

Chapter 15.28

FLOODPLAIN ~~INSURANCE~~ *DEVELOPMENT*

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Ordinance History: #1203, 1393, 1577

PLEASE NOTE: Strike-outs note language to be deleted. Purple notes new language.

ARTICLE I. GENERAL PROVISIONS AND DEFINITIONS

15.28.010 Adoption, statutory provisions and title.

- A. This chapter is adopted by the City of Bandon.
- B. This chapter is enacted pursuant to the provisions of ORS 203.035, ORS Chapter 92, ORS Chapter 215, and *44CFR (Code of Federal Regulations)*.
- C. This chapter shall be known as an ordinance for the City of Bandon ~~floodplain insurance.~~
Floodplain Development

15.28.020 Purpose.

The purpose of this chapter is to establish the eligibility of city residents in the National Flood Insurance Program, to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;
- B. To minimize expenditure of public money and costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that ~~those who occupy the areas of special flood hazard assume responsibility for their actions~~ *new construction in the floodplain meets the standards of the National Flood Insurance program and 44CFR.*

15.28.030 Findings of fact.

- A. The flood hazard areas of the city are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commercial and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood-proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.
- C. This chapter is consistent with Statewide Planning Goal 7, Areas Subject to Natural Disasters and Hazards. This chapter will subject building and land division permit requests within flood prone

areas to evaluation on the basis of existing hazards.

- D. Goal #7 encourages cities to qualify for inclusion in the National Flood Insurance Program.

15.28.040 Methods of reducing flood losses.

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

- A. Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- D. Controlling filling, grading, dredging and other development which may increase flood damage; and
- E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.
- F. Coordinating and supplementing the provision of State Building Codes Division with local land use and development ordinances.

15.28.050 Definitions.

Unless specifically 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.

For the purposes of this Chapter, the masculine includes the feminine and neuter and the singular includes the plural. The following words and phrases, unless the context otherwise requires, shall mean:

Anchored; Adequately secured to prevent flotation, collapse, or lateral movement.

Appeal: a request for a review of the city manager’s interpretation of any provision of this chapter or a request for a variance.

Area of shallow flooding: a designated AO or AH zone on the Flood Insurance Rate Map (FIRM) to a one percent (1%) or greater annual chance of flooding to an average depth of 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. AO is characterized as sheet flow and AH indicates ponding.

Area of special flood hazard: the land in the floodplain within a community subject to a one percent (1%) or greater chance of flooding in any given year. ~~Designation on maps always includes the letters A or V.~~ *Designations in this zone are shown on the 2011 Bandon Flood Insurance Rate Map.*

Base flood: the flood having a one percent chance of being equaled or exceeded in any given year. Designation on maps always includes the letter A or V.

Basement: any area of the building having its floor sub-grade (below ground level) on all sides;

Breakaway walls: a wall that is not a part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Coastal high hazard area: the area subject to high *velocity wave action* waters, including but not limited

to storm surge or tsunamis. The area is designated on a FIRM as Zone VI-30, VE or V.

Critical Facility: a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

Datum: The vertical datum is a base measurement point (or set of points) from which all elevations are determined. Historically, that common set of points has been the National Geodetic Vertical Datum of 1929 (NAVD29) The vertical datum currently adopted by the federal government as a basis for measuring heights is the North American Vertical Datum of 1988 (NAVD88).

Development: any man-made 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 located within the area of special flood hazard.

Elevated Building: for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

Fill: the placement of sand, sediment, rock, soil, dirt, concrete, or other material to raise the elevation of land.

Flood Elevation Study: an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards. (2011 Bandon Flood Insurance Study).

Flood or flooding: a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood insurance: the insurance coverage provided under the National Flood Insurance Program.

Flood Insurance Rate Map (FIRM): the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood Insurance Study: the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

Flood plain management: 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 flood plain management regulations.

Flood plain management regulations: zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a flood plain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Flood proofing : any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway: 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.

Freeboard : a factor of safety usually expressed in feet above a flood level for purposes of flood plain management. “Freeboard” tends to compensate for the many unknown factor that could contribute to flood heights greater than the height calculated for a selected size flood and flood way conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

Highest adjacent grade : the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure: any structure that is:

(a) 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;

(b) 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;

(c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

(1) By an approved state program as determined by the Secretary of the Interior or

(2) Directly by the Secretary of the Interior in states without approved programs.

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 non-elevation design requirements of Sec. 60.3.

Letters of Map Change

Letter of Map Amendment (LOMA): a certification from the Federal Emergency Management Agency which shows, through a survey, that the natural grade of a property is higher than the BFE (Base Flood Elevation). It does not change the existing FIRM.

Letter of Map Revision (LOMR): a modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). The LOMR officially revises the Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM), and sometimes the Flood Insurance Study (FIS) report, and when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.

Lowest floor: 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 this chapter found at Section 15.28.170(A)(2).

Manufactured home: a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. 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. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

Manufactured home park or subdivision: a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean sea level: the average height of the sea for all stages of the tide.

Participating community, also known as an eligible community, means a community in which the Administrator has authorized the sale of flood insurance.

New construction: structures for which the start of construction commenced on or after the effective date of the ordinance codified in this chapter (Ordinance 1070, adopted March 3, 2013).

Post-FIRM: A structure constructed prior to the effective date of the ordinance codified in this chapter (Ordinance 1070, adopted March 3, 2013).

Pre-FIRM: A structure constructed prior to the effective date of the ordinance codified in this chapter (Ordinance 1070, adopted March 3, 2013).

Recreational Vehicle: 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.

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 stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundation 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.

Structure: *for the purposes of this chapter* a walled and roofed building including a gas or liquid storage tank that is principally above ground. Structure, for insurance purposes, means:

- (1) A building with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site;
- (2) A manufactured home ("a manufactured home," also known as a mobile home, is a structure: built on a permanent chassis, transported to its site in one or more sections, and affixed to a permanent foundation).

Substantial damage: for the purposes of this chapter 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.

Substantial improvement:

1. Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure either:
 - a. Before the improvement or repair is started;
 - b. of the structure has been damaged and is being restored, before the damage occurred. For the purposes 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.
2. 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.

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

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

Water surface elevation: the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other datum, where NFIP Regulations E-9 specified) of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

Waterway: the area below the mean high water mark of any named ocean, river, stream, creek, lake, pond, or other body of water.

Article II. Administration and Enforcement

15.28.060 Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazards within the jurisdiction of the City of Bandon.

15.28.070 Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Coos County, Oregon and Incorporated Areas", ***dated April 29, 2011*** ~~with accompanying~~ ***and the attached*** Flood Insurance Rate

Map (FIRM) is *are* hereby adopted by reference and declared to be part of this ordinance. The Flood Insurance Study and the FIRM are on file at City Hall.

15.28.080 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate, or impair Oregon State Building Codes, or other state or federal requirements. However, where this chapter and another ordinance, Oregon State Building Codes, or other state or federal requirements, conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

15.28.090 Interpretation.

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

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

15.28.100 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes.

This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City of Bandon or any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

15.28.110 Development permit required.

A *Floodplain Development* permit shall be *required* ~~obtained~~ before construction or development begins within any area of special flood hazard established in Section 15.28.070. The permit shall be for all structures including manufactured homes, as set forth in the definitions, and for all other development including fill and other activities, also set forth in the definitions.

15.28.120 Application for development permit.

Application for a development permit shall be made on forms furnished by the city manager and may include but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations 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. Elevation, in relation to mean sea level, of the lowest floor (including basement) of all structures;
- B. Elevation in relation to mean sea level to which any structure has been floodproofed;

- C. Certification by a registered professional engineer or architect that the flood proofing methods for any nonresidential structure meet the floodproofing criteria in Section 15.28.170(B); and
- D. Description of the extent to which a watercourse will be altered as a result of proposed development.
- E. Elevation Certificate for *Finished Construction*, prepared by a registered professional surveyor, shall be submitted and approved by the City of Bandon, prior to the issuance of a Certificate of Occupancy.
- F. Letters of Map *Change Correction*
 - 1. All documentation (including surveys) for the purpose of obtaining a Letter of Map Amendment (LOMA), Letter of Map Revision (LOMR), or any proposed change to the FIRM Map, shall be submitted and verified by the City Engineer, at the Applicant's expense, prior to submission to Federal Emergency Management Agency.
 - 2. If a letter of Map *Change Correction* is issued by the Federal Emergency Management Agency, the property owner shall provide copies of all related documentation prior to any development of the site.

15.28.130 Elevation Certificates.

The City of Bandon shall maintain on file, and make available upon request by FEMA, all Certificates of Elevation for applicable structures constructed in the floodplain.

15.28.140 Designation of the city manager.

The city manager is appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

15.28.150 Duties and responsibilities of the city manager.

Duties of the city manager shall include, but not be limited to:

- A. Permit Review:
 - 1. Review all development permits to determine that the permit requirements of this chapter have been satisfied,
 - 2. Review all development permits to determine that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required;
- B. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 15.28.070, Basis for Establishing the Areas of Special Flood Hazard, the city manager 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 Sections 15.28.170, Specific Standards, and 15.28.180, Flood ways;
- C. Information to be Obtained and Maintained
 - 1. Where base flood elevation data is provided through the Flood Insurance Study or required as in subsection B of this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement,

2. For all new or substantially improved flood-proofed structures:
 3. Verify and record the actual elevation (in relation to mean sea level), and
 4. Maintain the flood-proofing certification required in Section 15.28.120©,
 5. Maintain for public inspection all records pertaining to the provisions of this chapter,
 6. In coastal high hazard areas, certification shall be obtained from a registered professional engineer or architect that the structure is securely anchored to adequately anchored pilings or columns in order to withstand velocity waters;
- A. Alteration of Watercourses.
1. Notify adjacent communities and the Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration,
 2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished;
- B. Interpretation of FIRM Boundaries. Make interpretations, where needed, as to 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 Sections 15.28.210 and 15.28.220.

15.28.160 Penalties for noncompliance.

No structures or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this chapter and other applicable regulations. Violation of the provisions of this chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates this chapter or fails to comply with any of its requirements shall upon conviction thereof be fined not more than five thousand dollars (\$5,000.00) or imprisoned for not more than ninety (90) days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.

Article III. Provisions For Flood Hazard Protection

15.28.170 General standards.

- 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.
 2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).
- 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. Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

Utilities.

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and,
3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

C. Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage;
2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and
4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed development which contact at least fifty (50) lots or five acres (whichever is less).

- D. Review of Building Permits. Where elevation data is not available, either through the Flood Insurance Study or from another authoritative source (Section 15.28.140(B)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

15.28.180 Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 15.28.070, Basis for Establishing the Areas of Special Flood Hazard, or Section 15.28.140(B), Use of Other Base Flood Data, the following provisions are required:

A. Residential Construction.

1. New construction, and substantial improvement of any residential structure shall have the lowest floor, including basement, a minimum of one foot above base flood elevation.
2. **Manufactured Homes. All manufactured homes to be placed or substantially improved within Zones A1--30, AH and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least eighteen**

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NON-RESIDENTIAL**

inches (18") above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 15.28.160(A)(2).

3. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - (1) **Measurements of an opening shall be based on the unencumbered unimpeded space of the opening that allows the entry and exit of flood water. The area of decorative block or other materials that have solid areas in the opening shall not be included in the calculation of the opening.**
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood water.

B. Nonresidential Construction.

1. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated a minimum of one foot above base flood elevation; or, together with attendant utility and sanitary facilities, shall:
 - a. Be flood-proofed so that below the base flood level 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;
 - c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 15.28.140(C)(2);
 - d. Nonresidential structures that are elevated, not flood-proofed, must meet the same standards for space below the lowest floor as described in subsection (A)(2) of this section;
 - e. Applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood proofed level (e.g. a building constructed to the base flood level will be rated as one foot below that level).
2. ~~Manufactured Homes. All manufactured homes to be placed or substantially improved within Zones A1-30, AH and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least eighteen inches (18") above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 15.28.160(A)(2).~~

15.28.190 Floodways.

Located within areas of special flood hazard established in Section 15.28.070 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a 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;
- B. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article III of this chapter, Provisions for Flood Hazard Reduction.

15.28.200 Coastal high hazard areas.

Located within areas of special flood hazard established in Section 15.28.070 are coastal high hazard areas, designated as Zones V1--V30, VE and/or V. These areas have special flood hazards associated with high-velocity waters from tidal surges and, therefore, in addition to meeting all provisions in this chapter, the following provisions shall also apply:

- A. All new construction and substantial improvements in zones V1--V30 and VE (V if base flood elevation data is available) shall be elevated on pilings and columns so that:
 - 1. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated at least one foot above the base flood level; and
 - 2. 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. ~~Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (one hundred (100) year mean recurrence interval).~~ ***Maximum 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.***
 - 3. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsection (A)(1) and (2) of this section.
- B. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1--30 and VE, and whether or not such structures contain a basement. The local administrator shall maintain a record of all such information.
- C. All new construction shall be located landward of the reach of mean high tide.
- D. Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood latticework, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than ten (10) and no more than twenty (20) pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of twenty (20)

pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

1. The breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and
 2. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). ~~Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equaled or exceeded in any given year (one hundred (100) year mean recurrence interval))~~ *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.*
- E. If breakaway walls are utilized, such enclosed space shall be solely usable for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.
- F. Prohibit the use of fill for structural support of buildings.
- G. Prohibit man-made alteration of sand dunes which would increase potential flood damage.

15.28.210 Shallow flooding areas with depth designations.

Shallow zones appear on FIRM's as AO zones with depth designations. The base flood depths in these zones range from one to three feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

- A. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM. Where appropriate, such structures shall be elevated above the crown of the nearest road, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified).
- B. New construction and substantial improvements of nonresidential structures within AO zones shall either:
1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, to or above the depth number specified on the FIRM (at least two feet if no depth number is specified); or
 2. Together with attendant utility and sanitary facilities, be completely flood- proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 15.28.170(B)(3);
 3. Require adequate drainage paths around structures on slopes to guide flood water around and away from proposed structures.

Article IV. Variance Procedures.

15.28.220 Appeal board.

- A. The planning commission of the city shall hear and decide appeals and requests for variances from the requirements of this chapter.
- B. The planning commission shall hear and decide appeals when a determination is made by the city manager in the enforcement or administration of this chapter.
- C. Those aggrieved by the decision of the planning commission may appeal such decision to the city council.
- D. In passing upon such application, the planning commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:
 - 1. The danger that materials may be swept into other lands to the injury of others;
 - 2. The danger to 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 times of flood for ordinary and emergency vehicles;
 - 10. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
 - 11. The costs of providing governmental services during and after flood conditions, including aintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- E. Generally, the only condition under which a variance may be issued is for new construction and substantial improvements to be erected on a lot of one half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the provisions of subsection (D)(1)--(11) of this section have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- F. Upon consideration of the factors of subsection D of this section and the purposes of this chapter, the planning commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.
- G. The city manager shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

15.28.230 Conditions for variances.

- A. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.
- B. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- C. Variances shall only be issued upon:
 - 1. A showing of good and sufficient cause;

2. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in Section 15.28.210(D), or conflict with existing local laws or ordinances.
- D. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- E. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
- F. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of flood-proofing than watertight or dry-flood-proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except this section, and otherwise complies with Section 15.28.160(A) and (B) of this chapter.
- G. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

17.28.240 References.

1. The following are statutory references for the National Flood Insurance Program, under which these regulations are issued:
 - a. National Flood Insurance Act of 1968 (title XIII of the Housing and Urban Development Act of 1968), Pub. L. 90-448, approved August 1, 1968, 42 U.S.C. 4001 et seq.
 - b. Housing and Urban Development Act of 1969 (Pub. L. 91-152, approved December 24, 1969).
 - c. Flood Disaster Protection Act of 1973 (87 Stat. 980), Public Law 93-234, approved December 31, 1973.
 - d. Section 816 of the Housing and Community Development Act of 1974 (87 Stat. 975), Public Law 93-383, approved August 22, 1974.
 - e. (5) Public Law 5-128 (effective October 12, 1977).
 - f. The above statutes are included in 42 U.S.C. 4001 et seq.
2. The following are references relevant to the National Flood Insurance Program:
 - a. Executive Order 11988 (Floodplain Management, dated May 24, 1977 (42 FR 26951, May 25, 1977)).
 - b. The Flood Control Act of 1960 (Pub. L. 86645).
 - c. Title II, section 314 of title III and section 406 of title IV of the Disaster Relief Act of 1974 (Pub. L.93-288).
 - d. Coastal Zone Management Act (Pub. L. 92583), as amended Public Law 94-370.
 - e. Water Resources Planning Act (Pub. L. 8990), as amended Public Law 94-112 (October 16, 1975).

- f. Title I, National Environmental Policy Act (Pub. L. 91-190).
- g. Land and Water Conservation Fund Act (Pub. L. 89-578), and subsequent amendments thereto.
- h. Water Resources Council, Principals and Standards for Planning, Water and Related Land Resources (38 FR 24778-24869, September 10, 1973).
- i. Executive Order 11593 (Protection and Enhancement of the Cultural Environment), dated May 13, 1971 (36 FR 8921, May 15, 1971).
- j. 89th Cong., 2nd Session, H.D. 465.
- k. Required land use element for comprehensive planning assistance under section 701 of the Housing Act of 1954, as amended by the Housing and Community Development Act of 1974 (24 CFR 600.72).
- l. Executive Order 11990 (Protection of Wetlands, dated May 24, 1977 (42 FR 26951, May 25, 1977)).
- m. Water Resources Council (Guidance for Floodplain Management) (42 FR 52590, September 30, 1977).
- n. Unified National Program for Floodplain Management of the United States Water Resources Council, July 1976. Act of 1973: Mandatory Purchase of Flood Insurance Guidelines (54 FR 29666-29695, July 13, 1989).
- o. [41 FR 46968, Oct. 26, 1976, as amended at 43 FR 7140, Feb. 17, 1978. Redesignated at 44 FR 31177, May 31, 1979, and amended at 57 FR 19540, May 7, 1992]