

ARTICLE 5. FLOOD DAMAGE PREVENTION¹.

Section 14-130. Statutory Authorization, findings of fact, purpose and objectives.

(1) Statutory Authorization

The Legislature of the State of Colorado 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 Council of Trinidad, Colorado does ordain as follows: (Ord 1584, eff., 5-2-98)

(2) Findings of Fact (Ord 1584, eff., 5-2-98)

(a) The flood hazard areas of Trinidad 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 tax base, all of which adversely affect the public health, safety, and general welfare. (Ord 1584, eff., 5-2-98)

(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 damage also contribute to the flood loss.(Ord 1584, eff., 5-2-98)

(3) Statement of Purpose (Ord 1584, eff., 5-2-98)

¹

Chapter 14, Article 5 all sections and subsections are repealed and reenacted.
(Ord. 1584, eff., 5-2-98, 12-8-98)

Chapter 14, Article 5 is amended: all references to the "City Engineer" be revised to read "City Engineer and/or Public Works Director"
(Ord 1692, eff., 6-28-02)

It is the purpose of this ordinance 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:(Ord 1584, eff., 5-2-98)

- (a) To protect human life and health; (Ord 1584, eff., 5-2-98)
- (b) To minimize expenditure of public money for costly flood control projects; (Ord 1584, eff., 5-2-98)
- (c) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public; (Ord 1584, eff., 5-2-98)
- (d) To minimize prolonged business interruptions;(Ord 1584, eff., 5-2-98)
- (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; (Ord 1584, eff., 5-2-98)
- (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; (Ord 1584, eff., 5-2-98)
- (g) To ensure that potential buyers are notified that property is in an area of special flood hazard; and (Ord 1584, eff., 5-2-98)
- (h) To ensure that those who occupy the areas of special flood hazards assume responsibility for their actions. (Ord 1584, eff., 5-2-98)

(4) Methods of Reducing Flood Losses (Ord 1584, eff., 5-2-98)

In order to accomplish its purposes, this ordinance includes methods and provisions for: (Ord 1584, eff., 5-2-98)

- (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; (Ord 1584, eff., 5-2-98)
- (b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; (Ord 1584, eff., 5-2-98)
- (c) Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters; (Ord 1584, eff., 5-2-98)
- (d) Controlling filling, grading, dredging, and other development which may increase flood damage; and, (Ord 1584, eff., 5-2-98)

(e) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas. (Ord 1584, eff., 5-2-98)

Section 14-131. Definitions.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application. (Ord 1584, eff., 5-2-98)

“Appeal” means a request for a review of the City Engineer’s interpretation of any provisions of this ordinance or a request for a variance. (Ord 1584, eff., 5-2-98)

“Area of special flood hazard” means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. (Ord 1584, eff., 5-2-98)

“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year. (Ord 1584, eff., 5-2-98)

“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. (Ord 1584, eff., 5-2-98)

“Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:(Ord 1584, eff., 5-2-98)

(1) The overflow of inland or tidal waters and/or (Ord 1584, eff., 5-2-98)

(2) The unusual and rapid accumulation or runoff of surface water from any source. (Ord 1584, eff., 5-2-98)

“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 applicable to the community. (Ord 1584, eff., 5-2-98)

“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. (Ord 1584, eff., 5-2-98)

“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. (Ord 1584, eff., 5-2-98)

“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 ordinance. (Ord 1584, eff., 5-2-98)

“Manufactured home” means a single family dwelling which is partially or entirely manufactured in a factory; is not less than twenty-four feet (24') in width and thirty-six feet (36') in length; is installed on an engineered, permanent foundation; has brick, wood, or cosmetically equivalent exterior siding and a pitch roof; and is certified pursuant to the “National Manufactured Housing Construction and Safety Standards Act of 1974; 42 U.S.C. 5401 et seq., as amended. (Ord 1584, eff., 5-2-98)

“Mobile home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. This term also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. (Ord 1584, eff., 5-2-98)

“Mobile home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more mobile home lots for rent or sale. (Ord 1584, eff., 5-2-98)

“New construction” means structure for which the “start of construction” commenced on or after the effective date of this ordinance. (Ord 1584, eff., 5-2-98)

“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 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, footing, 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. (Ord 1584, eff., 5-2-98)

“Structure” means a walled and roofed building or mobile home that is principally above ground. (Ord 1584, eff., 5-2-98)

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. (Ord 1584, eff., 5-2-98)

“Substantial improvement” means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either: (Ord 1584, eff., 5-2-98)

- (1) before the improvement or repair is started, or

(2) if the structure has been damaged and is being restored, before the damaged occurred. For the purpose of this definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration effects the external dimensions of the structure. (Ord 1584, eff., 5-2-98)

The term does not, however, include either:

(1) 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 (Ord 1584, eff., 5-2-98)

(2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places. (Ord 1584, eff., 5-2-98)

“**Variance**” means a grant of relief from the requirements of this ordinance which permits construction in a manner that would otherwise be prohibited by this ordinance. (Ord 1584, eff., 5-2-98)

Section 14-132 General Provisions.

(1) Lands to which this Ordinance applies (Ord 1584, eff., 5-2-98)

This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the City of Trinidad. (Ord 1584, eff., 5-2-98)

(2) Basis for establishing the areas of special flood hazard (Ord 1584, eff., 5-2-98)

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 the City of Trinidad, Las Animas County, Colorado, dated January, 1978, with an accompanying Flood Insurance Rate Map (FIRM) is hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study and FIRM are on file at 135 North Animas Street, Trinidad, Colorado 81082. (Ord 1584, eff., 5-2-98)

(3) Compliance (Ord 1584, eff., 5-2-98)

No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this ordinance and other applicable regulations. (Ord 1584, eff., 5-2-98)

(4) Abrogation and greater restrictions (Ord 1584, eff., 5-2-98)

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or

deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord 1584, eff., 5-2-98)

(5) Interpretation (Ord 1584, eff., 5-2-98)

In the interpretation and application of this ordinance, all provisions shall be:(Ord 1584, eff., 5-2-98)

(a) Considered as minimum requirements: (Ord 1584, eff., 5-2-98)

(b) Liberally construed in favor of the governing body; and (Ord 1584, eff., 5-2-98)

(c) Deemed neither to limit nor repeal any other powers granted under State statutes. (Ord 1584, eff., 5-2-98)

(6) Warning and disclaimer of liability (Ord 1584, eff., 5-2-98)

The degree of flood protection required by this ordinance 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 ordinance 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 ordinance shall not create liability on the part of the City of Trinidad, any officer or employee thereof, or the Federal Emergency Management Agency for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.(Ord 1584, eff., 5-2-98)

Section 14-133 Administration.

(1) Establishment of development permit (Ord 1584, eff., 5-2-98)

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 14-132(2). Application for a development permit shall be made on forms furnished by the City Engineer and/or Public Works Director and may include, but not be limited to: (Ord 1584, eff., 5-2-98)

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: (Ord 1584, eff., 5-2-98)

(a) Elevation in relation to mean sea level of the lowest floor (including basement) of all structures: (Ord 1584, eff., 5-2-98)

(b) Elevation in relation to mean sea level to which any structure has been flood-proofed; (Ord 1584, eff., 5-2-98)

(c) Certification by a registered professional engineer or architect that the flood-proofing methods for any non-residential structure meet the flood-proofing criteria in Section 14-134(2)(b); and, (Ord 1584, eff., 5-2-98)

(d) Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development. (Ord 1584, eff., 5-2-98)

(2) Designation of the City Engineer (Ord 1584, eff., 5-2-98)

The City Engineer is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions. (Ord 1584, eff., 5-2-98)

(3) Duties and responsibilities of the City Engineer

Duties of the City Engineer shall include, but not be limited to:

(a) Permit review (Ord 1584, eff., 5-2-98)

(1) Review all development permits to determine that the permit requirements of this ordinance have been satisfied. (Ord 1584, eff., 5-2-98)

(2) 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. (Ord 1584, eff., 5-2-98)

(3) 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 section 14-134(3)(a) are met. (Ord 1584, eff., 5-2-98)

(b) Use of Other Base Flood Data (Ord 1584, eff., 5-2-98)

When base flood elevation data has not been provided in accordance with section 14-132(2), BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the City Engineer shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from any Federal, State, or other source as criteria for requiring that new construction, substantial improvements, or other development in Zone A are administered in accordance with Section 14-134(2), SPECIFIC STANDARDS. (Ord 1584, eff., 5-2-98)

(c) Information to be Obtained and Maintained. (Ord 1584, eff., 5-2-98)

(1) 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. (Ord 1584, eff., 5-2-98)

(2) For all new or substantially improved flood-proofed structures: (Ord 1584, eff., 5-2-98)

(i) Verify and record the actual elevation (in relation to mean sea level) to which the structure has been flood-proofed. (Ord 1584, eff., 5-2-98)

(ii) Maintain the Flood-proofing certifications required in Section 14-133(1)(c). (Ord 1584, eff., 5-2-98)

(3) Maintain for public inspection all records pertaining to the provisions of this ordinance. (Ord 1584, eff., 5-2-98)

(d) Alteration of Watercourses (Ord 1584, eff., 5-2-98)

(1) Notify adjacent communities and the Colorado Water Conservation Board prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency. (Ord 1584, eff., 5-2-98)

(2) Require the maintenance is provided within the altered or relocation portion of said watercourse so that the flood-carrying capacity is not diminished. (Ord. 1584, eff., 5-2-98)

(e) Interpretation of FIRM Boundaries (Ord 1584, eff., 5-2-98)

Make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in section 14-133(4).(Ord 1584, eff., 5-2-98)

(4) Variance Procedure (Ord 1584, eff., 5-2-98)

(a) Variance Board (Ord 1584, eff., 5-2-98)

(1) The Planning, Zoning and Variance Commission, as established by the City of Trinidad, shall hear and decide appeals of interpretations of FIRM boundaries and request for variances from the requirements of this ordinance. (Ord 1584, eff., 5-2-98)

(2) The Planning, Zoning and Variance Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the City Engineer in the enforcement or administration of this ordinance. (Ord 1584, eff., 5-2-98)

(3) Those aggrieved by the decision of the Planning, Zoning and Variance Commission, or any taxpayer, may appeal such decisions to the City Council acting as the Board of Appeals. Decisions of Board of Appeals may be appealed to the

District Court for the Third District Court as provided for by Colorado law. (Ord 1584, eff., 5-2-98)

(4) In passing upon such applications, the Planning, Zoning and Variance Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:(Ord 1584, eff., 5-2-98)

(i) the danger that materials may be swept onto other lands to the injury of others; (Ord 1584, eff., 5-2-98)

(ii) the danger to life and property due to flooding or erosion damage; (Ord 1584, eff., 5-2-98)

(iii) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners; (Ord 1584, eff., 5-2-98)

(iv) the importance of the services provided by the proposed facility to the community; (Ord 1584, eff., 5-2-98)

(v) the necessity to the facility of a waterfront location, where applicable;(Ord 1584, eff., 5-2-98)

(vi) the availability of alternative locations for the proposed use which are not subject to flooding or erosion damage; (Ord 1584, eff., 5-2-98)

(vii) the compatibility of the proposed use with the existing and anticipated development; (Ord 1584, eff., 5-2-98)

(viii) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area; (Ord 1584, eff., 5-2-98)

(ix) the safety of access to the property in times of flood for ordinary and emergency vehicles; (Ord 1584, eff., 5-2-98)

(x) 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, (Ord 1584, eff., 5-2-98)

(xi) the costs of providing governmental service during after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges. (Ord 1584, eff., 5-2-98)

(5) Upon consideration of the factors of Section 14-133(4)(a)(4) and the purposes of this ordinance, the Planning, Zoning and Variance Commission may attach such

conditions to the granting of variances as it deems necessary to further the purposes of this ordinance. (Ord 1584, eff., 5-2-98)

(6) The City Engineer and/or Public Works Director shall maintain the records of all appeal actions, including technical information, and report any variances to the Federal Emergency Management Agency. (Ord 1584, eff., 5-2-98)

(b) Conditions for Variances (Ord 1584, eff., 5-2-98)

(1) Generally, variances may be issued 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 level, providing items (i-xi) in Section 14-133(4)(a)(4) have been fully considered. As the lot size increases beyond the one-half acre, the technical justifications required for issuing the variance increases. (Ord 1584, eff., 5-2-98)

(2) Variance 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. (Ord 1584, eff., 5-2-98)

(3) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result. (Ord 1584, eff., 5-2-98)

(4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief. (Ord 1584, eff., 5-2-98)

(5) Variances shall only be issued upon: (Ord 1584, eff., 5-2-98)

(I) a showing of good and sufficient cause; (Ord 1584, eff., 5-2-98)

(II) a determination that failure to grant the variance would result in exceptional hardship to the applicant; and (Ord 1584, eff., 5-2-98)

(III) 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 14-133-(4)(a)(4) or conflict with existing local laws or ordinances. (Ord 1584, eff., 5-2-98)

(6) 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 1584, eff., 5-2-98)

Section 14-134. Provisions for Flood Hazard Reduction.

(1) General Standards (Ord 1584, eff., 5-2-98)

In all areas of special flood hazards, the following standards are required: (Ord 1584, eff., 5-2-98)

(a) Anchoring (Ord 1584, eff., 5-2-98)

(1) 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. (Ord 1584, eff., 5-2-98)

(2) All mobile or 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: (Ord 1584, eff., 5-2-98)

(i) over-the-top ties be provided at each of the two four corners of the mobile or manufactured home, with two additional ties per side at intermediate locations, with mobile or manufactured homes less than 50 feet long requiring one additional tie per side. (Ord 1584, eff., 5-2-98)

(ii) frame ties be provided at each corner of the home with five additional ties per side at intermediate points, with mobile or manufactured homes less than 50 feet long requiring four additional ties per side; (Ord 1584, eff., 5-2-98)

(iii) All components of the anchoring system be capable of carrying a force of 4,800 pounds and; (Ord 1584, eff., 5-2-98)

(iv) any additions to mobile or manufactured home be similarly anchored. (Ord 1584, eff., 5-2-98)

(b) Construction Materials and Methods (Ord 1584, eff., 5-2-98)

(1) All new construction and substantial improvements shall be construction with materials and utility equipment resistant to flood damage. (Ord 1584, eff., 5-2-98)

(2) All new construction and substantial improvements shall be constructed using

methods and practices that minimize flood damage. (Ord 1584, eff., 5-2-98)

(3) 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. (Ord 1584, eff., 5-2-98)

(c) Utilities (Ord 1584, eff., 5-2-98)

(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system; (Ord 1584, eff., 5-2-98)

(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, (Ord 1584, eff., 5-2-98)

(3) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. (Ord 1584, eff., 5-2-98)

(d) Subdivision Proposals (Ord 1584, eff., 5-2-98)

(1) All subdivision proposals shall be consistent with the need to minimize flood damage; (Ord 1584, eff., 5-2-98)

(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; (Ord 1584, eff., 5-2-98)

(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and (Ord 1584, eff., 5-2-98)

(4) Base flood elevation data shall be provided for all subdivision proposals. (Ord 1584, eff., 5-2-98)

(2) Specific Standards (Ord 1584, eff., 5-2-98)

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 14-132(2), BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD or Section 14-133(3)(b), Use of Other Base Flood Data, the following provisions are required: (Ord 1584, eff., 5-2-98)

(a) Residential Construction (Ord 1584, eff., 5-2-98)

(1) New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to or above the base flood elevation. (Ord 1584, eff., 5-2-98)

(2) Openings in Enclosures Below the Lowest Floor² (Ord. 1692, eff., 6-28-02)

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: (Ord. 1692, eff., 6-28-02)

- (i) 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; (Ord. 1692, eff., 6-28-02)
- (ii) The bottom of all openings shall be no higher than one foot above grade; (Ord. 1692, eff., 6-28-02)
- (iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters. (Ord. 1692, eff., 6-28-02)

(3) Below-Grade Residential Crawlspace Construction³ (Ord.1692, eff., 6-28-02)

New construction and substantial improvement of any below-grade crawlspace shall:

- (i) Have the interior grade elevation, that is below base flood elevation, no lower than two feet below the lowest adjacent grade; (Ord. 1692, eff., 6-28-02)
- (ii) Have the height of the below grade crawlspace measure from the interior grade of the crawlspace to the top of the foundation wall, not to exceed four feet at any point; (Ord. 1692, eff., 6-28-02)
- (iii) Have an adequate drainage system that allows floodwaters to drain from the interior area of the crawlspace following a flood: (Ord. 1692, eff., 6-28-02)
- (iv) Meet the provisions of Section 14-134(1)(a), Anchoring; Section 14-134(1)(b), Construction Materials and Methods; and Section 14-134(2)(a)(2), Openings in Enclosures Below the Lowest Floor. (Ord. 1692, eff., 6-28-02)

(b) Nonresidential Construction (Ord 1584, eff., 5-2-98)

New construction and substantial improvement of any commercial, industrial or other

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Chapter 14, Section 134(2)(a)(2) is enacted. (Ord. 1692, Eff., 6-28-02)

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Chapter 14, Section 134(2)(a)(3) is enacted. (Ord. 1692, eff., 6-28-02)

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: (Ord 1584, eff., 5-2-98)

- (1) be flood-proofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water; (Ord 1584, eff., 5-2-98)
- (2) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and, (Ord 1584, eff., 5-2-98)
- (3) 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 Section 14-133(3)(c)(2). (Ord 1584, eff., 5-2-98)

(c) Mobile or Manufactured Homes (Ord 1584, eff., 5-2-98)

- (1) Mobile or manufactured homes shall be anchored in accordance with Section 14-134-(1)(a)(2). (Ord 1584, eff., 5-2-98)
- (2) All mobile or manufactured homes or those to be substantially improved shall be elevated on a permanent foundation such that the lowest floor of the mobile or manufactured home is at or above the base flood elevation and is securely anchored to an adequately anchored foundation system. (Ord 1584, eff., 5-2-98)
- (3) Floodways (Ord 1584, eff., 5-2-98)

Located within areas of special flood hazard established in Section 14-132(2) 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: (Ord 1584, eff., 5-2-98)

(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. (Ord 1584, eff., 5-2-98)

(b) If Section 14-134(3)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 14-134, PROVISIONS FOR FLOOD HAZARD REDUCTION. (Ord 1584, eff., 5-2-98)

Section 14-135 Repealed (Ord. 1584, eff., 5-2-98)

Section 14-136 Repealed (Ord. 1584, eff., 5-2-98)