

FLOOD DAMAGE PREVENTION RULES

ARTICLE 1

STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND METHODS

SECTION A. STATUTORY AUTHORIZATION

The Legislature of the State of Texas adopted the Flood Control Insurance Act, Texas Water Code, Section 16.311-16.324, delegating to local governmental units, including Tarrant County, the discretionary duty to adopt regulations designed to minimize Flood losses. Therefore, the County of Tarrant, Texas makes the following findings of fact and adopts the following rules:

SECTION B. FINDINGS OF FACT

(1) The Special Flood Hazard Areas of Tarrant County are subject to periodic inundation that adversely affects the health, safety, and welfare of the public, resulting in lost lives, damaged property, health hazards, safety concerns, disrupted commerce, public expenditures, and disrupted governmental services.

(2) These Flood losses are created by the cumulative effect of obstructions in Floodplains that cause an increase in Flood heights and velocities, and are created by the occupancy of Special Flood Hazard Areas by uses vulnerable to Floods and hazardous to other lands that are inadequately elevated, Flood-proofed or otherwise protected from Flood damage.

(3) Tarrant County Commissioners Court adopted the Flood Insurance Rate Map on September 15, 2009 by Court Order No. 106477 and the Flood Insurance Study on September 15, 2009 by Court Order No. 106477.

SECTION C. STATEMENT OF PURPOSE

These rules are designed to promote the public health, safety and general welfare of the public by minimizing public and private losses due to Flood conditions in specific areas. The purposes of these rules are 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) 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) Insure that potential buyers are notified that property is in a Flood area.

SECTION D. METHODS OF REDUCING FLOOD LOSSES

The Commissioners Court adopts the following Rules that:

(1) Restrict or prohibit uses that are dangerous to health, safety or property in times of Flood, or uses that cause excessive increases in Flood heights or velocities;

(2) Require that uses vulnerable to Floods, including facilities serving those uses, be protected against Flood damage at the time of initial construction;

(3) Prohibit construction of any Critical Facilities within the 500-year Floodplain;

(4) Control the alteration of natural Floodplains, stream channels, and natural protective barriers any of which are involved in the accommodation of Flood waters;

(5) Control filling, grading, dredging and other Development which may increase Flood damage; and

(6) Prevent or regulate the construction of Flood barriers that unnaturally divert Flood waters or that increase Flood hazards to other lands.

ARTICLE 2

DEFINITIONS

Unless specifically defined below, words or phrases used in these Rules will be interpreted to give them the meaning they have in common usage and to give them a reasonable application.

APPLICANT APPEAL BOARD - the Tarrant County Commissioners Court until such time that it elects to establish a separate Board.

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

AREA OF SHALLOW FLOODING - a designated AO, AH, AR/AO, AR/AH, or VO zone on a County's Flood Insurance Rate Map (FIRM) with a one percent (1%) or greater annual chance of Flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of Flooding is unpredictable, and where velocity flow may be evident. Such Flooding is characterized by ponding or sheet flow of water.

AREA OF SPECIAL FLOOD HAZARD – See “Special Flood Hazard Area.”

BASE FLOOD - a Flood that has a one (1) percent chance of being equaled or exceeded in any given year.

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, A1-A30, AR, V1-V30, or VE that indicates the Water Surface Elevation resulting from the Flood that has a one percent (1%) 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 sub-grade below ground level on all sides.

CRITICAL FACILITIES- includes any of the following:

- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic and/or water-reactive materials;
- Hospitals, nursing homes, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a Flood;

- Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for Flood response activities before, during, and after a Flood; or
- Public and private utility facilities vital to maintaining or restoring normal services to Flooded areas before, during, and after a Flood.

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 or materials.

ELEVATED BUILDING - 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 - for the purposes of determining insurance 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/SUBDIVISION - a Manufactured Home Park or Subdivision for which the construction of facilities for servicing the lots on which the Manufactured Homes are affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) were completed before the effective date of the Floodplain Management Regulations adopted by this County.

EXPANSION TO AN EXISTING MANUFACTURED HOME PARK/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: - The Department of Homeland Security's Federal Emergency Management Agency.

FIRM: - Flood Insurance Rate Map.

FLOOD OR FLOODING - a general and temporary condition of partial or complete inundation of normally dry land areas caused by:

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

FLOOD ELEVATION STUDY – See “Flood Insurance Study.”

FLOOD INSURANCE RATE MAP (FIRM) - an official map of the County on which the Federal Emergency Management Agency has delineated both the Area of Special Flood Hazard areas and the risk premium zones applicable to the County.

FLOOD INSURANCE STUDY (FIS) – a written examination, evaluation and determination of Flood hazards and, if appropriate, corresponding Water Surface Elevations, or a written examination, evaluation and determination of mudslide (i.e., mudflow) and/or Flood-related erosion hazards.

FLOODPLAIN OR FLOOD-PRONE AREA - any land area susceptible to being inundated by water from any source (see definition of “Flooding”).

FLOODPLAIN DEVELOPMENT PERMIT - the Tarrant County written document, and supporting papers, that must be approved by Tarrant County prior to any Development within a Flood Hazard Area.

FLOODPLAIN MANAGEMENT - the operation of an overall program of corrective and preventive measures for reducing Flood damage, such as implementing 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 a Floodplain ordinance, grading ordinance and erosion control ordinance) or 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 PROOFING - 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.”

FREEBOARD - A margin of safety added to the Base Flood Elevation to account for waves, debris, miscalculations, or lack of data.

FUNCTIONALLY DEPENDENT USE - a use that 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 - 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 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 of 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.

LOWEST FLOOR - the lowest floor of the lowest enclosed area, including a Basement. An unfinished or Flood-resistant enclosure that is usable solely for parking or vehicles, building access, or storage in an area other than a Basement area is not considered a Structure'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 - 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/SUBDIVISION - a parcel (or contiguous parcels) of land divided into two or more Manufactured Home lots for rent or sale.

MEAN SEA LEVEL - for purposes of the National Flood Insurance Program, the North American Vertical Datum (NAVD) of 1988 or other datum, to which Base Flood Elevations shown on a County's Flood Insurance Rate Map are referenced.

NEW CONSTRUCTION - for the purpose of determining insurance rates, Structures for which the "Start of Construction" commenced on or after December 31, 1974, and includes any subsequent improvements to such Structures. For Floodplain Management purposes, "New Construction" means Structures for which the "Start of Construction" commenced on or after the effective date of a Floodplain Management Regulation adopted by a County 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 a County.

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; 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 - 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 - relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

SPECIAL FLOOD HAZARD AREA - the area of land in a Floodplain within the County subject to a one (1) percent or greater chance of Flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed rate making has 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.

START OF CONSTRUCTION - the date that either the first placement of permanent construction of a Structure on a site occurred, 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 date of 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.

SUBDIVISION - the division of any lot, tract, or parcel of land into two (2) or more lots or sites for the purpose of sale or building Development, whether immediate or future. Said term also includes the re-subdivision of any lot, tract, or parcel of land.

STRUCTURE - for Floodplain Management purposes, a walled and roofed building that is principally above ground, including a gas or liquid storage tank, as well as a Manufactured 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 "Start of Construction" of the Structure. 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."

VALLEY STORAGE - the water volume between the water surface and the ground surface that occupies a given reach of the river.

VARIANCE – a grant of relief by the Applicant Appeal Board from the terms of a Floodplain Management Regulations.

VIOLATION - the failure of a Structure or other Development to be fully compliant with these County Floodplain Management Regulations. A Structure or other Development without the elevation certificate, other certifications, or other evidence of compliance required in 44 Code of Federal Regulations Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in Violation until such time as that documentation is provided.

WATER SURFACE ELEVATION - the height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of Floods of various magnitudes and frequencies in the Floodplains of coastal or riverine areas.

ARTICLE 3

GENERAL PROVISIONS

SECTION A. LANDS TO WHICH THESE RULES APPLY

These Rules apply to all Areas of Special Flood Hazard within the unincorporated areas of Tarrant County.

SECTION B. BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

Tarrant County is a member of the National Flood Insurance Program (NFIP), which provides residents of participating communities the ability to purchase flood insurance for residential structures, provided the community enforces FEMA regulations. These regulations pertain to construction areas within designated zones and are enforced according to Title 44 of the Code of Federal Regulations (CFR), Parts 59-78, which are hereby adopted by reference and declared to be a part of these Rules.

The Areas of Special Flood Hazard identified by the Federal Emergency Management Agency in the current scientific and engineering report titled, “The Flood Insurance Study (FIS) for Tarrant County, Texas” dated September 25, 2009, with accompanying Flood Insurance Rate Maps dated September 25, 2009, and any revisions thereto are hereby adopted by reference and declared to be a part of these Rules.

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT

A Floodplain Development Permit is required to ensure conformance with the provisions of these Rules. Work within a Special Flood Hazard Area is prohibited until a Floodplain Development Permit is issued by Tarrant County. A copy of the Permit Application is attached.

SECTION D. COMPLIANCE

No Structure may hereafter be moved into, altered, or have its use changed without full compliance with the terms of these Rules and other applicable regulations. No land located within a Special Flood Hazard Area may hereafter be altered without full compliance with the terms of these Rules and other applicable regulations.

SECTION E. ABROGATION AND GREATER RESTRICTIONS

These Rules do not repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where these Rules conflict with other ordinances, laws, easements, covenants, or deed restrictions, whichever imposes the more stringent restrictions will prevail.

SECTION F. INTERPRETATION

In the interpretation and application of these Rules, all provisions will 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 G. WARNING AND DISCLAIMER OR LIABILITY

The degree of Flood protection required by these Rules 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 Rules 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 Rules do not create liability on the part of the County or any official or employee thereof for any Flood damages that result from reliance on these Rules or any administrative decision lawfully made hereunder.

ARTICLE 4

ADMINISTRATION

SECTION A. DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR

In order to administer these Rules and other applicable sections of Title 44 of the Code of Federal Regulations dealing with Floodplain Management, the Tarrant County Commissioners Court appoints the County Engineer or designee as the Floodplain Administrator.

SECTION B. DUTIES & RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Duties and responsibilities of the Floodplain Administrator include but are not limited to the following:

(1) Maintain and hold open for public inspection all records pertaining to these Rules.

(2) Review each Floodplain Development Permit application to determine whether 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 these Rules.

(4) Review the Floodplain Development 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) Interpret the exact 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).

(6) Notify, in riverine situations, adjacent communities, the Texas Water Development Board (TWDB), and also the Texas Commission on Environmental Quality (TCEQ), prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

(7) Review each Floodplain Development Permit application to assure that the Flood carrying capacity within the altered or relocated portion of any watercourse is maintained.

(8) Obtain, review, and utilize any Base Flood Elevation data and Floodway data available from a Federal, State or other source, in order to administer the provisions of Article 5 when Base Flood Elevation data has not been provided in accordance with Article 3, Section B.

(9) Disallow any new Construction, Substantial Improvements, or other Development (including fill) within Zones A1-30 and AE of the County's FIRM when a Regulatory Floodway has not been designated, unless it is demonstrated by way of a Flood Elevation Study 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 affected watershed.

(10) Approve, under the provisions of 44 CFR Chapter 1, Section 65.12, certain Development in Zones A1-30, AE, AH, on the County's FIRM which increases the Water Surface Elevation of the Base Flood by more than one (1) foot, provided that the County first completes all of the provisions required by Section 65.12.

SECTION C. PERMIT PROCEDURES

(1) The Applicant must complete and present a Floodplain Development Permit Application to the Floodplain Administrator. Depending on the type of Proposed Development the Application may require, among other things, the submission by Applicant of plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed Structures, including the placement of Manufactured Homes, and the location of the foregoing in relation to Areas of Special Flood Hazard. Additionally, the Applicant may also be required by the Floodplain Administrator to provide with the Floodplain Development Permit Application the following:

(a) Elevation (in relation to Mean Sea Level), of the Lowest Floor (including Basement) of all new and substantially improved Structures;

(b) Elevation in relation to Mean Sea Level to which any nonresidential Structure will include Flood Proofing;

(c) A certificate from a registered professional engineer or architect authorized by law to certify that the nonresidential Structure featuring Flood Proofing meets the Flood Proofing criteria of Article 5, Section B (2);

(d) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed Development;

(2) In compliance with these Rules, the Floodplain Administrator will approve or deny the Floodplain Development Permit based on 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 proximity of proposed construction of any Critical Facilities within the 500-year Floodplain;
- (h) 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;
- (i) The necessity to the facility of a waterfront location, where applicable; and
- (j) The availability of alternative locations, not subject to Flooding or erosion damage, for the proposed use.

SECTION D. VARIANCE PROCEDURES

(1) The Applicant Appeal Board will hear and render judgment on properly submitted requests for Variances from the requirements of these Rules.

(2) The Applicant Appeal Board must hear and render judgment on an appeal only when an Applicant alleges in writing addressed to and received by the Applicant Appeal Board within thirty (30) days of the denial of a Floodplain Development Permit that there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of these Rules.

(3) Any person or persons aggrieved by the decision of the Applicant Appeal Board may appeal the decision to state district courts of Tarrant County, Texas.

(4) The Floodplain Administrator must maintain a record of all actions involving an appeal and will 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 Rules.

(6) Variances may 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 C (2) of Article 4 have been fully considered by the Applicant Appeal Board. 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, the requirements of 44 CFR 60.6, and the intent of these Rules, the Applicant Appeal Board may attach such conditions to the granting of Variances as it deems necessary to further the purpose and objectives of the regulations and these Rules.

(8) Variances will not be issued for work 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 will only be issued upon a determination by the Applicant Appeal Board that:

(i) the Variance encompasses the minimum alteration necessary to afford relief to the Applicant, considering the Flood risk;

(ii) the applicant showed a good and sufficient cause for the granting of the Variance;

(iii) the Applicant Appeal Board determined that failure to grant the Variance would result in exceptional hardship to the Applicant; and

(iv) the granting of a Variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, the creation nuisances, fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(b) At the time of granting the variance the Applicant Appeal Board must give the Applicant written notice that the Structure, if applicable, will be permitted to be built with the Lowest Floor Elevation below the Base Flood elevation, and that the cost of Flood insurance will be commensurate with the increased risk resulting from the reduced Lowest Floor elevation.

ARTICLE 5

PROVISIONS FOR FLOOD HAZARD REDUCTION

SECTION A. GENERAL STANDARDS

In all Special Flood Hazard Areas, the following provisions are required for all New Construction and Substantial Improvements:

(1) All New Construction or Substantial Improvements must 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 must be constructed by methods and practices that minimize Flood damage;

(3) All New Construction or Substantial Improvements must be constructed with materials resistant to Flood damage;

(4) All New Construction or Substantial Improvements must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed 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 must be designed to minimize or eliminate infiltration of Flood waters into the system;

(6) New and replacement sanitary sewage systems must 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 must be located to avoid impairment to them or contamination from them during Flooding.

SECTION B. SPECIFIC STANDARDS

In all Special Flood Hazards Areas where Base Flood Elevation data has been provided, the Applicant must comply with the following provisions:

(1) **Residential Construction** - New Construction and/or Substantial Improvements of any residential Structure must have the Lowest Floor elevated not less than two (2) feet above the Base Flood Elevation. The Applicant must submit to the Floodplain Administrator a certification signed by a registered professional engineer, architect, or land surveyor certifying that the standard of this subsection is satisfied.

(2) **Nonresidential Construction** - New Construction and/or Substantial Improvements must either have the Lowest Floor elevated not less than two (2) feet above the Base Flood level together with attendant utility and sanitary facilities, or be designed so that below the Base Flood level the Structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect must develop or review structural design, specifications, and plans for the construction, and must certify that the design and methods of construction are in accordance with this subsection and accepted standards of practice. The Applicant must file the certification with the Floodplain Development Permit Application.

(3) **Enclosures** - New Construction and/or 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 that are subject to Flooding must be designed to automatically equalize hydrostatic Flood forces on exterior walls by allowing for the entry and exit of Floodwaters. A registered professional engineer or architect must certify that the designs for this requirement 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 one (1) square inch for every square foot of enclosed area that is subject to Flooding;

(b) The bottom of all openings are no higher than one (1) foot above grade; and

(c) Openings equipped with screens, louvers, valves, or other coverings or devices permit the automatic entry and exit of Floodwaters.

(4) Manufactured Homes -

(a) All Manufactured Homes placed within Zone A on a County's FHBM or FIRM must 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. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

(b) Manufactured Homes that are placed or substantially improved within Zones A1-30, AH, and AE on the County's FIRM on sites (i) outside of a Manufactured Home Park/Subdivision, (ii) in a new Manufactured Home Park/Subdivision, (iii) in an Expansion to an Existing Manufactured Home Park/Subdivision, or (iv) in an existing Manufactured Home Park/ Subdivision on which a Manufactured Home has incurred "Substantial Damage" as a result of a Flood, must be elevated on a permanent foundation such that the Lowest Floor of the Manufactured Home is elevated no less than two (2) feet above the Base Flood Elevation and is securely anchored to an adequately anchored foundation system designed to resist flotation, collapse, and lateral movement. In order to obtain a Floodplain Development Permit the Applicant must submit a certification signed by a registered professional engineer, architect, or land surveyor with the Floodplain Development Permit Application to the Floodplain Administrator certifying that the standard of this subsection has been satisfied.

(c) Manufactured Homes placed or substantially improved on sites in an existing Manufactured Home Park/Subdivision within Zones A1-30, AH and AE on the County's FIRM that are not subject to the provisions of paragraph (4) of this section must be elevated so that either:

(i) the Lowest Floor of the Manufactured Home is no less than two (2) feet above the Base Flood Elevation, or

(ii) the Manufactured Home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and is securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(5) Recreational Vehicles - Recreational Vehicles placed on sites within Zones A1-30, AH, and AE on the County's FIRM must either (i) be on the site for fewer than 180 consecutive days, or (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of Article 4, Section C (1), 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.

SECTION C. SUBDIVISION DEVELOPMENT STANDARDS

(1) All Development of Subdivisions, including Manufactured Home Parks/Subdivisions, must be consistent with these Rules as well as the additional provisions of this Section.

(2) All proposals for the Development of Subdivisions, including Manufactured Home Parks/Subdivisions, must meet the Floodplain Development Permit requirements of Article 3, Section C; Article 4, Section C; and the provisions of Article 5 of these Rules.

(3) Base Flood Elevation data must be generated by a detailed engineering study for Subdivision Development and other proposed Development, including Manufactured Home Parks/Subdivisions, which is greater than 50 lots or five (5) acres, whichever is less, if not otherwise provided for in accordance with Article 3, Section B or Article 4, Section B (8) of these Rules.

(4) For all other Development in a Zone A area, the two-foot contour lines that best fit the shading of the applicable Zone A Floodplain may be used as the Base Flood Elevation in lieu of a detailed study. The Base Flood Elevation data must be submitted with Applicant's Floodplain Development Permit application.

(5) No net loss of Valley Storage is allowed for Development impacting more than one (1) acre of a Zone A Floodplain.

(6) All Development of Subdivisions, including Manufactured Home Parks/Subdivisions, must have adequate drainage provided to reduce exposure to Flood hazards.

(7) All Development of Subdivisions, including Manufactured Home Parks/Subdivisions, must have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate Flood damage.

SECTION D. STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES)

Areas designated as "Shallow Flooding" are those areas located within the Areas of Special Flood Hazard established in Article 3, Section B. These areas

have special Flood hazards associated with Flood depths of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of Flooding is unpredictable, and where velocity flow may be evident. Such Flooding is characterized by ponding or sheet flow. Therefore, the following provisions apply to Shallow Flooding areas:

(1) All New Construction and Substantial Improvements of residential Structures must have the Lowest Floor elevated not less than two (2) feet above the Base Flood Elevation or must have the Highest Adjacent Grade at least as high as the depth number specified in feet on the County's FIRM (at least two (2) feet if no depth number is specified).

(2) All New Construction and Substantial Improvements of non-residential Structures must:

(a) have the Lowest Floor elevated no less than two (2) feet above the Base Flood Elevation or must have the Highest Adjacent Grade at least as high as the depth number specified in feet on the County's FIRM (at least 2 feet if no depth number is specified); or

(b) be designed so that below the base specified Flood depth in an AO Zone, or below the Base Flood Elevation in an AH Zone, the Structure, together with attendant utility and sanitary facilities, are 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) Applicant must submit with his application for permit a certification from a registered professional engineer or architect showing compliance with this Section.

(4) Applicant must provide within Zones AH or AO adequate drainage paths around Structures on slopes to guide Flood waters around and away from proposed Structures.

SECTION E. REGULATORY FLOODWAYS

Areas designated as Floodways are those areas located within a Special Flood Hazard Area established in Article 3, Section B. Because of the extremely hazardous conditions caused by the velocity of Flood waters that carry debris and potential projectiles and erosion potential, the following provisions apply to Regulatory Floodways:

(1) Encroachments, including fill, New Construction, Substantial Improvements and other Development within the adopted Regulatory Floodway

are prohibited unless it has been demonstrated by the Applicant 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 during the occurrence of the Base Flood discharge.

(2) If Article 5, Section E (1) above is satisfied, all New Construction and Substantial Improvements must comply with all applicable Flood hazard reduction provisions of Article 5.

(3) Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program Regulations, the County may permit encroachments within the adopted Regulatory Floodway that would result in an increase in Base Flood Elevations, provided that the County first completes all of the provisions required by Section 65.12.

SECTION F. SEVERABILITY

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

SECTION G. PENALTIES FOR NON COMPLIANCE

No Structure or land may hereafter be constructed, located, extended, converted, or altered without compliance with these Rules and any applicable rules hereafter adopted by court order of the Tarrant County Commissioners Court. A person who appears has violated, is violating, or is threatening to violate these Rules and any applicable rule hereafter adopted is subject to an injunction and/or a civil penalty of not more than \$100 for each act of violation and for each day of violation. Nothing herein contained prevents Tarrant County from taking such other lawful action as is necessary to prevent or remedy any Violation.

SECTION H. CERTIFICATION OF ADOPTION

APPROVED: _____
(County official)

PASSED: _____
(adoption date)

RULES BECOME EFFECTIVE: _____
(effective date)

I, the undersigned, {name of certifying official}, do hereby certify that the above is a true and correct copy of the Rules duly adopted by Tarrant County, at a regular meeting duly convened on {date}.

{Signature of Certifying Official}

{SEAL}