ADOPTED BY THE
MAYOR AND COUNCIL

August 9, 2016

ORDINANCE NO. 11396

RELATING TO FLOODPLAINS; AMENDING THE TUCSON CODE CHAPTER 26, FLOODPLAIN, STORMWATER, AND EROSION HAZARD MANAGEMENT, ARTICLE 1. IN GENERAL, DIVISION 1. FLOODPLAIN AND EROSION HAZARD AREA REGULATIONS; AMENDING SEC. 26-1 PURPOSE, SEC. 26-1.1 AUTHORITY, SEC. 26-1.2 APPLICABILITY, SEC. 26-1.3 BASIS FOR ESTABLISHING AREAS OF SPECIAL FLOOD HAZARD; ADDING SEC. 26-1.4 METHODS OF REDUCING FLOOD LOSSES; AMENDING SEC. 26-2 DEFINITIONS, SEC. 26-3 FLOODPLAIN BOUNDARIES, ELEVATIONS, SEC. 26-3.1 FLOODPLAIN BOUNDARY AND FLOOD ELEVATION REVISIONS, SEC. 26-4 STATUTORY EXCEPTIONS, SEC. 26-4.1 NONCONFORMING DEVELOPMENT, SEC. 26-5.1 FLOODWAY DEVELOPMENT, SEC. 26-5.2 FLOODWAY FRINGE DEVELOPMENT, SEC. 26-8 SUBDIVISION AND DEVELOPMENT PROJECT REQUIREMENTS, SEC. 26-9 STANDARDS FOR MANUFACTURED HOMES AND MANUFACTURED HOME PARKS AND SUBDIVISIONS, SEC 26-10 DETENTION/RETENTION SYSTEMS, SEC. 26-11.1 CITY ENGINEER REVIEW OF FLOODPLAIN AND EROSION HAZARD AREA DEVELOPMENT, SEC. 26-11.2 FLOODPLAIN USE PERMIT PROCEDURE, SEC. 26-11.3 PENALTIES, VIOLATIONS, UNLAWFUL ACTS, CLASSIFICATIONS, SEC. 26-11.4 DECLARATION OF PUBLIC NUISANCE; ABATEMENT, SEC. 26-12 APPEALS AND VARIANCES; AND ADDING SEC. 26-13 AMENDMENTS AND SEC. 26-16 SEVERABILITY; AMENDING SEC. 26-18 PUBLIC HEARING; AND SETTING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF TUCSON, ARIZONA, AS FOLLOWS:

SECTION 1. The following Sections of the Tucson Code, Chapter 26, Article 1 are amended to read as follows:

* * *

Sec. 26-1. Purpose.

These floodplain and erosion hazard area regulations are intended to protect human life and health, and promote and protect the public peace, safety, comfort, convenience, and general welfare; to meet state and federal requirements, thereby allowing residents of the city to purchase flood insurance; receive disaster relief should the need arise, and obtain residential and commercial real estate loans; to manage uses of the floodplains, recognizing that the highest and best use of the regulatory floodplains in the city is for the maintenance of hydrologic and hydraulic processes, with consideration for aesthetics, natural open space, recreation areas and wildlife habitat; to minimize flood and erosion damage; to protect and preserve groundwater recharge; to minimize costs to the city; to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public; to encourage the most effective expenditures of public money for drainage projects; to minimize prolonged business interruptions; minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in special flood hazard areas; to help maintain a stable tax base by providing for the sound use and development of special flood hazard areas so as to minimize blight areas caused by flooding; to notify potential buyers when a property is in a Special Flood Hazard Area; participate in and maintain eligibility for flood insurance and disaster relief; to accommodate anticipated runoff; to preserve the natural areas, streams, washes, arroyos, rivers, and drainage courses in their natural riverine condition whenever possible and that any land use proposal which utilizes this approach be considered superior to all others; to recognize that southwestern watercourses are unstable and that their physical characteristics may change; and to ensure that those who occupy the areas within a regulatory floodplain or erosion hazard area assume the responsibility for their actions.

Sec. 26-1.1. Authority.

The mayor and council, pursuant to the powers and jurisdiction vested by A.R.S. title 9, chapter 4, article 6.1, section 9-462.01(A)(8), (9), and title 48, chapter 21, article 1, section 48-3610, et seq., and other applicable laws, statutes, orders and regulations of the city, do hereby exercise the power and authority to adopt floodplain and erosion hazard area regulations for the city. The mayor and council, within City limits, shall delineate through this chapter for areas where development is ongoing or imminent or becomes imminent, the criteria for development within floodplains in a manner that is consistent with the criteria developed by FEMA and the Director of the Arizona Department of Water Resources.

Sec. 26-1.2. Applicability.

These floodplain and erosion hazard area regulations shall be applicable and enforceable in all incorporated areas of the city for all developments located within the floodplains, as defined herein, including public lands and to erosion-prone areas (as described in section 26-11.1) located within the corporate limits of the city. This ordinance is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this ordinance and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Sec. 26-1.3. Basis for establishing areas of special flood hazard.

* * *

The special flood hazard areas identified by the Federal Emergency Management Agency (FEMA) in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Pima County, Arizona, and Incorporated Areas" dated September 28, 2012, with any accompanying flood insurance rate maps (FIRM) and all subsequent amendments and/or revisions thereto are hereby adopted by reference and declared to be a part of this chapter. The FIS is on file with the floodplain section of the Engineering Division at the Planning and Development Services Department. The FIS and FIRM are the minimum areas and standards of applicability of this chapter and may be supplemented by studies for other flood hazard areas which allow implementation of this chapter and which are approved by the city engineer, and may be recommended to the floodplain board and FEMA. All river and basin management plans, or other land use plans approved by the mayor and council, are hereby incorporated into this chapter and made a part thereof by reference. Engineering drainage design standards, approved by the city engineer as revised on an ongoing basis to include the most current practices and methodologies, will be used in creating river and basin management plans.

* * *

Sec. 26-1.4 Methods of Reducing Flood Losses

In order to accomplish its purposes, this Ordinance includes methods and provisions to:

(a) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion, flood heights or velocities;

(b) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

(c) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;

(d) Control filling, grading, dredging, and other development which may increase flood damage; and

(e) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Sec. 26-2. Definitions.

* * *

Accessory structure means a structure that is on the same parcel of property as a principal structure, the use of which is incidental to the use of the principal structure.

Appeal means a request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance or a request for a variance.

Area of shallow flooding means *a* designated Zone AO or AH on a community's FIRM with a one percent or greater annual chance of flooding to an average depth of one to three 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.

* * *

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

Base flood elevation (BFE) means the calculated water-surface elevation of the base flood. For a special flood hazard area, the BFE means the elevation shown on or calculated from the FIS or FIRM, including Zones A, AE, AO1, AO2, and AH, where the FIS or FIRM indicates the water surface elevation resulting from a base flood. FIS Profile shall be used when available. Other elevations shall be determined by an engineering study.

* * *

Community means any state, area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

* * *

Critical Facility means any new and substantially improved public or private facility, or any addition to an existing public or private facility, that is used for public emergency management. Critical facilities shall be designed and constructed to be located outside of FEMA SFHA and other 100-year jurisdictional floodplains, and provide a minimum lowest floor elevation set at or above 500-year WSEL, or the RFE_{CF} = BFE +2-ft. Critical facilities include: critical airport facilities (air traffic control towers, electrical vaults, emergency generators, police station, fire station, and fueling stations), emergency incident command centers, other emergency facilities including fire stations, police departments; utility facilities; nursing homes or elderly care facilities; hospitals; storage facilities that have hazardous materials; and schools or day care facilities. Other critical facilities may be designated as determined by City Administration (Department Directors with City Manager or designee's concurrence).

Cumulative improvement means the tracking of the market value of all improvements to a structure over a 10-year period for the purpose of determining substantial damage or improvement.

Detention system means a type of flood control system which delays the downstream progress of floodwaters in a controlled manner, generally through the combined use of a temporary storage area and a metered outlet device which causes a lengthening of the duration of flow and thereby reduces downstream flood peaks. Reduction of runoff shall be provided per current City of Tucson Standards.

* * *

Dry well means a device that is used to dispose of floodwaters through a process of passive infiltration of floodwaters into the vadose zone, below the ground surface. Unless specifically used for water re-charge, dry wells are restricted to post-construction drainage solutions where all drainage requirements are met.

* * *

Encroachment means the advancement or infringement of land uses, fill or structures, or development, into the floodplain that impedes, alters, or reduces the flow capacity of the channel and regulatory floodplain of a watercourse.

Erosion means the process, either rapid or gradual, of the wearing away of land masses by water flow forces. This peril is not, per se, covered under the National Flood Insurance Program (NFIP).

Erosion hazard area means the land area adjoining a watercourse regulated by this chapter which is deemed by the city engineer to be subject to FEMA or local flood-related erosion losses.

* * *

Flood or *flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of floodwaters; (2) the unusual and rapid accumulation or runoff of surface waters from any source ; and/or (3) the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition.

Flood hazard map(s) (FHM) means an official map(s) of a community, issued by the city engineer, where the boundaries of the flood and/or related erosion hazard areas have been designated as local floodplain and/or erosion hazard zones.

Flood insurance rate map(s) (FIRM) means the official map(s) on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards (SFHA) and the risk premium zones applicable to the community. These maps, which are approved by the city engineer and adopted by the floodplain board, provide information regarding floodplains of the city.

Flood insurance study (FIS) means the official report provided by FEMA that includes flood profiles, FIRM and the water surface elevation of the base flood as set forth in the FIS.

* * *

Floodplain administrator means the city engineer, or designee, who is the community official designated by title to administer and enforce the floodplain management regulations.

Floodplain Board means the mayor and council at such times as they are engaged in the enforcement of this Ordinance.

Floodplain and erosion hazard area management regulations means this Ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, housing codes, setback requirements, open space area regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power which control development in floodprone areas. The term describes such state or local regulations, in any combination thereof, which provide standards for preventing and reducing both erosion damage and flood loss and damage.

Floodplain management means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

* * *

Flood-related erosion means the collapse or subsidence of land along the shore of a lake, watercourse, or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.

* * *

Floodway encroachment lines mean the lines marking the limits of floodways on federal, state and local flood plain maps.

Floodway fringe means the land outside the floodway lying at or below the base flood elevation along a watercourse, and includes that area of the floodplain on either side of the regulatory floodway where encroachment may be permitted. See exhibit 1.

* * *

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

Governing Body means the local governing municipality that is empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry.

Hardship means, as related to Section 26-12 of this Ordinance, the exceptional hardship that would result from a failure to grant the requested variance. The City of Tucson Mayor and Council requires that the variance be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

* * *

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 26-5.2 and 26-5.3 of this chapter. See definition of "*Basement.*"

Major wash or *major watercourse* means any watercourse which drains a contributing drainage basin of less than thirty (30) square miles and generates a base flood peak discharge of twenty-five hundred (2,500) cubic feet per second (cfs), or greater. Examples of major washes include but are not necessarily limited to: Alamo Wash, Cholla Wash, at and downstream from Mission Road, Pima Wash, Rodeo Wash, Silvercroft Wash, Tucson Arroyo, and West Branch of the Santa Cruz River Washes.

* * *

Mean sea level means, for purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, to which base flood elevations shown on a community's FIRM's are referenced.

* * *

New construction means, for purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of August 2, 1982, when the FIRM became effective, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such 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 March 22, 1982, when floodplain Management regulations were adopted by the city.

Obstruction means any matter, including but not limited to a dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel rectification, bridge, conduit, culvert, building, wire, fence, rock, gravel, vegetation, refuse, fill, or structure in, along, across or projecting into any channel, watercourse, stream, lake or regulatory flood hazard area which may impede, alter, retard or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water, or that is placed where the flow of water might carry the same downstream to the damage of life or property.

One-hundred-year flood or 100-year flood is a common name for the flood having a one percent chance of being equaled or exceeded in any given year. See definition of "Base flood."

* * *

Regulatory flood includes the base flood and drainage areas where the Q100 is equal to or greater than 100 cubic feet per second for the 1% flood event.

Regulatory flood elevation means the elevation which is one (1) foot higher than the calculated water surface elevation of the base flood, unless pertaining to critical facilities where the minimum lowest floor elevation is set at or above 500-year WSEL, or Regulatory Flood Elevation for Critical Facility (RFE_{CF}) = BFE +2-ft. In an AO Zone the RFE shall be one foot higher than the depth number specified on the FIRM, or two feet if no depth number is specified.

Regulatory floodplain means that portion of the natural floodplain that would be inundated by the regulatory flood. It includes that area where drainage is or may be restricted by manmade structures or those areas which are subject to sheet flooding, or those areas mapped as being floodprone on existing recorded subdivision plats and also includes areas where the Q100 is equal to or greater than 100 cubic feet per second for the 1% flood event. Also see exhibit 1.

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.

Retention system means a type of flood control facility which stores surface runoff and stops the downstream progress of surface water runoff or flood by employing methods of total containment. No flow is discharged directly into a downstream watercourse from a retention system or basin, except for bleed pipes to assure minimum drain-down time is met. Infiltration rate shall include safety factor of 2, or provide bleed pipe with spillway at maximum 6 inches above basin bottom. The stored water may infiltrate into the subsurface ground layers.

* * *

Special flood hazard area (SFHA) means an area of floodplain subject to a one (1) percent or greater chance of flooding in any given year. SFHA are shown on a FIRM as Zones A, AO(1), AO2, AE, or AH.

* * *

Start of construction includes substantial improvement and other proposed new development, and means the date the building permit was issued, provided the actual start of construction, repair, rehabilitation, addition, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling below existing ground surface; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations, or the erection of temporary forms. 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.

* * *

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

Substantial improvement means any reconstruction, repair, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage" regardless of the actual repair work performed. The term includes cost of improvements cumulatively added, in percentage, for a period of 10 years. The term does not, however, include either:

* * *

(2) Any alteration of an "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure."

* * *

Violation means the failure of a structure or other development to fully comply 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 this ordinance is presumed to be in violation until such time as that documentation is provided to the city for review and acceptance.

* * *

Water surface elevation means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Watercourse means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Watercourse master plan means a comprehensive plan adopted by the floodplain board that provides uniform, but separate, rules for watercourses where a higher level of protection is warranted for public safety or to preserve integrity of the watercourse, as provided by ARS Section 48-3609.01. These include the river and/or basin management plans, such as Tucson Stormwater Management Study (TSMS).

* * *

Zone A means no BFE's determined.

Zone AE means BFE's determined.

Zone AH means flood depths of one to three feet (usually areas of ponding); BFE's determined.

Zone AO means flood depths of one to three feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

Zone X (unshaded) means areas determined to be outside the 0.2% annual chance floodplain.

Zone X (shaded) means areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

* * *

Sec. 26-3. Floodplain boundaries, elevations.

(a) *Boundaries:* The boundaries of the regulatory floodplains and floodways shall be shown on maps maintained by the city engineer using the best available hydrologic and hydraulic data, such as the flood hazard maps (FHM) and flood insurance rate maps (FIRM) provided by the FEMA. The approximate boundaries of the regulatory floodplains shall also be shown on the city's building zone maps, which serve as the city's flood hazard maps.

* * *

(b) *Elevations:* Where elevations of the base flood have been determined for the regulatory floodplain and floodway delineated on maps maintained by the city engineer (such as the elevations shown on the FEMA flood insurance rate maps, however, FIS profiles shall be used to determine BFE when available), those elevations are hereby made a part of these regulations.

* * *

Sec. 26-3.1. Floodplain boundary and flood elevation revisions.

(a) Whenever additional data becomes available and warrants floodplain elevation or boundary revisions, such revisions may be made by the city engineer at the request of property owners or developers upon submission of the necessary engineering calculations and maps prepared by a state-registered professional civil engineer in conformance with the requirements of this chapter, the ADWR, and FEMA. When BFEs increase or decrease, as soon as practicable but not later than six months after the date the information becomes available, FEMA shall be notified by submitting technical or scientific date in accordance with 44 CFR 65.3. The City shall also notify ADWR. Within 120 days of completion of flood control protective works that change rate of flow or boundaries of the floodplain, all jurisdictions affected by the project are required to be notified.

* * *

(3) A development permit is required to be submitted for base flood elevation data for any subdivision proposal or other development greater than 50 lots or 5 acres, whichever is the lesser.

* * *

(d) BFE's may increase or decrease resulting from physical changes affecting flooding conditions. Within one hundred twenty (120) days after completion of construction of any flood control protective works, the revised regulatory floodplain and/or floodway and the revised base flood elevations, in the areas affected by such work, shall be redefined, and shall be provided to the governing bodies of all jurisdictions affected. As soon as is practicable, but not later than six months after the date such information becomes available, the Floodplain Administrator shall notify FEMA of the changes by submitting technical or scientific data in accordance with Volume 44 Code of Federal Regulations (CFR) Section 65.3. This submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements will be based upon current data.

(e) An appeal may be taken to the floodplain board by any person aggrieved by such revisions in accordance with Section 26-12 of this chapter.

Sec. 26-4. Statutory Exceptions.

(a) As specified in A.R.S sections 48-3609 and 48-3613, these regulations shall not:

* * *

(b) These exceptions do not preclude any person from liability if that person's actions increase flood hazards to any other person or property. Before any construction authorized by this section may begin, plans for such construction must be submitted to the city engineer for review and comment, and/or issuance of a floodplain use permit. A drainage statement or report also may be required.

Sec. 26-4.1. Nonconforming development.

(a) *Improvements to, or Reconstruction of, Existing Nonconforming Development:*

(1) Any structure which is substantially improved at a cost equal to or exceeding fifty (50) percent of the full cash value of the structure as shown on the latest assessment rolls of the county assessor either (a) before the improvement or repair is started, or (b) if the structure has been damaged and is being restored, before the damage occurred, shall conform to these regulations. At the time of improving or reconstructing the existing structure or development, floodproofing (nonresidential structures only)

may be considered as one of the means of bringing it in compliance with this chapter.

* * *

(2) Floodplain Administrator or designee shall review all improvements to a structure and track all changes over a cumulative 10-year period for compliance.

(3) For the purpose of this chapter, "substantial improvement" is also considered to occur, but is not limited to, 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.

(4) No person shall repair or alter property in any manner so as to avoid the provisions of this section.

* * *

Sec. 26-5.1. Floodway development.

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(5) Not increase the base flood elevations. Certification by a registered professional civil engineer shall be provided that demonstrates that the encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.

* * *

(12) Not utilize structures except hydraulic structures and those structures exempted under section 26-4(4) through (8) of this Ordinance, which are designed and constructed to protect life or property from dangers or hazards of floodwaters.

Sec. 26-5.2. Floodway fringe development.

* * *

(5) Not increase the base flood elevation more than one-tenth of a foot, as measured from the property boundary.

* * *

(9) Place the lowest (including basement) floor one (1) foot above the base flood elevation. In an AO Zone, residential construction, new or substantial damage repairs or improvements, shall have the lowest floor, including basement, elevated to or above the regulatory flood elevation. Prior to the pouring of the first slab or lowest floor installation and prior to any framing, the applicant shall submit to the city engineer certification by state-registered land surveyor or a state-registered professional civil

engineer that the elevation of the lowest floor framework is in compliance with that approved by the city engineer's office in the form prepared by FEMA (Elevation Certificate) for preslab (Building Under Construction) and final (Finished Construction).

* * *

(12) Be constructed so as to protect placed fill from erosion which could be caused by waters, or otherwise. Such fill shall be permitted only when demonstrated by the owner/developer that it will have some beneficial purpose, as determined by the city engineer, and the amount of proposed fill is not in excess of what is necessary to achieve that purpose. The fill shall be protected from erosion which could be accomplished by placing riprap, vegetative cover, bulk heading, or any other Floodplain Administrator approved methods. Certification of compaction shall be provided as determined by the Floodplain Administrator.

* * *

Sec. 26-8. Subdivision and development project requirements.

The requirements outlined in subsections (a) through (i) below apply to all improved or unimproved land areas or lands divided for the purpose of financing, sale or lease, whether immediate or future, the boundaries of which have been fixed by or proposed to be fixed by a recorded plat and which are located in flood hazard areas. These regulations shall also apply in instances where development plans are required by chapter 23B, Tucson Unified Development Code.

* * *

Sec. 26-8(a)(2)b.

b. All public utilities and facilities such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood and erosion damage. Septic systems, whether public or privately owned, shall not be located in such a way as to avoid impairment to them or contamination from them during flooding. Unprotected excavations shall not be permitted so close to any floodplain crossings, utility structures or facilities as to cause or have the potential to cause an adverse effect on such crossings, utilities or similar facilities.

* * *

Sec. 26-8(b)(2).

(2) Identify on the final plans the elevation(s) of the proposed structure(s) and pads. If the site is filled above the BFE, the final lowest floor and grade elevations shall be certified by a registered professional engineer or surveyor and provided to the Floodplain Administrator.

(3) All tentative plats and development projects in floodprone areas shall be accompanied by conceptual grading plans and conceptual drainage improvement plans included in a drainage statement or a drainage report prepared by a state-registered professional civil engineer, for approval by the city engineer, unless exempted by the city engineer. These reports or statements should include the following:

* * *

(4) All tentative plats and development plans in floodprone areas shall show proposed grading and improvement for areas which are subject to flooding or erosion or which have poor drainage. Also included will be a description and location of all facilities proposed to be used to alleviate flooding, erosion or other drainage problems, both in the proposed subdivision or development, and downstream and upstream of any watercourse affected by the subdivision or development, whether they are within or outside the project boundaries.

Prior to commencement of any site improvements or grading, a grading plan shall be submitted to the city engineer for review and approval. Detailed improvement plans of storm drains or channel improvements shall also be submitted to the city engineer for review and approval.

(5) All final plats and development plans in floodprone areas shall show limits of the regulatory floodplains, erosion hazard boundaries, and the floodways and floodplains delineated in a surveyable manner and certified by a state-registered land surveyor.

(6) All tentative plats and development plans in floodprone areas of all developments, including manufactured home parks and subdivisions, submitted shall include base flood elevation data. Also included as a general note shall be the drainage area(s) and their respective base flood peak discharges.

* * *

(d) *Building Sites:* Land which contains area within a floodplain shall not be divided or platted for residential occupancy or building sites unless each lot contains a building site, either natural or manmade, which is not subject to flood-related erosion or to flooding by the base flood, provides all weather access to the building pad, and is certified for compaction of fill for pad by an engineer.

* * *

(2) In areas where fill is to be used to raise the elevation of the building site, the building line shall be located not less than twenty-five (25) feet landward from any edge of the fill, unless a study prepared by a state-registered professional civil engineer and approved by the city engineer shows that a lesser distance is acceptable.

(3) No fill shall be placed in any floodway; nor shall any fill be placed where it diverts, retards or obstructs the flow of water to such an extent that it creates a danger or hazard to life or property in the area.

* * *

Sec. 26-8(f)(2)

(2) If the watercourse is an improved major or minor watercourse, the drainageway or the easement shall include the channel, the channel improvements, and necessary maintenance access.

* * *

Sec. 26-8(i)

(i) *Arizona Revised Statutes (A.R.S.) Section 48-3610 Compliance:* The city engineer upon receipt of an application for any development in a floodplain shall advise the Pima County Regional Flood Control District ("district") in writing and provide a copy of the application and any development plan, tentative plat, or a floodplain use permit application within one (1) mile of the corporate limits of the city. The district shall also provide similar development applications to the city which are located within one (1) mile outside of the corporate limits of the city. Written notice and a copy of the development plan and/or tentative plat shall be sent to the district no later than three (3) working days after the receipt by the city engineer.

* * *

Sec. 26-9. Standards for manufactured homes and manufactured home parks and subdivisions.

All new and replacement manufactured homes, additions to existing manufactured homes or additions to existing manufactured home parks or subdivisions, and recreational vehicles which are left on a site for longer than one hundred eighty (180) days and are not licensed and ready for highway use shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse or lateral movement. Methods of anchoring may include but are not to be limited to use of over-the-top or frame ties to ground anchors. The provisions of this paragraph and subsection (a)(1) do not apply to recreational vehicles which are on a site for fewer than one hundred eighty (180) days and which are fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system and is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions.

* * *

(2) A manufactured home which has incurred substantial damage by a flood may be repaired or may be replaced by another manufactured home. If the damage is less than fifty (50) percent of its value before the flood, it may be repaired or may be replaced by another manufactured home.

* * *

(b) *Certification:* Certification by a state-registered professional civil engineer that the installation of a manufactured home meets all of the requirements of this section is required. Such certification shall be provided by the person installing the manufactured home, the owner, the developer of the manufactured home park or subdivision, or an agency regulating manufactured home placement, whichever is deemed appropriate by the city engineer. Certification of elevations listed on the floodplain use permit shall be prepared by a state- registered land surveyor and provided to the city engineer prior to habitation of the structure in the form of an Elevation Certificate prepared by FEMA for Building Under Construction stage or at Final Construction.

* * *

Sec. 26-10. Detention/retention systems.

(a) When deemed necessary by the city engineer, flood detention/retention systems shall be employed in lieu of or in combination with structural flood control measures to reduce flooding potential or restrict it to a level no greater than pre-platting and/or pre-development conditions.

All proposed residential net densities of three (3) or more units per acre and all proposed commercial and industrial developments greater than one (1) acre in size shall provide some method of peak and volumetric runoff reduction. The amount of reduction is stipulated within the Stormwater Detention/Retention Manual, and subsequent amendments, which was approved for use by the city engineer as development standard in the Technical Standards Manual section 4-03.0.

* * *

Sec. 26-11.1. City engineer review of floodplain and erosion hazard area development.

(2) Applications for development requiring building permits within an area five hundred (500) feet on either side of delineated floodway boundaries in floodplains having watersheds larger than thirty (30) square miles, or two hundred fifty (250) feet on either side of watercourses having watersheds between ten (10) and thirty (30) square miles, and one hundred (100) feet on either side of watercourses having watersheds less

than ten (10) square miles shall be reviewed. If, within twenty (20) working days, the city engineer determines that the location is subject to flood or erosion hazards, an application for a floodplain use permit pursuant to section 26-11.2 is required. Property owners may request a preliminary determination from the city engineer for property in such areas prior to any application for actual development.

* * *

Sec. 26-11.2. Floodplain use permit procedure.

(a) *General:* Upon receiving an application for a floodplain use permit, the city engineer shall, within twenty (20) working days, review the application to ensure that the site is reasonably safe from flooding, declare the application complete, or:

* * *

Sec. 26-11.2(b)(7)

(7) Dry floodproofing measures for existing nonresidential structures, which shall be designed to be consistent with the regulatory flood elevation for the particular area, flood velocities, durations, rate of rise, hydrostatic and hydrodynamic forces, and other factors associated with the base flood. The city engineer may require that the applicant submit a plan or document certified by a state-registered professional civil engineer that the floodproofing measures are consistent with the regulatory flood elevation and associated flood factors for the particular area. Examples of floodproofing measures may be obtained from the city engineer approved drainage design standards. Floodproofing for nonresidential structure construction or new or substantial damage repairs or improvements shall either be elevated to conform to regulations, or together with attendant utility and sanitary facilities:

a. Be floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water; and

b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

c. If structure is elevated, be certified by a registered professional surveyor as certified by an accepted dry floodproofing elevation certificate;

d. If structure is floodproofed by other means than elevating, be certified by a civil engineer.

(8) Wet floodproofing requires flood vent certification. All new construction and substantial damage repairs or improvements with fully enclosed areas below the lowest floor (excluding basements) that are

usable solely for parking of vehicles, building access or storage, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater. Designs for meeting this requirement must meet or exceed the following criteria:

a. Have a minimum of two openings, on different sides of each enclosed area, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater; or

b. Alternatively, a registered civil engineer may design and wet-floodproof-certify the openings.

* * *

Sec. 26-11.2(g)

(g) Decision: The city engineer shall, within twenty (20) working days of the application's being declared complete, render a decision on the floodplain use permit. A floodplain use permit shall be denied if the proposed development constitutes a danger or hazard to life and/or property.

Sec. 26-11.2(h)

(h) *Certificate of flood elevation:* Prior to the issuance of final occupancy permits for development undertaken pursuant to a floodplain permit, the applicant shall submit, on a form provided by the city, certification that the elevation (in relation to mean sea level) of the lowest floors (including basement) of all new or substantially improved, or substantially damage repaired, structures is at or above the regulatory flood elevation. The certificate shall also disclose the method used to determine the regulatory flood elevation and the required erosion hazard setback, if any. The certification shall be signed by a state-registered professional civil engineer or land surveyor. Following acceptance of a certificate by the city engineer, a copy shall also be maintained in the building safety division records of the development. For elevation certificate for projects in SFHA or other jurisdictional floodplains, use current FEMA form for both stages for Building Under Construction and for Finished Construction.

The city engineer shall maintain for public inspection and furnish upon request, for the determination of applicable flood insurance risk premium rates within all areas having special flood hazards identified on an FHM or

FIRM, any certifications and information on the elevation (in relation to mean sea level) of the level of the lowest flood (including basement) of all new or substantially improved structures.

(i) Floodplain Administrator is responsible for record keeping and shall obtain and maintain for public inspection and make available as needed:

(1) Certification required by Sections 26-5.2(9), 26-11.2(b)(7), and 26-9(b) (lowest floor elevations, bottom of the structural frame, and utilities);

(2) Certification required by Section 26-11.2(b)(7), 26-11.2(b)(8) and 26-11.2(h) (lowest floor elevations or floodproofing of nonresidential structures and utilities);

(3) Certification required by Section 26-11.2(b)(8) (flood vents);

(4) Certification of elevation and compaction required by Section 26-8(b)(2) and 26-5.2(12) (subdivisions and other proposed development standards);

(5) Certification required by Section 26-5.1(5) (floodway encroachments);

(6) Records of all variance actions, including justification for their issuance;

(7) Obtain and maintain improvement and damage calculations required in Section 26-4.1(2);

(j) *Fees:* The following fees are imposed on applications for floodplain use permits.

* * *

Sec. 26-11.3 Penalties, violations, unlawful acts, classifications.

* * *

(3) Violate any of the provisions of this chapter.

All violations under this section shall be heard under the procedures set forth in chapter 8 of this Code. Additionally, any person found responsible under this section shall be punished by a fine of not less than fifty dollars ($50.00) and not more than twenty-five hundred dollars ($2,500.00). The administrative hearing officer may also order abatement of the violation. Furthermore, where the provisions of chapter 8 conflict with the provisions of this section, this section shall govern.

* * *

Sec. 26-11.4. Declaration of public nuisance; abatement.

All development located or maintained in a floodplain since August 8, 1973, in violation of Title 48, Chapter 21, Article 1 of the Arizona Revised Statutes or of floodplain regulations established by this chapter and without written authorization from the floodplain board is a public nuisance per se and may be abated, prevented or restrained by action of the City of Tucson. To abate violations, the city may:

(a) Take any necessary action to effect the abatement of such violation; or

(b) Issue a variance to this ordinance in accordance with the provisions of Section 26-12 herein; or

(c) Order the owner of the property upon which the violation exists to provide whatever additional information may be required for their determination; or

(d) Submit to the Federal Emergency Management Agency a declaration for denial of insurance, stating that the property is in violation of a cited state or local law, regulation or ordinance, pursuant to Section 1316 of the National Flood Insurance Act of 1968 as amended.

Sec. 26-12. Appeals and variances.

* * *

(b) *Variances.* The floodplain board shall hear and decide all requests for variances from the requirements of this ordinance. Stormwater technical advisory committee (STAC) or stormwater advisory committee (SAC), as designated at the time by the floodplain administrator, shall make recommendations to the director of the department of transportation to be forwarded to the mayor and council on technical issues raised by appeals and variance requests.

* * *

(3) Within twenty (20) working days after accepting an appeal or variance request, the city engineer may submit a copy of the appeal or variance request, together with all available pertinent documents and information to SAC or STAC as designated at the time by the floodplain administrator. If SAC or STAC determines that the appeal or variance request raises technical questions or issues, SAC or STAC may review the request and provide written conclusions and recommendations to the floodplain board. The conclusions for a variance request must address the findings required in section 26-12(d) for the granting of a variance by the floodplain board.

a. Within twenty (20) working days after the receipt of the application, or any additional materials or information as provided for below, the city engineer shall notify the applicant whether or not the application is deemed complete.

* * *

(d) In considering such applications, the floodplain board shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:

(1) The danger that materials may be swept onto other lands to the injury of others;

(2) The danger of life and property due to flooding or erosion damage;

(3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(4) The importance of the services provided by the proposed facility to the community;

(5) The necessity to the facility of a waterfront location, where applicable;

(6) The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;

(7) The compatibility of the proposed use with existing and anticipated development;

(8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(9) The safety of access to the property in time of flood for ordinary and emergency vehicles;

(10) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and,

(11) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water system and streets and bridges.

(e) A variance shall be granted only if, based on technical evidence prepared by an Arizona registered professional engineer, the floodplain board finds all of the following:

a. A showing of good and sufficient cause.

b. That the variance is the minimum necessary, considering the flood hazard, to afford relief.

c. That failure to grant the variance would result in exceptional hardship to the applicant. An exceptional hardship is one that is exceptional, unusual and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic

considerations, personal preferences or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

d. That the granting of the variance will not create a danger or hazard to life or property in the area, or result in increased flood heights; additional threats to public safety; extraordinary public expense; the creation of a nuisance; the victimization of or fraud on the public; and that the variance is not in conflict with other city ordinances or regulations.

e. That special circumstances, such as size, shape, topography, location, or surroundings of the property would cause strict application of the regulations to deprive the property of privileges enjoyed by similar property in the floodplain or erosion hazard areas.

f. That, for the repair, rehabilitation or restoration of structures listed in the National Register of Historic Places or the State Inventory of Historic Places, upon a determination that the proposed repair or rehabilitation will not preclude the structures' continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

g. Upon a showing that the use cannot perform its intended purpose unless it is located or carried out in close proximity to water. This includes only facilities defined as having "Functionally Dependent Use.

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

(g) A variance is subject to conditions to ensure that the variance does not constitute a grant of special privileges inconsistent with the limitation on similar property in the floodplain or erosion hazard areas.

(h) If the floodplain board grants a variance from the provisions of this division, the city engineer shall provide written notice to the grantees of the variance that:

a. The property may be ineligible for exchange of state land pursuant to the statutory flood relocation and land exchange program per A.R.S. 37-610. The city clerk shall record a copy of the notice in the office of the county recorder so that the notice appears in the chain of title of the affected parcel of land;

b. Such construction for a structure to be constructed below RFE increases risks to life and property; and

c. The issuance of a variance to construct a structure below the RFE will result in increased premium rates for flood insurance as determined by the insurance carrier and NFIP regulations.

(i) The floodplain board shall hold a public hearing to consider an appeal or variance request within sixty (60) days after the city engineer accepted the application. After the close of the public hearing the mayor and council may:

* * *

Sec. 26-13. Amendments.

(a) SAC or STAC, as determined at the time by the floodplain administrator, shall review all proposed amendments to Chapter 26 of the Tucson Code and shall provide written conclusions and recommendations to the director of the department of transportation to be forwarded to the mayor and council prior to a public hearing on the proposed amendments. Floodplain Administrator shall request the director of Planning and Development Services Department to reconstitute or convene as necessary the SAC or STAC.

(b) Pursuant to A.R.S. Sec. 48-3609.02, prior to the adoption, amendment or repeal of any provision of this Chapter the following shall occur:

(1) City department through the floodplain administrator shall provide at least two weeks' notice of a meeting at which the public may provide comments on draft language of any proposed rule. Notice shall include the entire text of the draft proposed rule and it shall be made available to the public. Written and verbal comments on the draft language shall be accepted by floodplain administrator.

(2) City department through the floodplain administrator shall provide at least two weeks' notice of a meeting at which the final text of the proposed rule is considered by the mayor and council. Notice shall include the entire text of the final version of the proposed rule and it shall be made available to the public. At least one week before this meeting, floodplain administrator shall provide the public with the department's written responses to the written public responses generated as a result of the meeting required under subsection (1) above, and may provide written responses to the verbal public comments generated as a result of the meeting required under subsection (1) above.

(3) City department through the floodplain administrator shall provide mayor and council with copies of the public comments and the department's written responses to those public comments. If as a result of public comments or internal review, mayor and council determines that the

text of a proposed rule requires substantial change, mayor and council shall issue a supplemental notice containing the changes to the proposed rule and shall provide for additional public comment before adoption.

(4) City department through the floodplain administrator may provide the notices required by this section on the department/city's website.

Sec. 26-14. Enforcement.

It shall be the duty of the city engineer and all officers of the city otherwise charged with the enforcement of the law to enforce these floodplain or erosion hazard area regulations.

Sec. 26-15. Disclaimer of liability.

The degree of flood and erosion protection required by these regulations is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood height may be increased by manmade or natural causes, such as bridge openings restricted by debris. These regulations do not imply that areas outside the floodplain or erosion hazard area boundaries or land uses permitted within such area will be free from flooding or flood and erosion damages. These regulations shall not create liability on the part of the city or any officer or employee thereof for any flood or erosion damages that may result from reliance on any administrative decision lawfully made thereunder.

Sec. 26-16. Severability.

This Ordinance and the various parts thereof are hereby declared to be severable. Should any section of this Ordinance be declared to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

Sec. 26-17. Coordination with other agencies.

The city engineer shall notify adjacent communities and the Arizona Department of Water Resources prior to any alteration or relocation of a regional or a major watercourse, and submit evidence of such notification to the Federal Insurance Administration.

Sec. 26-18. Public hearing.

A public hearing is required for any amendment of these regulations and shall be held in accordance with the provisions of A.R.S. title 9 and title 48. The mayor and council acting as the floodplain board shall conduct

the public hearing. The public hearing and notice requirements will be conducted in accordance with A.R.S. title 9 and title 48-3609(E). In cases where the provisions of either title are more restrictive, the more restrictive provisions will prevail.

Secs. 26-19. Reserved.

* * *

SECTION 2. If any provisions of this Ordinance, or the application thereof to any person or circumstance is invalid, the invalidity shall not affect other provisions or applications of this Ordinance which can be given effect without the invalid provision or circumstance, and to this end, the provisions of this Ordinance are severable.

SECTION 3. The various City officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this Ordinance.

SECTION 4. This Ordinance becomes effective thirty (30) days after it is adopted by the Mayor and Council and is available from the City Clerk.

PASSED, ADOPTED, AND APPROVED by the Mayor and Council of the City of Tucson, Arizona, August 9, 2016.

MAYOR

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

CITY ATTORNEY

REVIEWED BY:

CITY MANAGER

PG/tl
7/25/16