

Chapter 8.50

FLOOD DAMAGE PREVENTION

Sec. 8.50.010. Findings of fact, purpose and methods of reducing flood loss.

(a) Findings of fact.

(1) The flood hazard areas of Pitkin County and incorporated areas 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 can be caused by increases in storm water runoff due to development and the construction in or alteration of drainage channels. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

(b) Statement of purpose. It is the purpose of this Chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions to specific areas by provisions designed:

(1) To protect human life and health;

(2) To minimize expenditure of public money for 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; and

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

(c) 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 that 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, detain 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 which will unnaturally divert flood waters or which may increase flood hazards in other areas. (Ord. No. 9-2002, § 1 [part])

Sec. 8.50.020. 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.

(a) *Appeal* means a request for a review of the Community Development Engineer interpretation of any provisions of this Chapter or a request for a variance.

(b) *Area of special flood hazard* means the land in the floodplain subject to a one percent (1%) or greater chance of flooding in any given year.

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

(d) *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 located within the area of special flood hazard.

(e) *Existing manufactured home park or subdivision* means a *manufactured home park* 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) are completed before the effective date of the ordinance codified in this Chapter.

(f) *Expansion to 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).

(g) *Flood* or *flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters and/or

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

(h) *Flood Insurance Rate Map (FIRM)* means the official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones.

(i) *Flood Insurance Study* means the official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

(j) *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 (1) foot.

(k) *Lowest floor* means the *lowest floor* of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this Chapter.

(l) *Manufactured home* means a structure, transportable in one (1) 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*.

(m) *New construction* means structures for which the "start of construction" commenced on or after the effective date of the ordinance codified in this Chapter and includes any subsequent improvements to such structures.

(n) *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 these floodplain management regulations.

(o) *Recreational vehicle* means a vehicle, which is (1) built on a single chassis; (2) four hundred (400) square feet or less when measured at the largest horizontal projections; (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. (p) *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 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.

(q) *Structure* means a walled and roofed building or manufactured home that is principally above ground.

(r) *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.

(s) *Substantial improvement* means any 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 before the *start of construction* of the improvement. This term includes structures which have incurred *substantial damage*, regardless of the actual repair work performed. The term does not, however, include either:

(1) 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; or

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

(t) *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. (Ord. No. 9-2002 § 1 [part])

Sec. 8.50.030. General provisions.

(a) Lands to which this Chapter applies. This Chapter shall apply to all areas of special flood hazard within the jurisdiction of the City.

(b) Basis for establishing the areas of special flood hazard. The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for Pitkin County and Incorporated Areas," dated September 30, 1988, with an accompanying Flood Insurance Rate Map (FIRM), is adopted by reference and declared to be a part of this Chapter. The Flood Insurance Study and FIRM are on file at the offices of the Community Development Engineer and (address of map repository).

(c) Compliance. No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this Chapter and other applicable regulations.

(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 governing body; 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. 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 hazard 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, any officer or employee thereof or the Federal Emergency Management Agency for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made thereunder. (Ord. No. 9-2002, § 1 [part])

Sec. 8.50.040. Administration.

(a) Establishment of development permit.

(1) A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Subsection 8.50.030(b).

(2) Application for a development permit shall be made on forms furnished by the Community Development Engineer and may include, but not be limited to:

(A) 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.

(B) Where base flood elevations are utilized, all new construction, substantial improvements and other development must comply with requirements of Subsection 8.50.040(c)(2).

(b) Designation of the Community Development Engineer of the City. The Community Development 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 Community Development Engineer. Duties of the Community Development Engineer 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 federal, state or local governmental agencies from which prior approval is

required. (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 this Section are met.

(2) Use of other base flood data. When base flood elevation data has not been provided in accordance with Subsection 8.50.030(b), the Community Development Engineer shall obtain, review and reasonably utilize any base flood elevation and floodway data available from any federal, state or other source. Where base flood elevation data are utilized, all new construction, substantial improvements or other development in Zone A are administered in accordance with Subsections 8.50.040(c)(3) and 8.50.050(b).

(3) Information to be obtained and maintained.

(A) 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.

(B) For all new or substantially improved floodproofed structures:

(i) Verify and record the actual elevation (in relation to mean sea level) to which the structure has been floodproofed.

(ii) Maintain the floodproofing certifications required in Subsection 8.50.040(c)(1).

(C) Maintain for public inspection all records pertaining to the provisions of this Chapter.

(4) Alteration of watercourses.

(A) Notify adjacent communities, the Colorado Water Conservation Board and the Grand Junction office of FEMA prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency.

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

(5) Interpretation of FIRM Boundaries. Make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazard (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 Subsection 8.50.040(d).

(d) Variance procedure.

(1) Appeal Board.

(A) The Building Code Board of Appeals, as established by the City, shall hear and decide appeals and requests for variances from the requirements of this Chapter.

(B) The Building Code Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the Community Development Engineer in the enforcement or administration of this Chapter.

(C) Those aggrieved by the decision of the Building Code Board of Appeals or any taxpayer, may appeal such decisions to the circuit court as provided in the State statute.

(D) In passing upon such applications, the Building Code Board of Appeals shall consider all technical evaluations, all relevant factors, standards specified in other sections of this Chapter and:

- (i) The danger that materials may be swept by floodwaters onto other lands to the injury of others;
- (ii) The danger to life and property due to flooding or erosion damage;
- (iii) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;
- (iv) The importance of the services provided by the proposed facility to the community;
- (v) The necessity to the facility of a waterfront location, where applicable;
- (vi) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
- (vii) The compatibility of the proposed use with the existing and anticipated development;
- (viii) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- (ix) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (x) 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
- (xi) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, streets and bridges.

(e) Upon consideration of the factors of Subparagraph 8.50.040(d)(1)(D) and the purposes of this Chapter, the Building Code Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Chapter.

(f) The Community Development Engineer shall maintain the records of all appeal actions, including technical information and report any variances to the Federal Emergency Management Agency.

(1) Conditions for variances.

(A) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half ($\frac{1}{2}$) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (i-xi) in Subparagraph 8.50.040(d)(1)(D) have been fully considered. As the lot size increases beyond the one-half ($\frac{1}{2}$) acre, the technical justifications required for issuing the variance increases.

(B) 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.

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

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

(E) Variances shall only be issued upon:

(i) A showing of good and sufficient cause;

(ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

(iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expenses, create nuisances, cause fraud on or victimization of the public as identified in Subparagraph 8.50.040(d)(1)(D) or conflict with existing local laws or ordinances.

(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 floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk from the reduced lowest floor elevation. (Ord. No. 9-2002 § 1 [part])

Sec. 8.50.050. Provisions for flood hazard reduction.

(a) General standards. In all areas of special flood hazard, 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 and capable of resisting the hydrostatic and hydrodynamic loads.

(B) All manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement and capable of resisting the hydrostatic and hydrodynamic loads. Methods of anchoring may include, but are not limited to use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces. Specific requirements may be:

(i) Over-the-top ties be provided at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, with manufactured homes less than fifty (50) feet long requiring one additional tie per side.

(ii) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points, with manufactured homes less than fifty (50) feet long requiring four (4) additional ties per side;

(iii) All components of the anchoring system be capable of carrying a force of four thousand eight hundred (4,800) pounds; and

(iv) Any additions to the manufactured home be similarly anchored.

(2) Construction materials and methods.

(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 methods and practices that minimize flood damage.

(C) All new construction and substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(3) Utilities.

(A) All new replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;

(B) 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 floodwaters; and

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

(4) Subdivision proposals.

(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 flood damage;

(C) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and

(D) Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least fifty (50) lots or five (5) acres (whichever is less).

(b) Specific standards. In all areas of special flood hazard where base flood elevation data has been provided as set forth in Subsection 8.50.030(b) or Paragraph 8.50.040(c)(2), the following provisions are required:

(1) Residential construction. New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to or above the base flood elevation.

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

(A) Be floodproofed so that below the base flood elevation 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 professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this paragraph. Such certifications shall be provided to the official as set forth in Subparagraph 8.50.040(c)(2).

(3) Openings in enclosures below the lowest floor. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(A) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided;

(B) The bottom of all openings shall be no higher than one (1) 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 floodwaters.

(4) Below-grade residential crawlspace construction. New construction and substantial improvement of any below-grade crawlspace shall:

(A) Have the interior grade elevation, that is below base flood elevation, no lower than two (2) feet below the lowest adjacent grade;

(B) Have the height of the below grade crawlspace measured from the interior grade of the crawlspace to the top of the foundation wall, not exceed four feet at any point;

(C) Have an adequate drainage system that allows floodwaters to drain from the interior area of the crawlspace following a flood;

(D) Meet the provisions of Paragraphs 8.50.050(a)(1), 8.50.050(a)(2) and 8.50.050(a)(3).

(5) Manufactured homes.

(A) Manufactured homes shall be anchored in accordance with Subparagraph 8.50.050(a)(1)(A).

(B) All manufactured homes or those to be substantially improved shall conform to the following requirements:

(i) Require that manufactured homes that are placed or substantially improved on a site (a) outside of a manufactured home park or subdivision(b) in a new manufactured home park or subdivision(c) in an expansion to an existing manufactured home park or subdivision or (d) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, 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 anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(ii) Require that manufactured homes be placed or substantially improved on sites in existing manufactured home parks or subdivisions that are not subject to the provisions in (a) above be elevated so that either (a) the lowest floor of the manufactured home is at or

above the base flood elevation or (b) the manufactured home chassis is supported by reinforced piers or other foundation elements that are no less than thirty-six (36) inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(6) Recreational vehicles. Recreation vehicles are prohibited per Section 16.04.080 of this Code.

(c) Floodways. Located within areas of special flood hazard established in Subsection 8.50.030(b) 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) 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.

(2) If Paragraph 8.50.050(c)(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 8.50.050. (Ord. No. 9-2002, §1 [part])