



ARAPAHOE COUNTY

Arapahoe County's Floodplain Management Program

Planning Commission
Study Session – September 2, 2025



Background

Arapahoe County's Floodplain Management Program is managed through the Engineering Services Division. The purpose of this program is to **review and approve floodplain activities, then permit and inspect** those floodplain activities that comply with Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) to ensure our **citizens have clean stormwater runoff and are protected from flood events.**



Agenda

- Historical Flooding in the United States and Colorado
- Federal Emergency Management Agency (FEMA)
- County's Floodplain Management Program
- Floodplain Reviews



Flooding in the US

- Flooding has occurred as long as there have been dwellings by waterways
- Congressional Act of 1803 – 1st Federal disaster relief
- The National Flood Insurance Act was passed in 1968 with the creation of the National Flood Insurance Program shortly after
- Federal Emergency Management Agency (FEMA) created in 1979
- Stafford Act further defined and expanded FEMA's authorities in 1988

From FEMA website, <https://www.fema.gov/about/history>

From Mile High Flood District, <https://www.mhfd.org/our-history>



Flooding in Colorado

- South Platte River flooded Denver in 1965
- 1969 Urban Drainage and Flood Control District is formed
- First regional floodplain regulations adopted in 1970
- 1970's - many changes implemented to manage floods; start of regional Floodplain Management Program and the Flood Warning Program
- South Platte River flooded again in 1973 through Adams County surpassing 1965 floods



Flood Maps

- As part of the National Flood Insurance Program, flood maps were published in the late 1960's to early 1970's.
- Maps identify flood-prone areas known as the floodplain
- The 100-year storm event was utilized as the design storm for the nation program and also the County's



FEMA 100-year Floodplains

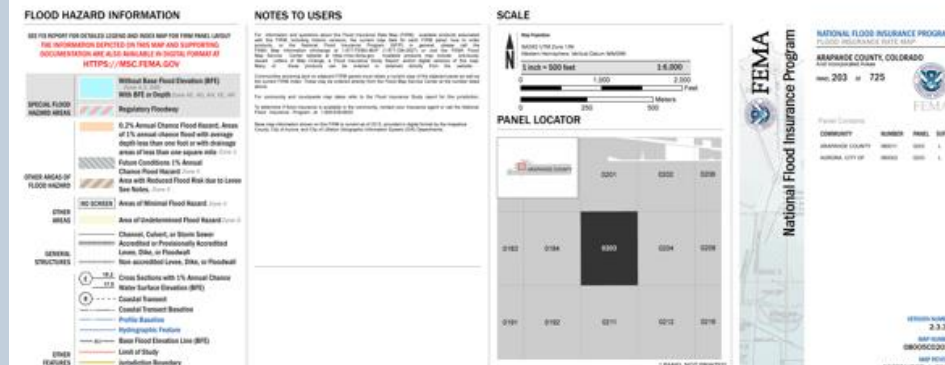
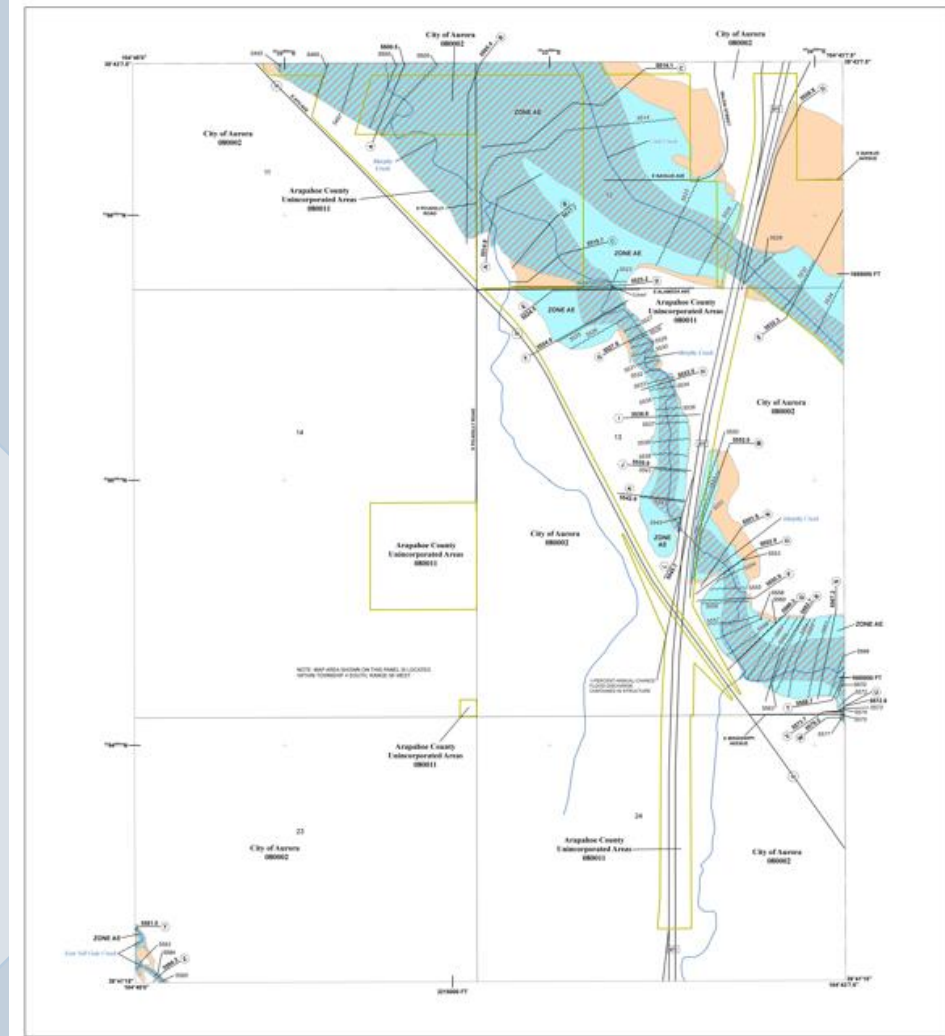
The FEMA 100-year floodplain is defined as the area predicted to be **inundated by the base flood**, which has a **1% chance** of being equaled or exceeded in any given year . This flood is the standard used by the National Flood Insurance Program (NFIP) for flood insurance and floodplain management purposes.



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Flood Insurance Rate Map (FIRM)

A FIRM is an **official map** created by FEMA to identify **areas at risk of flooding** within a community. FIRMs are used for **floodplain management, insurance purposes**, and to determine whether flood insurance is required for properties. They help communities understand their **flood risk** and make informed decisions about land use and construction.





Floodplain Management Program

Floodplain Management Regulations

Floodplain management regulations include zoning ordinances, subdivision regulations, building codes, health regulations, and special purpose ordinances (such as a floodplain ordinance, grading ordinance or erosion control ordinance). The term describes any combination of these State or local regulations that provides standards for preventing and reducing flood damage.

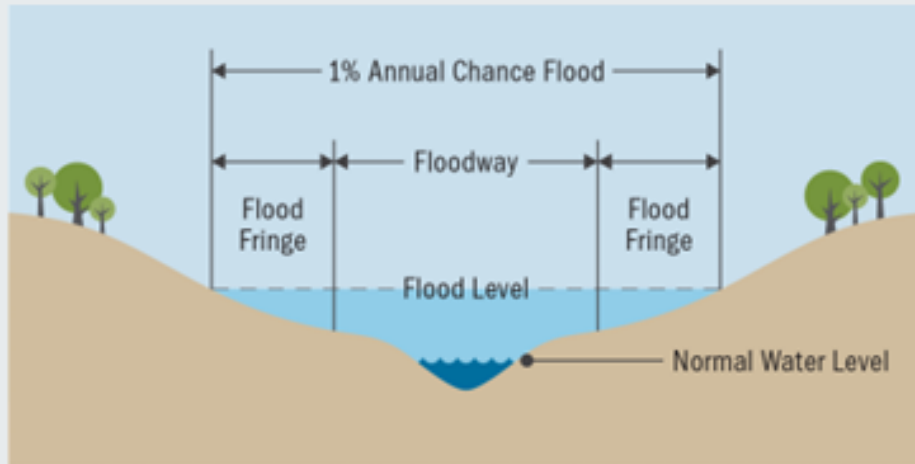


Image from "Adoption of Flood Insurance Rate Maps by Participating Communities," FEMA 495, January 2019
via website https://www.fema.gov/sites/default/files/2020-07/fema_adoption-flood-insurance-rate-maps-participating-communities_bulletin.pdf

Arapahoe County has participated in the National Flood Insurance Program (NFIP) since 1977. As a participating community, the County is responsible to ensure that any activities in or adjacent to the Federal Emergency Management Agency (FEMA) floodplain complies with the NFIP to remain in good standing.



Floodplain Management Program

- Review and approve floodplain activities
- Permit and inspect floodplain activities

To ensure our citizens have clean stormwater runoff and are protected from flood events

- Aim to create safer, stronger, and more resilient community by reducing flood risk and protecting from flooding



Floodplain Management Program

- Include, but are not limited to, **land use regulations**, construction of flood control projects, **floodplain preservation**, acquisition of flood prone properties, education, and **implementation of early warning systems**.
- County's floodplain management strategies have been developed from standards that are imposed by the FEMA, the Colorado Water Conservation Board, and the Mile High Flood District (MHFD), as well as local standards adopted by Arapahoe County



Floodplain Reviews

Community Rating System (CRS) Annual Certification and Recertification

A voluntary program for encouraging community floodplain management activities that exceed minimum NFIP standards - overseen by FEMA that rewards communities engaging in flood mitigation activities with annual flood insurance discounts for insured properties within their jurisdiction. These discounts range from 5% to 45%. The County is currently capped at CRS Class 7 with 15% discount.

Conditional Letter of Map Revision (CLOMR)

A letter from FEMA that comments on whether a proposed project, if built as proposed, or proposed hydrology changes would meet the minimum NFIP standards. A CLOMR is issued when a proposed project would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevation (BFE) of floodplain. The CLOMR is submitted to FEMA prior to initiating work to receive approval from the project design and impacts on the floodplain.

Letter of Map Revision (LOMR)

An official revision to the Flood Insurance Rate Maps (FIRMs) issued by FEMA. LOMRs reflect changes to the floodplains, floodways, or BFE shown on the FIRMs, is typically associated with significant map changes or developments. The LOMR is submitted to FEMA after the project has been completed.

What You See When Flood Occurs





Floodplain Reviews

Flood Hazard Area Delineation (FHAD) Study

A study used to identify and update flood risk potential and floodplain boundaries due to both natural and development related changes that occur over time. FHAD studies are often prepared in concurrence with updates to master drainageway plan studies and provide communities with the best available data to keep properties and people safe from flooding.

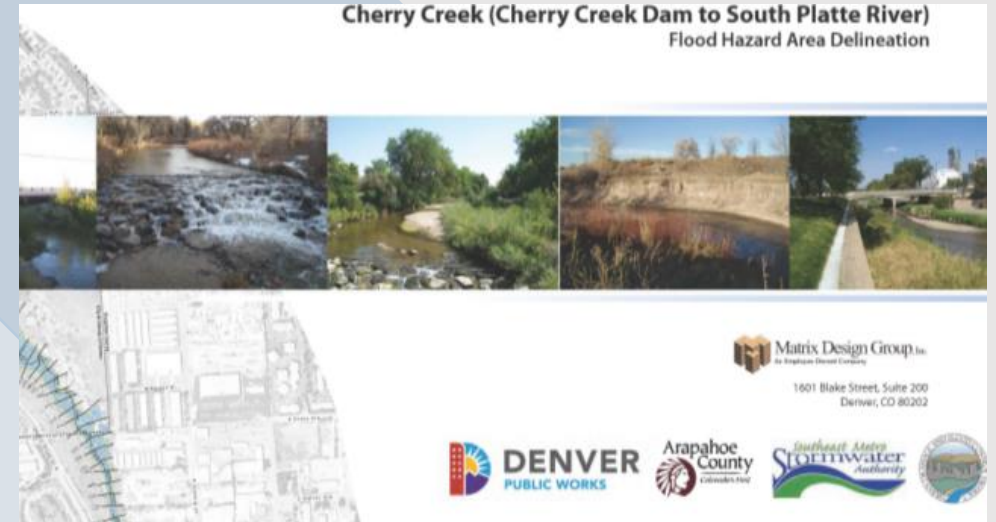
Major Drainageway Plan or Master Drainageway Plan (MDP)

Addresses the current and future drainage needs of a given community. The proposed facilities may include channels, storm drains, basins, dams, wetlands or any other conveyance capable of economically relieving flooding problems within the plan area. The plan includes an estimate of facility capacity, sizes and costs.

Floodplain Development Permit

Review and evaluate building and construction activities adjacent to FEMA and community regulated floodplains. ESD staff issues Floodplain Development Permits within the county's jurisdiction.

- Land Development Project,
- CIP projects, and
- Building Permit Review





Floodplain Reviews – New Structures

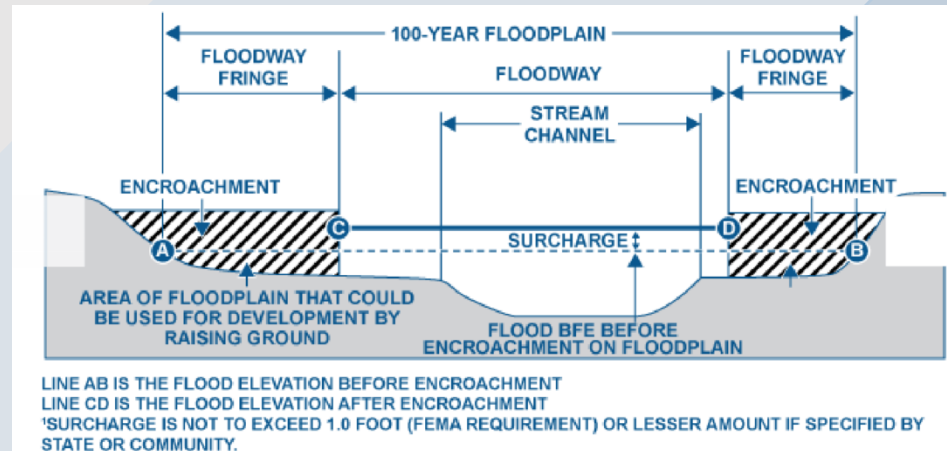
County Floodplain Regulations **prohibits new construction of structures**, including residential, non-residential, or recreational to be built **within the 100-year floodplain**. The floodplain review process includes several key components that ensure compliance with County floodplain regulations:

- Determine the project location
- Floodplain Easement
- Placement of Structures
- Freeboard



Floodplain Encroachments

Encroachment of a project in the **floodplain fringe** is **strongly discouraged** and will only be considered on a case-by-case basis. The floodplain fringe is the portion of the 100-year floodplain that is not within the floodway, and in which development and other forms of encroachment may be considered. The County has adopted a 0.5-foot floodway restriction for filling within the floodplain fringe.





Floodplain Encroachments - Continued

When considering requests involving floodplain fringe encroachment, the County considers, at a minimum, the following:

1. Impacts to Adjacent Properties
2. Channel Hydraulics and Design
3. Channel Aesthetics and Land Use

When floodplain encroachment is allowed, a floodplain modification study consistent with the scope of the work must be provided, as well as CLOMR.



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Floodplain Delineation

The floodplains can change when:

- better survey information
- revised hydrology
- degradation of the channel, etc.

A Flood Hazard Area Delineation (FHAD) is used to identify and update these changes that occur over time.

County can only regulate the floodplain that is in effective at the time the development is submitted for approval.

Questions?

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