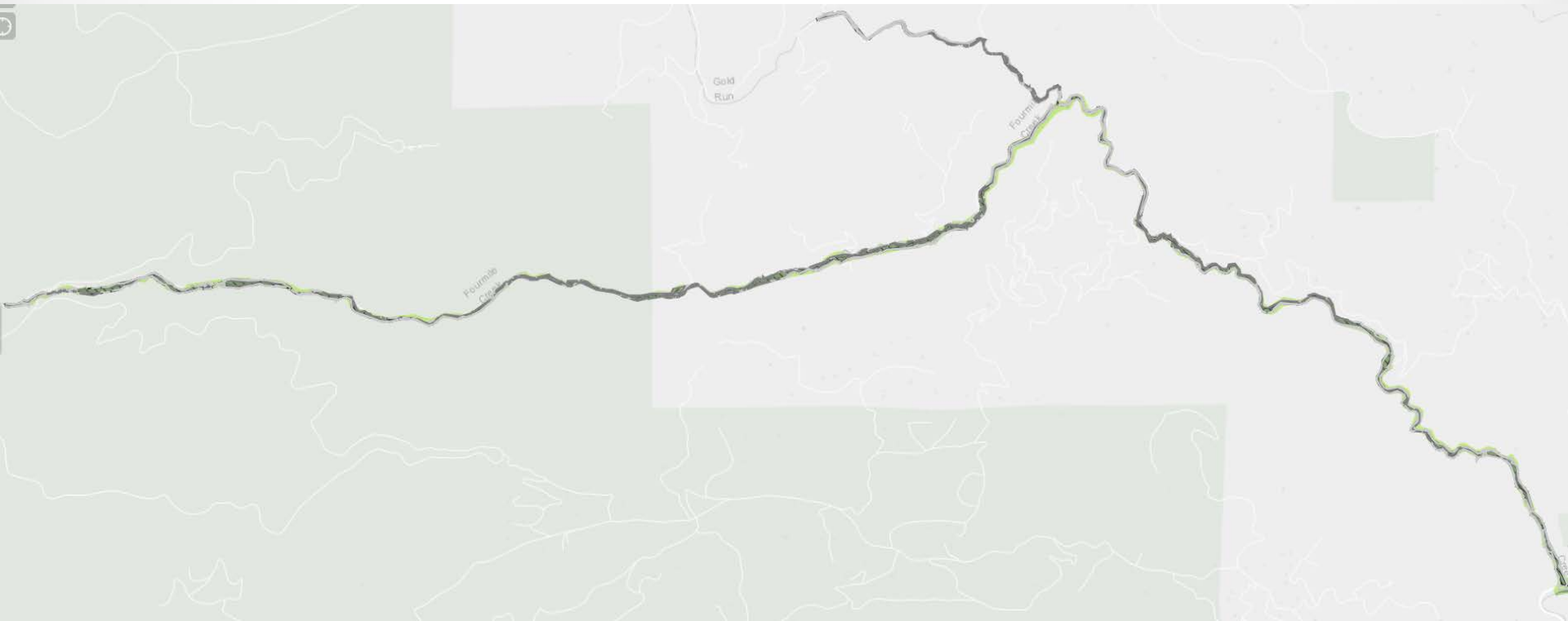


Public Review of Draft Boulder County Floodplain Maps

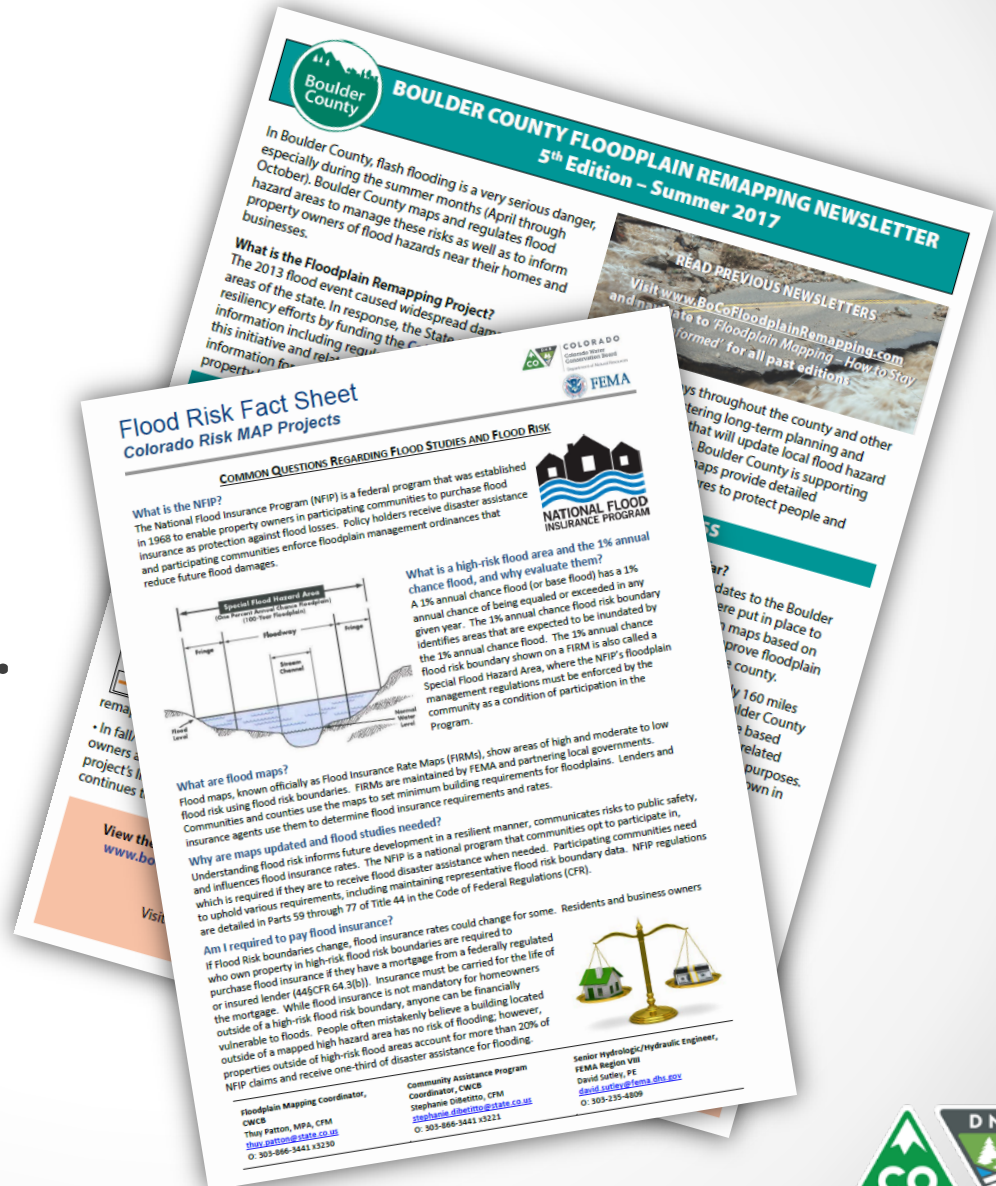
January 11, 2018
Boulder, CO

Fourmile Creek & Gold Run



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
- Rigel Rucker, 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?

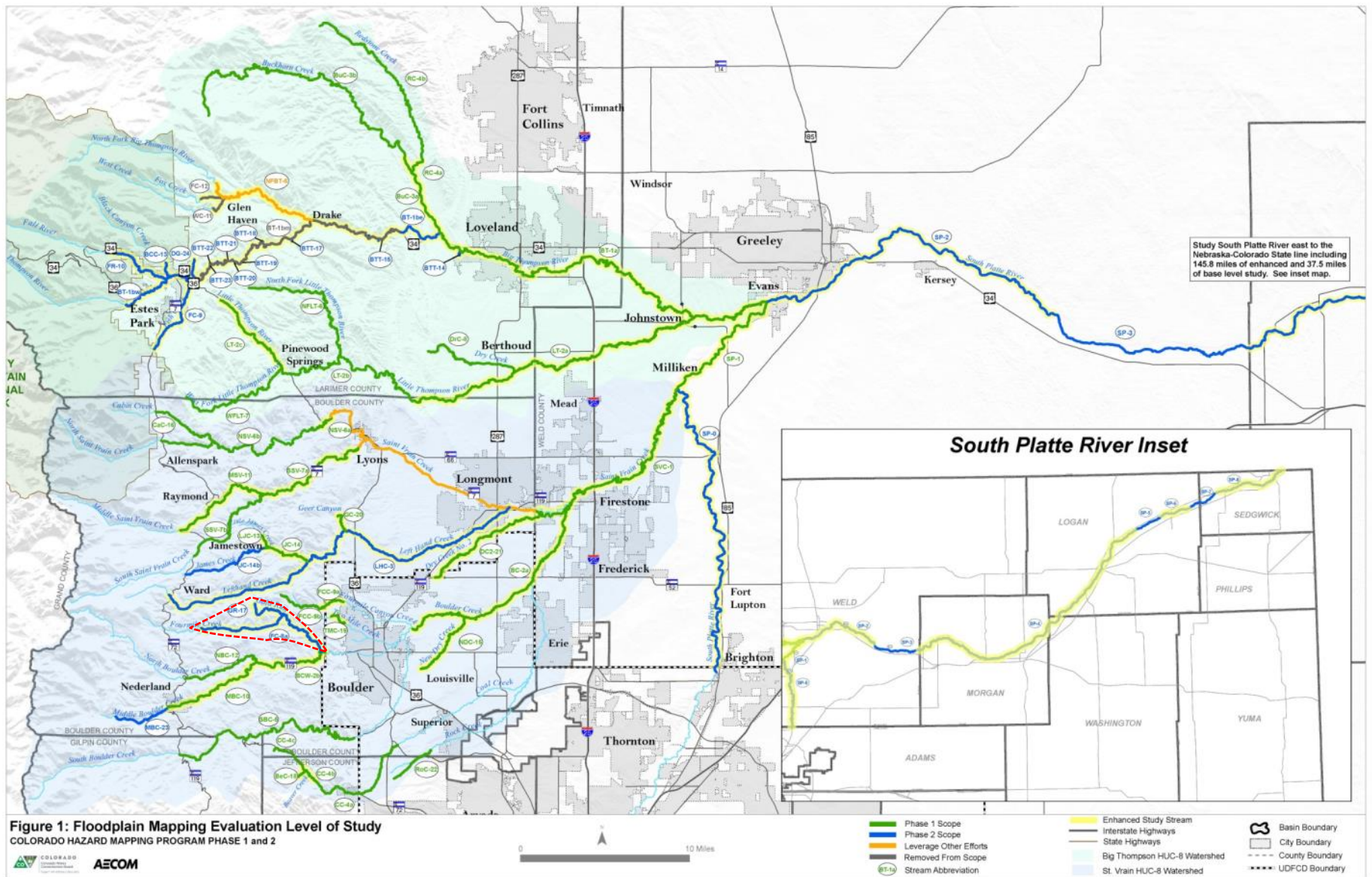
- Hazards change
- Floodplain delineations are often outdated and incorrect
- Maps regularly updated across the country by FEMA, States, Communities
- The State of CO initiated CHAMP after the Flood of 2013
 - Changes to flooding characteristics
 - Changes to understanding of rainfall

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?





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





Map Floodplain Mapping Phase I & II [change](#)

Layers

Documents

☒ Stream Segments

Show: Coordination

No Known Coordination Need

Ongoing Study or Design

CLOMR/LOMR

Construction

☒ UDFCD Boundary

UDFCD Boundary

☒ Year 2 Surveyed Locations

Bridge

Cross Section

Culvert

Drop/Divert/Dam

Not for Survey

Other Feature

☐ Year 1 Surveyed Locations

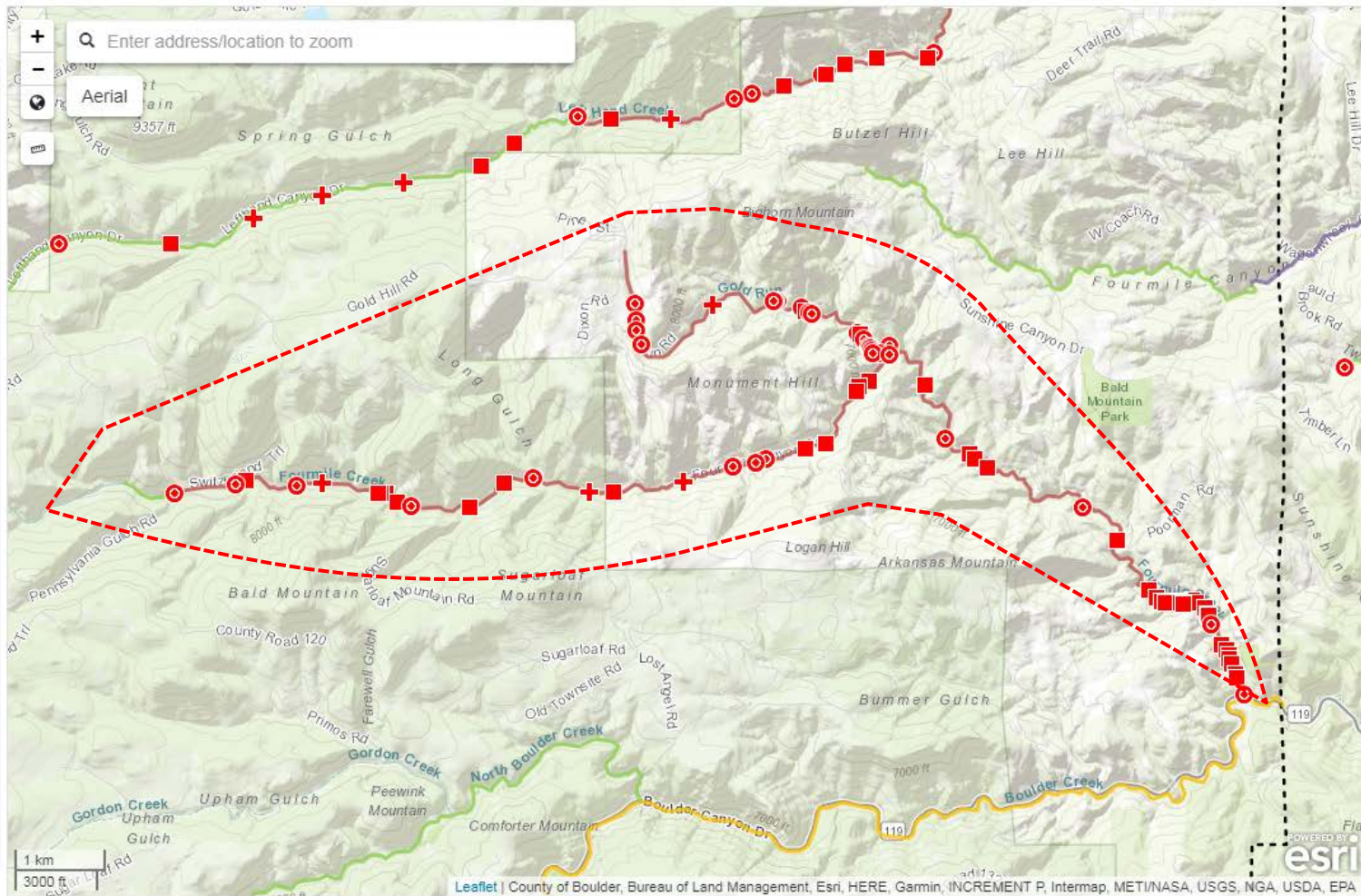
☐ Hydrology Flow Changes

☐ Lidar Extents

☐ NFHL Flood Hazard Zones

features can have associated documents

zoom in to





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.



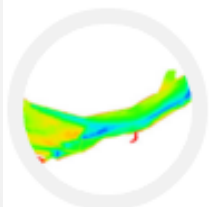
Topographic Data Development

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.



www.coloradohazardmapping.com



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



Flows Experienced & Modeled

Modeled Discharges of the 100-yr Flood Event

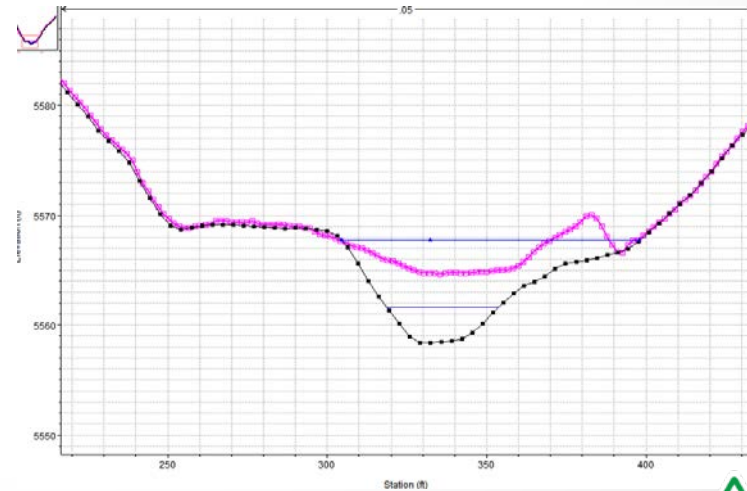
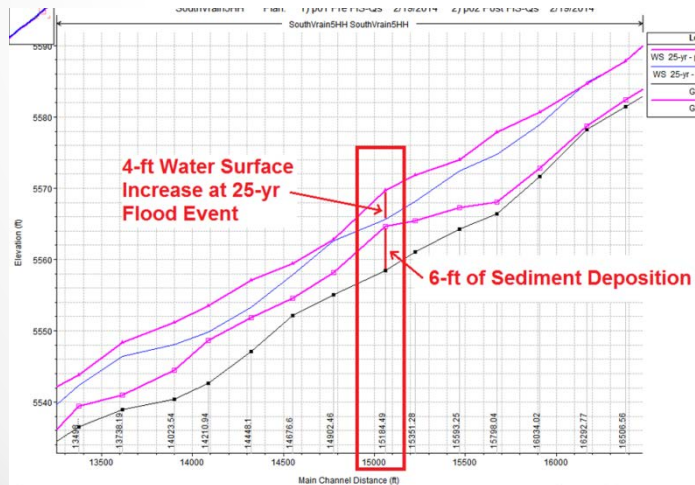
Fourmile Creek (@ Emerson Gulch)	<ul style="list-style-type: none">•Updated– 1,969 cfs (56% decrease)•Effective FEMA – 4,470 cfs
Fourmile Creek (@ Hwy 119)	<ul style="list-style-type: none">•Updated – 3,245 cfs (45% decrease)•Effective FEMA – 6,230 cfs
Gold Run (@ mouth)	<ul style="list-style-type: none">•Newly Modeled – 610 cfs (new study)•Effective FEMA – NA

Estimated Peak Discharges Experienced in 2013 Flood

Fourmile Creek (@ Emerson Gulch)	1,070 cfs (25-50 yr event)
Fourmile Creek (@ Hwy 119)	2,300 cfs (~50 yr event)
Gold Run (@ mouth)	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

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:

Late 2017/Early 2018:
Phase II Drafts for
Community Review

Early 2018:
Phase II Drafts
to FEMA

Mid 2018:
Phase II Local
Adoption

Late 2018:
Phase II
Preliminary FIRMs

2019:
Phase II FEMA
Appeals Period

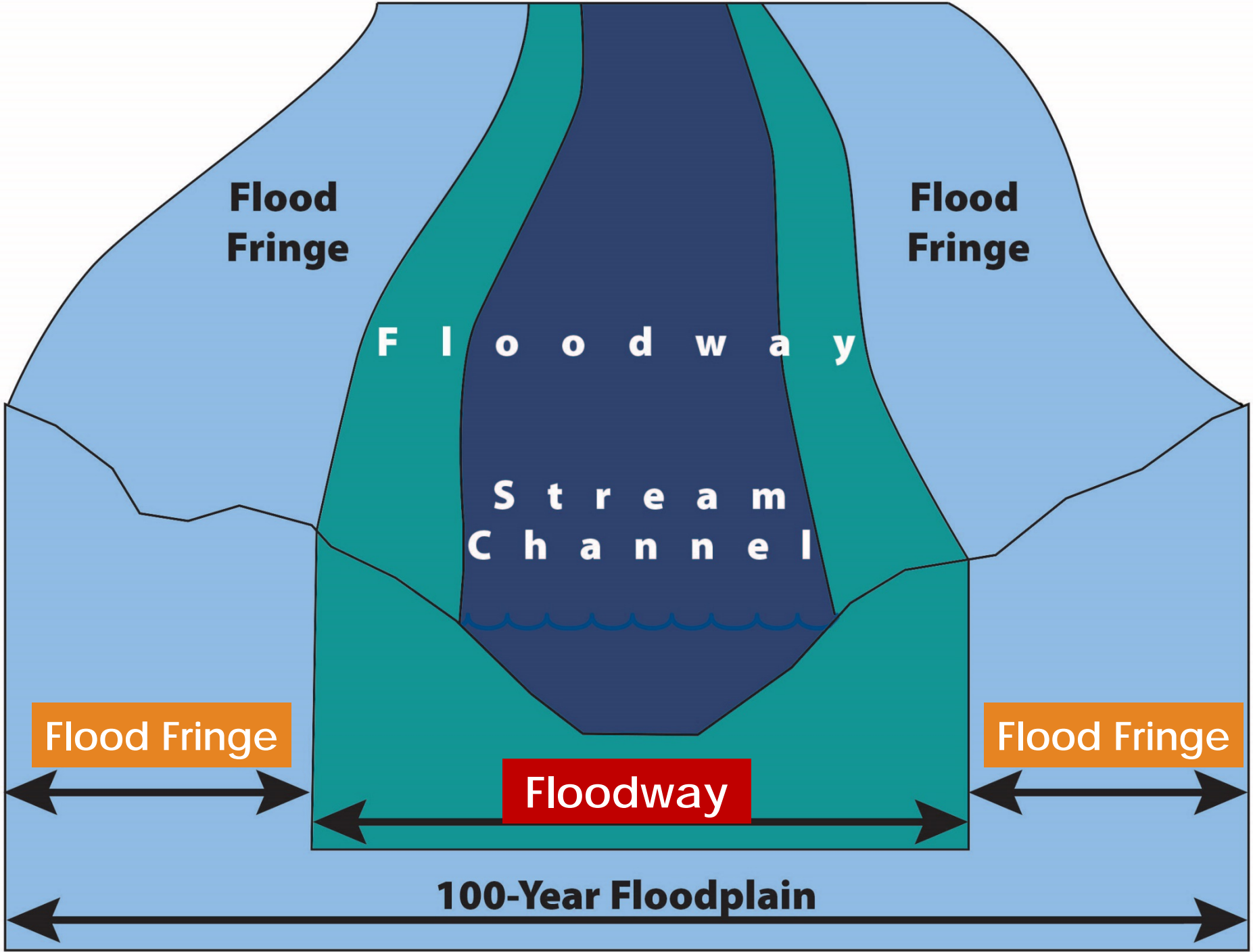
2021+:
Effective FIRMs

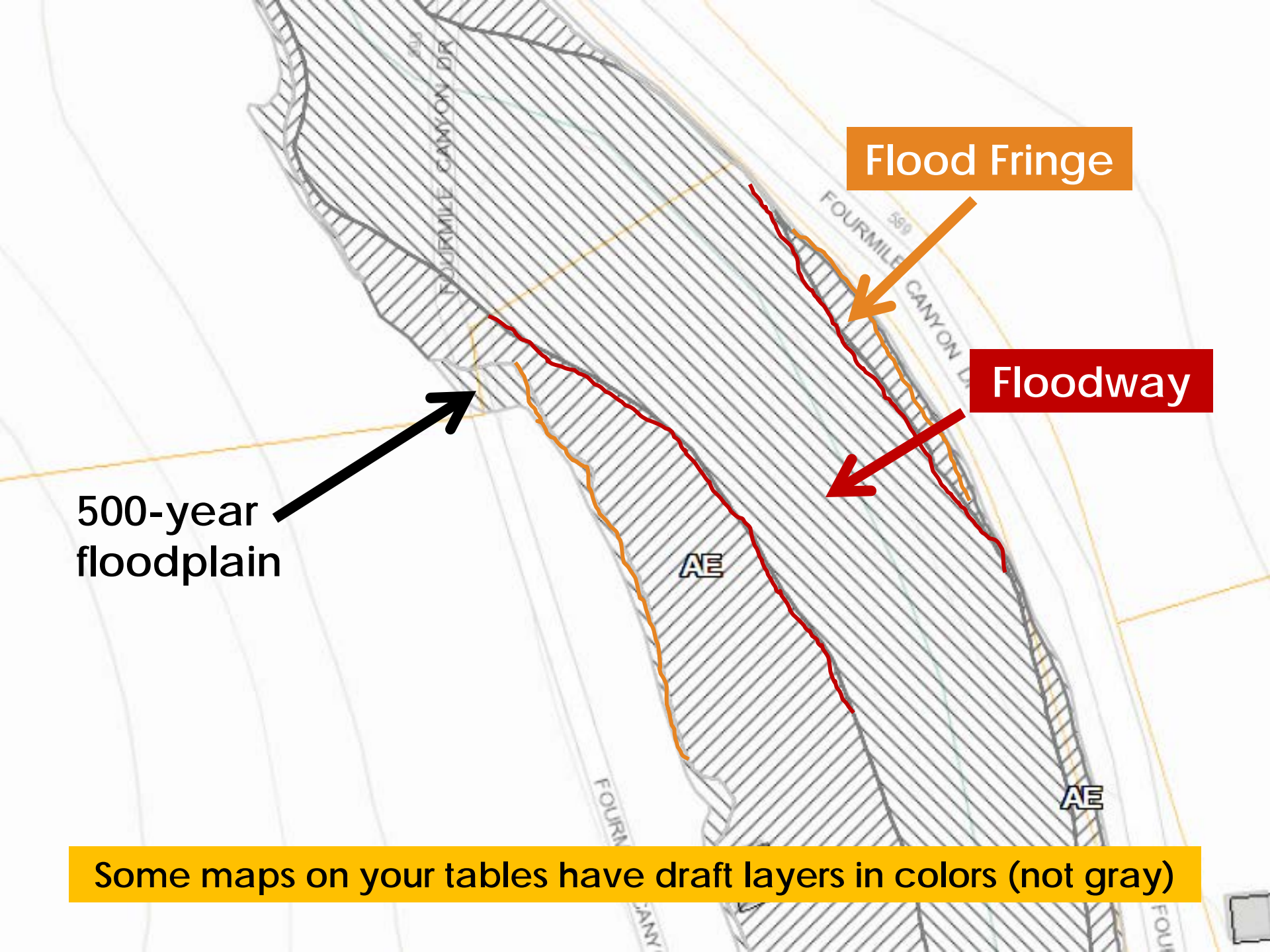


Now	Boulder County is reviewing the hydraulics and floodplain mapping
Spring/ Summer 2018	FEMA will review the hydraulics and floodplain mapping, Boulder County to adopt floodplain as “best available data”
Late 2018	Preliminary Flood Insurance Rate Maps issued
2019	FEMA Appeals Period
2021	FEMA Flood Insurance Rate Maps Become Effective

all dates subject to change







Flood Fringe

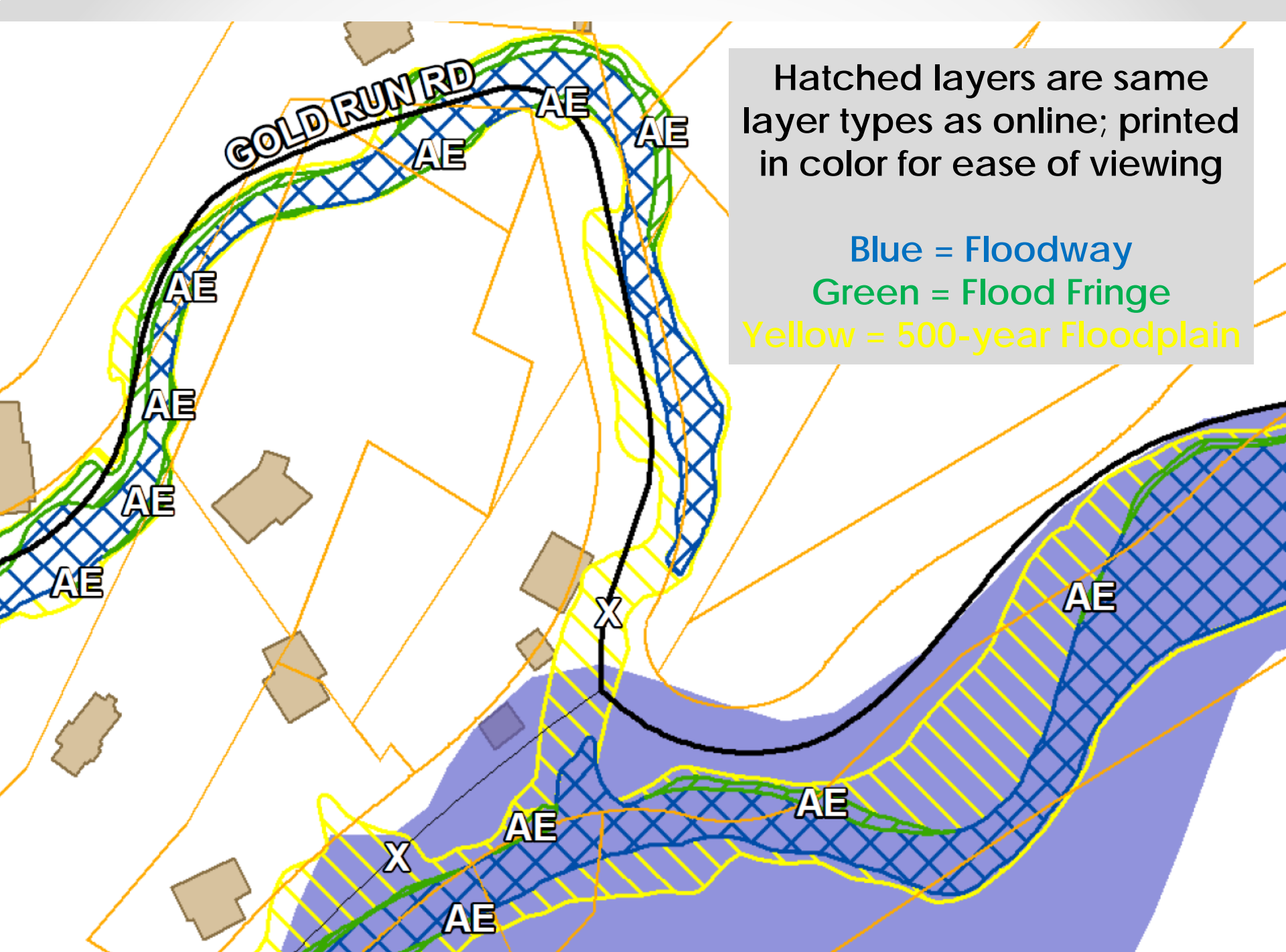
Floodway

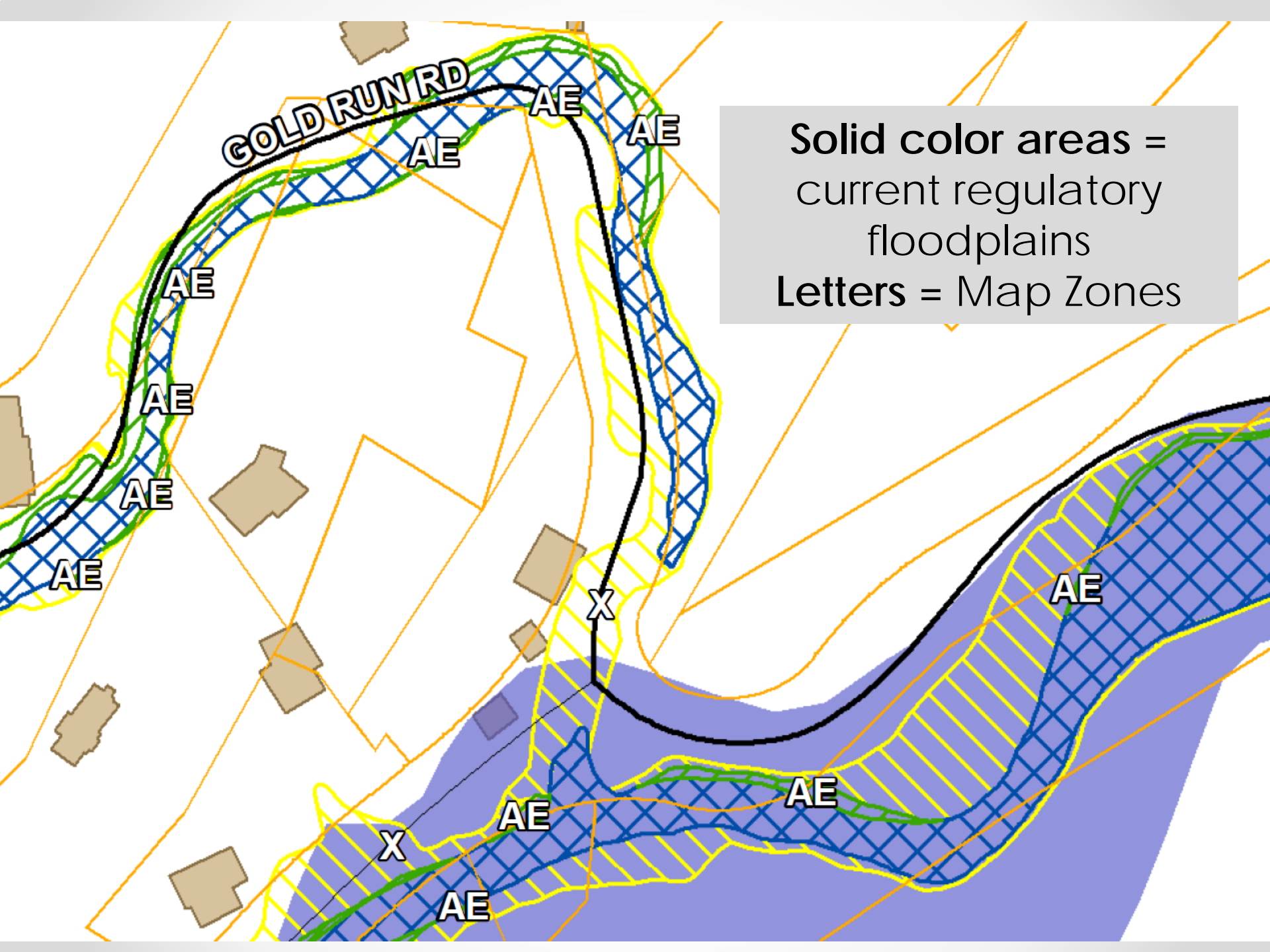
500-year
floodplain

Some maps on your tables have draft layers in colors (not gray)

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

Green = Flood Fringe





GOLD RUN RD

**Solid color areas =
current regulatory
floodplains**
Letters = Map Zones

AE

AE

AE

AE

AE

AE

AE

X

AE

AE

AE

X

AE

County Floodplain Remapping

[Property Search](#)[Jobs](#)[Volunteer](#)[Elections](#)[County Government](#)[Departments](#)[Contact](#)[Select Language](#) ▼[FAMILIES
& ADULTS](#)[OPEN SPACE
& RECREATION](#)[PROPERTY
& LAND](#)[ROADS
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& RECORDS](#)

FLOODPLAIN REMAPPING PROJECT

[Home](#) / [Roads & Transportation](#) / Floodplain Remapping Project

Floodplain Remapping Project

VIEW MAPS & PROVIDE FEEDBACK

[OFFICIAL FLOODPLAIN MAP](#) ↗

The interactive webmap (use the button above) is meant to show detailed flood risk zones and related FEMA map amendments or revisions that are currently regulated throughout unincorporated Boulder County. (Data updated on June 1, 2017 to reflect **adopted changes** to the Floodplain Overlay Zoning District).

This map will update as new FEMA maps become effective throughout Boulder County and as the Boulder County Board of County Commissioners (BOCC) reviews and approves map amendments (see information on maps below)

[REVIEW DRAFT FLOODPLAIN MAPS](#) ↗

DRAFT floodplain maps are now available for stream reaches in Phase II of the Colorado Hazard Mapping Program (CHAMP) study. **Visit the interactive webmap (by using the button above) to review and provide comments on the draft flood risk zones that are currently under review by Boulder County.**

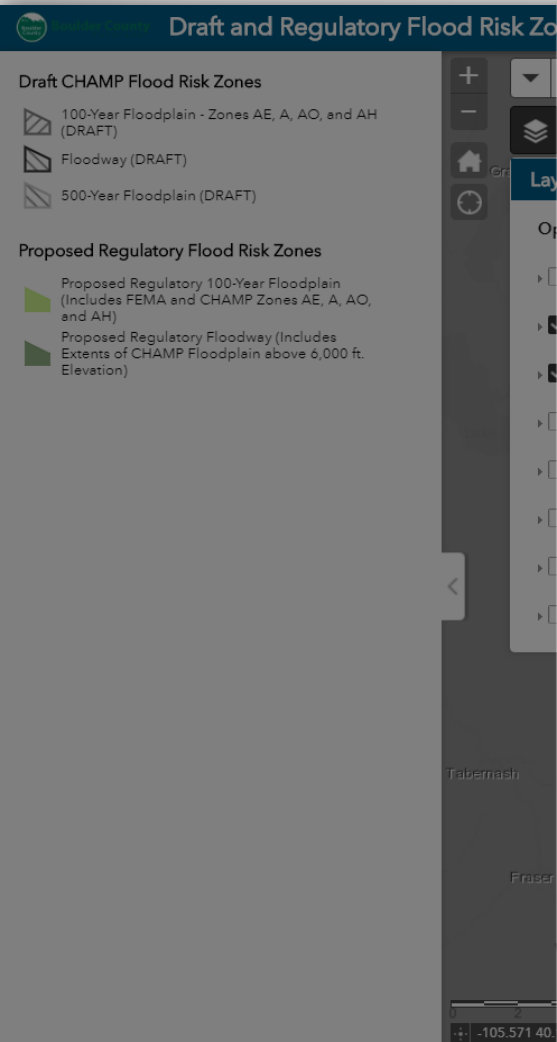
Floodplain Mapping Links


[Floodplain Remapping Project](#)[Floodplain Mapping – How to Stay Informed](#)[Floodplain Information](#)[Colorado Hazard Mapping Program \(CHAMP\)](#)[National Flood Insurance Program \(NFIP\)](#)[Floodplain Mapping and Code Amendments](#)[Floodplain Remapping Project Frequently Asked Questions](#)

<http://bocofloodplainremapping.com>



Using the Map Review Website



 **Boulder County**
Colorado

This map is intended to display current Boulder County (Unincorporated Areas) regulatory flood hazard information in combination with DRAFT flood hazard data provided by the Colorado Hazard Mapping Program (CHAMP).

Draft floodplain maps are currently viewable for the following reaches:

- Fourmile Creek
- Gold Run
- Geer Canyon
- Upper James Creek
- Fourmile Canyon Creek (downstream of Anne U. White trailhead)
- Little Thompson River

Flood hazard data for incorporated areas within Boulder County (such as the Town of Lyons and the City of Longmont) is provided for informational purposes only.



Click this button in the toolbar in the upper left hand corner to turn map data on or off



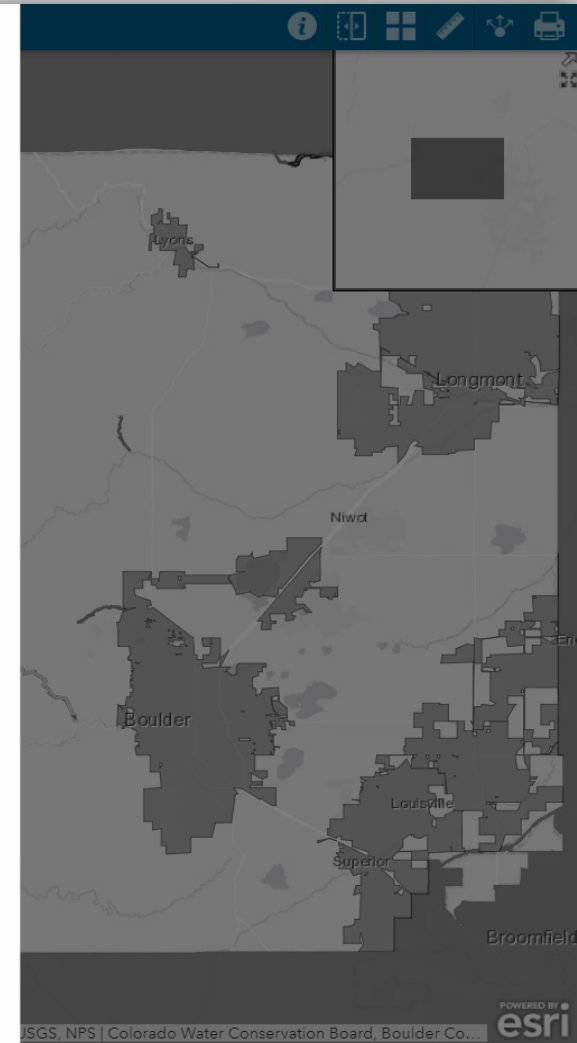
Click this button in the toolbar in the upper right hand corner to access additional information and mapping resources



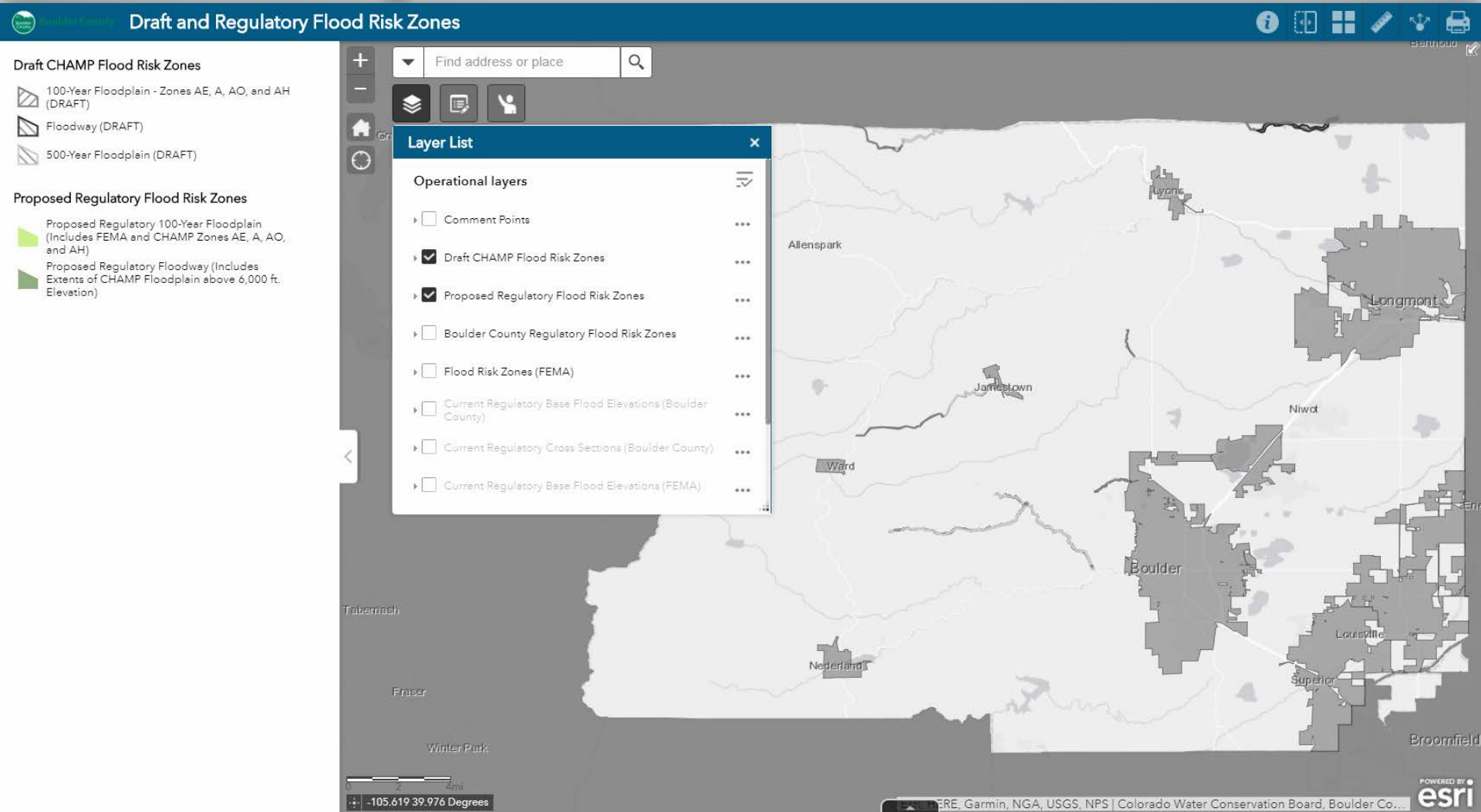
Click this button in the toolbar in the upper right hand corner to "swipe" a layer on and off from left to right for easy comparison between layers

DISCLAIMER: This map is for illustrative purposes only and the features depicted on it are approximate. More site specific studies may be required to draw accurate conclusions. Boulder County makes no warranties regarding the accuracy, completeness, reliability, or suitability of this map. Boulder County disclaims any liability associated with the use or misuse of this map. In accessing and/or relying on this map, the user fully assumes any and all risk associated with the information contained therein.

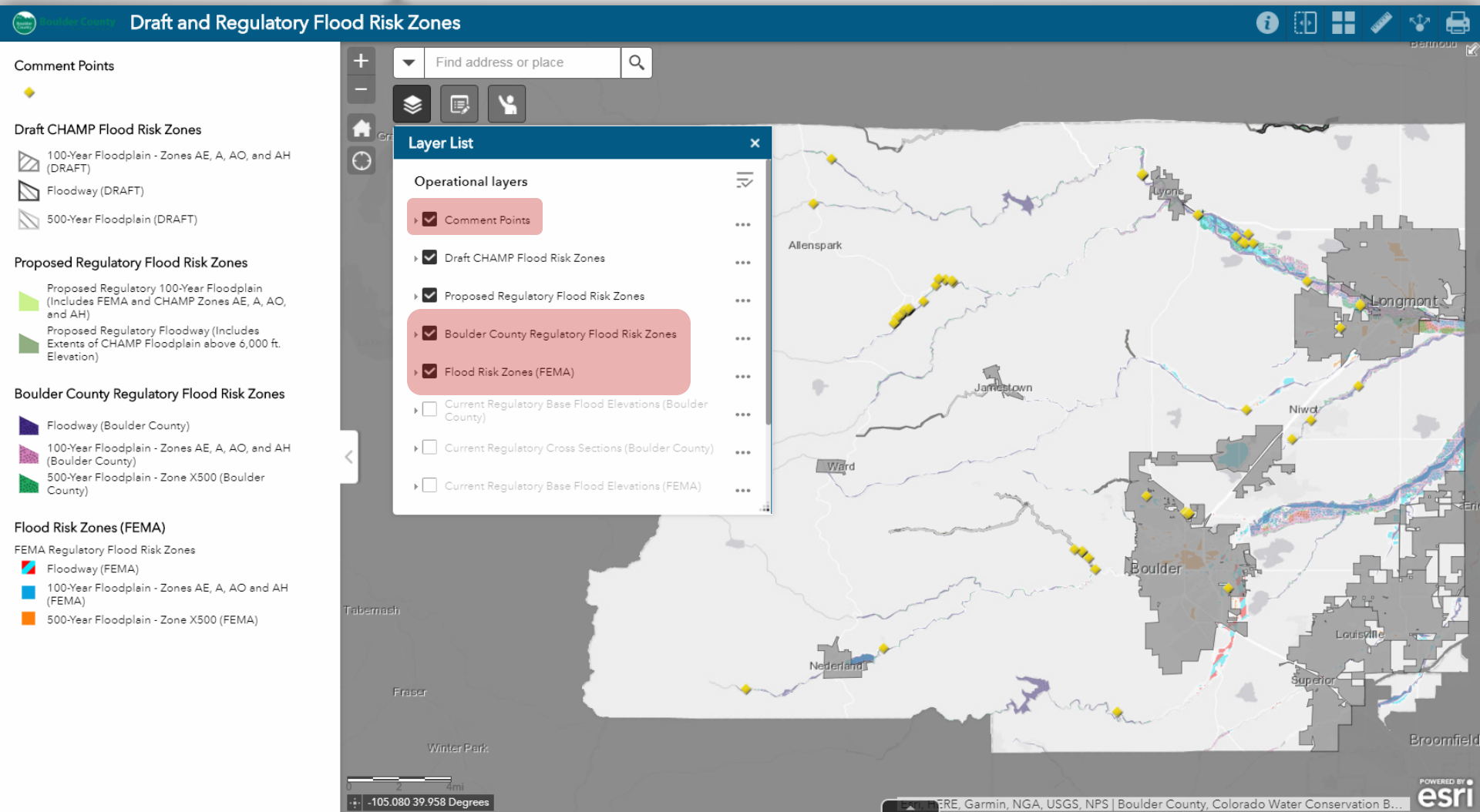
OK



Map Review Website



Map Review Website



How to comment

Draft and Regulatory Flood Risk Zones

Comment Points

Draft CHAMP Flood Risk Zones

- 100-Year Floodplain - Zones AE, A, AO, and AH (DRAFT)
- Floodway (DRAFT)
- 500-Year Floodplain (DRAFT)

Proposed Regulatory Flood Risk Zones

- Proposed Regulatory 100-Year Floodplain (Includes FEMA and CHAMP Zones AE, A, AO, and AH)
- Proposed Regulatory Floodway (Includes Extents of CHAMP Floodplain above 6,000 ft. Elevation)

How To

Instructions for creating a comment point:

- > Zoom in on map to where your area of concern is
- > Click on New Comment Symbol (yellow diamond)
- > Move cursor out of Comment Window and place point by clicking on your specific map location
- > Point will be placed (temporary indicator dot) and an Information Window will pop up
- > Populate rows with your information (Name, Date, Address, Email, Phone, and Comment)
- > Click "Close" to save your Point of Concern

- If you accidentally created a point or placed it in the wrong place, you can delete it by clicking on it in the map, scrolling down to bottom of the information window, and clicking Delete.
- Alternatively, you can select it to pick it up and move it

Map showing locations: Lyons, Longmont, Jamestown, Niwot, Boulder, Louisville, Superior, Nederland, Fraser, Winter Park, Tabernash, Broomfield.

Scale: 4mi

Coordinates: -105.629 39.879 Degrees

POWERED BY esri

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How to comment

Draft and Regulatory Flood Risk Zones

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Comment

Select a template to create features

Comment Points

New Comment

Colorado Water Conservation Board, Boulder County

esri



How to comment

Draft and Regulatory Flood Risk Zones

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Comment

Select a template to create feature

New Comment

Comment Points

NAME

DATE

ADDRESS

EMAIL

PHONE

COMMENT

Delete Close

Colorado Water Conservation Board, Boulder County


esri



Resources button

The screenshot displays a web application interface. On the left, a map shows a river area labeled 'Salina' with several 'AE' flood hazard zones. A toolbar at the top right of the map includes icons for information, navigation, and printing. On the right side, a 'Resources' panel is open, featuring the Boulder County logo and four links: 'Boulder County Property Search', 'Boulder County Floodplain Re-mapping Website', 'Colorado Hazard Mapping Program (CHAMP) Website', and 'Provide Feedback on the Draft Maps'. A yellow box with a red border highlights the 'Resources' panel title.

Resources

 **Boulder County**
Colorado

[Boulder County Property Search](#)

[Boulder County Floodplain Re-mapping Website](#)

[Colorado Hazard Mapping Program \(CHAMP\) Website](#)

[Provide Feedback on the Draft Maps](#)

Upper right hand corner of webpage



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: FEBRUARY 4th

Remapping Point of Contact: Erin Cooper
floodplainmapscomment@bouldercounty.org

