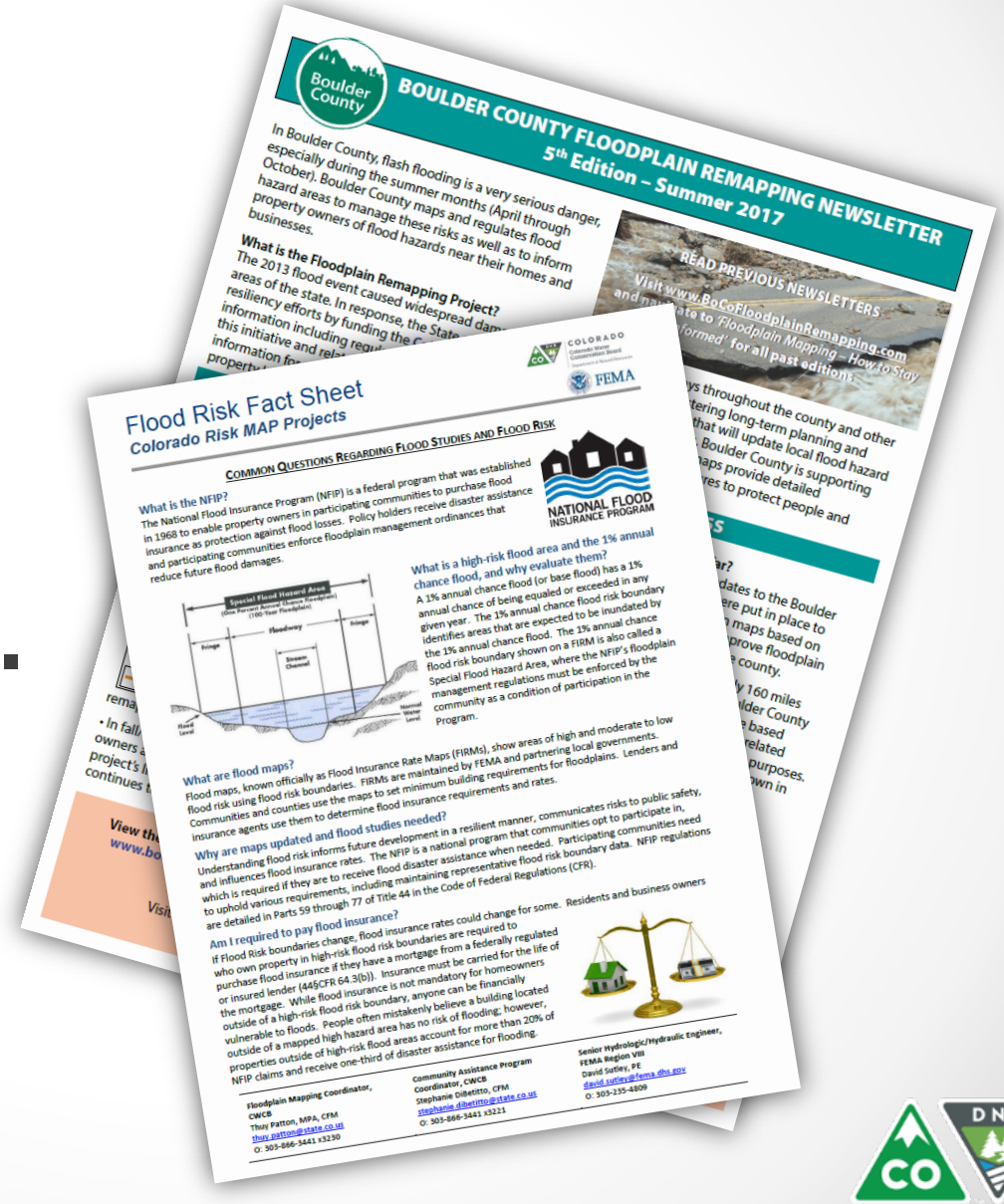
Public Review of Draft Boulder County Floodplain Maps

February 6, 2018
Boulder, CO

HOUSEKEEPING

- Sign-in sheet
- Newsletters & Flyers
- Snacks, restrooms, etc.



Tonight's Agenda

1. Introductions
2. Meeting Goals
3. Program Overview
4. Data Overview
5. Online Resources
6. To the Tables!

Introductions

- Erin Cooper, Boulder County
- Varda Blum, Boulder County
- Geoff Uhlemann, AECOM (CWCB)
- Kevin Doyle, Michael Baker Intl.
- Stephanie DiBetitto, CWCB
- Additional Boulder County Support Staff

Meeting goals:

1. **Inform residents & landowners (you!) of the remapping process**

2. **Provide opportunity for public comment before the FEMA appeal period**

Colorado Hazard Mapping Program

Why is this study being conducted?

- Hazards change
- Floodplain delineations are often outdated and incorrect
- Maps regularly updated across the country by FEMA, States, Communities
- The State of CO initiated CHAMP after the Flood of 2013
  - Changes to flooding characteristics
  - Changes to understanding of rainfall

Why does it impact you?

- Know if you are at risk for flood hazards
- Will revise Flood Insurance Rate Maps that impact insurance rates (based on risk)
- Regulation is related to flood zone/floodway

Where will there be changes?

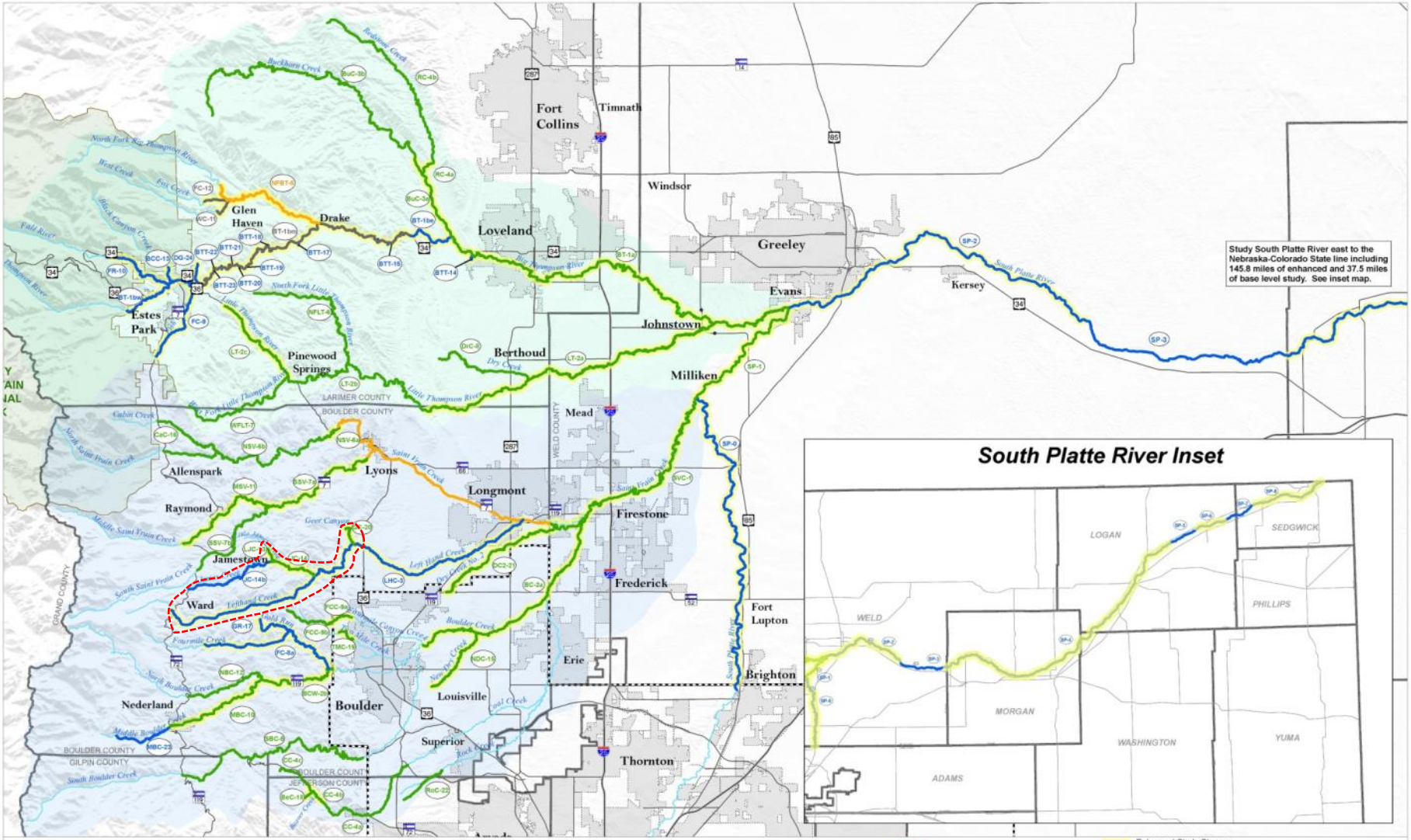


Figure 1: Floodplain Mapping Evaluation Level of Study

COLORADO HAZARD MAPPING PROGRAM PHASE 1 and 2

AECOM

Colorado Water Conservation Board

Colorado Hazard Mapping & Risk MAP Portal

PROJECT HOME | RESOURCES | EVENTS | MAPS | HELP/FEEDBACK | SIGN IN

Floodplain Mapping CO Hazard Mapping Program change

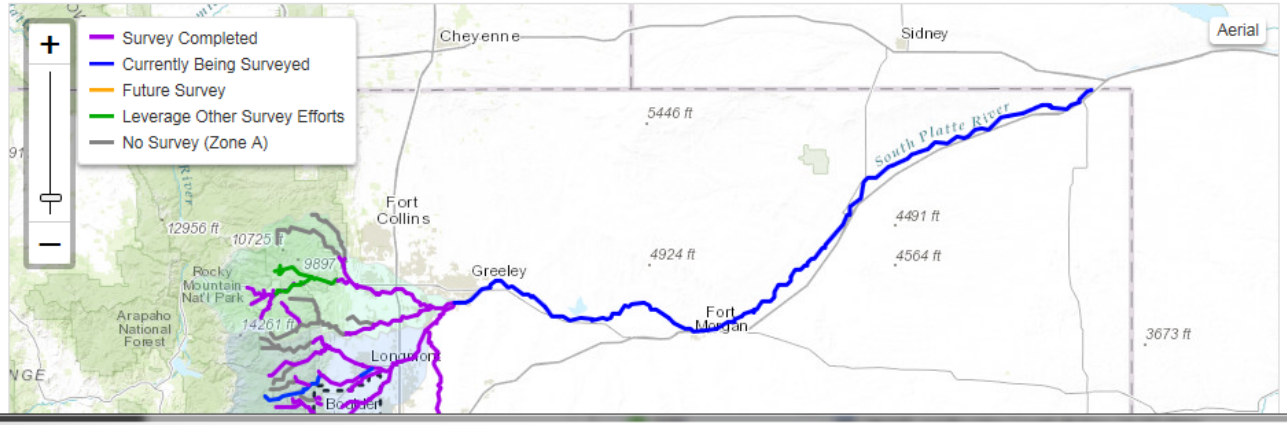
This page is dedicated to showing the latest news and information regarding the CO Hazard Mapping Program Floodplain Mapping.

About the Project

Following the September 2013 flood disaster, Colorado has taken steps toward long-term planning and resiliency efforts for flooding and other natural hazards. In early 2015, Colorado's Legislature passed a funding bill for the Colorado Hazard Mapping Program, which aims to provide a mitigation and land use framework in areas likely to be affected by future flooding, erosion, and debris flow events.

The Colorado Hazard Mapping Program is to prepare updated hazard information for the streams most affected by the September 2013 flooding, beginning in the Big Thompson & St. Vrain watersheds as well as the South Platte River. The work includes field reconnaissance and survey, creating terrain models from updated topographic datasets, evaluating hydrology (flows), and modeling to produce flood hazard area limits reflecting the changed conditions. Community leaders will use the updated hazard information to assess risk and identify mitigation opportunities in their community. The updated information is also intended to eventually be used to update Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), which are used to determine flood insurance requirements.

The Colorado Water Conservation Board (CWCB) is the lead agency coordinating the Colorado Hazard Mapping Program. CWCB is working with AECOM, a nationally-recognized engineering firm, to conduct the technical work.



Project News and Events

Boulder County Floodplain Mapping Public Meeting Community Meeting Scheduled

12/13/2016 – Boulder County Transportation and the State of Colorado will host a public meeting to present recently updated draft floodplain maps from the Federal Emergency Management Agency (FEMA) and the Colorado Hazard Mapping Program (CHAMP). This initial meeting will review map information for North and South St. Vrain creeks and St. Vrain Creek from Longmont Dam Road and Red Gulch Road to Lyons and from Lyons east toward Airport Road in unincorporated Boulder County. Residents along these creek stretches and other interested parties are invited to attend a public presentation that will be followed by an interactive map review session with state and county staff. View the meeting

December 2016 CHAMP Newsletter New Document Available

12/08/2016 – December 2016 Newsletter for the CHAMP Project. Download the document

December 2016 Newsletter Posted

12/08/2016 – The December 2016 CHAMP Newsletter has been posted. Read more

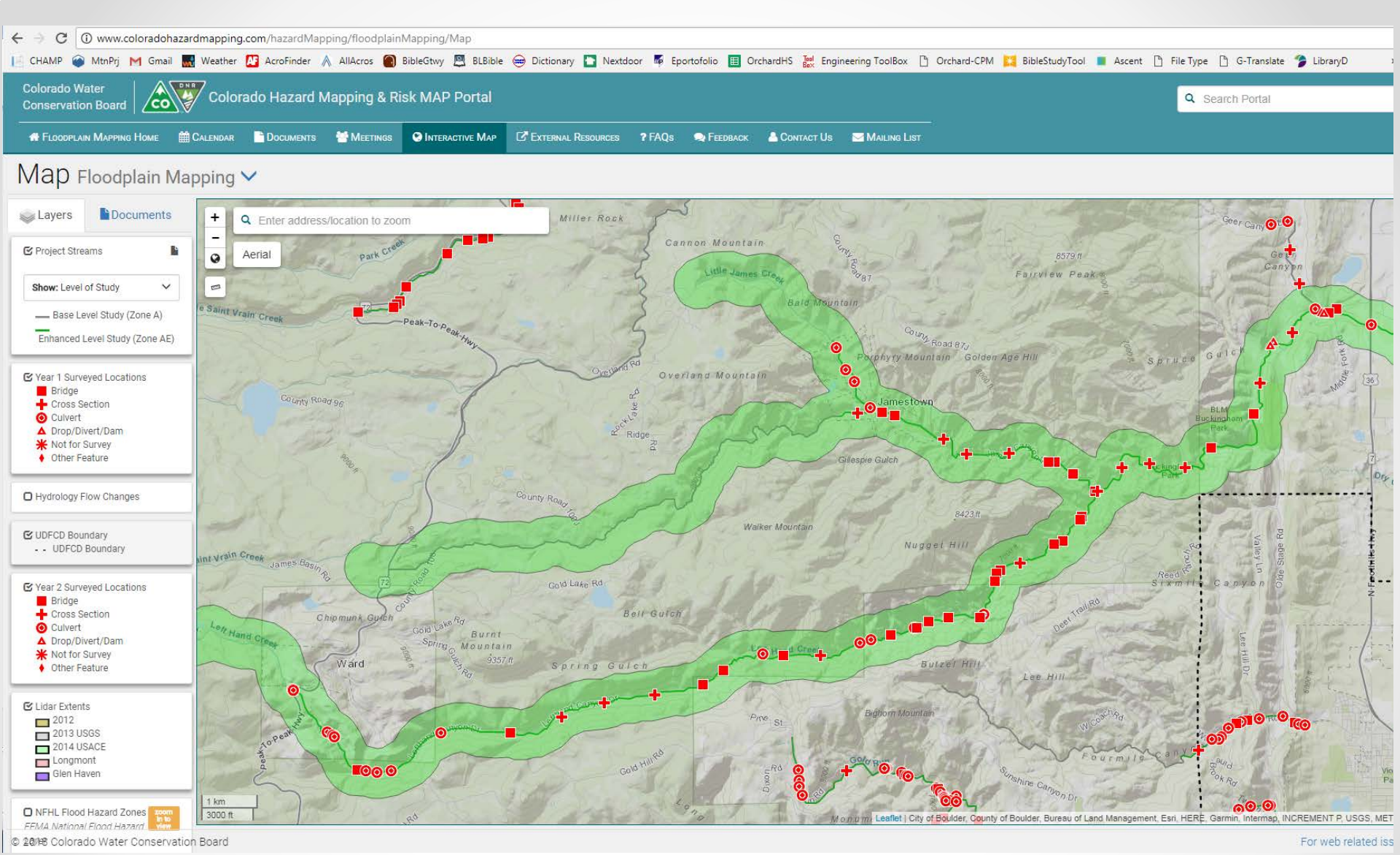
Flood Risk Review - Gilpin & Jefferson Counties Community Meeting Scheduled

12/01/2016 – These FRR meetings will give community officials the chance to review and provide early feedback on draft versions of the floodplains prior to

Boulder County

www.coloradohazardmapping.com

DNR CO



Boulder County

www.coloradohazardmapping.com

DNR

Field Reconnaissance & Survey

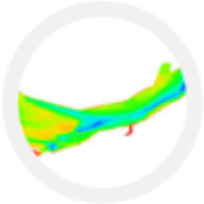
Survey data is used to determine precise elevations and dimensions of portions of the floodplain and to verify and refine topographic data. The project team is currently conducting detailed field reconnaissance and survey of the specific study area.

Topographic Data Development

Topographic data is data used to model the surface of the earth. The study team will leverage existing topography (see lidar availability on the full map page) and will also be collected, approximately 7 square miles in Loveland, CO.

Hydrology

Hydrology is used to determine the amount of water flow anticipated in each stream. The study team will calculate new peak flood discharges for the 10%, 4%, 2%, 1%, '1% plus' and 0.2% annual chance events for 73 miles of study in the Big Thompson Watershed and 58 miles in the St. Vrain watershed.



Hydraulics

Hydraulic models are created to calculate the depth of water anticipated during flood events. Hydrologic results are used along with survey and topographic data to model stream behavior.

Floodplain Mapping

Flood Hazard Mapping involves plotting the extents of calculated water surface elevations on maps using hydraulic model results and topographic data. These maps can be used by community leaders to identify hazard mitigation opportunities and make development decisions. It's anticipated that this data will eventually be used to update FEMA's Flood Insurance Rate Maps.

Boulder County

www.coloradohazardmapping.com

CO DNR

Colorado Hazard Mapping Program

What happens next?

- There are still multiple reviews that will occur, so data is subject to change
- Boulder County being proactive to bring this information to you in draft form
- This is a first look for you to get your input well in advance of data finalization

When will changes go into effect?

- CHAMP team will review comments
- FEMA will review data in spring/summer 2018
- Data will be put onto preliminary Flood insurance Rate Maps late 2018/early 2019
- A formal 90 day appeal period will commence where anyone can appeal maps with technical data
- Once resolved, maps will be released as final (effective), likely 2021

Modeled Flows

Updated vs. Effective Discharges of the 100-yr Flood Event	
Left Hand Creek (@ Hwy 36)	•**Updated– 5,820 cfs (13% decrease)** •Effective FEMA – 6,700 cfs
Left Hand Creek (@ Old Stage Rd.)	•**Updated – 4,800 cfs (3% decrease)** •Effective FEMA – 4,940 cfs
Left Hand Creek (@ Lickskillet Gulch)	•**Updated – 1,370 cfs (57% decrease)** •Effective FEMA – 3,180 cfs
James Creek (below Jamestown)	•**Updated – 3,300 cfs (16% decrease)** •Effective FEMA – 3,930 cfs
James Creek (above Jamestown)	•**Updated – 2,777 cfs (new study)** •Effective FEMA – N/A
Geer Canyon	•**Updated – 608 cfs (new study)** •Effective FEMA – N/A

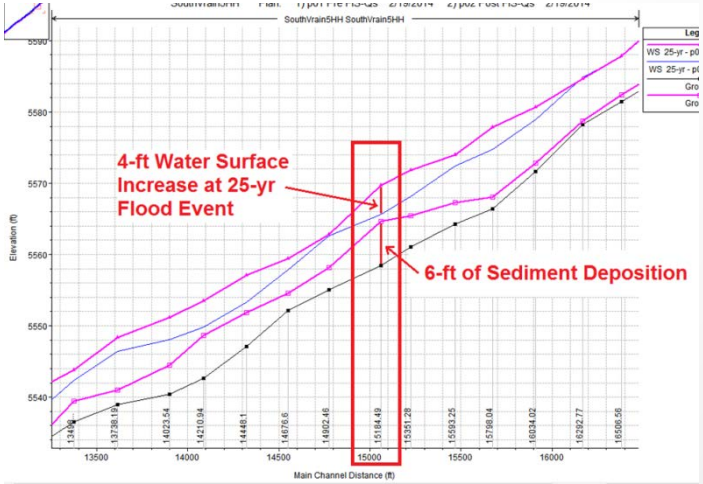
Boulder County

CO DNR

Experienced Flows

Estimated Peak Discharges Experienced in 2013 Flood	
Left Hand Creek (@ Old Stage Rd.)	3,520 cfs (50-100 yr event)
Left Hand Creek (@ Lickskillet Gulch)	1,300 cfs (~100 yr event)
James Creek (below Jamestown)	3,300 cfs (~100 yr event)
James Creek (above Little James Creek)	2,900 cfs (~100 yr event)
Geer Canyon	No estimate available

2013 Flood vs. 100-yr Mapped Floodplain



Roles and Responsibilities

Federal Role (FEMA)

- Flood Risk Mapping
- Flood Risk Management
- Flood Insurance – available to anyone in Boulder County

State Role (CWCB)

- Community assistance
- Flood Risk Mapping

Local Role (Boulder County)

- Adoption of floodplain mapping and code
- Flood risk mapping participation

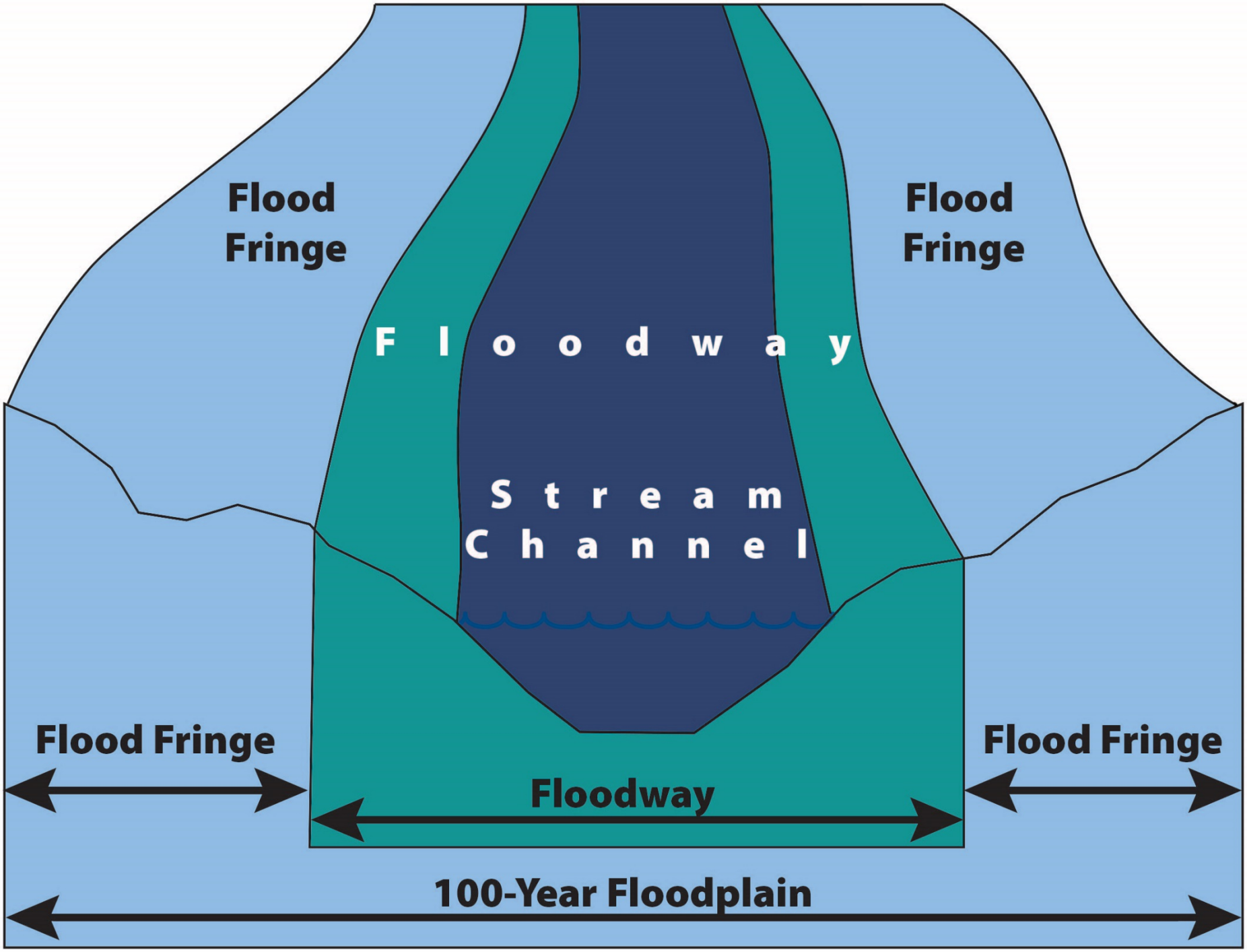
Ultimate Goal – Protect Life, Health, & Safety

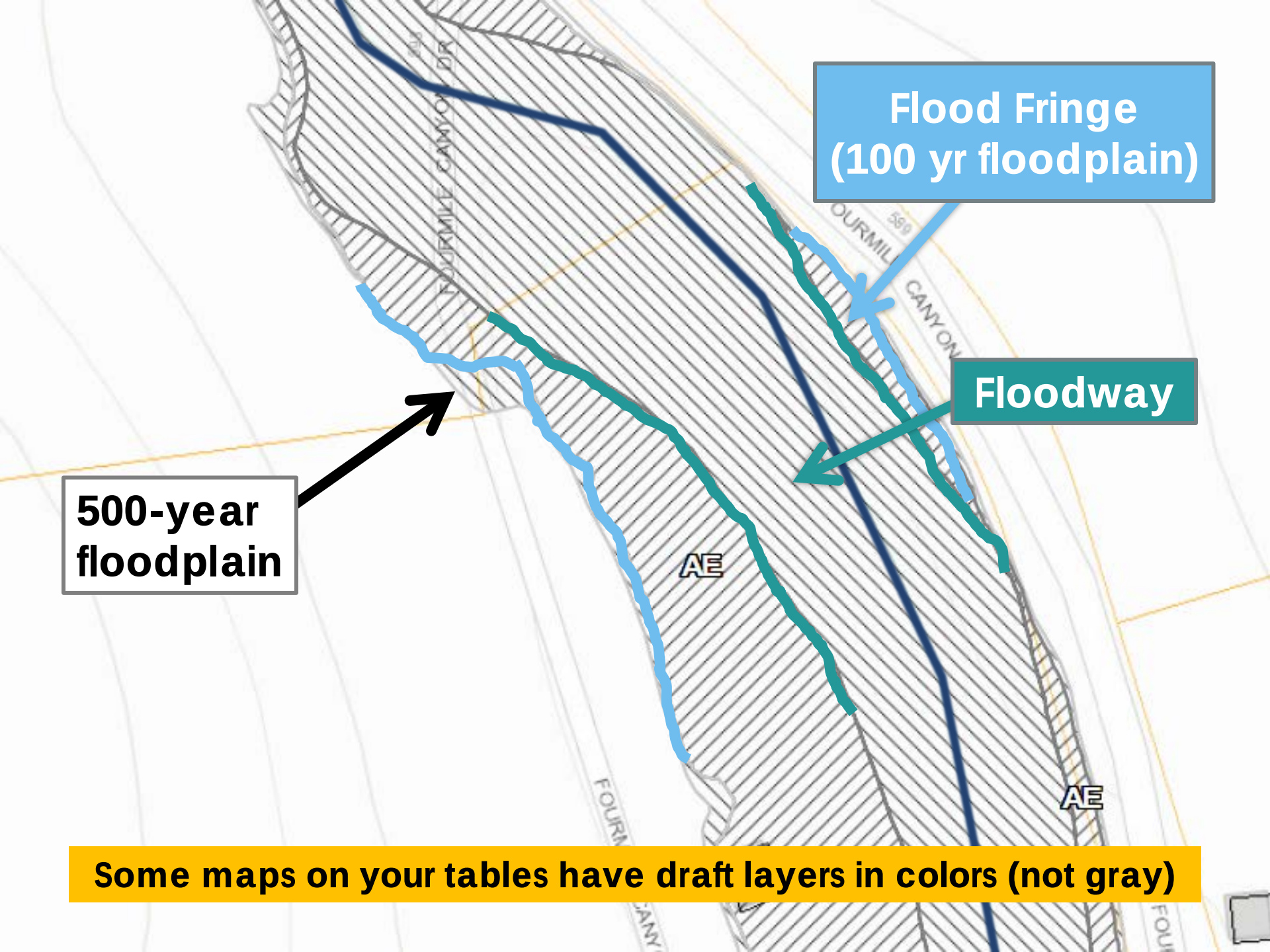
Timeline revisited

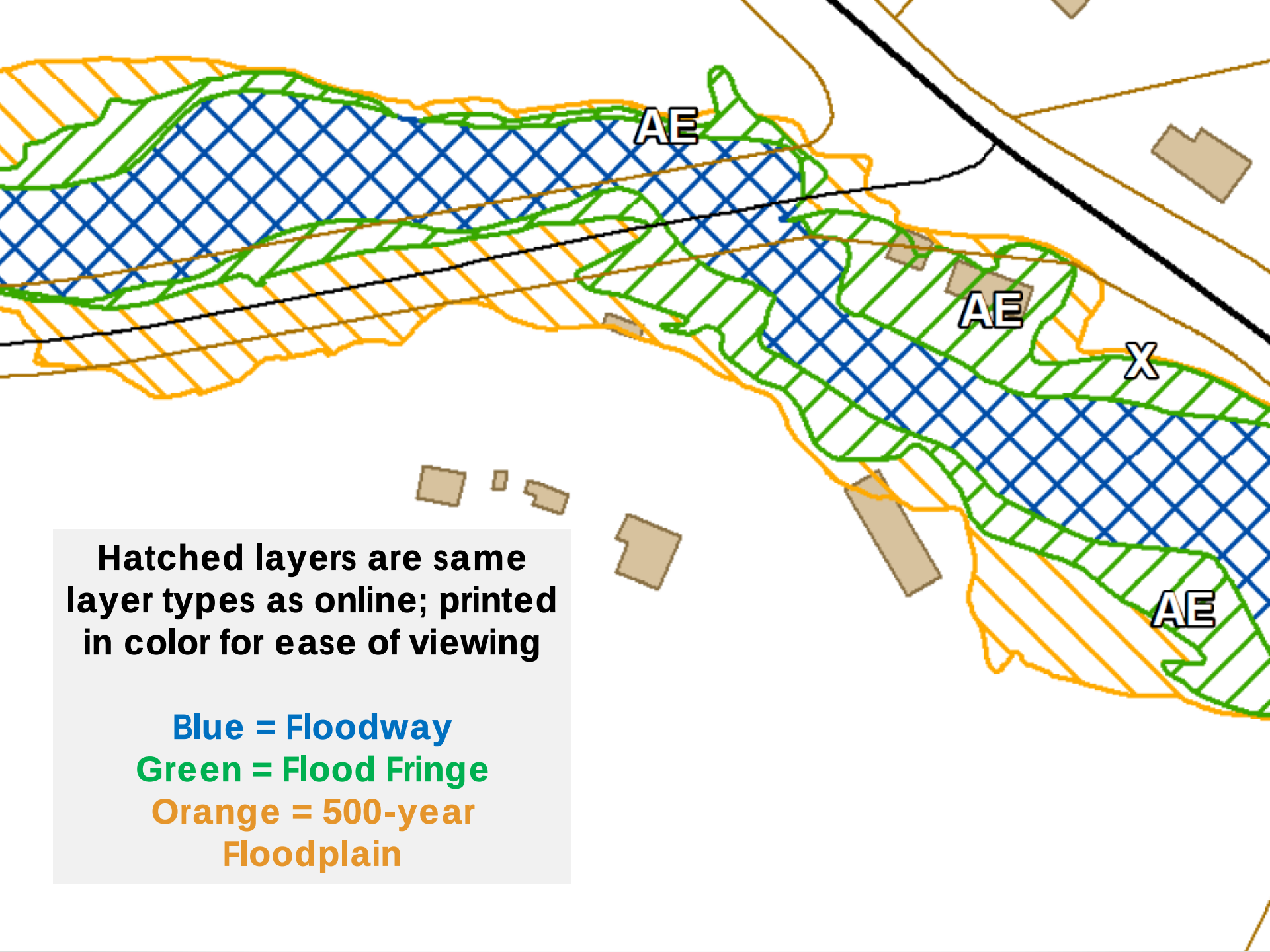
PHASE II ESTIMATED TIMELINE:

Now	**Boulder County is reviewing the CHAMP hydraulics and floodplain mapping**
Spring/ Summer 2018	• **FEMA will review the CHAMP hydraulics and floodplain mapping** • **Boulder County to adopt CHAMP floodplain as "best available data"**
Late 2018	**CHAMP Preliminary Flood Insurance Rate Maps issued**
2019	**FEMA Appeals Period for CHAMP mapping**
2021	**FEMA Flood Insurance Rate Maps become effective**

all dates subject to change

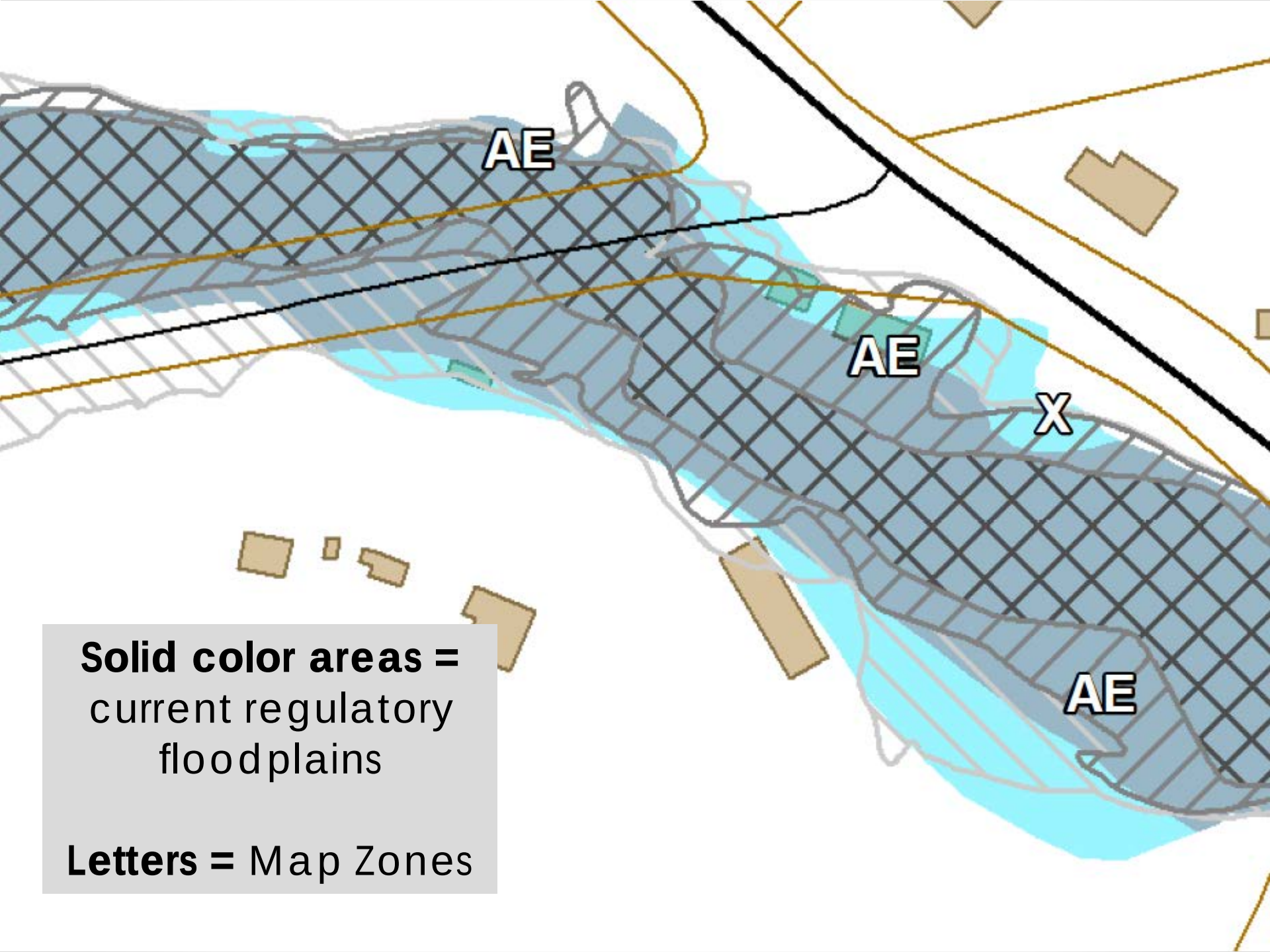

Flood
Fringe
Flood
Fringe
F l o o d w a y
S t r e a m
C h a n n e l
Flood Fringe
Flood Fringe
Floodway
100-Year Floodplain


Flood Fringe
(100 yr floodplain)
Floodway
500-year
floodplain
AE
AE
FOURMILE CANYON DR
FOURMILE CANYON DR
Some maps on your tables have draft layers in colors (not gray)

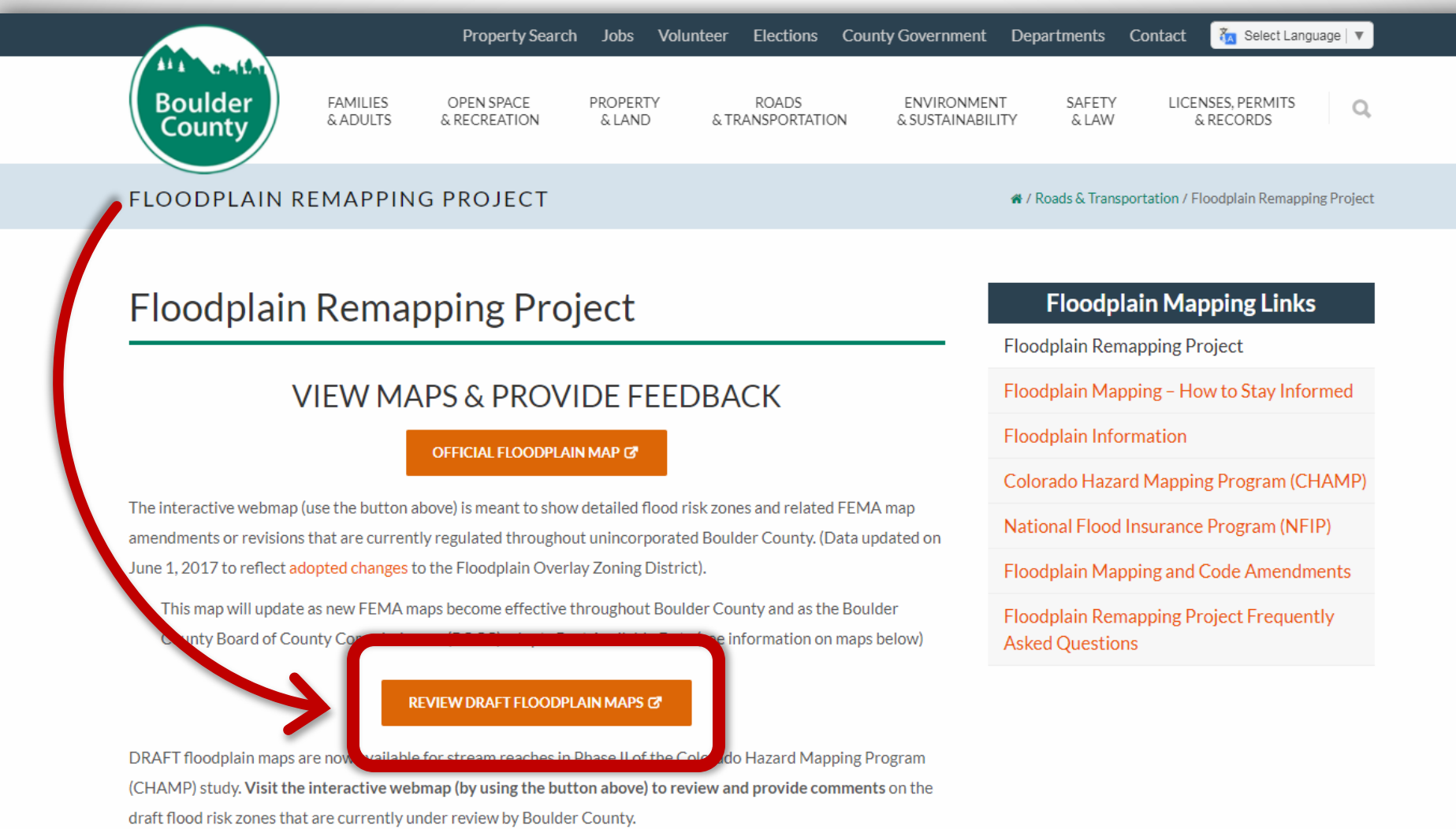


Hatched layers are same layer types as online; printed in color for ease of viewing

Blue = Floodway
Green = Flood Fringe
Orange = 500-year Floodplain


AE
AE
X
AE
Solid color areas = current regulatory floodplains
Letters = Map Zones

County Floodplain Remapping



Boulder County

http://bocofloodplainremapping.com

CO DNR

Using the Map Review Website

HOW TO COMMENT ON THE WEB MAP

During the draft floodplain remapping phase of the Colorado Hazard Mapping Program (CHAMP) study, Boulder County has created an online, interactive web map where residents and interested community members can place comments and provide information that will be reviewed by Boulder County staff and the CHAMP engineering team.

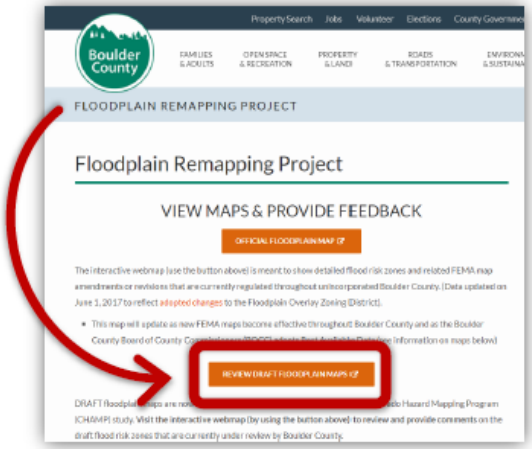
ACCESSING THE WEB MAP

From the bouldercounty.org homepage, find *'Property & Land'* in the main heading and then go to *'Floodplain Management'* in the drop-down window that appears. You'll see a link for the *'Floodplain Remapping Project.'* Click that link to visit the project homepage.

OR visit www.bocofloodplainremapping.com to access the draft floodplain web map and learn more about the Floodplain Remapping Project.

The draft floodplain map is linked to on the second orange button on the project homepage.

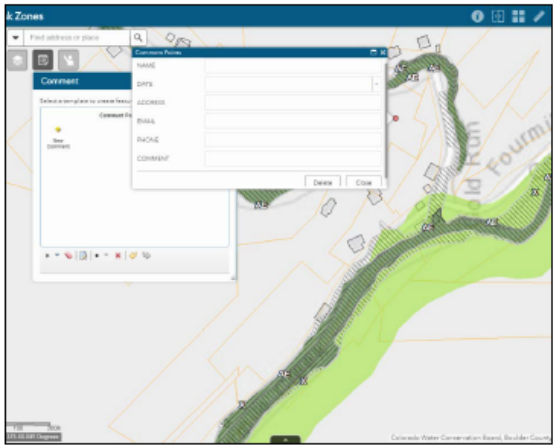
Now you're ready to view the map & comment!



STEPS TO PLACE A COMMENT

FOLLOW THESE STEPS:

- **Zoom in on map to the area of concern**
- **Click on the 'New Comment' symbol (yellow diamond)**
- **Move cursor out of Comment Window and place point by clicking where you would like to place the comment**
- **The point will be placed (temporary indicator dot) and an Information Window will pop up**
- **Fill in the rows with your information (Name, Date, Address, Email, Phone, and Comment)**
- **Click 'Close' to save your Comment Point**
  - If you accidentally created a point or placed it in the wrong location, you can delete it by clicking on it in the map, scrolling down to the bottom of the information window, and clicking 'Delete.' You can also select the point and move it.



Still having trouble? Please reach out to Boulder County staff if you have any questions, would like some assistance using this tool, or would like to speak with staff directly about your map comment. Erin Cooper is the Floodplain Remapping Project lead and can be reached at 720-564-2866 or escooper@bouldercounty.org.

Draft Maps at the Tables

What we'd like to learn from your review:

- **Structure locations – accurate?**
- **Planned work?**
- **Topographic details**
- **Impacts to water flow**

Comments!

- **Please include *name & contact info* on maps**
- **Use comment forms**
- **If you think the map needs revision, tell us WHY**

DEADLINE for comments for this area: MARCH 4th

Remapping Point of Contact: Erin Cooper

floodplainmapscomment@bouldercounty.org