



# Transportation Department

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**BOULDER COUNTY  
BOARD OF COUNTY COMMISSIONERS**

**December 12, 2019 – 1:00 P.M.**

**Hearing Room, Third Floor  
Boulder County Courthouse**

## **PUBLIC HEARING**

**STAFF PLANNERS:** Kelly Watson, Floodplain Program Planner and Varda Blum, Floodplain Program Manager, Boulder County Transportation Department

**Docket Z-19-0001: Zoning Map Amendments to the Floodplain Overlay District**

**Request:** Zoning map amendments to the Floodplain Overlay District (FO District), specifically the Boulder County Floodplain and Floodway, based upon the floodplain remapping of the Colorado Hazard Mapping Program (CHAMP), Federal Emergency Management Agency (FEMA) Risk MAP and other best available information.

**Location:** Waterways throughout unincorporated Boulder County

**Zoning:** Areas to be rezoned as other flood risk zones within the FO District

**Applicant:** Boulder County Transportation Department

## **AGENDA:**

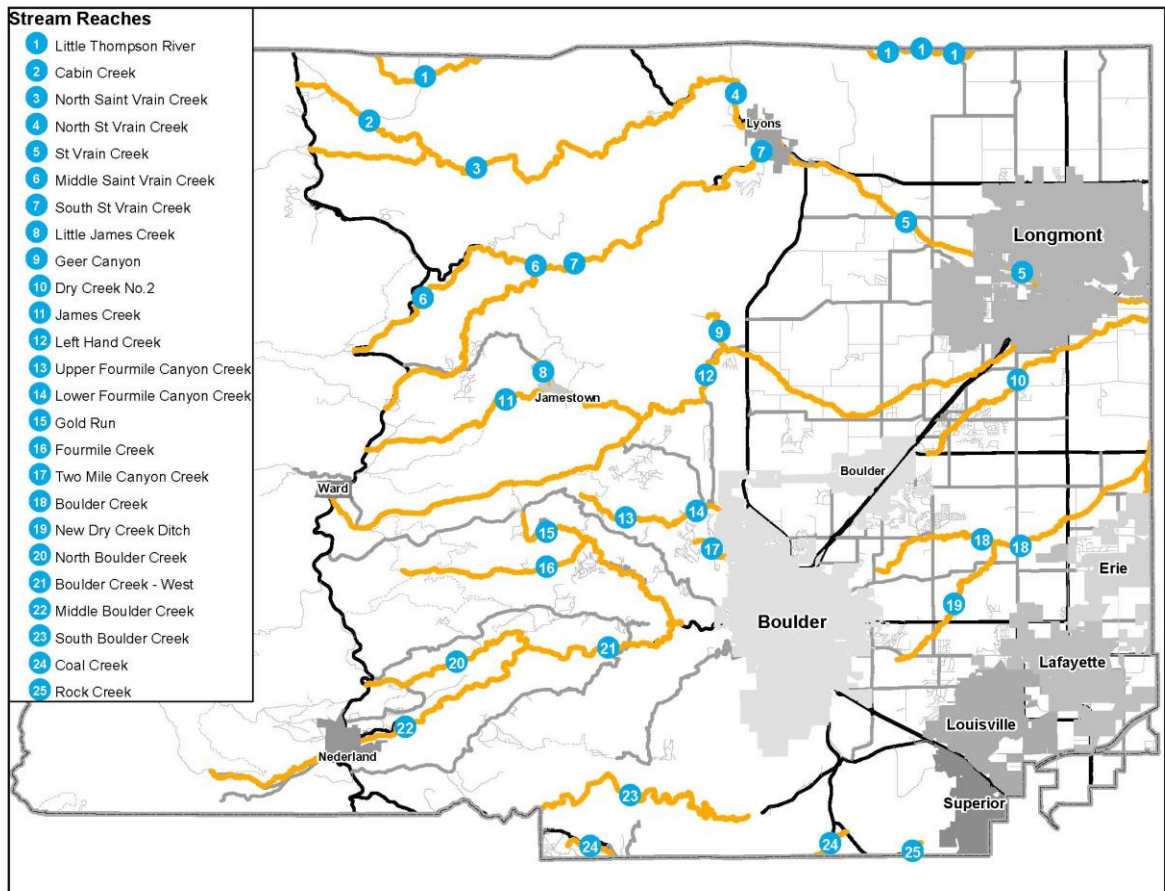
1. Staff Presentation
2. Public Hearing
3. Board of County Commissioners Discussion
4. Board of County Commissioners Decision

## **PACKET CONTENTS**

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○ Best Available Information: A Tool for Your Community to Reduce Flood Risk (FEMA & State of Colorado, 2017) (Exhibit A)	A1 – A6
○ Summary of Public Comments and Referral Responses Received Regarding Docket Z-19-0001 (Exhibit B)	B1 – B5
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## **BACKGROUND**

The 2013 flood event caused widespread damage along waterways throughout Boulder County and other areas of the state. In response, the State of Colorado took steps to bolster long-term planning and resiliency efforts by approving funds through Senate Bill 15-245 for the Colorado Hazard Mapping Program (CHAMP), managed by the Colorado Water Conservation Board (CWCB). CHAMP is updating local hazard information, including producing new regulatory floodplain maps for the most affected waterways (Figure 1).



**Figure 1. All Stream Reaches included in CHAMP study within unincorporated Boulder County.**

Boulder County has already incorporated draft CHAMP data into its Regulatory Floodplain Maps. In 2017 and 2018, Boulder County undertook comprehensive zoning map amendments to the Floodplain Overlay District (FO District), specifically the local Boulder County Floodplain and Floodway, to adopt the two phases of CHAMP draft floodplain mapping (Dockets Z-17-0001 and Z-17-0002). These map amendments were accomplished through the map adoption process set forth in the floodplain regulations in Article 4-400 of the Boulder County Land Use Code, and included technical review, public notification, and hearings before the Planning Commission and the Board of County Commissioners. The draft CHAMP data were adopted via Board of County Commissioners Resolutions 2017-68 and 2018-78.

In September 2019, the Federal Emergency Management Agency (FEMA) released Preliminary Flood Insurance Rate Maps (Preliminary FIRMs) based on the CWCB/CHAMP remapping efforts. The Preliminary FIRMs have several minor differences compared to the

already adopted draft CHAMP maps; however, most of the differences are due to the smoothing of boundaries. The Preliminary FIRMs are likely to be very similar to the future effective final FIRMs; however, the final FIRMs are unlikely to be ready for another two years. Local adoption of the Preliminary FIRMs, as compared to waiting two or more years for release of the final FIRMs, will accelerate the ability for staff and residents to rely on floodplain risk mapping and associated zoning that will be most similar to the county's and FEMA's final floodplain mapping.

Further, FEMA requires the extents of the FEMA effective 100-year floodplain to remain a part of the FO District until it adopts the local studies as new FIRMs. Per guidance from FEMA and CWCB (Exhibit A), in locations within the FO District where there is overlapping FEMA and Boulder County Floodplain and Floodway, the most conservative study controls. When the CHAMP study is eventually adopted by FEMA into the effective FIRM, the Boulder County Floodplain and Floodway will become one and the same with the FEMA effective map in CHAMP reaches. FEMA flood insurance requirements and rate calculations will not change until FEMA adopts the final FIRMs.

In addition to the CHAMP remapping process, FEMA periodically conducts new floodplain studies through its Risk Mapping, Assessment, and Planning (Risk MAP) process. One such study on portions of Coal Creek and Rock Creek resulted in a recent (August 15, 2019) update to the effective FIRM and reflects multiple topographical and drainage changes from the previously effective flood studies conducted in the 1980s. The FIRM update was automatically incorporated into the FO District, as required by Article 4-403.A.1 of the Land Use Code. The Boulder County Floodway in this reach is now superseded and is proposed for removal from the FO District.

#### CHAMP Floodplain Mapping

Floodplain mapping is based on hydraulic studies involving data collection, analysis, and numerical modeling of the interaction between the existing topography and the predicted flow in creeks during the 1% annual chance flood event. The CHAMP mapping incorporates post-flood topographic survey and analysis of flow that incorporates rainfall and stream data collected during the 2013 floods.

Traditionally, information about revised flood hazards is not received by the communities until after FEMA has already created Preliminary FIRMs and distributed those Preliminary FIRMs at the beginning of a formal appeal period. However, at the request of county staff, CWCB committed to delivering 'draft' mapping associated with the CHAMP project to the county much earlier than typical so that county staff would be able to:

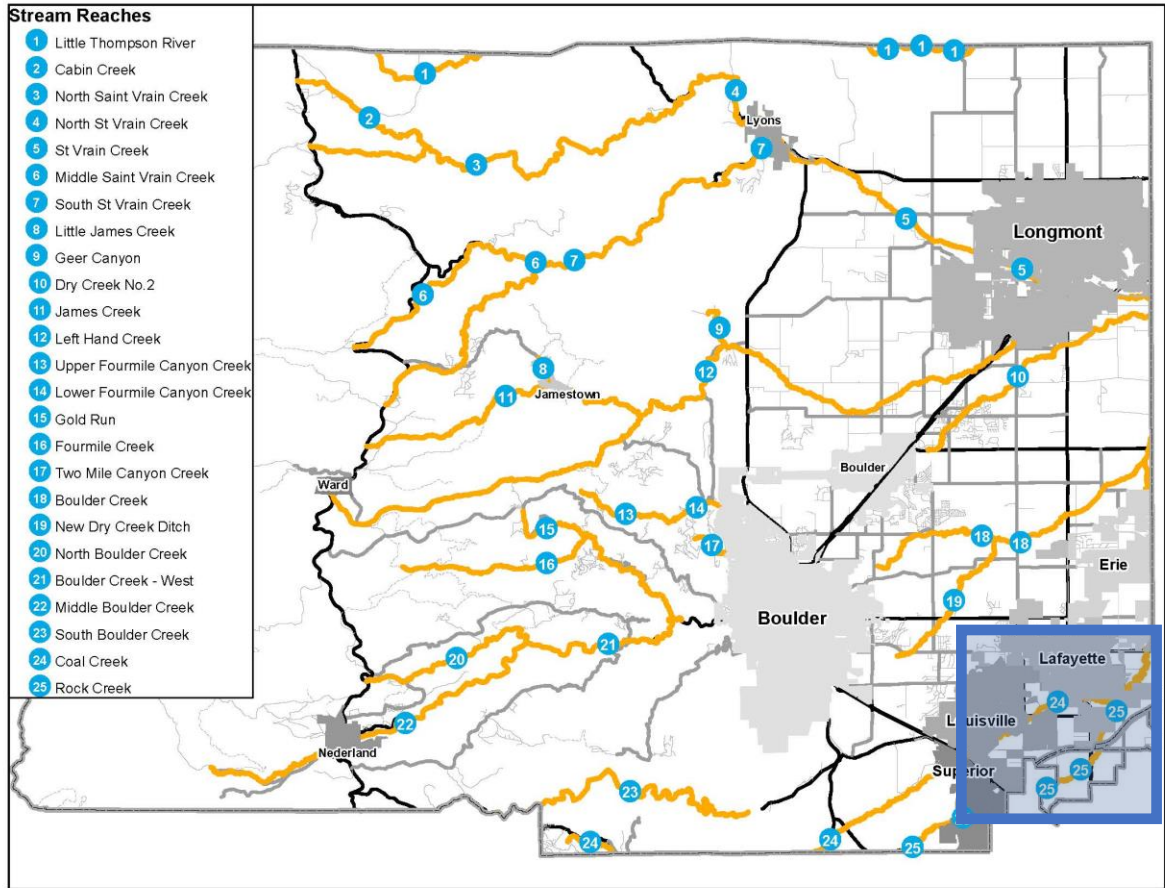
- Engage in technical review and provide feedback to CWCB/FEMA early in the process when change is easier to make,
- Engage community members that have site specific on-the-ground knowledge to also provide timely feedback to the remapping process, and
- Allow the county, after a period of technical review and outreach, to adopt the draft floodplain mapping as best available information.

As a result, before the draft floodplain mapping was adopted in 2017 and 2018, county staff engaged in technical review, requested revisions to draft data, and conducted extensive outreach to residents. Based on this review and feedback from residents, the most significant changes to the floodplain mapping occurred before the draft maps were adopted; therefore,

the changes between the draft maps and the Preliminary FIRMs in this docket are relatively minor.

### **SUMMARY OF PROPOSED FO DISTRICT ZONING MAP AMENDMENTS**

The proposed zoning map amendments include updates to the Boulder County Floodplain and Floodway within the Floodplain Overlay (FO) District, along approximately 230 miles of stream reaches within unincorporated Boulder County (Figure 2). This includes both CHAMP reaches and sections of Coal Creek and Rock Creek where Boulder County Floodway was superseded by FEMA Risk MAP analysis.



**Figure 2: Locations of Proposed Zoning Map Amendments to Boulder County Floodplain within the Floodplain Overlay District (Z-19-0001), including both CHAMP reaches and sections of Coal Creek and Rock Creek where Boulder County Floodway has been superseded by FEMA map updates (highlighted in blue square).**

The details of the proposed zoning map amendments are shown on an interactive web map at [www.boco.org/FloodplainMapUpdate](http://www.boco.org/FloodplainMapUpdate). The web map can also be accessed from the [www.BoulderCounty.org](http://www.BoulderCounty.org) homepage, by going under 'Property & Land' in the main heading, then going to 'Floodplain Management' in the drop-down window that appears. A link at the top of the Floodplain Management main page will connect the viewer to the Floodplain Remapping Project pages where all remapping-related information is located. On that page, the viewer can click the 'View Proposed Changes to Flood Risk Zones' button to access the web map.

On the web map, the proposed amendments to the FO District are on the layer labeled 'Proposed Regulatory Flood Risk Zones'. This layer includes changes to the FO District based upon the layer titled 'Preliminary CHAMP Flood Risk Zones'. In order to see which areas of the FO District are currently effective FEMA Floodplain and Floodway versus Boulder County Floodplain and Floodway, toggle on and off the 'Boulder County Regulatory Flood Risk Zones' and 'FEMA Flood Risk Zones' layers.

### **REFERRAL, PUBLIC NOTICE, AND PUBLIC COMMENT**

Staff held regular coordination meetings with FEMA and the CWCB throughout the technical review and outreach portions of the CHAMP remapping project. All agencies are in support of the proposed map amendments.

#### Referral Responses

The rezoning application was referred to relevant agencies and stakeholders. Copies of all comments received by the Floodplain Remapping Team are compiled in Exhibit B. The following agencies reviewed the proposal and had no conflicts / no comment:

- Boulder County Building Safety and Inspection Services
- Boulder County Parks and Open Space
- Boulder Valley Conservation District
- City of Boulder Open Space & Mountain Parks
- City of Longmont
- Colorado Division of Water Resources
- Coal Creek Canyon Improvement Association
- Larimer County Engineering Department
- Larimer County Planning
- Longs Peak Water District
- Niwot Sanitation District

#### Additional Public Comments

Notification of property owners and stakeholders affected by the proposed comprehensive zoning map amendments in Docket Z-19-0001 occurred in a variety of ways, including:

1. Maintenance of a [Floodplain Remapping Project website](#) (over 600 unique visits since September 1<sup>st</sup>, 2019) and [docket webpage](#) established September 23<sup>rd</sup>, 2019
2. [Floodplain Remapping Newsletter](#) distributed to approximately 2,400 email addresses on October 17<sup>th</sup>, 2019
3. Maintenance of an interactive [web map](#) for comparison of current regulatory and proposed regulatory floodplain zones (over 650 total visits since September 1<sup>st</sup>, 2019)
4. Boulder County Planning Commission Public Hearing on November 20<sup>th</sup>, 2019 (1,646 postcard notifications mailed to property owners and 2,440 email addresses contacted via Boulder County listservs)

Property owners were able to provide comments through an online comment form linked to the web map, as well as through email and telephone inquiries. All public comments that county staff received regarding Docket Z-19-0001 are compiled in Exhibit B. Members of the public will have another opportunity to review maps and provide technical input to FEMA during the formal FEMA appeal period, expected in 2020.



## **PLANNING COMMISSION PUBLIC HEARING**

This docket was considered by the Boulder County Planning Commission at a public hearing on November 20, 2019. Commissioners Ann Goldfarb, Melanie Nieske, Mark Bloomfield, Todd Quigley, Sam Fitch, and Sam Libby were present. Staff members presented the docket and staff's recommendation to recommend approval of the zoning map amendments to the Boulder County Board of County Commissioners.

Following the staff presentation, the Planning Commission posed questions to the staff members related to the presentation and information presented in the Staff Report.

Commissioner Libby asked about the public notification and comments received by staff members concerning this docket. Staff explained that they received comments from people who were notified of the proposed map changes via listserv notifications, Public Hearing Notice postcards, as well as the referral notice. Commissioner Libby also asked about how many parcels and structures would be impacted by the zoning map amendments. Staff showed that the Preliminary FIRMs change less than 2% of the floodplain area compared to the previously adopted draft CHAMP maps, with about half of that change representing a decrease in the floodplain or floodway.

Commissioner Quigley asked about the FEMA appeal process. Staff explained that they expect FEMA's 90-day appeal window to begin in March of 2020. That window would be the best opportunity for residents and property owners to challenge the Preliminary FIRMs if they believe the model is incorrect or if they have additional data that was not included in the model. The Floodplain staff are planning additional outreach in advance of the appeal period to prepare residents for that process.

Commissioner Bloomfield asked whether Floodway is the same as a conveyance zone. Kevin Doyle, a consultant for Boulder County working for Michael Baker International, explained that a conveyance zone is not formally defined by FEMA. The formal definition of the Floodway in Colorado is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood (100-year flood) without cumulatively increasing the water surface elevation more than 0.50 feet.

Commissioner Libby asked about which reaches were covered by the CHAMP study and noted that it is important to communicate to the public why the CHAMP reaches were updated. Staff responded that CHAMP's goal was to study reaches that were most affected by the 2013 flood. Mr. Doyle added that CHAMP prioritized reaches that FEMA, the county, and the state were concerned about and were areas of moderate to high flood risk. Commissioner Libby also asked how this affected the other municipalities in the county. Staff responded that they have been working with other municipalities, but that they each have their own unique floodplain regulations and maps that must be updated separately.

The Planning Commission then opened the public hearing. One property owner spoke. He showed the commissioners pictures of potentially illegal culverts in the area of Four Mile Canyon Drive and Alpine Gulch Road. He requested that the county address the culverts and other Flood Recovery Access Permits before adopting the new maps.

The public hearing was closed. Mr. Doyle addressed the public testimony by noting that the CHAMP team must map the current flood risk. Any culverts that are present, whether or not

they are illegal, are incorporated into the CHAMP models and maps. If the culverts were present in 2013-2014, they would have been field surveyed and incorporated into the CHAMP models. If the culverts are removed in the future, FEMA's Letter of Map Revision (LOMR) process would subsequently update the maps.

The Planning Commission entered deliberation. Commissioner Goldfarb commented that the concerns about the culverts raised during the public testimony would probably be best dealt with in another forum. Commissioner Libby asked about the basis for the LiDAR data. Mr. Doyle responded that LiDAR data were collected in 2013 and 2014 and supplemented with field surveys from 2013-2015. Projects completed after the surveys were done will be incorporated into the maps via FEMA's LOMR process. A motion was made by Commissioner Bloomfield to recommend approval of docket Z-19-0001 to the Board of County Commissioners. The motion was seconded by Commissioner Libby and passed [6-0] unanimously.

### **CRITERIA REVIEW**

Staff reviewed the conditions and standards for approval for zoning map amendments under Article 4-1102 of the Boulder County Land Use Code, and finds the following:

**1) A public need exists for the map amendment;**

Local adoption of the Preliminary FIRMs, as compared to waiting two or more years for release of the final FIRMs, will accelerate the ability for staff and residents to rely on floodplain risk mapping and associated zoning that will be the most similar to the county's and FEMA's final floodplain mapping. The proposed map amendments are based on best available information that will more accurately represent where flooding is likely to occur; provide detailed information for property owners regarding flood risks; and, enable more effective floodplain management that will better protect the health, safety, and welfare of Boulder County residents.

Therefore, staff determines that this criterion is met.

**2) The amendment is consistent with and in furtherance of the stated intent and purposes of this Code;**

Staff finds that the proposed FO District map amendments are consistent with and in furtherance of the stated intent and purpose of Article 4-400 of the Land Use Code, FO District as noted in Criteria 1 above:

Section 4-401, Purpose, '*...to protect life, property, and health; to ensure the best available data is used in making development decisions; ...*'.

Therefore, staff determines that this criterion is met.

**3) The amendment is in accordance with the *Boulder County Comprehensive Plan* and any applicable intergovernmental agreement affecting land use development;**

Staff finds the proposed map amendment is in accordance with the Boulder County Comprehensive Plan, Natural Hazards Element, Goals, Policies, & Maps including:

- Natural Hazard Goal L.1: *‘Inappropriate development in natural hazard areas should be reduced as much as possible or eliminated in order to minimize potential harm to life, health, and property’*
- Natural Hazards Policy NH1.02: *‘Natural hazards potentially affecting the county should continue to be identified and made known to the public and public officials. The county should promote a high level of public awareness about the risks of these identified hazards which may impact people, property, and their environment...’*
- Natural Hazards Policy NH4.01: *‘The county should strongly discourage and strictly control land use development from locating in designated floodplains, as identified in the Boulder County Zoning Maps’*

Adopting the best available floodplain information to the FO District will help significantly reduce inappropriate development in known flood risk areas. The proposed amendments will also make the best available flood risk information known to the public and public officials and result in the desired high level of public awareness of the risks of the identified flood hazards. This information will allow property owners to make better informed decisions about their property and will enable the county to make better regulatory decisions.

Therefore, staff determines that this criterion is met.

**4) The subject property is an appropriate site for the map amendment, and is a reasonable unit of land for such reclassification;**

Staff finds that their technical review of the hydrologic data, modeling procedures, and floodplain mapping support the proposed amendments. CHAMP and FEMA have also engaged in extensive quality assurance, indicating that the proposed amendments represent the best available flood hazard information and that the subject properties are appropriate sites for the map amendment and should be reclassified as proposed.

Therefore, staff determines that this criterion is met.

**5) The map amendment would not have a material adverse effect on the surrounding area;**

Staff finds that this map amendment will benefit the welfare, health, and safety of surrounding areas by supporting appropriate regulation of development within identified flood hazard areas, minimizing development that might increase flood hazard risks for those surrounding areas.

Therefore, staff determines that this criterion is met.

**6) The map amendment will not result in an over-intensive use of land;**

Staff finds this criterion is not applicable.

**7) The map amendment will not have a material adverse effect on community capital improvement programs;**

Staff finds that appropriate regulation of development within identified flood hazard areas will benefit community capital improvement programs.



Therefore, staff determines that this criterion is met.

**8) The map amendment will not require a level of community facilities and services greater than that which is available;**

Staff finds that local adoption of the best available flood hazard risk information serves to inform residents and visitors to the county of known flood hazards. Knowing the risk encourages preparation for that risk and ultimately results in a more resilient community and better use of community resources during flooding events.

Therefore, staff determines that this criterion is met.

**9) The map amendment will not result in undue traffic congestion or traffic hazards;**

Staff finds this criterion is not applicable.

**10) The map amendment will not cause significant air, water, or noise pollution;**

Staff finds this criterion is not applicable.

**11) The map amendment will not permit the use of any area designated within the *Boulder County Comprehensive Plan* for the extraction of commercial mineral deposits in a manner which would interfere with the present or future extraction of such deposit by an extractor to any greater extent than under the present zoning of the property;**

As an overlay zoning district, the proposed amendments to the FO District will not permit additional uses on impacted properties beyond the uses currently allowed by the existing underlying zoning. As such, the amendments will not permit uses which would impact extraction of mineral deposits to any greater extent than under present zoning.

Therefore, to the extent the proposed FO District amendments include any areas designated within the Boulder County Comprehensive Plan for the extraction of commercial mineral deposits, staff finds this criterion is met.

**12) It must be demonstrated that any structures to be built on the property will not be affected by geologic hazards if they exist;**

Staff finds this criterion is not applicable.

**13) The map amendment will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County;**

Staff finds that the proposal to amend the extent of the FO District with best available information in the form of updated floodplain maps, as compared to the alternative of waiting for FEMA to adopt maps as FIRMs, is beneficial to the health, safety, and welfare of both present and future inhabitants of Boulder County because it provides more accurate hazard information critical for bolstering long term planning and resiliency efforts.

Therefore, staff determines this criterion is met.

**STAFF RECOMMENDATION**

Local adoption of best available information in the form of updated floodplain maps, through the proposed zoning map amendment, as compared to the alternative of waiting for FEMA to

adopt maps as final FIRMs, provides more accurate hazard information critical for bolstering long term planning and resiliency efforts, and enables land use planning and regulatory actions using the best available information. Use of the more accurate information prior to final adoption by FEMA allows county staff to better protect the health, safety, and welfare of the residents of and visitors to Boulder County in a more timely and transparent manner. For the reasons stated in this report, staff recommends the Board of County Commissioners approve the zoning map amendments set forth in Docket Z-19-0001 and further recommends an effective date for the zoning map amendments of January 10, 2020.

**STAFF RECOMMENDS THE BOARD OF COUNTY COMMISSIONERS APPROVE Docket Z-19-0001: Zoning Map Amendments to the Floodplain Overlay District with an effective date of January 10, 2020.**

**ATTACHMENTS:**

- Exhibit A: Best Available Information: A Tool for Your Community to Reduce Flood Risk (FEMA & State of Colorado, 2017)
- Exhibit B: Summary of Public Comments and Referral Responses Received Regarding Docket Z-19-0001
- Exhibit C: Public Comments and Referral Responses Received Regarding Docket Z-19-0001

**LIST OF HYPERLINKS**

- Floodplain Remapping Project website: [www.BoCoFloodplainRemapping.com](http://www.BoCoFloodplainRemapping.com)
- Z-19-0001 docket webpage: [www.boco.org/Z-19-0001](http://www.boco.org/Z-19-0001)
- Floodplain Remapping Project Newsletter #9: <https://assets.bouldercounty.org/wp-content/uploads/2019/10/newsletter-9-Oct-2019-floodplain-remapping-project.pdf>
- Interactive web map for comparison of current regulatory and proposed regulatory floodplain zones: [www.boco.org/FloodplainMapUpdate](http://www.boco.org/FloodplainMapUpdate)