



## **MILE HIGH FLOOD DISTRICT**

### **FLOODPLAIN REGULATION**

Adopted by: Resolution No. 11, Series of 1970  
Amended by: Resolution No. 26, Series of 1974  
Resolution No. 2, Series of 1979  
Resolution No. 2, Series of 1980  
Resolution No. 3, Series of 2013  
Resolution No. 66, Series of 2019  
Resolution No. 57, Series of 2020

#### **SECTION 1: PURPOSE**

To promote the public health, safety, and general welfare, to minimize flood losses in areas subject to flood hazards, and to promote wise use of the floodplain through the development of sound floodplain management practices that assist the Mile High Flood District (MHFD) and the communities it serves with implementation of the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) and the Colorado Water Conservation Board (CWCB) *Rules and Regulations for Regulatory Floodplains in Colorado*; this Floodplain Regulation has been established with the following purposes intended:

- 1.1 To reduce the hazards of floods to life and property; by:
  - 1.1.1 Prohibiting certain uses which are dangerous to life or property in times of flooding.
  - 1.1.2 Restricting uses which would be hazardous to the public health in times of flooding.
  - 1.1.3 Restricting uses which are particularly susceptible to flood damage, so as to alleviate hardship and eliminate demands for public expenditures for relief and protection.
  - 1.1.4 Requiring permitted floodplain uses, including public facilities which serve such uses, to be protected against floods by providing floodproofing where applicable, and general flood protection at the time of initial construction.
- 1.2 To alert floodplain occupants or potential occupants of the potential for flood damages which may result from their land uses; (or that of others) by:
  - 1.2.1 Regulating the manner in which structures designed for human occupancy may be constructed so as to prevent danger to human life within such structures.
  - 1.2.2 Regulating the method of construction of water supply, sanitation systems and other utilities, so as to prevent disease, contamination and unsanitary conditions.

- 1.2.3 Delineating and describing areas that could be inundated by floods so as to protect individuals from purchasing floodplain lands for purposes which are unsuitable for those areas.
- 1.3 To protect the public from the burden of avoidable financial expenditures for flood control and relief; by:
  - 1.3.1 Regulating all uses within the floodplain so as to produce a method of construction and a pattern of development which will minimize the probability of damage to property and loss of life or injury to the inhabitants of the flood hazard area.
- 1.4 To protect the flood storage capacity of floodplains and to assure retention of sufficient floodway area to convey flood flows which can reasonably be expected to occur; by:
  - 1.4.1 Regulating the filling, dredging, and alteration of channels by deepening, widening, or relocating.
  - 1.4.2 Prohibiting unnecessary and damage-creating encroachments.
  - 1.4.3 Encouraging floodplain uses such as open space, natural areas, agriculture and recreation.
- 1.5 To protect the hydraulic characteristics of the small watercourses, including the gulches, sloughs and artificial water channels used for conveying flood waters, which make up a portion of the urban drainage system; by:
  - 1.5.1 Regulating the filling and channelization of watercourses so as to maintain natural storage capacity and slow flow characteristics.
  - 1.5.2 Prohibiting encroachment into the small watercourses to maintain their water carrying capacity.
  - 1.5.3 Encouraging uses such as open space, natural areas, recreation and trails.

## **SECTION 2: GENERAL PROVISIONS**

- 2.1 **Authority:** Per 32-11-218(1)(f)(I) C.R.S., MHFD has the power to adopt, amend, repeal, enforce, and otherwise administer this Floodplain Regulation. In the event of any conflict between this floodplain zoning regulation and any floodplain regulation adopted by any other public body within MHFD, the more restrictive regulation shall control. Most local governments within MHFD also have floodplain regulations and processes in place to administer and enforce those regulations. For this reason, the MHFD Floodplain Administrator will generally defer to the floodplain administrators appointed by those local governments for the administration of routine floodplain management activities such as granting grading and floodplain development permits, etc., and will not be involved in these matters unless directed to do so by the MHFD Board of Directors.
- 2.2 **Jurisdiction:** The jurisdiction of this section includes all lands adjacent to any watercourse within MHFD that would be inundated by the one-percent annual chance flood for that watercourse (as defined in *Section 10, Definitions*), and areas removed from the Floodplain by the placement of fill.
- 2.3 **Floodplain Components:** The Floodplain covers the mapped area corresponding to the one-percent annual chance flood (a.k.a. the 100-year flood). This is the area susceptible to inundation during a flood that has a one percent chance of being equaled or exceeded in any given year. Where deemed to be in the public interest by the MHFD, and to promote wise use of the Floodplain, the Floodplain may be subdivided into the Floodway and the Flood Fringe.

The Floodplain is defined by computing the limits of the one-percent annual chance flood under existing channel and Floodplain conditions, and typically with consideration of future runoff potential from full development of the watershed.

Subdivision of the Floodplain into the Floodway and the Flood Fringe must not cause a one-percent annual chance rise of more than one-half foot in either the flood water surface elevation or corresponding energy grade line (as defined in *Section 10, Definitions*) elevation above that for the Floodplain unless requirements of or comparable to those in 44 CFR. § 65.12 of the NFIP regulations have been met. This ensures that alternative options have been considered and documentation of individual legal notice (as defined in *Section 10, Definitions*) to all impacted property owners has been provided. This also requires certification that no structures will be impacted by the rise in water surface elevation profile.

The subdivision of the Floodplain and accompanying hydraulic studies shall be based upon computational hydraulic analyses which consider a portion (to be determined by the Floodplain Administrator) of the Flood Fringe reach being filled. Determination of the Floodway and Flood Fringe must be made only with the full understanding that such subdivision may tend to increase flood peaks downstream.

- 2.4 **Boundaries:** The boundaries of the Floodplain shall be as they appear on the floodplain maps kept on file with the Floodplain Administrator. The boundary lines on the map shall be determined by the use of the scale appearing on the map. Where there is a conflict between the boundary lines illustrated on the map and actual field conditions, the dispute shall be settled according to *Section 7.3, Mapping Disputes*.
- 2.5 **Interpretation:** In the Floodplain Administrator's interpretation and application, the provisions of this Regulation shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by Colorado Statutes.
- 2.6 **Warning and Disclaimer of Liability:** The degree of flood protection intended to be provided by this section is considered reasonable for the regulatory purposes and is based on engineering and scientific methods of study. Larger floods can and will occur on occasions, and the depth of any flood may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This Regulation does not imply the areas outside Floodplain area boundaries or land uses permitted within such areas will always be free from flooding or flood damage. Nor shall this section create a liability on the part of or a cause of action against MHFD or any officer or employee thereof for any flood damages that may result despite reliance on this Regulation.
- 2.7 **Adoption of Floodplain Maps:** The location and boundaries of the Floodplain established by this regulation shall be as they appear on the maps and profiles contained in engineering reports adopted after a public hearing by the MHFD Board of Directors, and any subsequent revisions to these maps and profiles as approved or designated by FEMA or CWCB. The MHFD Board of Directors may designate Floodways and Flood Fringes by adopting floodway tables and corresponding delineations contained in the above mentioned engineering reports, or subsequent map revisions after a public hearing. Each change in the official maps shall be subject to the Amendment procedure as required in *Section 7.3, Mapping Disputes*. The adopted maps and flood profiles shall be on file with the Floodplain Administrator and also with the County Clerk and Recorder of the county in which the Floodplain is located.

### **SECTION 3: NONCONFORMING USES**

- 3.1 The existing lawful use of a structure or premises which is not in conformity with the provisions of this Regulation may be continued, subject to the following conditions:

- 3.1.1 No such use shall be expanded or enlarged except in conformity with the provisions of this Regulation.
- 3.1.2 Substantial improvement (as defined in *Section 10, Definitions*) to any nonconforming structure or use must result in the permanent change of the structure or use to a conforming use.
- 3.1.3 If such use is discontinued for twelve (12) consecutive months, any future use of the building and premises shall conform to this Regulation.
- 3.1.4 Uses or adjuncts thereof which are public nuisances shall not be permitted to continue as nonconforming uses. These shall include, but not be limited to, tents and makeshift structures, enclosures, or other shelters used for human habitation; except in locations expressly permitted by the local government (as defined in *Section 10, Definitions*) and having adequate sanitation facilities and flood evacuation plans (also as defined in *Section 10, Definitions*).
- 3.1.5 Any alteration, addition, or repair to any existing nonconforming structure shall be protected, where applicable, by floodproofing measures pursuant to *Section 7.44(1), Floodproofing*.

#### **SECTION 4: THE FLOODPLAIN**

- 4.1 Application: These provisions shall apply to all Floodplains of watercourses in MHFD, for which one-percent annual chance flood limits have been determined.
- 4.2 Description: The Floodplain shall include the areas so delineated on the maps and profiles for the one-percent annual chance flood limits along the watercourses adopted by the MHFD Board of Directors in accordance with *Section 2.7, Adoption of Floodplain Maps*, and subsequent map revisions approved and/or designated by FEMA or CWCB.
- 4.3 Special Provisions: The following regulations shall apply to all uses within the Floodplain, notwithstanding that such uses may be permitted under the terms of this Regulation.
  - 4.3.1 No new construction; substantial improvement; fill, including fill for roads and levees; deposit; obstruction (as herein defined); storage of materials, or other Floodplain uses shall be permitted that decreases the efficiency or the capacity of the Floodway, unless requirements of or comparable to those in 44 CFR. § 65.12 of the NFIP regulations have been met. This ensures that alternative options have been considered, documentation of individual legal notice to all impacted property owners is provided, and requires certification that no structures will be impacted by the rise in the one-percent annual chance water surface elevation profile.
  - 4.3.2 No Floodplain use shall adversely affect the efficiency of or unduly restrict the capacity of the channels or Floodways of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems, unless requirements of or comparable to those in 44 CFR. § 65.12 of the NFIP regulations have been met. This ensures that alternative options have been considered, documentation of individual legal notice to all impacted property owners is provided, and requires certification that no structures will be impacted by the rise in water surface elevation profile.
  - 4.3.3 All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

- 4.3.4 All new construction, substantial improvements, and utility equipment shall be constructed with materials resistant to flood damage. Flood-resistant material is defined in *Section 10, Definitions*.
- 4.3.5 All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- 4.3.6 All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system; and all new and replacement sanitary sewage systems shall be designed to minimize or eliminate both infiltration of flood waters into the system and discharges from the system into flood waters.
- 4.3.7 Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- 4.3.8 Except as allowed under *Section 4.5.3*, mobile homes and recreational vehicles should not be placed in the Floodplain. Mobile homes and recreational vehicles already placed within the Floodplain shall be anchored to resist flotation, collapse, or lateral movement by providing over the top and frame ties to ground anchors. Specific requirements shall be that:
  - (1) Over-the-top ties be provided at each of the four corners of the mobile home, with two additional ties per side at intermediate locations and mobile homes less than fifty feet long requiring one additional tie per side.
  - (2) Frame ties be provided at each corner of the home with five additional ties per side at intermediate points and mobile homes less than fifty feet long requiring four additional ties per side;
  - (3) All components of the anchoring system be capable of carrying a force of 4,800 pounds; and
  - (4) Any additions to the mobile home be similarly anchored.
- 4.3.9 Tents and makeshift structures, enclosures, or other shelters used for human habitation, shall not be permitted in the Floodplain, except in locations expressly permitted by the local government (as defined in *Section 10, Definitions*) and having adequate sanitation facilities and flood evacuation plans (also as defined in *Section 10, Definitions*).

#### 4.4 Description of Uses

Permitted Uses: The following uses shall be permitted within the Floodplain to the extent that they are not prohibited in a particular area by any underlying county or city zoning ordinance or regulation.

- 4.4.1 Agricultural uses such as: general farming, livestock grazing, forestry, sod farming, and wild crop harvesting;
- 4.4.2 Industrial-commercial uses such as: loading areas, parking areas, airport landing strips, and temporary storage of equipment or machinery easily moved or not subject to flood damage;
- 4.4.3 Public and private recreational uses not requiring "permanent or temporary structures" designed for human habitation such as: parks, swimming areas, golf courses, picnic grounds, wildlife and nature preserves, fish hatcheries, hunting, fishing and hiking areas; and

- 4.4.4 Utility facilities such as: flowage areas, transmission lines, pipelines, water monitoring devices, roadways, and bridges.
- 4.5 Special Exceptions: Any use enumerated in *Subsections 4.51 through 4.55* may be permitted only upon the issuance of a special exception letter by the Floodplain Administrator as provided in *Section 7.4, Special Exceptions*.
- 4.5.1 Residential Construction. New construction or substantial improvement of any residential structure may be permitted only upon a finding by the Floodplain Administrator that the lowest floor, including basement, is to be elevated to or above the flood protection elevation (as defined in *Section 10, Definitions*). As a condition of such finding, such condition shall be certified by a Colorado-licensed professional engineer, architect, or land surveyor to the Floodplain Administrator. This includes structures placed on areas removed from the Floodplain by fill.
- 4.5.2 Nonresidential Construction. Critical facilities shall be regulated in accordance with *Section 6.3, Special Provisions*. New construction or substantial improvement of any other commercial, industrial or other nonresidential structure may be permitted only upon a finding by the Floodplain Administrator that the lowest floor, including basement, is to be elevated to or above the flood protection elevation or, together with attendant utility and sanitary facilities, is to be floodproofed so that below the flood protection elevation, the structure is water tight and contains adequate structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. This includes structures placed on areas removed from the Floodplain by fill. A Colorado-licensed professional engineer or architect shall certify to the Floodplain Administrator that the standards of this subsection are satisfied.
- 4.5.3 Mobile Homes. New mobile home parks and mobile home subdivisions, expansions of existing mobile home parks and mobile home subdivisions, and existing mobile home parks and mobile home subdivisions where the repair, reconstruction, or improvement of the street utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced and for mobile home subdivision, may be permitted only upon a finding by the Floodplain Administrator that:
- a) Stands or lots will be elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be elevated to or above the flood protection elevations; and
  - b) Adequate surface drainage and access for a hauler will be provided.
- This includes mobile home parks placed on areas removed from the Floodplain by fill.
- 4.5.4 Fills or Deposits of Materials. This may be permitted only upon a finding by the Floodplain Administrator that:
- (1) Any fill or deposit of materials will comply with the *Section 4.3, Special Provisions*;
  - (2) The fill or deposit of materials will have some beneficial purpose and the amount thereof will not be greater than is necessary to achieve that purpose, as demonstrated by a plan submitted by the owner showing the final dimensions of the proposed fill or other material and the use to which the filled land will be put;
  - (3) The fill or deposit of materials does not imprudently reduce the flood storage capacity of the waterway and the other requirements of this section are met; and

the fill or deposit of materials does not encroach on that portion of the Floodplain which would have significant flow during the flood, and which for that reason would help convey the flood waters. Any filling that reduces the hydraulic capacity requires appropriate hydraulic studies and a review of the impact of such reduction;

- (4) The fill or other materials will be protected against erosion in conformance with stabilization best management practices as described in the Urban Storm Drainage Criteria Manual; and
- (5) The fill or deposit of materials does not otherwise adversely impact upstream, downstream, and/or adjacent property owners.

4.5.5 Storage or Processing of Hazardous Materials. Materials that are buoyant, flammable, toxic, explosive, or in times of flooding, could be injurious to human, animal, or plant life, shall be at or above the flood protection elevation for the particular area. Solid waste disposal facilities, such as junkyards or areas for the dumping of refuse shall also require a permit from the Floodplain Administrator.

4.5.6 Uses Similar in Nature to Permitted Uses. These may also be allowed provided that they are consistent with the provisions of this Regulation.

## **SECTION 5: THE FLOODWAY**

5.1 Application: *Section 4.1, Application, Floodplain*, shall also apply hereto.

5.2 Description: The Floodway shall include the areas so delineated on the maps and profiles for the one-percent annual chance flood limits along the watercourses adopted by the MHFD Board of Directors in accordance with *Section 2.7, Adoption of Floodplain Maps*, and subsequent map revisions approved and/or designated by FEMA or CWCB.

5.3 Special Provisions: The following additional provisions shall apply to all uses within the Floodway.

5.3.1 No encroachments, including fill, new construction, substantial improvements, or other development shall be permitted within the Floodway that would result in any increase in flood levels during the occurrence of the one-percent annual chance flood unless requirements of or comparable to those in 44 CFR. § 65.12 of the NFIP regulations have been met. This ensures that alternative options have been considered, documentation of individual legal notice to all impacted property owners is provided, and requires certification that no structures will be impacted by the rise in water surface elevation profile.

5.3.2 No mobile homes or recreational vehicles shall be placed in the Floodway.

5.3.3 No buildings or structures designed or intended for human occupancy shall be placed in the Floodway.

5.3.4 No floatable or buoyant material, nor any material that could easily become dislodged and move downstream during a flood, shall be stored or placed in the Floodway.

5.3.5 No storage or processing of materials that are flammable, toxic, explosive, or in times of flooding, could be injurious to human, animal, or plant life, shall be stored or placed in the Floodway.

5.3.6 No solid waste disposal facilities, such as junkyards or areas for the dumping of refuse shall be placed in the Floodway.

- 5.4 Description of Uses: The uses that are permitted in *Section 4.4, Description of Uses, Floodplain*, are permitted, provided that such use does not include any filling or deposit of materials, and the capacity of the Floodway is left unimpaired.

## **SECTION 6: THE FLOOD FRINGE**

- 6.1 Application: All provisions of *Section 4.1, Application, Floodplain*, shall also apply hereto.
- 6.2 Description: The Flood Fringe shall include the areas so delineated on the maps and profiles for the one-percent annual chance flood limits along the watercourses adopted by the MHFD Board of Directors in accordance with *Section 2.7, Adoption of Floodplain Maps*, and subsequent map revisions approved and/or designated by FEMA or CWCB.
- 6.3 Special Provisions:
- 6.3.1 The provisions of *Sections 4.3 and 4.5* shall apply to all uses in the Flood Fringe.
- 6.3.2 Within shallow flooding areas, all new construction and substantial improvement of residential structures may be permitted only upon a finding of the Floodplain Administrator that the lowest floor, including basement, will be elevated one foot above the crown of the nearest street or one foot above the flood depth specified on the map, whichever is higher.
- 6.3.3 Within shallow flooding areas, all new construction and substantial improvement of nonresidential structures may be permitted only upon a finding of the Floodplain Administrator that the lowest floor, including basement, will be elevated one foot above the crown of the nearest street; or the highest adjacent grade of the structure will be one foot above the flood depth specified on the map, whichever is higher; or together with attendant utility and sanitary facilities, will be completely floodproofed to or above that level so that any space below that level is watertight and contains adequate structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- 6.3.4 All new critical facilities shall be located outside the Floodplain whenever possible.
- 6.3.5 All new critical facilities which are unable to be located outside the Floodplain, substantially improved critical facilities, and new additions to existing critical facilities in the Flood Fringe shall be elevated or floodproofed to at least one foot above the flood protection elevation.
- 6.3.6 New critical facilities shall, when practicable, have continuous non-inundated access (ingress and egress for evacuation and emergency services) during a one-percent annual chance flood event.

## **SECTION 7: ADMINISTRATION**

- 7.1 Floodplain Administrator: The MHFD Executive Director is the Floodplain Administrator who shall administer the provisions of this Regulation.
- 7.2 Special Exception Letter: A special exception letter must be obtained from the Floodplain Administrator before any new land use not expressly allowed by this Regulation may be initiated.
- 7.3 Mapping Disputes: The following procedure shall be used by the Floodplain Administrator in deciding contested cases in which the location of a Floodplain boundary is disputed:
- 7.3.1 In all cases the person contesting the location of the Floodplain boundary shall be given the opportunity to submit technical evidence certified by a Colorado-licensed professional engineer that demonstrates the Floodplain is scientifically or technically incorrect, or that an



indisputable error has occurred. The Floodplain Administrator shall not allow deviations from the boundary line as mapped unless the evidence clearly and conclusively establishes that the mapped location of the line is incorrect.

7.3.2 The Floodplain Administrator shall render a written opinion within 30 days following receipt of the applicant's technical evidence setting forth the findings of fact and the reasons for the decision.

7.3.3 Contestants shall have the right to appeal such decisions to the MHFD Board of Directors. Such appeal must be made within 30 days.

7.4 Special Exceptions:

7.4.1 Application: Any use listed in this Regulation as requiring a special exception may be allowed only upon the issuance of a special exception letter by the Floodplain Administrator.

7.4.2 Procedure to be followed in Passing on Special Exception Letters: Pursuant to a Special Exception Letter Application the Floodplain Administrator may:

- (1) Require the applicant to submit, at the time of application, a geo-referenced topographic work map, certified by a Colorado-licensed engineer competent in open channel hydraulics. This work map shall show vertical datum, horizontal datum, and mapping projection used. This map shall be required to accurately locate the proposed Floodplain and/or Floodway boundaries with respect to the effective Floodplain and/or Floodway limits (as defined in *Section 2.7, Adoption of Floodplain Maps*), the pre-project or existing Floodplain and/or Floodway limits, channel of stream, and existing Floodplain development. This map shall further be required to include, as attachments, all other pertinent information such as the nature of the proposal; legal description of the property; fill limits and elevations; building floor elevations; and floodproofing measures, as applicable.
- (2) Require the applicant to furnish the following additional information, as deemed necessary by the Floodplain Administrator for the evaluation of the effects of the proposal under flood flows and Floodplain storage and to render a decision of the proposed Floodplain use:
  - (a) Cross-sections (as appropriate), showing the channel of the stream, the Floodplain and/or Floodway adjoining each side of channel, cross-sectional area to be occupied by the proposed development, and high water information.
  - (b) Plan (surface view), a geo-referenced map showing vertical datum, horizontal datum and mapping projection, elevations or contours of the existing and proposed ground; pertinent structure, fill or storage elevations; size, location and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities, and soil types, water surface elevations, and other pertinent information.
  - (c) Profile (as appropriate), showing the slope of the bottom of the existing and proposed channel or thalweg of the stream and existing and proposed one-percent annual chance water surface profiles.

- (d) Specifications for building construction and materials, floodproofing, filling, dredging, grading, channel improvement, storage of materials, water supply, and sanitary facilities.
- (e) Hydrologic and Hydraulic Analyses and/or supplemental calculations for all proposed development within the Floodplain.

The Floodplain Administrator shall render, within 30 days of receipt of all necessary application documents and materials, a written decision granting or denying a permit application. If a denial is made, the decision shall set forth the Floodplain Administrator's findings of fact and reasons for the denial. Applicants shall have the right to appeal any adverse findings or decision to the MHFD Board of Directors. Such appeal must be made within 30 days.

7.4.3 Bases for the Floodplain Administrator's Determination: The determination of the Floodplain Administrator on each special exception letter application shall be based on the effects of the proposed land use with respect to the objectives and purposes of this Regulation.

7.4.4 Conditions Attached to Special Exception Letters: Upon consideration of the factors listed above and the purposes of this Regulation, the Floodplain Administrator may attach such conditions as he deems necessary in furthering the purposes of this Regulation. Such conditions may include specifications for, without limitation because of specific enumeration, modification of other waste disposal methods and facilities, landscaping, periods of operation, operational controls, sureties, deed restriction and adequate floodproofing, where applicable.

- (1) Floodproofing. Special exceptions requiring floodproofing measures such as the following shall be designed consistent with the flood protection elevation for the particular areas and flood velocities, forces and other factors associated with the flood protection elevation. Methods shall be in conformance with the latest FEMA guidance relative to floodproofing practices.

The Floodplain Administrator shall require that the applicant submit a plan or document certified by a Colorado-licensed professional engineer that the floodproofing measures are consistent with the flood protection elevation for the particular area.

- (a) Anchorage to resist flotation and lateral movement.
- (b) Installation of watertight doors, bulkheads, and shutters.
- (c) Reinforcement of walls to resist water pressures.
- (d) Use of paints, membranes, or mortars to reduce seepage of water through walls.
- (e) Addition of mass or weight to structures to resist flotation.
- (f) Installation of pumps to lower water levels in structures.
- (g) Construction of water supply and waste treatment systems to prevent the entrance of flood waters.
- (h) Pumping facilities for subsurface drainage systems for buildings to relieve external foundation wall and basement floor pressure.

- (i) Construction to resist rupture or collapse, caused by water pressure or floating debris.
- (j) Backflow prevention valves on sewer lines, or the elimination of gravity flow basement drains.

## **SECTION 8: ENFORCEMENT AND PENALTIES**

8.1 Any structure, building, fill, or development placed or maintained within any Floodplain in violation of this Regulation is a public nuisance and the creation thereof may be enjoined and maintenance thereof may be abated by action at suit of the City, Town, or County in which it is located or by MHFD, or any citizen thereof. Any person who places or maintains any structure, building, fill, or development within any Floodplain in violation of this Regulation may be fined not more than \$500 for each offense. Each day during which such violation exists is a separate offense.

## **SECTION 9: AMENDMENTS**

9.1 The MHFD Board of Directors may from time to time alter, supplement, or change the Floodplain, Floodway, and Flood Fringe boundaries and the provisions contained in this Regulation in the manner provided by law.

9.1.1 Amendments to this Regulation may be made on petition of any interested party in accordance with the provisions of the Colorado Revised Statutes.

9.1.2 The subdivisions of the Floodplain into the Floodway and Flood Fringe will be made only by action of the MHFD Board of Directors.

## **SECTION 10: DEFINITIONS**

Unless specifically defined below, words or phrases used in this Regulation shall be interpreted so as to give them the same meaning as they have at common law and to give this Regulation its most reasonable application.

10.1 **Channel**: That area of a watercourse where water normally flows and not that area beyond where vegetation exists.

10.2 **Critical Facility**: A structure or related infrastructure, but not the land on which it is situated, that if flooded may result in significant hazards to public health and safety or interrupt essential services and operations for the community at any time before, during, or after a flood. Typical critical facilities include hospitals, fire stations, police stations, storage of critical records, similar facilities, and all other facilities and uses identified in *Rule 6* of the Colorado Water Conservation Board's *Rules and Regulations for Regulatory Floodplains in Colorado*. These facilities should be given special consideration when formulating regulatory alternatives and floodplain management plans. A critical facility should not be located in a Floodplain if at all possible.

10.3 **Energy Grade Line**: The line representing the elevation of the potential energy for water flowing in a conduit or channel that is indicative of a change in how fast water is moving under given conditions.

10.4 **Flood**: A general and temporary condition of partial or complete inundation of normally dry land areas from (a) the overflow of streams, rivers, or other inland water, or (b) the unusual and rapid accumulation or runoff of surface waters from any source.

10.5 **Flood Evacuation Plan**: A document describing the procedures for evacuating an area inundated by a flood. Such document shall include, at a minimum:

- (a) Conditions that will activate the plan;

- (b) Chain of command during a flood event;
  - (c) Emergency functions and who will perform them;
  - (d) Specific evacuation procedures, including routes and exits; and
  - (e) Procedures to account for personnel, customers, and visitors.
- 10.6 Flood Fringe: The Fringe portion of the Floodplain in which flows are characteristically of shallow depths and low velocities.
- 10.7 Flood Profile: A graph or a longitudinal profile showing the relationship of the water surface elevation of a flood event to the location along a stream or river.
- 10.8 Flood Protection Elevation: An elevation one foot above the elevation of the one-percent annual chance flood under existing channel and Floodplain conditions. It is one foot above the elevation of the Floodplain, as shown on the floodplain maps in the office of the Floodplain Administrator, and at [www.mhfd.org](http://www.mhfd.org).
- 10.9 Flood-Resistant Material: Flood-resistant material includes any building product capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Prolonged contact means at least 72 hours. Significant damage is any damage requiring more than low-cost cosmetic repair (such as painting).
- 10.10 Floodplain: An area both including and adjacent to a watercourse, which area is subject to flooding as the result of the occurrence of the one-percent annual chance flood and which area is so adverse to past, current, or foreseeable construction or land use as to constitute a significant hazard to public health and safety or to property. The Floodplain may be further subdivided into the Floodway and the Flood Fringe.
- The term includes, but is not limited to:
- (a) Mainstream Floodplains;
  - (b) Debris-fan Floodplains; and
  - (c) Dry wash channels and dry wash Floodplains.
- 10.11 Floodplain Administrator: That individual appointed by the MHFD Board of Directors to administer the provisions of these Regulations. MHFD Resolution No. 5, series of 1979, designates the MHFD Executive Director as the Floodplain Administrator.
- 10.12 Floodplain Maps: Those maps that accurately indicate the boundaries of the Floodplain.
- 10.13 Floodproofing: A combination of structural provisions, changes, or adjustments to properties and structures subject to flooding primarily for the reduction or elimination of flood damages to properties, water and sanitary facilities, structures, and contents of buildings in a flood hazard area.
- 10.14 Floodway: That portion of the Floodplain required for the reasonable passage or conveyance of the one-percent annual chance flood which is characterized by hazardous and significant depths and velocities. The Floodway limits are based on the cumulative encroachment into the Floodplain resulting in a maximum water surface increase of one-half foot (unless the requirements of *Section 2.3, Floodplain Components* are met).
- 10.15 Individual Legal Notice: Public notice distributed by MHFD to all affected property owners by publication in a newspaper of general circulation within the boundaries of MHFD and by mailing an individual notice to each affected property owner.

- 10.16 Local Government: The town, city, county, or city and county having regulatory police power over the use of property covered by this Regulation.
- 10.17 Obstruction: Sandbars formed by the natural flow of a watercourse, temporary structures, planks, snags, and debris, in and along an existing channel, which cause a flood hazard.
- 10.18 Occupancy: The use or possession of a building by humans for purposes including, but not limited to, residential, office, hospital, or commercial.
- 10.19 One-Percent Annual Chance Flood: Also known as the one-percent annual exceedance probability flood and more colloquially as the 100-year flood, a flooding event of this magnitude has a one-percent chance of occurring in any given year, giving it an average return period (recurrence interval) of one hundred years, as determined from an analysis of floods on a particular watercourse and other watercourses in the same general region.
- 10.20 Public Nuisance: A public nuisance is defined as an act or omission that has the potential to affect the health, safety, welfare, and/or comfort of the general public.
- 10.21 Reach: A hydraulic engineering term to describe longitudinal segments of a stream or river.
- 10.22 Shallow Flooding Area: An area subject to inundation by the one-percent annual chance flood with average depths of less than three feet, and not typically related to the flood profile. These are areas where no clearly defined channel exists, where the path of flooding is indeterminate, but where conveyance may be evident.
- 10.23 Storage Capacity of a Floodplain: The volume of space above an area of floodplain land that can be occupied by flood water of a given stage at a given time, regardless of whether the water is moving. Storage capacity tends to reduce downstream flood peaks.
- 10.24 Structure: Anything constructed or erected, the use of which required a more or less permanent location on or in the ground. Includes, but is not limited to, walled and roofed buildings (including gas or liquid storage tanks), that are principally above ground, as well as a manufactured homes. The terms "structure" and "building" are interchangeable for the purposes of this Floodplain Regulation.
- 10.25 Structure, Permanent: A structure which is built of such materials and in such a way that it would commonly be expected to last and remain useful for a substantial period of time.
- 10.26 Structure, Temporary: A structure which is built of such materials and in such a way that it would commonly be expected to have a relatively short useful life, or is built for a purpose that would commonly be expected to be relatively short-term.
- 10.27 Substantial Improvement: Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure either (a) before the improvement has started, or (b) if the structure has been damaged and is being restored, before the damage occurred. *Substantial improvement is started when the first alteration of any structural part of the building commences and is cumulative over a ten (10) year period.*
- 10.28 Watercourse: A channel, natural depression, slough, artificial channel, gulch, arroyo, stream, creek, pond, reservoir, or lake in which storm runoff and flood water flows either regularly or infrequently. This includes major drainageways for carrying urban storm runoff.