reasonably safe from flooding.
- 3) Review, approve or deny all applications for development permits required by adoption of these regulations.
- 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 Amendments 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 Oklahoma Water Resources Board 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.



- 4) Shall require the developer/applicant to determine and provide the base flood elevation on a FEMA Elevation Certificate as well as other data as required in order to administer the provisions of these regulations.
- 5) Require that when a new elevated building is proposed a non-conversion agreement be signed by the applicant.
- 6) 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 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 foot at any point within the community.
- 7) Under the 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, AIR, on the community's FIRM which increases the water surface elevation of the base flood by more than 1 foot, provided that the community first completes all the provisions required by Section 65.12.
- 8) Become accredited by the Oklahoma Water Resources Board in accordance with Title 82 O.S. §§ 1601-1620, as amended.
- 9) After a disaster or other type of damage occurrence to structures in the County of Tulsa, determine if the residential and non-residential structures and manufactured homes have been substantially damaged, and enforce the substantial improvement requirement.
- 10) Maintain a record of all actions involving an appeal from a decision of the County Board of Adjustment

#### **SECTION 4.4 PERMIT PROCEDURES**

- 1) Application for a Floodplain Development Permit shall be presented to the Floodplain Administrator on forms furnished by him/her and may include 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 structures, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:
  - a) Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures;
  - b) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
  - c) Maintain a record of all such information in accordance with Section 4, Section 4.3(1);

- 2) Approval or denial of a Floodplain Development Permit by the Floodplain Administrator shall be based on all of the provisions of these regulations and the following relevant factors:
  - a) The danger to life and property due to flooding or erosion damage;
  - b) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - c) The danger that materials may be swept onto other lands to the injury of others;
  - d) The compatibility of the proposed use with existing and anticipated development;
  - e) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - f) 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;
  - g) 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;
  - h) The necessity to the facility of a waterfront location, where applicable; and
  - i) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
- 3) No Floodplain Development Permit shall be issued to develop any property with an existing floodplain violation unless the work permitted will remedy the violation. Work permitted by a Floodplain Development Permit must be undertaken in a manner designed to minimize surface runoff, erosion, and sedimentation, and to safeguard life, limb, property, and the public welfare.

## **SECTION 4.5 VARIANCE PROCEDURES**

- 1) The Tulsa County Board of Adjustment, as established by the community, shall hear and render judgment on requests for variances from the requirements of the Tulsa County Floodplain Management Regulations.
- 2) The Board 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 the Tulsa County Floodplain Management Regulations.
- 3) Any person or persons aggrieved by the decision of the Board may appeal such decision in the courts of competent jurisdiction.
- 4) 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.
- 5) 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 these regulations.
- 6) Variances may not be issued for new construction and substantial improvements to be erected on a lot of 1/2 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 4.3(2) have been fully considered. As the lot size increases beyond the 1/2 acre, the technical justification required for issuing the variance increases.
- 7) Upon consideration of the factors noted above and the intent of the Tulsa County Floodplain Management Regulations, the Appeal Board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of the Tulsa County Floodplain Management Regulations (Section 1, Section 1.3).
- 8) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- 9) Variances may be issued for the repair or rehabilitation of historic structures upon a determination 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.

10) Prerequisites for granting variances

- a) Variances shall only be issued upon:
  - (i) A determination that variance is the minimum necessary, considering the flood hazard, to afford relief;
  - (ii) Showing a good and sufficient cause;
  - (iii) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
  - (iv) A determination that granting of a 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 resolutions
- b) No variance shall be granted for a structure to be constructed below the base flood elevation.

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

- a) The criteria outlined in Section 4, Section 4.4(1)-(9) are met; and
- b) The structure or other development is protected by methods that minimize flood damages during the baase flood and create no additional threats to public safety.

## **SECTION 5: PROVISIONS FOR FLOOD HAZARD REDUCTION**

### **SECTION 5.1 GENERAL STANDARDS**

- 1) In all areas of special flood hazards the following provisions are required for all new construction, manufactured homes or structures, and substantial improvements:
  - a) All new construction, manufactured homes, 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;
  - b) All new construction, manufactured homes, or substantial improvements shall be constructed by methods and practices that minimize flood damage;
  - c) All new construction, manufactured homes, or substantial improvements shall be constructed with materials resistant to flood damage;
  - d) All new construction, manufactured homes, or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated at a minimum of two (2) foot above the base flood elevation;
  - e) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
  - f) 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
  - g) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- 2) Compensatory Storage – No fill shall be placed within a Special Flood Hazard Area without the provision of compensatory storage at a hydraulically equivalent site and with a ratio of 1.5 Cubic Foot to 1 Cubic Foot (for every 1 cubic foot of fill placed 1.5 cubic foot shall be removed at the hydraulically equivalent site). A registered professional engineer shall submit certification to the Floodplain Administrator that this standard is satisfied.
- 3) Storage of Material or Equipment – Storage of materials that in times of flooding are buoyant, flammable, explosive or otherwise potentially injurious to human, animal or plant life and/or property, shall be either floodproofed to or placed two (2) foot above the base flood elevation. These storage prohibitions shall not apply to materials necessarily used for domestic and household purposes. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after a flood warning.

## **SECTION 5.2 SPECIFIC STANDARDS**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in (i) Section 3, Section 3.2, (ii) Section 4, Section 4.3(8), or (iii) Section 5, Section 5.3(3), 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 a minimum of two (2) foot above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standard of this subsection as proposed in Section 4.4(1)(a) is satisfied.
- 2) **Nonresidential Construction** – new construction and substantial improvements of any commercial, industrial or other nonresidential structure shall have the lowest floor (including basement) elevated at a minimum of two (2) foot above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standard of this subsection as proposed in Section 4.4(1)(a) is satisfied.
- 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 openings on separate walls having a total net area of not less than 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 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.
  - d) Require that when a new elevated building is proposed a non-conversion agreement be signed by the applicant.
- 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. And have the bottom of the I-beam elevated at a minimum of two (2) foot above the base flood elevation. 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. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

b) Require that manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites:

(i) outside of a manufactured home park or subdivision;

(ii) in a new manufactured home park or subdivision;

(iii) in an expansion to an existing manufactured home park or subdivision; or

(iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the bottom of the I-beam of the manufactured home is elevated at a minimum of 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. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces. The home shall be installed by a licensed installer according to Oklahoma state law and compliance herewith shall be certified in writing to the Floodplain Administrator by said installer prior to habitation of the manufactured home.

c) Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with Zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of paragraph (4) of this section be elevated on a permanent foundation such that the bottom of the I-beam of the manufactured home is elevated at a minimum of 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.

5) **Recreational Vehicles** – Require that recreational vehicles placed on sites within Zones A, A1-30, AH and AE on the Community name FIRM either:

a) Be on the site for fewer than 180 consecutive days;

b) Be fully licensed and ready for highway use; or

c) Meet the permit requirements of Section 4, Section 4.4, and the elevation and anchoring requirements for "manufactured homes" in paragraph (4) of this section. 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.

6) **Accessory Structure** – Accessory structures to be placed on sites within Zones A and AE on Tulsa County’s FIRM shall comply with the following:

- a) The structure shall be used only for parking and limited storage;
- b) The structure shall not be used for human habitation – prohibited activities or uses include but are not limited to working, sleeping, living, cooking, or restroom use;
- c) The structure shall be unfinished on the interior;
- d) Structures shall be small in size, not exceed 600 square feet in size;
- e) Structures exceeding 600 square feet in size will be required to meet all applicable standards of Section 3 Section 3.3, Section 4, Section 4.4, Section 5, Sections 5.1, 5.2, and 5.3 including relevant subsections.;
- f) Service facilities such as electrical and heating equipment must be elevated two (2) foot above the BFE;
- g) The structure shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- h) The structure shall be considered low in value, designed to have low flood damage potential and constructed with flood resistance materials;
- i) The structure shall be firmly anchored to prevent flotation, collapse, and lateral movement;
- j) Floodway requirements must be met in the construction of the structure;
- k) Openings to relieve hydrostatic pressure during a flood shall be provided below the BFE; and be placed on opposing walls with the net area of not less than 1 square inch for every square foot of the size of the footprint of the structure (Flood Vents);
- l) The openings (Flood Vents) shall be located no higher than 1 foot above grade; and
- m) The openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

7) **Critical Facilities** – If possible, critical facilities should be placed outside of the floodplain. If a critical facility must be in a floodplain, then it shall be designed to be protected to 1 foot above the 500-year (0.2%) flood elevation.

### **SECTION 5.3 STANDARDS FOR SUBDIVISION PROPOSALS**

- 1) All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with previous sections of this resolution.



- 2) All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet development permit requirements and the provisions of section 5 of this resolution.
- 3) Base flood elevation data shall be generated for subdivision proposals and other proposed development located in Zones A and AE which is 51 or more lots or greater than 5 acres shall generate the base flood elevation data for that subdivision.
- 4) All Subdivision proposals including the placement of manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
- 5) All Subdivisions proposals including the placement of 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.

#### **SECTION 5.4 STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES)**

Located within the areas of special flood hazard established in Section 3, Section 3.2, are areas designated as shallow flooding. These areas have special flood hazards associated with flood depths of 1 to 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; therefore, the following provisions apply:

- 1) All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated at a minimum of two (2) foot above the base flood elevation or flood depth (or four (4) foot above the highest adjacent grade if no flood depth is provided).
- 2) All new construction and substantial improvements of non - residential structures have the lowest floor (including basement) elevated at a minimum of two (2) foot above the base flood elevation or flood depth (or four (4) foot above the highest adjacent grade if no flood depth is provided).
- 3) A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Section, as proposed in Section 4, Section 4.4 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.

#### **SECTION 5.5 FLOODWAYS**

Floodways – located within areas of special flood hazard established in Section 3, Section 3.2, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the

velocity of flood waters 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 within the adopted regulatory floodway, *unless* it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
- 2) If, Section 5.5(1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 5.
- 5) The storage of materials that in times of flooding are buoyant, flammable, explosive or otherwise potentially injurious to human, animal or plant life and/or property is prohibited. This prohibition shall not apply small items necessarily related to domestic and household uses.
- 6) The dumping, storage or disposal of garbage or other solid waste materials is prohibited, except for small items necessarily related to domestic and household uses.

#### **SECTION 5.6 SEVERABILITY**

If any section, clause, sentence, or phrase of these regulations 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.

**SECTION 6: ENFORCEMENT**

- 1) **Violations** – No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of these regulations and other applicable regulations and laws. A structure or other development without a development permit, elevation certificate, or certification by a licensed professional engineer of compliance with these regulations, is presumed to be in violation until such time as documentation is provided.
  
- 2) **Declaration of a Public Nuisance** – All development located or maintained within any area of special flood hazard in violation of these regulations is a public nuisance per se.
  
- 3) **Persons or Entities Liable** – The owner or tenant of any building, structure, parcel of land, premises, or part thereof, and/or any other person who commits, participates in, assists in, or maintains such violations may each be liable for a separate offense and be subject to penalties, remedies, and enforcement actions. As used in the section, “owner” shall mean the person or entity listed as the owner by the most recent tax rolls of the Tulsa County Treasurer.
  
- 4) **Notice of Violation and Stop Work Order** –
  - a) If the Floodplain Administrator or his or her authorized designee determines that there has been a violation of any provision of these regulations, they shall give notice of such violation to the property owner and any other the person or entity liable for such violation, and may issue a stop work order.
  
  - b) Notices of violations and stop work orders shall be in writing and posted in a conspicuous place on the property and be served by personal service or certified mail to the last known mailing address of the property owner and any other person or entity liable. The property owner’s address will be determined by the most recent tax rolls of the Tulsa County Treasurer.
  
  - c) Notices of violation must state the nature of the violation and the timeframe for compliance, and may state the corrective steps necessary and the nature of subsequent penalties and enforcement actions should the situation not be corrected.
  
  - d) In cases where the Floodplain Administrator determines that a violation of these regulations endangers public health and safety if not remedied immediately, the county may use the enforcement powers available under these floodplain regulations without prior notice, but the Floodplain Administrator must attempt to give notice to the property owner simultaneously with the beginning of an enforcement action.
  
- 5) **Civil Action** – The Board of County Commissioners of the County of Tulsa may bring a civil action to enjoin, abate, or otherwise prevent violations of these regulations and/or to abate a public nuisance per se.

- 6) **Citations** – The Floodplain Administrator may issue a citation to anyone found to be in violation of these regulations. Any person who fails to correct a violation for which a citation has been issued within the period permitted for its correction shall be assessed the fine or penalty designated in the citation for each ensuing day during which such failure or violation continues.
  
- 7) **Criminal Penalties** – Violation of the provisions of these regulations by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates these regulations or fails to comply with any of its requirements shall upon conviction be subject to the penalties prescribed by Oklahoma law, including a fine of not more than \$500.00 for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the Board of County Commissioners of the County of Tulsa from taking such other lawful action as is necessary to prevent or remedy any violation.