TITLE 14
FLOOD CONTROL

Subject Chapter
Flood Damage Prevention 1

City of Wallace
CHAPTER 1
FLOOD DAMAGE PREVENTION

SECTION:

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14-1-1: STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, AND OBJECTIVES:

A. Statutory Authorization: The Legislature of the State of Idaho has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City of Wallace, Shoshone County, Idaho does ordain as follows.

B. Findings Of Fact:

1. The flood hazard areas of the City of Wallace are subject to periodic inundation which results in loss of life and property, health, and safety hazards, disruption of commerce 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.

2. 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 floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.
C. Statement Of Purpose: It is the purpose of this chapter to promote the public health, safety, and general welfare; reduce the annual cost of flood insurance; and minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect human life and health;

2. To minimize expenditure of public money and costly flood control projects;

3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. To minimize prolonged business interruptions;

5. 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;

6. 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;

7. To ensure that potential buyers are notified that property is in an area of special flood hazard;

8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

D. Methods Of Reducing Flood Losses: In order to accomplish its purposes, this chapter includes methods and provisions for:

1. 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;

2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling filling, grading, dredging, and other development which may increase flood damage; and

5. Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas. (Ord. 2015-02, 6-10-2015)

14-1-2: **DEFINITIONS:** Unless specifically defined below, terms 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.

**APPEAL:** A request for a review of the interpretation or application of any provision of this chapter.

**AREA OF SHALLOW FLOODING:** Means a designated AO, or AH Zone on the City's Flood Insurance Rate Map (FIRM) with a one percent (1%) or greater annual chance of flooding. AO zones have base flood depth that ranges from one foot (1') to three feet (3') above the natural ground; a clearly defined channel does not exist; the path of flooding is unpredictable; and, velocity flow may be evident. AO is characterized as sheet flow; AH indicates ponding and is shown with standard base flood elevations.

**AREA OF SPECIAL FLOOD HAZARD (SFHA):** The land in the floodplain within a community subject to a one percent (1%) or greater chance of flooding in any given year. Zone designations on FIRMs include the letters A, AE, AO, and AH. Also known as the special flood hazard areas (SFHA).

**BASE FLOOD:** The flood having a one percent (1%) chance of being equaled or exceeded in any given year (also referred to as the "100-year flood"). Designated on Flood Insurance Rate Maps by the letters A or V.

**BASE FLOOD ELEVATION (BFE):** The elevation of surface water resulting from a flood that has a one percent (1%) chance of

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equaling or exceeding that level in any given year.

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

CRITICAL FACILITY: Means 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, and installations which produce, use, or store hazardous materials or hazardous waste.

DEVELOPMENT: Means 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 or storage of equipment or materials located within the area of special flood hazard.

ELEVATED BUILDING: Means 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.

ELEVATION CERTIFICATE: Means the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with this chapter, and determine the proper insurance premium rate with section B completed by the City.

EXISTING MANUFACTURED HOME PARK OR SUBDIVISION: Means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.
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).

FLOOD INSURANCE RATE MAP (FIRM):

Means an 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 City, which has been adopted by the City.

FLOOD INSURANCE STUDY (FIS):

Means 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 OR FLOODING:

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

A. The overflow of inland or tidal waters; and/or
B. The unusual and rapid accumulation of runoff of surface waters from any source;
C. Mudslides, as defined in 44 CFR 59.1.

FLOOD PROTECTION ELEVATION (FPE):

The elevation to which structures and uses within the SFHA are required to be elevated or flood proofed. The FPE for the City of Wallace is BFE plus one foot (1') of freeboard.

FLOODWAY (aka 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 (1').

FREEBOARD:

Means a factor of safety usually expressed in feet above a flood level for the purposes of floodplain management. Freeboard tends to

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compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, obstructed bridge openings, debris and ice jams and the hydrologic effects of urbanization in a watershed.

**HIGHEST ADJACENT GRADE (HAG):**

Means the highest natural elevation of the ground surface prior to construction, adjacent to the proposed walls of a structure. Refer to the FEMA Elevation Certificate for HAG related to building elevation information.

**HISTORIC STRUCTURE:**

Means any structure that is:

A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of the 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 within the City 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.

**INCREASED COST OF COMPLIANCE:**

A flood insurance claim payment up to thirty thousand dollars ($30,000.00) directly to a property owner for the cost to comply with floodplain

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management regulations after a direct physical loss caused by a flood. Eligibility for an ICC claim can be through a single instance of "substantial damage" or as a result of a cumulative substantial damage, as defined herein. (More information can be found in FEMA ICC Manual 301.)

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 this chapter found at subsection 14-1-5B1b of this chapter, (i.e., provided there are adequate flood ventilation openings).

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 attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

MANUFACTURED HOME PARK OR SUBDIVISION: Means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

MAP: Means the Flood Hazard Boundary Map (FHBMM) or the Flood Insurance Rate Map (FIRM) for a city issued by the Federal Emergency Management Agency (FEMA).

NEW CONSTRUCTION: Means structures for which the "start of construction" commenced on or after the effective date of this chapter and includes any subsequent improvements to such structures.

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NEW MANUFACTURED HOME PARK OR SUBDIVISION:

Means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of this chapter adopted by the City.

PROGRAM:

Means the National Flood Insurance Program authorized by the United States Code (USC) title 42, chapter 50 4011, and any amendments thereto.

RECREATIONAL VEHICLE:

Means a vehicle:

A. Built on a single chassis;

B. Four hundred (400) square feet or less when measured at the largest horizontal projection;

C. Designed to be self-propelled or permanently towable by a light duty truck; and

D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

REGULATORY FLOODWAY:

See definition of floodway.

REPETITIVE LOSS:

Means flood-related damages sustained by a structure on two (2) separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds twenty five percent (25%) of the market value of the structure before damage occurred.

SPECIAL FLOOD HAZARD AREA (SFHA):

Means the land area covered by the floodwaters of the base flood as shown on FIRM. The SFHA includes Zones A, AO, AH.

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START OF CONSTRUCTION:

Includes substantial improvement as defined herein, 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 foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

STRUCTURE:

A walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home and means as follows:

A. A building with two (2) or more outside rigid walls and a fully secured roof that is affixed to a permanent site;

B. 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); or,
C. A travel trailer without wheels, built on a chassis and affixed to a permanent foundation that is regulated under the City's Floodplain Management and Building Ordinances, codes, rules or regulations.

**SUBSTANTIAL DAMAGE:**

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

**SUBSTANTIAL IMPROVEMENT:**

Means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed and either of the following:

A. Before the improvement or repair is started; or

B. If 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.

The term excludes:

A. Any alteration of an "historic structure" which is listed on the National Register of Historic Places, either individually or as a city, or a State Inventory of Historic Places, provided that the alteration will not preclude the structure's continued designation as a "historic structure".

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B. Any project for improvement of a structure to correct existing violations of State or local Health, Sanitary, or Safety Code specifications which have been identified by the local Code enforcement official and which are the minimum necessary to assure safe living conditions.

VARIANCE: Means a grant of relief from the Planning and Zoning Commission and/or City Council, from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited by this chapter.

VIOLATION: Means the failure of a structure or other development to be fully compliant with this chapter. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this chapter or other Federal, State, Statutes, rule or regulations, until such time as the documentation evidencing compliance can be provided to the City. Penalties for any such violation are set out in subsection 14-1-3C of this chapter.

WATER DEPENDENT: Means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. (Ord. 2015-02, 6-10-2015)

14-1-3: GENERAL PROVISIONS:

A. Lands To Which This Chapter Applies: (44 CFR 59.22(a))

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

B. Basis For Establishing The Areas Of Special Flood Hazard: (44 CFR 60.3(e)(1)(d)(2))

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Shoshone County, Idaho and Incorporated Areas", with an accompanying Flood Insurance Rate Map (FIRM),

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dated September 26, 2008, are hereby adopted by reference and declared to be a part of this chapter. The Flood Insurance Study and the FIRMs are on file at City Hall, 703 Cedar Street, Wallace, Idaho, 83873. The best available information for flood hazard area identification as outlined in subsection 14-1-4C2 of this chapter shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under subsection 14-1-4C2 of this chapter.

C. Penalties For Noncompliance: No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable Federal or State regulations. Violations 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 one thousand dollars ($1,000.00) or imprisoned for not more than six (6) months, or both such fine and imprisonment, for each violation. Nothing herein contained shall prevent the City from taking such other lawful action as is necessary to prevent or remedy any violation of this chapter.

D. Abrogation And Greater Restrictions: This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

E. 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 City; and,

3. Deemed neither to limit nor repeal any other powers granted under State Statutes.

F. 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 provided to the City by FEMA. 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, or any of its officers, employees, agents, representatives, planners, attorneys, Councilpersons, Mayor or clerks, thereof, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. (Ord. 2015-02, 6-10-2015)

14-1-4: ADMINISTRATION:

A. Establishment Of Development Permit:

1. Development Permit Required: (44 CFR 60.3(b)(1))

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in subsection 14-1-3B of this chapter. The permit shall be for all structures including manufactured homes, as set forth in section 14-1-2, "Definitions", of this chapter, and for all development including fill and other activities, also as set forth in section 14-1-2, "Definitions", of this chapter.

2. Application For Development Permit: Application for a development permit shall be made on forms furnished by the local Floodplain Administrator 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 recorded on a current elevation certificate (FF 81-31) available through FEMA;

   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 floodproofing methods for any nonresidential structure meet floodproofing criteria set forth in subsection 14-1-5B2 of this chapter;

   d. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.
B. Designation Of The Local Floodplain Administrator: (44 CFR 59.22(10)(l))

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

C. Duties And Responsibilities Of The Local Floodplain Administrator:
Duties of the Floodplain Administrator shall include, but not be limited to:

1. Permit Review:
   
   a. Review all development permits to determine that the permit requirements of this chapter have been satisfied.
   
   b. 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. (44 CFR 60.3(a)(2))
   
   c. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of subsection 14-1-5D1 of this chapter are met.

2. Use Of Other Base Flood Data (In A Zones): (44 CFR 60.3(B)(4))

When base flood elevation data has not been provided in A Zones in accordance with subsection 14-1-3B, "Basis For Establishing The Areas Of Special Flood Hazard", of this chapter, 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 subsections 14-1-5B, "Specific Standards", and D, "Floodways", of this chapter.

3. Information To Be Obtained And Maintained: (44 CFR 60.3(B)(5)(i))

   a. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in subsection C2 of this section, obtain and record the actual (as-built) 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. Recorded on a current elevation certificate.

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(FF 81-31) available through FEMA, with section B completed by the City.

b. For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in subsection C2 of this section:

(1) Obtain and record the elevation (in relation to mean sea level) to which the structure was floodproofed. (44 CFR 60.3(b)(5)(ii))

(2) Maintain the floodproofing certifications required in subsection A2c of this section. (44 CFR 60.3(b)(5)(iii))

c. Maintain for public inspection all records pertaining to the provisions of this chapter. (44 CFR 60.3(b)(5)(iii))

4. Alteration Of Watercourses: (44 CFR 60.3(b)(6))

a. Notify adjacent communities and the Idaho State Department of Water Resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

b. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

D. Variance Procedure:

1. Appeal Board:

a. The Planning and Zoning Commission shall hear all applications for a variance.

b. All determinations for variances, appeals and actions by affected persons, shall be in accordance with title 13, chapter 12 of this Code, and any amendments thereto.

c. The City Council shall hear and decide appeals on denials of applications for variances from the requirements of this chapter.

d. The City Council shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determina-
tion made by the City in the interpretation, enforcement or administration of this chapter.

e. Those aggrieved by the final decision of the City Council, may appeal such decision to the District Court.

f. In passing upon such appeals, the City Council 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 onto 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 flood waters 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 maintenance and repair of

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public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

2. Conditions For Variances: (44 CFR 60.6(A)(1-7))

   a. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.

   b. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

   c. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

   d. 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, or conflict with existing local, State and/or Federal laws, rules or regulations.

   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 flood elevations should be quite rare.

   f. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other City
ordinances or codes, variance criteria specified herein, except subsection 62a of this section, and otherwise complies with subsections 14-1-5A1, A3 and A4 of this chapter.

  g. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk. (Ord. 2015-02, 6-10-2015)

14-1-5: PROVISIONS FOR FLOOD HAZARD REDUCTION:

A. General Standards: (44 CFR 60.3(a)(b))

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

1. Anchoring:

   a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure. (44 CFR 60.3(a)(3)(i))

   b. All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage.

2. AH Zone Drainage: Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

3. Construction Materials And Methods: (44 CFR 60.3(a)(3)(ii-iv))

   a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

   b. All new construction and substantial improvements shall be constructed using standard methods and practices within the construction industry that minimize flood damage.

   c. 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. Locating such equipment below the base flood elevation may cause annual flood insurance premiums to be increased.

4. Utilities: (44 CFR 60.3(a)(5)(6))

   a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

   b. Water wells shall be located on high ground that is not in the floodway;

   c. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

   d. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

5. Subdivision Proposals: (44 CFR 60.3(a)(4)(b)(3))

   a. All subdivision proposals shall be consistent with the need to minimize flood damage;

   b. All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;

   c. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage;

   d. 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 developments which contain at least fifty (50) lots or five (5) acres, whichever is less.

6. Review Of Building Permits: Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (subsection 14-1-4C2 of this chapter), 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.

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B. Specific Standards: (44 CFR 60.3(c)(1))

Specific standards applies to all areas of special flood hazards. The following provisions are required:

1. Residential Construction: (44 CFR 60.3(c)(2)(5))

   a. Lowest Floor Elevation: New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to the flood protection elevation (FPE). Minimum FEMA standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can reduce insurance premiums by as much as thirty percent (30%). Additional freeboard is strongly encouraged by FEMA and the City.

   b. Crawlspaces/Enclosed Spaces Below The BFE: All new construction or substantial improvements of an existing structure, including a structure that has been substantially damaged, that includes a fully enclosed area located below the lowest floor formed by the foundation and other exterior walls shall be designed to be an unfinished or flood resistant enclosure. The enclosure shall be designed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.

      (1) Designs for complying with this requirement must be certified by a licensed professional engineer or architect or meet the following minimum criteria:

         (A) Provide a minimum of two (2) openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

         (B) The bottom of all openings shall be no higher than one foot (1') above the higher of the exterior or interior grade or floor immediately below the opening;

         (C) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwater in both directions without manual intervention.

      (2) To comply with the "lowest floor" criteria of this chapter, the unfinished or flood resistant enclosure shall only be used for parking of vehicles, limited storage of maintenance equip-
ment used in connection with the premises, or entry to the elevated area.

(3) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

(4) For crawlspace foundation types, construction must follow the guidelines in FEMA TB 11-01, Crawlspace Construction for Structures Located in Special Flood Hazard Areas: National Flood Insurance Program Guidance, specifically:

(A) Below grade crawlsaces are prohibited at sites where the velocity of floodwaters exceed five feet (5') per second;

(B) Interior grade of the crawlspace below the BFE must not be more than two feet (2') below the lowest adjacent exterior grade (LAG);

(C) Height of the below grade crawlspace, measured from the lowest interior grade of the crawlspace to the bottom of the floor joist must not exceed four feet (4') at any point;

(D) Contain an adequate drainage system that removes floodwaters from the interior area of the crawlspace.

2. Nonresidential Construction: (44 CFR 60.3(c)(3)(4))

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the flood protection elevation; or, together with attendant utility and sanitary facilities, shall:

a. Be floodproofed one foot (1') or more above the base flood level 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;

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

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design, specifications and plans. Such certifications shall be provided to the official as set forth in subsection 14-1-4C3b of this chapter;

d. Applicants who are floodproofing nonresidential buildings should be notified that flood insurance premiums will be based on rates that are one foot (1') below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as 1 foot below). Floodproofing the building an additional foot will reduce insurance premiums significantly.

3. Manufactured Homes: (44 CFR 60.3(c)(6)(12))

   a. All manufactured homes in the floodplain to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to the flood protection elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. All manufactured homes in the floodplain need to minimize flood damage within the flood prone area.

   b. In all areas of special flood hazard where the base flood elevation has not been established, manufactured homes placed, substantially improved, or have incurred substantial damage must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated two feet (2') above the highest adjacent grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

   c. Manufactured homes placed on solid perimeter walls shall meet the flood vent requirements in subsection B1b of this section, except when the first floor, including enclosed areas and crawl space is located above the base flood elevation.

4. Recreational Vehicles: (44 CFR 60.3(c)(14))

Recreational vehicles placed on sites are required to either:

   a. Be on the site for fewer than one hundred eighty (180) consecutive days; and

   b. Be fully licensed and ready for highway use, on wheels or jackin system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
c. Meet the requirements of subsection B3 of this section and the elevation and anchoring requirements for manufactured homes.

5. Critical Facility: Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet (3') above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.

C. AE Zones With Base Flood Elevations But No Floodways: (44 CFR 60.3(c)(10))

In areas with base flood elevations (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within Zone AE on the City's FIRM, unless it is demonstrated 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 (1') at any point within the City.

D. Floodways: Located within areas of special flood hazard established in subsection 14-1-3B of this chapter are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris and increase erosion potential, the following provisions apply:

1. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge. (44 CFR 60.3(d)(3))

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2. If subsection D1 of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this section.

E. Standards For Zones Without Base Flood Elevations And/Or Floodway (A Zones): New construction, manufactured homes and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement or crawlspace) elevated no less than two feet (2') above the highest adjacent grade at the building site. Openings sufficient to facilitate the unimpeded movement of flood waters shall be provided in accordance with the construction standards in subsection B1b of this section. (Ord. 2015-02, 6-10-2015)