



CITY COUNCIL AGENDA REPORT

Meeting Date: February 21, 2019

From: Director of Public Works/City Engineer

Subject: Amendment to BMC Chapter 15.56 (Floodplain Management)

Recommendation

Adopt Ordinance No. 631, waiving second reading, amending Chapter 15.56 of the Brisbane Municipal Code concerning "Floodplain Management."

Background

This ordinance was introduced at the regular City Council meeting held on February 7, 2019, and was passed unanimously on the consent calendar with no requested changes.

Attachments

1. February 7, 2019 staff report (minus attachments)
2. Final version Ordinance No. 631

Randy Breault, Public Works Director

Clay Holstine, City Manager

City of Brisbane

Agenda Report

TO: Honorable Mayor and City Council

FROM: Randy Breault, Director of Public Works/City Engineer via City Manager

SUBJECT: Amendment to BMC Chapter 15.56 (Floodplain Management)

DATE: February 7, 2019

City Council Goals:

To promote intergovernmental opportunities that enhances services and/or reduces cost of operations and services to city residents. (#10)

Purpose:

To revise the City's floodplain management regulations found in the Brisbane Municipal Code (BMC) to meet current minimum National Flood Insurance Program (NFIP) standards.

Recommendation:

Introduce Ordinance No. 631, waiving first reading, amending Chapter 15.56 of the Brisbane Municipal Code concerning "Floodplain Management."

Background:

The city undergoes regular reviews of our municipal code chapter on floodplain management to retain eligibility for those parcels in Brisbane within a flood zone to participate in the NFIP. These reviews can be completed either in person as a Community Assistance Visit, or telephonically as a Community Assistance Call (CAC). The last time we were asked to make major changes was February 2015.

Based on the new floodplain map panels that will be in effect April 5, 2019, the FEMA Region 9 NFIP Planner requested a number of upgrades to our BMC to keep the code in compliance with the "Model Floodplain Management Ordinance for Noncoastal Communities."

The main driver for the numerous changes requested by FEMA is that the new panels show a Zone AE with a base flood elevation (BFE) of 11 along the easterly marina promenade (see attached "Comparison of Flood Hazard), and also along the BCDC

pathway on the north shore of Sierra Point. The meaning of Zone AE is that this area has a 1% probability of being flooded every year. Any new or remodeled structure in this area has to be built one foot above the BFE. The existing structures impacted by this updated map panel are the marina restrooms which hover right at the established BFE, and the Harbormaster's office, which is above the BFE.

With the exception of language added in §15.56.072, all of the remaining proposed changes are exactly as requested by FEMA staff, and have been approved by FEMA as written and now presented to the Council.

Discussion:

Should the City not adopt these changes, the Code of Federal Regulations requires FEMA to automatically suspend NFIP participation for communities with ordinances that are not compliant.

Fiscal Impact:

None as a result of changes proposed herein.

Measure of Success

A Floodplain Management ordinance that has FEMA's approval for conformance with NFIP standards, and which allows city businesses in flood zones to continue their participation in the NFIP.

Attachments:

- Comparison of Flood Hazard
- "Redline" version of Chapter 15.56 Floodplain Management
- Ordinance No. 631

Director of Public Works/City Engineer

City Manager

ORDINANCE NO. 631

**AN ORDINANCE OF THE CITY OF BRISBANE
AMENDING VARIOUS SECTIONS OF CHAPTER 15.56
OF THE BRISBANE MUNICIPAL CODE
CONCERNING FLOODPLAIN MANAGEMENT**

The City Council of the City of Brisbane hereby ordains as follows:

SECTION 1: Sections 15.56.050, 15.56.071, 15.56.072, 15.56.073 and 15.56.081 of Chapter 15.56 "Floodplain Management" of Title 15 of the Municipal Code are hereby amended to read as follows:

§15.56.050 - Definitions.

Unless otherwise defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application:

- A. "Accessory structure" means a structure that is either:
 - 1. Solely for the parking of no more than 2 cars; or
 - 2. A small, low cost shed for limited storage, less than 150 square feet and \$1,500 in value.
- B. "Accessory use" means a use which is incidental and subordinate to the principal use of the parcel of land on which it is located.
- C. "Appeal" means a request for a review of the floodplain administrator's interpretation of any provision of this chapter.
- D. "Area of shallow flooding" means a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.
- E. "Area of special flood hazard." See "special flood hazard area."
- F. "Base flood" means the flood having a one percent (1%) chance of being equaled or exceeded in any given year. Also called the "one-hundred (100) year flood."
- G. "Base flood elevation" (BFE) means the elevation shown on the flood insurance rate map for Zones AE, AH, A1-30, VE and V1-V30 that indicates the water surface elevation resulting from a flood that has a one-percent or greater chance of being equaled or exceeded in any given year.
- H. "Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

- I. "Breakaway walls" are any type of walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic or any other suitable building material which is not part of the structural support of the building and which is designed to break away under abnormally high tides or wave action without causing any damage to the structural integrity of the building on which they are used for any buildings to which they might be carried by floodwaters. A breakaway wall shall have a safe design loading resistance of not less than ten (10) and no more than twenty (20) pounds per square foot. Use of breakaway walls must be certified by a registered engineer or architect and shall meet the following conditions:
1. Breakaway wall collapse shall result from a water load less than would occur during the base flood; and
 2. The elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of the base flood.
- J. "Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. It is an area subject to high velocity waters, including coastal and tidal inundation or tsunamis. The area is designated on a Flood Insurance Rate Map (FIRM) as Zone V1-V30, VE, or V.
- K. "Development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.
- L. "Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain which may impede or alter the flow capacity of a floodplain.
- M. "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 August 22, 1988.
- N. "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).
- O. "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 a flash flood or abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition.

- P. "Flood boundary and floodway map" (FBFM) means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.
- Q. "Flood hazard boundary map" (FHBM) means the official map of a community issued by the Federal Emergency Management Agency, where the boundaries of the flood, mudflow and related erosion areas having special hazards have been designated.
- R. "Flood insurance rate map" (FIRM) means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.
- S. "Flood insurance study" (FIS) means the official report provided by the Federal Insurance Administration that includes flood profiles, the FIRM, the flood boundary and floodway map, and the water surface elevation of the base flood.
- T. "Floodplain" or "flood-prone area" means any land area susceptible to being inundated by water from any source. (See definition of "flooding.")
- U. "Floodplain Administrator" is the community official designated by title to administer and enforce the floodplain management regulations.
- V. "Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.
- W. "Floodplain management regulations" means the zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances such as floodplain ordinances, grading ordinances and erosion control ordinances, and other applications of police power. The term describes such state and local regulations in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.
- X. "Floodproofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.
- Y. "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 one foot. Also referred to as "regulatory floodway."
- Z. "Floodway fringe" is that area of the floodplain on either side of the "Regulatory Floodway" where encroachment may be permitted.
- AA. "Fraud and victimization" as related to Section 15.56.090 of this ordinance, means that the variance granted must not cause fraud on or victimization of the public. In examining this requirement, the City Council will consider the fact that every newly constructed building adds to government responsibilities and remains a part of the community for fifty to one-hundred years. Buildings that are permitted to be constructed below the base flood elevation are subject during all those years to increased risk of damage from floods,

while future owners of the property and the community as a whole are subject to all the costs, inconvenience, danger, and suffering that those increased flood damages bring. In addition, future owners may purchase the property, unaware that it is subject to potential flood damage, and can be insured only at very high flood insurance rates.

- BB. "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 shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities.
- CC. "Hardship" as related to Section 15.56.090 of this ordinance means the exceptional hardship that would result from a failure to grant the requested variance. The {community governing body} 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.
- DD. "Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
- EE. "Historic structure" means any structure that is:
1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
 2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
 3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
 4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.
- FF. "Lowest floor" means the lowest floor of the lowest enclosed area, including basement.
1. An unfinished or flood resistant enclosure below the lowest floor that is 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 it conforms to applicable non-elevation design requirements, including, but not limited to:
 - a. The flood openings standard in Section 15.56.081.C.3;
 - b. The anchoring standards in Section 15.56.081.A;
 - c. The construction materials and methods standards in Section 15.56.081.B; and

- d. The standards for utilities in Section 15.56.081.D.
2. For residential structures, all subgrade enclosed areas are prohibited as they are considered to be basements (see "Basement" definition). This prohibition includes below-grade garages and storage areas.
- GG. "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. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days.
- HH. "Manufactured home park or subdivision" means a parcel or contiguous parcels of land divided into two or more manufactured home lots for sale or rent.
- II. "Mean sea level" means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.
- JJ. "New construction" means, for floodplain management purposes, structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by this community.
- KK. "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 August 22, 1988.
- LL. "Obstruction" includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.
- MM. "One-hundred-year-flood" or "100-year flood" means a flood which has a one percent (1%) annual probability of being equaled or exceeded. It is identical to the "base flood," which will be the term used throughout the chapter.
- NN. "Person" means an individual or his agent, firm, partnership, association, or this state or its agencies or political subdivisions.
- OO. "Primary frontal dune" means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively mild slope.

- PP. "Program deficiency" means a defect in a community's floodplain management regulations or administrative procedures that impairs effective implementation of those floodplain management regulations. .
- QQ. "Public safety and nuisance" as related to Section 6 of this ordinance, means that the granting of a variance must not result in anything which is injurious to safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.
- RR. "Recreational vehicle" means a vehicle which is:
1. Built on a single chassis;
 2. 400 square feet or less when measured at the largest horizontal projection;
 3. Designed to be self-propelled or permanently towable by a light-duty truck; and
 4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
- SS. "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 one foot.
- TT. "Riverine" means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.
- UU. "Sand dunes" mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.
- VV. "Special flood hazard area (SFHA)" means an area in the floodplain subject to a 1 percent or greater chance of flooding in any given year. It is shown on an FHBM or FIRM as Zone A, AO, A1-A30, AE, A99, AH, V1-V30, VE or V.
- WW. "Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- XX. "Remedy a violation" means to bring the structure or other development into compliance with state or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing federal financing exposure with regard to the structure or other development.
- YY. "Special flood hazard area (SFHA)" means an area having special flood or flood-related erosion hazards, and shown on an FHBM or FIRM as Zone A, A1-30, AE, A99.
- ZZ. "Start of construction" includes substantial improvement, and means the date the building permit was issued; provided, the actual start of construction, repair, reconstruction, 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 state of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

AAA. "Structure" means a walled and roofed building, including a gas or liquid storage tank that is principally aboveground as well as a manufactured home.

BBB. 1. "Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either:

- a. Before improvement or repair is started; or
- b. If the structure has been damaged, and is being restored, before the damage occurred.

2. For the purpose of this definition 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 does not, however, include either:

- a. 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 assure safe living conditions; or
- b. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

CCC. "V zone" - see "Coastal high hazard area."

DDD. "Variance" means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

EEE. "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 this chapter is presumed to be in violation until such time as that documentation is provided.

FFF. "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.

GGG. "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.

§15.56.071 - Establishment of development permit.

A development permit shall be obtained before construction or development begins within any area of special flood hazards established in Section 15.56.062. Application for a development permit shall be made on forms furnished by the floodplain administrator and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing. Specifically, the following information is required:

- A. Plans in duplicate, drawn to scale, showing:
 1. Location, dimensions, and elevation of the area in question, existing or proposed structures, storage of materials and equipment and their location;
 2. Proposed locations of water supply, sanitary sewer, and other utilities;
 3. Grading information showing existing and proposed contours, any proposed fill, and drainage facilities;
 4. Location of the regulatory floodway when applicable;
 5. Base flood elevation information as specified in Section 15.56.062 or Section 15.56.073.C;
 6. Proposed elevation in relation to mean sea level, of the lowest floor (including basement) of all structures; and
 7. Proposed elevation in relation to mean sea level to which any nonresidential structure will be floodproofed, as required in Section 15.56.081.C.2 of this ordinance and detailed in FEMA Technical Bulletin TB 3-93.
- B. Certification from a registered civil engineer or architect that the nonresidential floodproofed building meets the floodproofing criteria in Section 15.56.081.C.2.
- C. For a crawl-space foundation, location and total net area of foundation openings as required in Section 15.56.081.C.3 of this ordinance and detailed in FEMA Technical Bulletins 1-93 and 7-93.
- D. All appropriate certifications listed in Section 15.56.073(D) of this chapter.
- E. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

§15.56.072 - Designation of the floodplain administrator.

The building official, as defined in this code, is appointed to administer and implement this chapter by granting or denying development permits in accordance with its provisions.

The Director of Public Works/City Engineer shall assist the floodplain administrator by performing the following functions:

- A. Maintain the city's floodplain management files, including the Flood Insurance Rate Map (FIRM).
- B. Review and approve/deny updates and revisions to the FIRM.
- C. Function as the city representative for floodplain management studies, plans, mapping activities, projects and flood mitigation projects.
- D. Assist and cooperate with the Federal Emergency Management Agency during Community Assistance Visits and during regular review of this ordinance to ensure the city meets the minimum requirements of the National Flood Insurance Program.

§15.56.073 - Duties and responsibilities of the floodplain administrator.

The duties and responsibilities of the floodplain administrator shall include, but not be limited to:

- A. Permit Review. Review all development permits to determine that:
 - 1. The permit requirements of this chapter have been satisfied;
 - 2. All other required state and federal permits have been obtained;
 - 3. The site is reasonably safe from flooding; and
 - 4. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point.
 - 5. All Letters of Map Revision (LOMR's) for flood control projects are approved prior to the issuance of building permits. Building Permits must not be issued based on conditional letters of map revision (CLOMR's). Approved CLOMR's allow construction of the proposed flood control project and land preparation as specified in the "start of construction" definition.
- B. Development of Substantial Improvement and Substantial Damage Procedures.
 - 1. Using FEMA publication FEMA 213, "Answers to Questions About Substantially Damaged Buildings," develop detailed procedures for identifying and administering requirements for substantial improvement and substantial damage, to include defining "Market Value."
 - 2. Assure procedures are coordinated with other departments/divisions and implemented by community staff.
- C. Use of Other Flood Data. When base flood elevation data has not been provided in accordance with Section 15.56.062, the floodplain administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Section 15.56.080. Any such information shall be submitted to the city for adoption.

NOTE: A base flood elevation may be obtained using one of two methods from the FEMA publication, FEMA 265, "Managing Floodplain Development in Approximate Zone A Areas – A Guide for Obtaining and Developing Base (100-year) Flood Elevations" dated July 1995.

- D. Whenever a watercourse is to be altered or relocated it is the responsibility of the floodplain administrator to:
1. Notify adjacent communities and the California Department of Water Resources prior to such alteration or relocation of watercourse, and submit evidence of such notification to the Federal Insurance Administration;
 2. Submit evidence of such notification to the Federal Emergency Management Agency; and
 3. Require that the flood-carrying capacity of the altered or relocated portion of said watercourse is maintained.
- E. Base Flood Elevation Changes Due to Physical Alterations.
1. Within six (6) months of information becoming available or project completion, whichever comes first, the floodplain administrator shall submit or assure that the permit applicant submits technical or scientific data to FEMA for a letter of map revision (LOMR).
 2. All LOMR's for flood control projects are approved prior to the issuance of building permits. Building Permits must not be issued based on conditional letters of map revision (CLOMR's). Approved CLOMR's allow construction of the proposed flood control project and land preparation as specified in the "start of construction" definition.
- Such submissions are necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements are based on current data.
- F. Changes in Corporate Boundaries. The floodplain administrator shall notify FEMA in writing whenever the corporate boundaries have been modified by annexation or other means and include a copy of a map of the community clearly delineating the new corporate limits.
- G. It is the responsibility of the floodplain administrator to obtain and maintain for public inspection and make available as needed:
1. The certification required in Section 15.56.081(C)(1), floor elevations;
 2. The certification required in Section 15.56.081(C)(2)(c), elevation or floodproofing of nonresidential structures;
 3. The certification required in Section 15.56.081(C)(3)(a) or 15.56.081(C)(3)(b), wet floodproofing standard;
 4. The certified elevation required in Section 15.56.081(E)(2), subdivision standards;
 5. The certification required in Section 15.56.081(H)(2) floodway encroachment.

6. Information required by Section 15.56.081.I (coastal construction standards);
- H. It is the responsibility of the floodplain administrator to make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards; for example, where there appears to be a conflict between a mapped boundary and actual field conditions. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 15.56.090.
- I. It is the responsibility of the floodplain administrator to take action to remedy violations of this chapter as specified in Section 15.56.063 herein.

§15.56.081 - Standards for construction.

In all areas of special flood hazards, the following standards are required:

- A. Anchoring.
 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 2. All manufactured homes shall meet the anchoring standards of subsection F of this section.
- B. Construction Materials and Methods.
 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
 2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 3. All new construction and substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
 4. Within Zones AH or AO, so that there are adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures.
- C. Elevation and Floodproofing.
 1. Residential construction.

All new construction or substantial improvements of residential structures shall have the lowest floor, including basement:

 - a. In AE, AH, A1-30 Zones, elevated to or above the base flood elevation.
 - b. In an AO zone, elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least 2 feet above the highest adjacent grade if no depth number is specified.
 - c. In an A zone, without BFE's specified on the FIRM [unnumbered A zone], elevated to or above the base flood elevation; as determined under Section

15.56.073.C.

Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered civil engineer or licensed land surveyor, and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

2. Nonresidential construction.

All new construction or substantial improvements of nonresidential structures shall either be elevated to conform with Section 15.56.081.C.1 or:

 - a. Be floodproofed, together with attendant utility and sanitary facilities, below the elevation recommended under Section 15.56.081.C.1, so that the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - c. Be certified by a registered civil engineer or architect that the standards of paragraphs.a & b immediately above are satisfied. Such certification shall be provided to the Floodplain Administrator.

3. Flood Openings. All new construction and substantial improvements of structures 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 entry and exit of floodwater. Designs for meeting this requirement must meet the following minimum criteria:
 - a. For non-engineered openings:
 - i. Have a minimum of two (2) openings on different sides having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - ii. The bottom of all openings shall be no higher than one foot above grade;
 - iii. Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwater; and
 - iv. Buildings with more than one enclosed area must have openings on exterior walls for each area to allow flood water to directly enter; or
 - b. Be certified by a registered civil engineer or architect.

4. Garages and low cost accessory structures.
 - a. Attached garages.

i. A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry of flood waters per subsection (C)(3) "Flood Openings." Areas of the garage below the BFE must be constructed with flood resistant materials per subsection B "Construction Materials and Methods."

ii. A garage attached to a nonresidential structure must meet the above requirements or be dry floodproofed. For guidance on below grade parking areas, see FEMA Technical Bulletin TB-6.

b. Detached garages and accessory structures.

i. "Accessory structures" used solely for parking (two (2) car detached garages or smaller) or limited storage (small, low-cost sheds), as defined in subsection (C)(2) "nonresidential construction", may be constructed such that its floor is below the base flood elevation (BFE), provided the structure is designed and constructed in accordance with the following requirements:

(A) Use of the accessory structure must be limited to parking or limited storage;

(B) The portions of the accessory structure located below the BFE must be built using flood-resistant materials;

(C) The accessory structure must be adequately anchored to prevent flotation, collapse and lateral movement;

(D) Any mechanical and utility equipment in the accessory structure must be elevated or floodproofed to or above the BFE;

(E) The accessory structure must comply with floodplain encroachment provisions in subsection G "Floodways"; and

(F) The accessory structure must be designed to allow for the automatic entry of flood waters in accordance with subsection (C) (3) "Flood Openings."

ii. Detached garages and accessory structures not meeting the above standards must be constructed in accordance with all applicable standards in Section 15.56.081.

D. Standards for Utilities. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from systems into floodwaters. On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them during flooding.

E. Standards for Subdivisions.

1. All preliminary subdivision proposals shall identify the flood hazard area and the elevation of the base flood.

2. If the site is filled above the base flood elevation, the following as-built information for each structure shall be certified by a registered civil engineer or licensed land surveyor and provided as part of an application for a letter of map revision based on fill (LOMR-F) to the floodplain administrator:
 - a. Lowest floor elevation.
 - b. Pad elevation.
 - c. Lowest adjacent grade.

All final subdivision plans will provide the elevation of the proposed structure(s) and pads. If the site is filled above the base flood, the final pad elevation shall be certified by a registered professional engineer or surveyor and provided to the floodplain administrator.

3. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
4. All subdivisions shall provide adequate drainage to reduce exposure to flood hazards.

F. Standards for Manufactured Homes.

1. All manufactured homes that are placed or substantially improved, on sites located: (1) outside of a manufactured home park or subdivision; (2) in a new manufactured home park or subdivision; (3) in an expansion to an existing manufactured home park or subdivision; or (4) in an existing manufactured home park or subdivision upon which a manufactured home has incurred "substantial damage" as the result of a flood, shall:
 - a. Within Zones A1-30, AH, and AE on the community's Flood Insurance Rate Map, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely fastened to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
 - b. Within Zones V1-30, V, and VE on the community's Flood Insurance Rate Map, meet the requirements of Section 15.56.081.I.
2. All manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH, AE, V1-30, V, and VE on the community's Flood Insurance Rate Map that are not subject to the provisions of paragraph 1 above will be securely fastened to an adequately anchored foundation system to resist flotation, collapse, and lateral movement, and be elevated so that either the:
 - a. Lowest floor of the manufactured home is at or above the base flood elevation; or
 - b. Manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade.

Upon the completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered civil engineer or licensed land surveyor, and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the Floodplain Administrator.

G. Standards for Recreational Vehicles.

1. All recreational vehicles placed in Zones A1-30, AH, AE, V1-30 and VE will either:
 - a. Be on the site for fewer than 180 consecutive days; or
 - b. Be fully licensed and ready for highway use. 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; or
 - c. Meet the permit requirements of Section 15.56.071 of this ordinance and the elevation and anchoring requirements for manufactured homes in Section 15.56.081.F.
2. Recreational vehicles placed on sites within Zones V1-30, V, and VE on the community's Flood Insurance Rate Map will meet the requirements of paragraph 1 above and Section 15.56.081.I.

H. Floodways. Located within areas of special flood hazard established in Section 15.56.062 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions apply:

1. Until a regulatory floodway is adopted, no new construction, substantial development, or other development (including fill) shall be permitted within Zones A1-30 and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one foot at any point within the city of Brisbane.
2. Encroachments in floodways are prohibited, including fill, new construction, substantial improvements, and other development, unless certification by registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
3. If subsection (G)(1) of this section is satisfied, all new construction and substantial improvements shall comply with all other applicable flood hazard reduction provisions of Sections 15.56.080 and 15.56.081.

I. Coastal High Hazard Areas.

Within coastal high hazard areas, Zones V, V1-30, and VE, as established under Section 15.56.062, the following standards shall apply:

1. All new residential and non-residential construction, including substantial improvement/damage, shall be elevated on adequately anchored pilings or columns and securely anchored to such pilings or columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state or local building standards.
2. All new construction and other development shall be located on the landward side of the reach of mean high tide.
3. All new construction and substantial improvement shall have the space below the lowest floor free of obstructions or constructed with breakaway walls as defined in Section 15.56.050 of this ordinance. Such enclosed space shall not be used for human habitation and will be usable solely for parking of vehicles, building access or storage.
4. Fill shall not be used for structural support of buildings.
5. Man-made alteration of sand dunes which would increase potential flood damage is prohibited.
6. The Floodplain Administrator shall obtain and maintain the following records:
 - a. Certification by a registered engineer or architect that a proposed structure complies with paragraph 1 above; and
 - b. The elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) of all new and substantially improved structures, and whether such structures contain a basement.

SECTION 2: If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held by a court of competent jurisdiction to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council of the City of Brisbane hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases may be held invalid or unconstitutional.

SECTION 3: This Ordinance shall be in full force and effect thirty days after its passage and adoption.

Madison Davis, Mayor

* * * *

The above and foregoing Ordinance was regularly introduced and after the waiting time required by law, was thereafter passed and adopted at a regular meeting of the City Council of the City of Brisbane held on the _____ day of _____, 2019, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Ingrid Padilla, City Clerk

APPROVED AS TO FORM:

