

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, TEXAS, REPEALING CHAPTER 34 "FLOODS" OF THE FRIENDSWOOD CITY CODE; AMENDING THE FRIENDSWOOD CITY CODE BY ADDING A NEW CHAPTER TO BE NUMBERED AND ENTITLED CHAPTER 34 "FLOODS" TO INCORPORATE ITEMS FROM THE MODEL FLOOD DAMAGE PREVENTION ORDINANCE AS PUBLISHED BY THE TEXAS WATER DEVELOPMENT BOARD AND NATIONAL FLOOD INSURANCE PROGRAM (NFIP) ORDINANCE GUIDELINES; AND ADDING PROVISIONS FOR APPEALS; PROVIDING A MAXIMUM PENALTY OF FIVE HUNDRED AND NO/100 DOLLARS (\$500.00); REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; PROVIDING FOR SEVERABILITY, PUBLICATION AND AN EFFECTIVE DATE.

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BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD, STATE OF TEXAS:

Section 1. That Chapter 34 "Floods" of the Friendswood City Code is hereby repealed in its entirety.

Section 2. That the Friendswood City Code is hereby amended by adding a new chapter to be numbered and entitled Chapter 34 "Floods," which chapter shall read as follows:

### **Chapter 34. FLOODS**

#### **ARTICLE I. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, AND METHODS**

##### **Sec. 34-1. Statutory authorization.**

The legislature of the state has in the Flood Control Insurance Act, Texas Water Code §§ 16.311, *et seq.*, delegated the responsibility to local governmental units to adopt regulations designed to minimize flood losses. Therefore, the city council of the City of Friendswood, Texas, does ordain the provisions set out in this chapter to be its regulations governing flood damage prevention.

##### **Sec. 34-2. Findings of fact.**

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

- (b) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.

#### **Sec. 34-3. Statement of purpose.**

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

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

#### **Sec. 34-4. Methods of reducing flood losses.**

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

- (1) Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which 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 floodwaters;

- (4) Control filling, grading, dredging and other development which may increase flood damage; and
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

**Secs. 34-5—34-18. Reserved.**

## **ARTICLE II. FLOOD DAMAGE PREVENTION**

### **DIVISION 1. DEFINITIONS**

#### **Sec. 34-19. Definitions.**

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

*0.2 percent flood elevation* means the elevation above mean sea level that floodwaters have been calculated to have a 0.2 percent chance of reaching in any given year.

*Appeal* means a request for a review of the floodplain administrator's interpretation of any provision of this article or a request for a variance.

*Atlas 14 rainfall* means rainfall frequency data published in the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 11 Precipitation-Frequency Atlas of the United States, Texas.

*Base flood* means the flood having a one percent (1%) chance of being equaled or exceeded in any given year.

*Base flood elevation* means 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 indicated the water surface elevation resulting from flood that has a 1% chance of equaling or exceeding that level in any given year – also called the Base Flood.

*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.

*Development* means any manmade change in improved and unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

*Elevated building* means a non-basement building built,

- (1) in the case of a building in zones A1-30, AE, A, A99, AO, AH, B, C, X and D, to have the top of the elevated floor;

- (2) in the case of a building in zones V1-30, VE or V, to have the bottom of the lowest horizontal structural member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers) or shear walls parallel to the flow of the water and adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the 500-year flood;
- (3) in the case of zones A1-30, AE, A, A99, AO, AH, B, C, X and D, the term "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwaters; and
- (4) in the case of zones V1-30, VE or V, the term "elevated building" also includes a building otherwise meeting the definition of "elevated building," even though the lower area is enclosed by means of breakaway walls, if the breakaway walls meet the standards of section 60.3(e)(5) of the National Flood Insurance Program regulations.

*Existing construction or existing structures* 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 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).

*FEMA* means the Federal Emergency Management Agency.

*Fill* means any material that is placed in an area and increases the elevation of that area or displaces water volume.

*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; or
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

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

*Flood hazard boundary map (FHBM)* means an official map of a community on which FEMA has delineated the boundaries of the flood, mudslide (i.e., mudflow) and related erosion areas having special hazards and which have been designated as zones A, M and/or E.

*Flood insurance rate map (FIRM)* means an official map of the city, on which the federal insurance administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the city.

*Flood Insurance Study (FIS)* – see *Flood elevation study*.

*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 areas within a community subject to flood risk 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.

*Floodplain or flood prone area* means any land area susceptible to being inundated by water from any source (see *Flooding*).

*Floodway* - see *Regulatory Floodway*

*Floodway conveyance offset volume* means the volume of material that must be excavated and removed from the special flood hazard area to provide an equivalent storage volume necessary to reduce loss of conveyance associated with development within the floodway.

*Friendswood special flood hazard area* as defined in section 34-23, Flood zones defined.

*Increased cost of compliance (ICC)* means coverage that provides payment of up to \$30,000 to substantially damaged properties to help cover the cost of mitigation activities that will reduce the risk of future flood damage to a building if all of the following for the structure are met:

- (1) The structure is covered by an insurance policy through the National Flood Insurance Program (NFIP);
- (2) The structure must have suffered flood damage on at least two occasions in a 10-year period ending on the day of the second loss;
- (3) The cost to repair the flood damage, on average, equals or exceeds 25% of the market value of the building at the time of the two flood losses, or cumulatively total 50% of the pre-flood market value (a value less than 50% for substantial damage does not qualify for ICC), as defined by the local floodplain ordinance, and;
- (4) In addition to the claim requesting ICC, the NFIP must have paid a previous qualifying claim.

*Levee* means a manmade 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 of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements 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 North American Vertical Datum (NAVD) of 1988, or other datum 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 improvement to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

*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.

*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.

*Repetitive loss* means flood-related damage sustained by a structure on two separate occasions during a ten (10) year period for which the cost of repairs at the time of each such event, is over \$1,000 or, on the average, equals or exceeds twenty-five percent (25%) of the market value of the structure before the damage occurred.

*Start of construction* (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (PL 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 slabs 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. The term "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 basements, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds, not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first 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 anything constructed or erected with a fixed location on the ground or attached to something having a fixed location on the ground.

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

*Substantial improvement* means any repair, reconstruction, or improvement of a structure (including repetitive loss) over a period of ten (10) years, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either before the improvement or repair is started, or, if the structure has been damaged and is being restored, before the damage occurred. For the purpose of this definition, the term "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term "substantial improvement" does not, however, include either any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to ensure safe living conditions or any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

*Variance* means a grant of relief to a person from the requirements of this article when specific enforcement would result in unnecessary hardship. A variance, therefore, permits construction or development in a manner otherwise prohibited by this article. (For full requirements, see section 60.6 of the National Flood Insurance Program regulations.)

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

*Water surface elevation* means 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.

## **DIVISION 2. GENERAL PROVISIONS**

### **Sec. 34-20. Lands to which this chapter applies.**

This chapter shall apply to all areas within the jurisdiction of the city.

### **Sec. 34-21. Basis for establishing the areas of special flood hazard and other flood areas.**

The areas of special flood hazard identified by FEMA in the current scientific and engineering report entitled, "The Flood Insurance Study (FIS) for Galveston County, Texas and Incorporated Areas," dated August 15, 2019, with accompanying Flood Insurance Rate Map and/or Flood Boundary-Floodway Maps (FIRM and/or FBFM) dated August 15, 2019, and any revisions thereto are hereby adopted by reference and declared to be a part of this article. Incorporated areas includes both Galveston and Harris Counties.

### **Sec. 34-22. Development permit—establishment.**

A development permit shall be required to ensure conformance with the provisions of this article. The permit fee is set forth in Appendix D to this code. A development permit is required for all development-related activity in the floodplain, including, but not limited to:

- (1) Construction of new structures;
- (2) Modifications or improvements to existing structures;
- (3) Excavation;
- (4) Filling;
- (5) Paving;
- (6) Drilling;
- (7) Driving of piles; and
- (8) Grading.



### **Sec. 34-23. Flood zones defined.**

- (a) *Moderate to low-risk areas*, also known as "other flood areas" or the 500-year floodplain. In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:
  - (1) Zones B and X (shaded) means areas subject to a 0.2 percent chance of flooding in any given year; areas of one percent (1%) annual chance flood with average depths of less than one foot (1') or with drainage areas less than one square mile (1 mi<sup>2</sup>) , and areas protected by levees from one percent (1%) annual chance flood.
  - (2) Zones C and X (unshaded) means areas of minimal flood hazard, outside of the 0.2 percent chance of flood.
- (b) *High risk areas*, also known as "special flood hazard area" or the 100-year floodplain. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:
  - (1) Zones A, AE, A1-30, AH, AO, AR, A99 means the land in the floodplain within the city, that is subject to a one percent (1%) or greater chance of flooding in any given year.
- (c) *High risk—Coastal areas*. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:
  - (1) Zones V, VE, V1-30 means coastal areas with a one percent (1%) or greater chance of flooding and an additional hazard associated with storm waves.
- (d) *Friendswood special flood hazard area* is hereby established and means the land in the special flood hazard area and in the floodplain within the city that is subject to a 0.2 percent or greater chance of flooding in any given year and is designated as unnumbered A zones, AE zones, AO zones, AH zones, A1 through A99 zones, VO zones, V1 through V30 zones, VE zones, V zones, or X shaded zones.

### **Sec. 34-24. Compliance.**

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

### **Sec. 34-25. Abrogation and greater restrictions.**

This article is not intended to repeal, abrogate, or impair any existing easements, covenants or deed restrictions. However, where this article and another ordinance or regulation conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

**Sec. 34-26. Interpretation.**

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

- (1) Considered as minimum requirements;
- (2) Liberally construed in favor of the city council; and
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes.

**Sec. 34-27. Warning and disclaimer of liability.**

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur, and flood heights may be increased by manmade or natural causes. This article does 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. This article shall not create liability on the part of the city or any official or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

**DIVISION 4. ADMINISTRATION**

**Sec. 34-28. Floodplain administrator—Designation.**

The city manager is hereby appointed the Floodplain Administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program Regulations) pertaining to floodplain management.

**Sec. 34-29. Same—Duties and responsibilities.**

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

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this article;
- (2) Review permit applications to determine whether proposed building sites will be reasonably safe from flooding;
- (3) Review, approve or deny all applications for development permits required by adoption of this article;
- (4) Review permits for proposed development to ensure 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) Make the necessary interpretation where interpretation is needed as to the exact location of the boundaries of the areas of Friendswood special flood hazard areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions);
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agency, which is 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 FEMA;
- (7) Ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained; and
- (8) When base flood elevation and Zone X (shaded) data has not been provided in accordance with Section 34-21, the Floodplain Administrator shall obtain, review and reasonably utilize any base flood elevation data, Zone X (shaded) data and floodway data available from a federal, state or other source in order to administer the provisions of Division 5 of this article.

#### **Sec. 34-30. Permit Procedures.**

- (a) Application for a development permit shall be presented to the floodplain administrator on a form furnished by him and may include, but not be limited to, plans in duplicate, drawn to scale, showing the location, dimensions and elevation or proposed landscape alterations, existing and proposed structures, and the location of the foregoing in relation to areas of Friendswood special flood hazard areas. Additionally, the following information is required:
  - (1) Elevation, in relation to mean sea level, of the lowest floor, including basement, of all new and substantially improved structures;
  - (2) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
  - (3) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of subsection 34-61;
  - (4) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
  - (5) Maintenance of a record of all such information in accordance with subsection 34-29(1);

- (6) A mitigation plan identifying all cut and fill activities occurring within the areas of Friendswood special flood hazard areas. This mitigation plan will include all necessary calculations and shall be signed and sealed by a registered professional engineer; and
  - (7) Mitigation activities shall be fully implemented prior to any other development-related activities commenced on any given site.
- (b) Approval or denial of a development permit by the floodplain administrator shall be based on all of the provisions of this article and the following relevant factors:
  - (1) The danger to life and property due to flooding or erosion damage;
  - (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - (3) The danger that materials may be swept onto other lands to the injury of others;
  - (4) The compatibility of the proposed use with existing and anticipated development;
  - (5) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (6) The costs of providing governmental services during and after flood conditions, including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;
  - (7) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site;
  - (8) The necessity to the facility of a waterfront location, where applicable;
  - (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use; and
  - (10) The relationship of the proposed use to the comprehensive plan for the area.

**Sec. 34-31. Stormwater management.**

- (a) Prior to the issuance of any development permit, except for permits for developments in areas wholly outside areas of Friendswood special flood hazard areas where it is determined by the city engineer as unnecessary due to the existence of sufficient available data, the applicant shall submit a hydrological analysis showing the impact and potential adverse effects of increased runoff attributable to such proposed development from an Atlas 14 100-year frequency storm on downstream areas. Drainage improvements shall be required in accordance with the following:

- (1) Where new developments do not aggravate downstream flooding problems, they shall not be required to provide either on-site storage or off-site improvements;
- (2) Where new developments may aggravate downstream flooding, the developer shall compensate for the increased flood flows by providing downstream improvements which provide capacity to handle the increased flows;
- (3) Where downstream improvements may be so extensive as to be uneconomical for the proposed development or not be feasible because of right-of-way or other limitations, new developments may provide on-site storage improvements sized and constructed as to eliminate any adverse drainage impact downstream;
- (4) If it is not feasible for new development to analyze all downstream conditions, such new development may provide on-site storage of sufficient capacity to limit the developed peak discharge from the storage systems to that which would have flowed from the development in its natural undeveloped state. The stormwater runoff rate from a development after its completion shall not exceed the runoff rate for the land area prior to its development as determined by the 100-year frequency storm. Drainage calculations modeled to accomplish this purpose and the inflow-outflow hydrographs supplied for the area will be supplied with construction drawings and along with all other calculations for drainage; and
- (5) Hydrograph timing may not be used as a substitution for providing detention.

The storage systems designed to accomplish this purpose shall not be closer to any water-bearing strata than one foot (1') and shall have soil borings from a certified laboratory to substantiate this fact, and these results will be supplied with the design engineer's stamp on them to the city engineer before construction can begin. The type and geometrical shape of the storage system is independent and left to the design of the developer's engineer, but should include a cross section for flow up to a five-year frequency storm and the second cross section should be for the storage of additional stormwater to the 100-year interval. The area used for this purpose is to be maintained by the developer.

- (b) No development shall proceed until approval has been granted by the city engineer for the plans, specifications and flood control measures for such development as required under this section.

#### **Sec. 34-32. Variance procedures.**

The following shall regulate variances from the provisions of this article:

- (1) The Construction Board of Adjustment (CBOA), as established by the city, shall hear and render judgment on requests for variances from the requirements of this article;

- (2) The CBOA shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision or determination made by the floodplain administrator in the enforcement or administration of this article;
- (3) Any person aggrieved by the decision of the appeal 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 FEMA upon request;
- (5) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or a state inventory of historic places without regard to the procedures set forth in the remainder of this section;
- (6) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided the relevant factors in subsection 34-30(b) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases;
- (7) Upon consideration of the factors noted in this section and the intent of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article;
- (8) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result;
- (9) Prerequisites for granting variances are as follows:
  - a. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
  - b. Variances shall only be issued upon:
    1. Showing a good and sufficient cause;
    2. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
    3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, or create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances; and

- c. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation; and
- (10) Variances may be issued by the city for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use, provided that the criteria outlined in subsections (1) through (9) of this section are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

**Secs. 34-33—34-59. Reserved.**

## **DIVISION 5. PROVISIONS FOR FLOOD HAZARD REDUCTION**

### **Sec. 34-60. General standards.**

In all Friendswood special flood hazard areas within the city, the following provisions are required for all new construction and substantial improvements:

- (1) All new construction or substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters; and

- (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

### **Sec. 34-61. Specific standards.**

In all Friendswood special flood hazard areas within the city where base flood elevation and 0.2 percent flood elevation data has been provided as set forth in sections 34-21, 34-29(8), or 34-63(c), the following provisions are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure, including all attendant utility and sanitary facilities shall have the lowest floor, including basement, elevated to twenty-four inches (24") above the base flood elevation or at or above the 0.2 percent flood elevation, whichever is greater. 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 in this article, is satisfied.
- (2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to twenty-four inches (24") above the base flood level at or above the 0.2 percent flood elevation, whichever is greater, or together with attendant utility and sanitary facilities, be designed so that below the base flood level plus twenty-four inches (24") 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 shall develop and/or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification, which includes the specific elevation in relation to mean sea level to which such structures are floodproofed, shall be maintained by the floodplain administrator.
- (3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
  - a. A minimum of two (2) openings on separate walls having a total net area of not less than one square inch (1 in<sup>2</sup>) for every square foot of enclosed area subject to flooding shall be provided.
  - b. The bottom of all openings shall be no higher than one foot (1') 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. Enclosures below the base flood elevation are useable solely for parking of vehicles, building access, or storage. Owner(s) of new and substantially improved buildings will be required to sign a non-conversion agreement that must be filed with the deed. Enclosures shall be subject to inspection at any time with notice.

(4) *Manufactured homes.*

- a. All manufactured homes to be placed within zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- b. All 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, shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to twenty-four inches (24") above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- c. All manufactured homes shall 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 to the higher of the following:
  - 1. the lowest floor of the manufactured home is twenty-four inches (24") above the base flood elevation, or
  - 2. the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six inches (36") in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

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

**Sec. 34-62. Special lowest floor elevation requirements.**

- (a) Notwithstanding any other provision contained in this article to the contrary, in zone AE, lowest floor elevations shall be a minimum of twenty-four inches (24") above the elevation given on the latest FEMA FIRM panel for the city, eighteen inches (18") above the crown of the street to which the structure is addressed, or at or above the 0.2 percent flood elevation whichever is greater. When building location falls between elevations, the elevation may be interpolated to the nearest one-half foot (½ ft).
- (b) Notwithstanding any other provision contained in this article to the contrary, in zone AO, lowest floor elevations shall be thirty-six inches (36") higher than the centerline of the road in curb and gutter streets, or the high bank of a roadside ditch on streets with open ditch drainage or at or above the 0.2 percent flood elevation, whichever is greater.
- (c) Notwithstanding any other provision contained in this article to the contrary, in zone X shaded, lowest floor elevations shall be a minimum of twenty-four inches (24") higher than the adjacent natural grade, eighteen inches (18") above the crown of the street to which the structure is addressed, or at or above the 0.2 percent flood elevation, whichever is greater.
- (d) Notwithstanding any other provision contained in this article to the contrary, in zone X unshaded, lowest floor elevation shall be as follows:
- (1) On curb and gutter streets, the elevation shall be a minimum of eighteen inches (18") above the top of curb or a minimum of twelve inches (12") above the adjacent natural grade or at or above the 0.2 percent flood elevation, whichever is greater.
- (2) On streets with open ditches, slab elevations shall be a minimum of eighteen inches (18") higher than the center of the street or a minimum of twelve inches (12") higher than the adjacent natural grade or at or above the 0.2 percent flood elevation, whichever is greater.
- (e) For the purposes of this section, the term "adjacent natural grade" means the natural ground adjacent to the slab at its centerline paralleling the front of the structure. Natural ground is assumed to be the ground surface existing prior to placement of the building pad.

**Sec. 34-63. Standards for subdivision proposals.**

- (a) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall be consistent with sections 34-2, 34-3 and 34-4.

- (b) All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, shall meet the Floodplain Development Permit requirements of sections 34-30 and 34-25, and the provisions of this division.
- (c) Base flood elevation data and 0.2 percent flood elevation data shall be generated for subdivision proposals and other proposed development, including the placement of manufactured home parks and subdivisions, which is greater than 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to section 34-21.
- (d) All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.
- (e) All subdivision 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.

#### **Sec. 34-64. Floodways.**

Property located within areas of special flood hazard as established in section 34-21 are areas designated as floodways. The council finds that floodways are extremely hazardous areas due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, and the following provisions shall therefore apply to these areas in order to protect the public health, safety, and welfare and to protect private property:

- (1) Encroachments into the floodway shall be prohibited, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through a no-rise certificate using hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge;
- (2) If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of sections 34-60 through 34-64, and other applicable regulations of the city, including the provisions of this article; and
- (3) Under the provisions of 44 CFR 65.12 of the National Flood Insurance Program regulations, the city may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the city first applies for a conditional FIRM and floodway revision through FEMA.

#### **Sec. 34-65 Severability.**

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

**Sec. 34-66 Penalties for non-compliance.**

- (a) No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Any person who fails to comply with the requirements of this chapter, including violations of conditions and safeguards established in connection with conditions, shall, upon conviction, be punishable as provided in section 1-14 of this code and shall pay all costs and expenses involved in the case.
- (b) Nothing herein contained shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 3. That a person who violates any provision of this ordinance shall be deemed guilty of a misdemeanor and upon conviction, shall be fined in an amount not to exceed FIVE HUNDRED AND NO/100 DOLLARS (\$500.00). Each day of violation shall constitute a separate offense.

Section 4. All ordinances or parts of ordinances in conflict or inconsistent with this ordinance are hereby expressly repealed.

Section 5. In the event any clause, phrase, provision, sentence, or part of this ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Friendswood, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

Section 6. That the City Secretary shall give notice of the passage of this ordinance by causing the caption of this ordinance to be published in the official newspaper of the City.

PASSED and APPROVED on first reading by the affirmative vote of the City Council this 11<sup>th</sup> day of September, 2023.

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MIKE FOREMAN, Mayor

ATTEST:

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LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

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KAREN L. HORNER, City Attorney

PASSED, APPROVED and ADOPTED on second and final reading by the affirmative vote of the City Council this 2<sup>nd</sup> day of October, 2023.

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MIKE FOREMAN, Mayor

ATTEST:

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LETICIA BRYSCH, City Secretary

APPROVED AS TO FORM:

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KAREN L. HORNER, City Attorney