



# Transportation Department

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**MEMO TO:** County Health and Parks Departments; Land Use Department Long Range Planning Division and Building Division; Colorado Water Conservation Board; FEMA Region VII  
**FROM:** Justin Gindlesperger, Development Review Planner/Certified Floodplain Manager  
**DATE:** August 29, 2012  
**RE:** Proposed Land Use Code Text Amendment

**Docket DC-12-0005: Text Amendments to Article 1, Article 4-400 and Article 18 of the Land Use Code**

Land Use Code text amendments to Article 1 (“Title, Authority & Interpretation”), Article 4-400 (“Floodplain Overlay District”), Article 18 (“Definitions”) of the Boulder County Land Use Code. The proposed changes would clarify the County’s regulation of the Floodplain Overlay District and would bring these regulations into consistency with regulatory agencies including the Federal Emergency Management Agency, the National Flood Insurance Program, and the Colorado Water Conservation Board.

Article 16 of the Land Use Code states, “No text amendment shall be adopted by the Board of County Commissioners unless the Board has determined that:

1. the existing text is in need of the amendment;
2. the amendment is not contrary to the intent and purpose of this Code; and
3. the amendment is in accordance with the *Boulder County Comprehensive Plan*.”

Please review the attached proposed amendments to the Land Use Code. Let us know if your agency or division has concerns with the proposed amendments.

We anticipate Planning Commission will consider this docket on **September 19, 2012**.

The Transportation Department staff values comments from referral partners. Please check the appropriate response below or send a letter. Late responses will be reviewed as the process permits; all comments will be made part of the public record. Only a portion of the submitted documents may have been enclosed; you are welcome to review the entire file at the Land Use Department, 13th and Spruce, Boulder.

Please return responses to the above address by **September 12, 2012**.

- We have reviewed the proposal and have no conflicts.
- Letter is enclosed.

Signed \_\_\_\_\_ PRINTED Name \_\_\_\_\_

Agency or Address \_\_\_\_\_

**Proposed Amendments**

**1. Purpose and relationship to the Floodplain Regulations – Article 1-301**

*Discussion:* The purpose of the floodplain regulations is to provide land use controls that protect human health and safety, prevent or minimize flood damages, avoid increasing or creating flood hazards, and ensure Boulder County qualifies for participation in the National Flood Insurance Program. Staff recommends adding this statement to Article 1: Title, Authority, & Interpretation of the Land Use Code to reflect this purpose.

*Proposed Text:*

Article 1-301 Purpose and Relationship to the Floodplain Regulations

The purpose of these Regulations is to provide land use controls necessary to qualify unincorporated areas of Boulder County for flood insurance under requirements of the National Flood Insurance Act of 1968, as amended, to protect human life and health; to avoid increasing flood levels or flood hazards or creating new flood hazard areas; to minimize public and private losses due to flooding; to reduce the need for expenditures of public money for flood control projects; to reduce the need for rescue and relief efforts associated with flooding; to prevent or minimize damage to public facilities and utilities and to aid the public in determining if a property is in a potential flood area.

**2. Abrogation and Greater Restrictions – Article 1-401**

*Discussion:* The floodplain regulations are not intended to invalidate any other existing requirements. Whichever requirements impose the greatest restriction on development within the Floodplain Overlay District shall prevail. Staff recommends adding this statement to Article 1: Title, Authority, & Interpretation of the Land Use Code to reflect this purpose.

*Proposed Text:*

Article 1-401 Abrogation and Greater Restrictions

The floodplain regulations of this code are not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where these regulations and another ordinance, easement, covenant, nor deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

**3. Designation of Official Maps**

*Discussion:* As part of the Map Modernization project, FEMA has updated the Flood Insurance Rate Map (FIRM) for Boulder County. The proposed amendment will revise the effective date of the FIRM to the current date.

*Proposed Text:*

Article 4-402 (B):

The maps in these reports depicting the floodplain for the base flood shall be considered the official maps for the purposes of locating the FO district and establishing those areas affected by the provisions and regulations of this Section. These maps and reports, together with all amendments, explanatory matter, technical addenda, water surface elevations, profiles, cross sections where available, and the 'Flood Insurance Study,' effective ~~October 4, 2002~~, December 18, 2012, and the Flood Insurance Rate Maps of Boulder County as prepared by the Federal Emergency Management Agency are incorporated by reference into this Code. The location and boundaries of the FO district established by this Section are also incorporated into this Code, and are depicted upon the official zoning district maps.

**4. On-site Wastewater System improvement requirements within the Floodway - Article 4-403**

*Discussion:* New or replacement on-site wastewater systems are not permitted within the floodway boundaries. Staff recognizes that certain properties within Boulder County are unable to replace failing systems outside of the floodway. The proposed amendment will define the criteria for replacing a septic system within the floodway boundaries. The amendment will not alter the restriction on new, or expanded, septic systems within the floodway.

*Proposed Text:*

Art 4-403 (A) 4. solid waste disposal sites, central collection sewage treatment facilities and new or expanded individual on-site wastewater systems;

Art 4-403 (D): The provisions of this article may be waived for properties within a floodway that require a repair or replacement on-site wastewater system if the County Engineer determines that the proposed design is consistent with the following circumstances:

1. the owner of the property must demonstrate that connection to a central sewer is not possible by:
  - a. Providing information that indicates connection to a public sewer is not feasible.
  - b. Providing a letter of denial from the closest sewer provider.
  - c. If a property in a floodway is close to a public sewer and the sewer provider will accept the home's connection, that connection will be deemed feasible providing that:
    - i. For properties within a community service area, the cost of connection to a public sewer is not more than 25% of the most recent assessed value of the property.
    - ii. There are no easement restrictions between the sewer line and dwelling.
5. Design of an on-site wastewater system option must be protective of groundwater and appropriate for a floodway, and shall include these considerations:
  - a. The system not increase the overall capacity of the existing system.
  - b. Whether it is practical to remove outbuildings or non-conforming additions to allow for increased soil availability outside of the floodway.
  - c. Whether there is room for an at-grade recirculating sand filter, or similar treatment media, and the required absorption area.
  - d. Permit requirements for on-going operation and maintenance and advanced treatment are required.
  - e. Whether placement in the hydraulic shadow of a legal pre-existing structure is possible
  - f. A raised absorption system or installation of a vault are a last option within the floodway, provided it meets the provisions of Article 4-407(B) of this section.

**5. Floodproofing requirements - Article 4-405**

*Discussion:* Accessory structures (non-dwelling units) are permitted to be constructed at grade and wet-floodproofed (by the use of flood vents that allow the passage of flood waters)

within the floodplain boundaries. The proposed amendment will revise the text to remove floodproofing requirements from garages and carports and add language to permit the wet-floodproofing option for these structures.

For properties that are removed from the floodplain by the use of fill, the amendment will also include language to prohibit a floor elevation below the base flood elevation that existed prior to the placement of the fill material. This language is compliant with the current Colorado Water Conservation Board rules and regulations.

*Proposed Text:*

~~Art 4-405(B) 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~~

~~(C)B. All new construction and substantial improvements~~ Floodplain elevation requirements shall be floodproofed as follows:

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.
2. All new construction and substantial improvements of any building or other structure shall have the lowest floor (including basements and porches) elevated to or above the flood protection elevation.
  - a. Fully enclosed areas below the lowest floor that are subject to flooding and used solely for parking of vehicles, building access, or storage of materials in an area other than a basement shall be designed to equalize the hydrostatic pressure 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:
    - 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;
    - ii. The bottom of all openings shall be no higher than one foot above grade;
    - iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
  - b. Accessory structures (detached garages, sheds, and barns) may be constructed at grade and wet-floodproofed by meeting the provisions for fully enclosed areas subject to flooding and subject to the following conditions:
    - i. The building must be used only for the parking of vehicles or storage of tools, materials and equipment
    - ii. The structure shall not be designed or used for human habitation
    - iii. The accessory structure must represent a maximum investment of less than 10% of the value of the principal structure on the property, or a maximum floor area of 600 square feet.
    - iv. The structure must have low flood damage potential with respect to both the structure and its contents
    - v. Permanently affixed sanitary facilities and appliances (such as furnances, heaters, washers, dryers, etc...) are prohibited.

- c. Agricultural structures (including grain bins, corn cribs, and barns) may be constructed at grade and wet-floodproofed provided the use is limited to agricultural purposes and construction is consistent with the size and value requirements as Accessory Structures.
  - d. Accessory structures that do not have at least two rigid walls (including carports, gazebos, and picnic pavilions) may be constructed at grade and do not require floodproofing.
  - e. Other accessory structures that do not meet the above requirements may be constructed at-grade and will only be permitted by a variance to this section
    - i. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters.
    - ii. Service facilities such as electrical and heating equipment shall be elevated or floodproofed.
3. All new construction and substantial improvements on a property removed from the floodplain by the issuance of a FEMA Letter of Map Revision Based on Fill (LOMR-F) shall have the lowest floor elevated to or above the flood protection elevation that existed prior to the placement of fill.
4. All new construction and substantial improvements of any building or other structure, within areas of shallow flooding, as specifically defined by the Federal Emergency Management Agency, shall have the lowest floor (including basements, garages, carports, and porches) elevated to or above the flood protection elevation.
  - a. For shallow flooding areas, the County Engineer may reduce the elevation requirement, upon evaluation of the floodplain on and around the proposed development.
  - b. Such a reduction shall have the lowest floor elevated to or above the base flood elevation, or the highest established adjacent grade plus the depth of flooding number specified in feet on the Flood Insurance Rate Maps, or at least two feet above the highest established adjacent grade if no depth number is specified.
  - c. Drainage improvements within a shallow flooding area, as specifically defined by the Federal Emergency Management Agency shall be constructed to allow floodwaters to flow around the perimeter of the structure in a controlled manner, without adversely impacting adjacent properties.

Art 4-405(D)

C. 7. For all new subdivision proposals and other developments, including proposals for manufactured home parks and subdivisions, greater than 50 lots or 5 acres, whichever is lesser, located within a designated A Zone that does not include a water surface elevation, shall include a base flood elevation as part of the proposal.

## **6. Elevation Certificate requirements - Article 4-405**

*Discussion:* Elevation Certificates are required during times of new construction to prevent mistakes in final constructed elevations of structures. The proposed amendment will clearly define the times when elevation certificates are required and the types of construction that require an elevation certificate as part of the building permit process.

*Proposed Text:*

Art 4-405(E)B 8: As built lowest floor elevations (in relation to mean sea level) for all new construction, substantial improvements, other improvements, or for new manufactured home stands, shall be certified by a Colorado Registered Professional Engineer or Colorado

Registered Professional Land Surveyor. Elevation Certificates shall be submitted to the Building Division Inspector or County Engineer ~~at the time of rough framing~~. Failure to submit an Elevation Certificate will result in suspension of work until proper certification is provided. Completed Elevation Certificates shall be submitted at the following times:

- a. For slab on grade foundation, a completed Elevation Certificate shall be submitted when foundation forms are completed and prior to final pour of foundation.
- b. For buildings on elevated foundations, a completed Elevation Certificate shall be submitted when the foundation is completed and prior to rough framing.
- c. For structures to be floodproofed, a completed Floodproofing Certificate shall be submitted when the floodproofing measure is completed.
- d. For completed structures, a completed Elevation Certificate shall be submitted prior to the issuance of Certificate of Occupancy.

**7. Nonconforming Structures - Article 4-408**

*Discussion:* Substantial improvements and changes-in-use are required to comply with the floodproofing requirements of the Land Use Code. The proposed amendments will clearly define the floodproofing requirements between substantial improvements and non-substantial improvements to nonconforming structures. In addition, the amendment will further clarify the floodproofing requirements between changes-in-use that are considered to be less intensive than the current use and changes-in-use that are considered to be as intensive, or more intensive, than the current use. Non-substantial improvements and less intensive uses will not require compliance to the provisions of Article 4-405 for floodproofing.

*Proposed Text:*

Art 4-408 (A) ~~Existing Structures and Uses~~ The use of any structure on land within the FO district that was lawful before the adoption or amendment of this Section, but that does not conform to the requirements of this Section may be continued subject to the following conditions:

- ~~a.~~1.
  - ~~i.~~2. When a building or other structure has been damaged so that the market value of such repair or replacement does not exceed 50 percent of the market value before the damage occurred, the repair or replacement shall not be deemed a substantial improvement and only the reconstructed portion shall be constructed as required within Paragraph 4-405 of this Section. Such reconstructed portion shall be constructed as required with Paragraph 4-405 of this Section, and shall not be deemed to be a substantial expansion or enlargement.
  3. When a building or other structure has been damaged so that the market value of such repair or replacement exceeds 50 percent of the market value before the damaged occurred, the repair or replacement shall be deemed a substantial improvement and the entire structure shall be protected as required with Paragraphy 4-405 of this Section.
- ~~2.~~B. A substantial improvement to any building or other structure or change in the use of a building or structure, as defined in Article 18-206, will require that the building or structure conform to the requirements of this article.
1. Floodproofing requirements may be waived for a change in use for the following circumstances if the County Engineer determines that there is no potential for any significant conflict with this article:

- a. The existing structure is located outside of the floodway.
  - b. The existing structure is determined to be structurally sound by an engineer licensed in the state of Colorado.
  - c. The cost of compliance to the article is less than 50% of the current value of the structure.
  - d. The proposed change in use to the building or structure is to a use that reduces, minimizes, or otherwise creates a less intensive use or decreases human occupation.
2. The floodproofing requirements may not be waived for the following:
- a. Any structure located within the floodway.
  - b. Any structure determined to be a repetitive loss property that has been damaged by a flood two times in the past 10 years, where the cost of repairing the flood damage, on the average, equaled or exceeded 25 percent of its market value at the time of each flood.
- ~~3.C.~~
4. ~~No Person shall expand or enlarge an existing building or other structure or other use unless it conforms to the requirements of this Article.~~
- ~~B.D.~~

## **8. Floodway - Article 18-161**

*Discussion:* The proposed amendment will identify the floodway as an area of high risk to human safety. In addition, the proposed amendment will include the new Colorado Water Conservation Board requirement that all new flood studies include a floodway with 6” of rise (as opposed to the 12” rise floodway that Boulder County currently utilizes). This amendment will not alter the current definition of the floodway and all current flood studies, including the existing floodway boundaries, will remain effective.

*Proposed Text:*

Art 18-161 (B) The floodway is a high hazard zone within the floodplain where the combination of water depth and water velocity create unacceptably high risks to human safety.

2. a. The Colorado statewide standard for the designated height to be used for all newly studied reaches, on or after January 14, 2011, shall be one-half foot (six inches).

~~B. C.~~

~~C. 5.~~

## **9. Market Value - Article 18-178A**

*Discussion:* The proposed amendment will define market value, as the term is used in determining a substantial improvement to a structure.

*Proposed Text:*

Art 18-178A Market value is the price which a willing buyer would pay a willing seller under normal economic conditions, based on a representative body of comparable sales at or about the date for which the market value is sought to be determined, as calculated by an independent appraisal performed by a professional appraiser, or by other accepted authoritative source such as the County Assessor’s Office.

**10. Substantial Improvement - Article 18-206**

*Discussion:* Substantial improvements to nonconforming structures within the floodplain overlay district are required to comply with the floodproofing provisions of Article 4-405. The proposed amendment will clarify the substantial improvement definition and compliments the changes to Article 4-408 above. The proposed amendment also identifies the costs that are included in the calculation of a substantial improvement.

*Proposed Text:*

Art 18-206 (A) Any cumulative repair, reconstruction, or improvement of a building or other structure, the market value of which equals or exceeds 50 percent of the market value of the structure either before the improvement or repair is started, or if the structure has been damaged and is being restored, before the damage occurred. Substantial improvements are calculated on a cumulative basis, beginning with improvements commenced on or after November 1, 1991.

1. If the County Engineer determines that market value of the improvement cannot be reasonably ascertained, the County Engineer can accept a projected cost estimate of the improvement to compare it to the market value of the existing structure.
  - a. The costs of the improvement shall include, but are not necessarily limited to, all materials, labor, built-in appliances, overhead, profit, and repairs to damaged portions of the building that are done concurrent with the subject improvements.
  - b. The costs of the improvement shall not include post-storm debris removal, permit fees, survey costs, plans and specifications, or improvements outside of the structure, such as landscaping, sidewalks, fences or detached structures.

**11. Definitions – Article 18**

*Discussion:* Through the adoption and regulation of floodplain regulations in the Land Use Code, Boulder County qualifies for participation in the National Flood Insurance Program. Participation requires review of the Land Use Code by FEMA and the Colorado Water Conservation Board. The following definitions are proposed to maintain compliance with FEMA and state requirements and ensure continued participation in the NFIP.

*Proposed Text:*

18-100A Accessory Structure

A structure the use of which is incidental to that of the main building and which is located on the same lot.

18-113A Base Flood Elevation

The elevation shown on a FEMA Flood Insurance Rate Map for Zones AE, AH, A1-30, AR, AR/A, AR/AE, AR/A1-30, AR/AH, AR/AO, V1-30, and VE that indicates the water surface elevation resulting from a flood that has a one percent chance of equaling or exceeding that level in any given year.

18-113A Development

Any man-made changes to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.



18-159A Floodplain Violation

The failure of a structure or other development to be fully compliant with Boulder County floodplain management regulations. A structure or other development without the elevation certificate, or other certifications, or other evidence of compliance required in C.F.R. 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

18-175B Lowest Floor

The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; *Provided*, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this Code.

~~18-175B~~ 175C

18-179B New Construction

Structures for which the start of construction commenced on or after February 1, 1979 and includes any subsequent improvements to such structures.

18-179C New Manufactured Home Park or Subdivision

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 floodplain management regulations adopted by Boulder County.

18-200A Special Flood Hazard Area

An area having special flood, mudslide (i.e. mudflow), or flood-related erosion hazards, and as shown on an FHBM or FIRM as Zone A, AO, A1-30, AE, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, A99, AH, VO, V1-30, VE, V, M, or E.

18-205A Substantial Damage

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