



wood.



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# Bourbon County, KS Flood Risk Review Meeting

## Hybrid Meeting

July 13, 2022

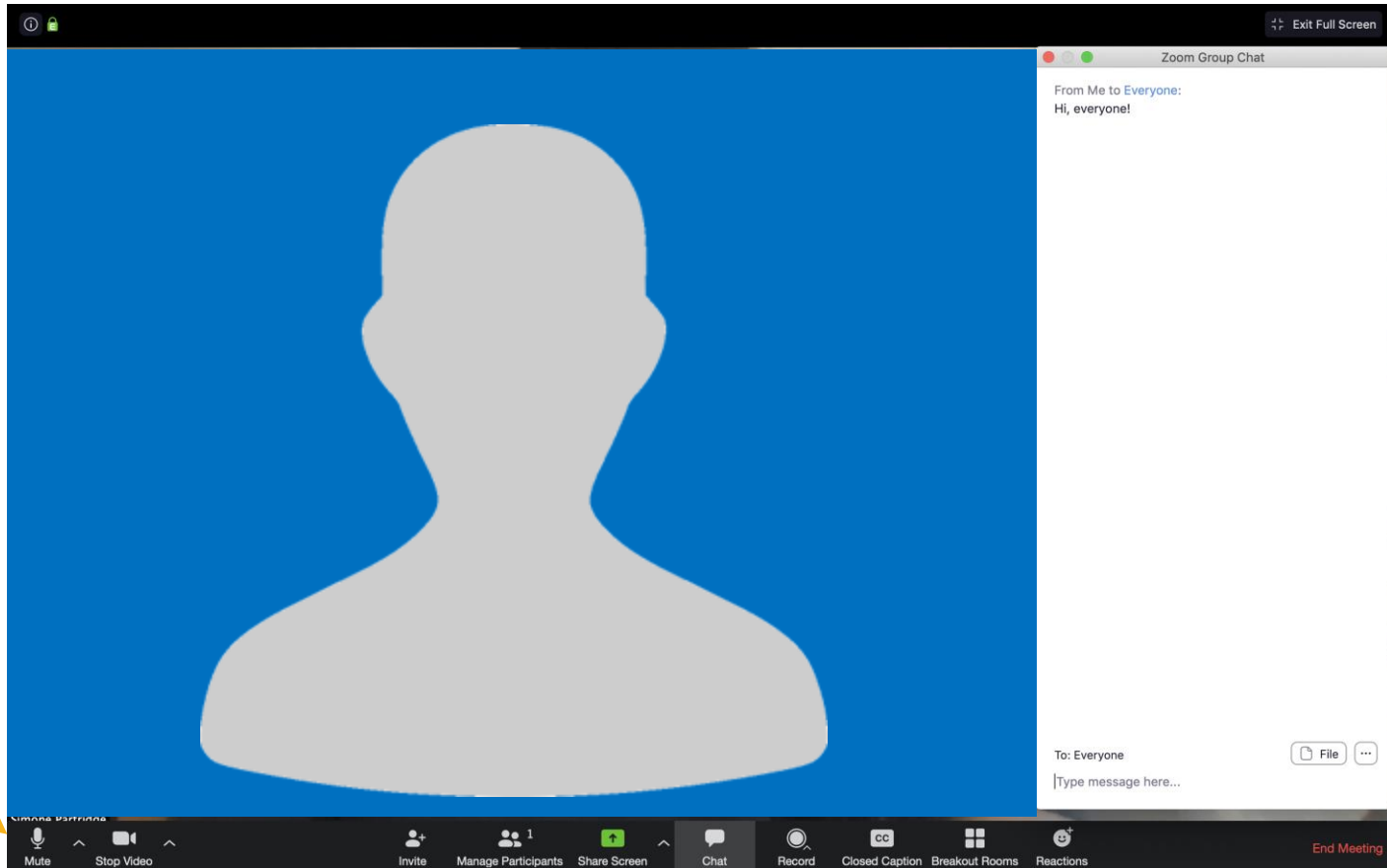
*While we are waiting, please enter your name and community in the chat box!*

# THANK YOU!

*We appreciate the time you are giving to this work  
and we want to use it wisely.*

*Your feedback at this point in the project is **very important**.*

# Zoom Features



*Mute /  
Unmute*



*Start your Video*



*Use the Chat  
Feature*



*Reactions*



# Rules of the Road

- Attendees joining on Zoom will be muted during the presentation to help eliminate background noise.
- Use the chat to ask questions during the presentation! We will pause for questions at various stopping points.
- If you want to share your video, please do!
- For technical difficulties, send a private chat to William Pace; or email [William.Pace@ks.gov](mailto:William.Pace@ks.gov)
- We'll be recording this webinar for those who aren't able to attend today.

# Intros

## Kansas Department of Agriculture

**Joanna Rohlf, CFM, GISP**  
Floodplain Mapping Coordinator

**William Pace, CFM**  
Floodplain Mapping Specialist

**Tara Lanzrath, CFM**  
State NFIP Coordinator

**Cheyenne Sun Eagle**  
NFIP Specialist

## FEMA – Region VII

**Dawn Livingston – Regional Project Officer**



## Wood Environment & Infrastructure Solutions Inc.

**Matt Long, PE, CFM - Project Manager**

**Lisa Tuckwin, GISP, CFM – Lead GIS Analyst**



# Why We Are Here





# Today's Goals

- Review how we developed your flood risk data
- Get your feedback on the flood risk data
- Review future steps

**Main Takeaway:** We want your feedback while your map is still in draft form and there is time to incorporate feedback

# First, a brief recap



Over the past 30 years, flooding has been more dangerous in the U.S. than any other weather-related problem. To minimize flood damage, we must first understand where the risk is.



# Why Have Floodplain Maps?

- Understand the risk so you can make informed planning decisions and avoid future flood damage in your community.
- Determine where flood insurance is needed and rate its cost.
  - Flood Insurance Rate Map (FIRM)
- Provide the basis for updating community floodplain management ordinances.
  - These ordinances are your tool for reducing your community's vulnerability to flood risk.

# FEMA Floodplain Mapping Program



- Risk Mapping Assessment and Planning (Risk MAP)
- Supports the National Flood Insurance Program (NFIP); performed on a watershed basis.
- Consists of both Regulatory and Non-Regulatory Products.
- Through Risk MAP, we provide updated floodplain maps, as well as other (free!) data and tools that can help you plan to reduce your community's risk.

**RiskMAP**  
Increasing Resilience Together



# National Flood Insurance Program



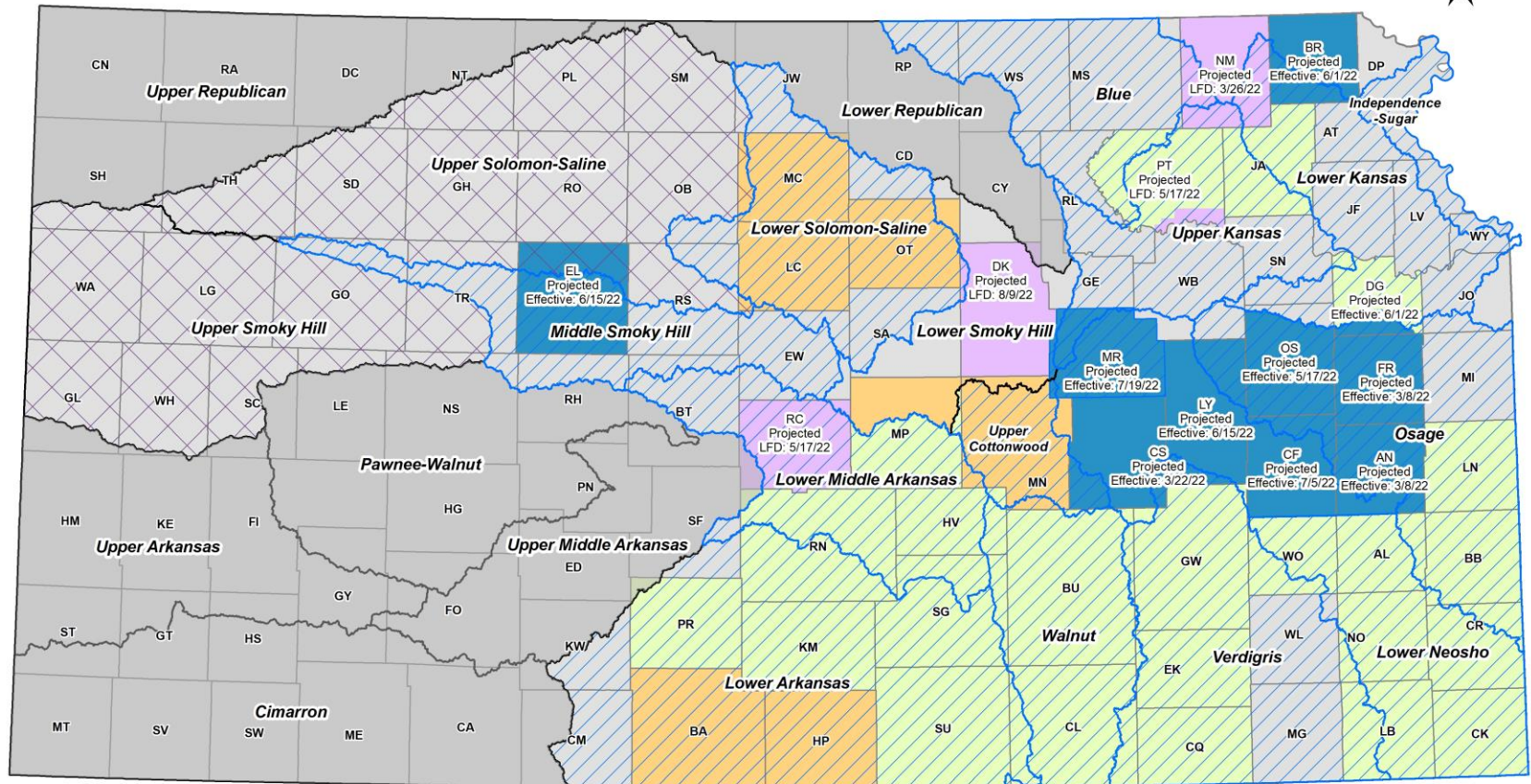
## Benefits of the NFIP

- Property owners would be able to insure against flood losses
- Qualify for federal grants or loans for development
- Qualify for federal disaster assistance for damages caused by a flood
- Adoption of a floodplain management ordinance leads to smart development against flood risk

*Any questions?*

# We Do This Work Across Kansas

## Current Floodplain Mapping Projects and Custom Watersheds



March 7, 2022

### Project Status

- In Development
- Draft
- Preliminary
- LFD

### Watershed Projects

- Custom Watersheds (labeled)
- FY19 BLE\* - In Progress
- BLE Projects - Data Available
- FY20 BLE - In Progress

\*Not all watershed areas will be included.  
Please check with KDA for details.





# How Did We Get Here?

- Base Level Engineering (BLE) - 2020
  - Gives us early insight into your flood risk
  - Osage Custom Watershed BLE Project
    - Kickoff Meeting held on October 22, 2019
    - Discovery and Initial Map Review Meeting held February 5, 2020
- Bourbon County Effective Mapping is dated January 2, 2009 and March 16, 2016.
- Through Discovery and conversations with County stakeholders, it was determined that updated modeling and mapping would benefit Bourbon County.






# How Did We Get Here?

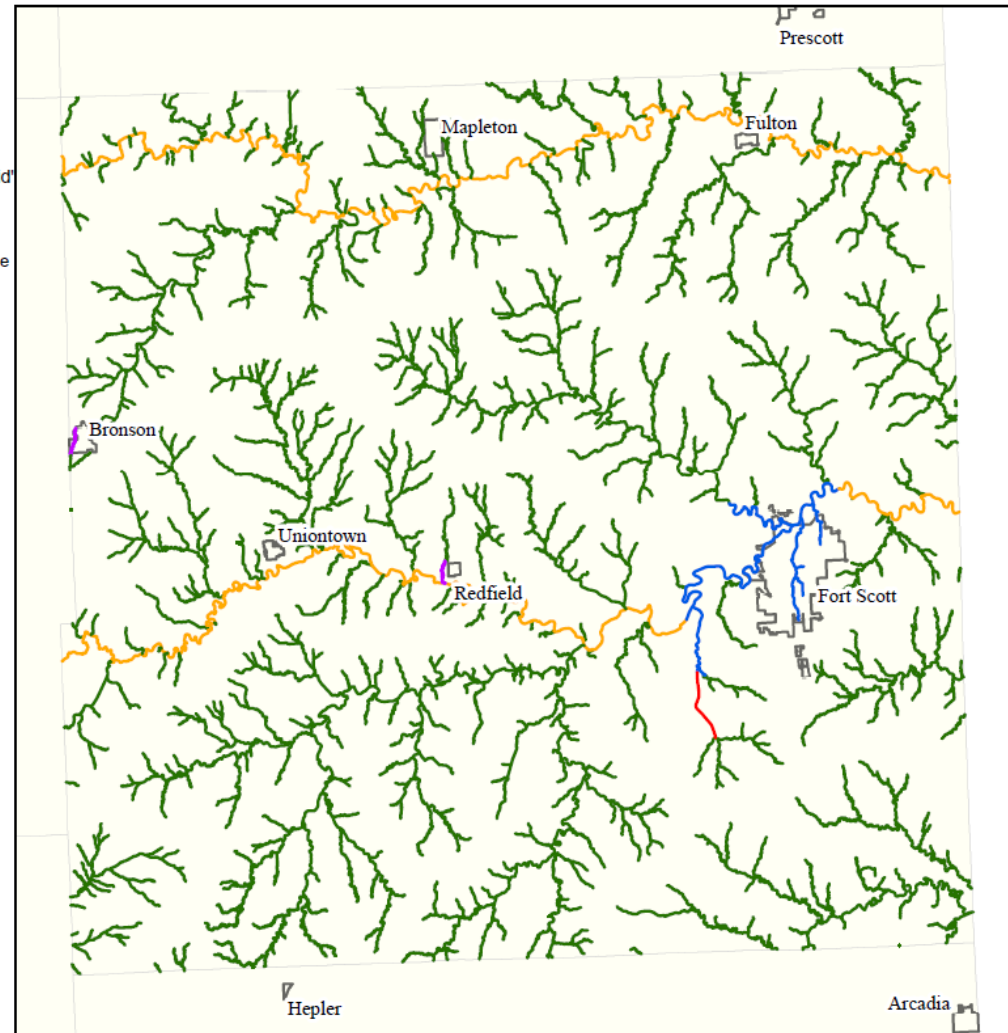
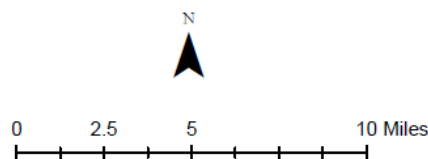
- Data Development – 2021- 2022
  - Kickoff Meeting held on July 22, 2021
    - Discussed Project Scope & Modeling Methods
      - Enhance the engineering analysis
      - Develop regulatory draft floodplain maps
      - Develop Flood Insurance Study
      - Develop flood risk data tools for your community

# Bourbon County- Mapping Update

## Bourbon County 2020 Mapping Updates

### Scoped Studies

-  **New Zone A - Excess Rainfall on Grid**  
New Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology, and Hec-Ras 2D hydraulics.
-  **New Zone A - Gage Analysis**  
New Zone A studies will be developed for these streams using 2D "excess rainfall-on grid" hydrology calibrated to Gage Analysis Flows, and 2D Hec-Ras hydraulics.
-  **Existing Zone AE - Incorporation of current effective studies**
-  **New Static Zone AE**  
New Static Zone AE studies will be developed for these streams using a statistical frequency analysis.
-  **New Enhanced Zone A - Excess Rainfall on Grid**  
New Enhanced Zone A studies will be developed for these streams using 2D "excess rainfall-on-grid" hydrology, and 2D Hec-Ras hydraulics. Field measured structure data will be incorporated into the modeling.



# Bourbon County- Mapping Update

## Enhanced Zone A

- 1 Tributary to the Marmaton River near Bronson: Model includes field measured structures
- 1 Tributary to the Marmaton River near Redfield: Model includes field measured structures

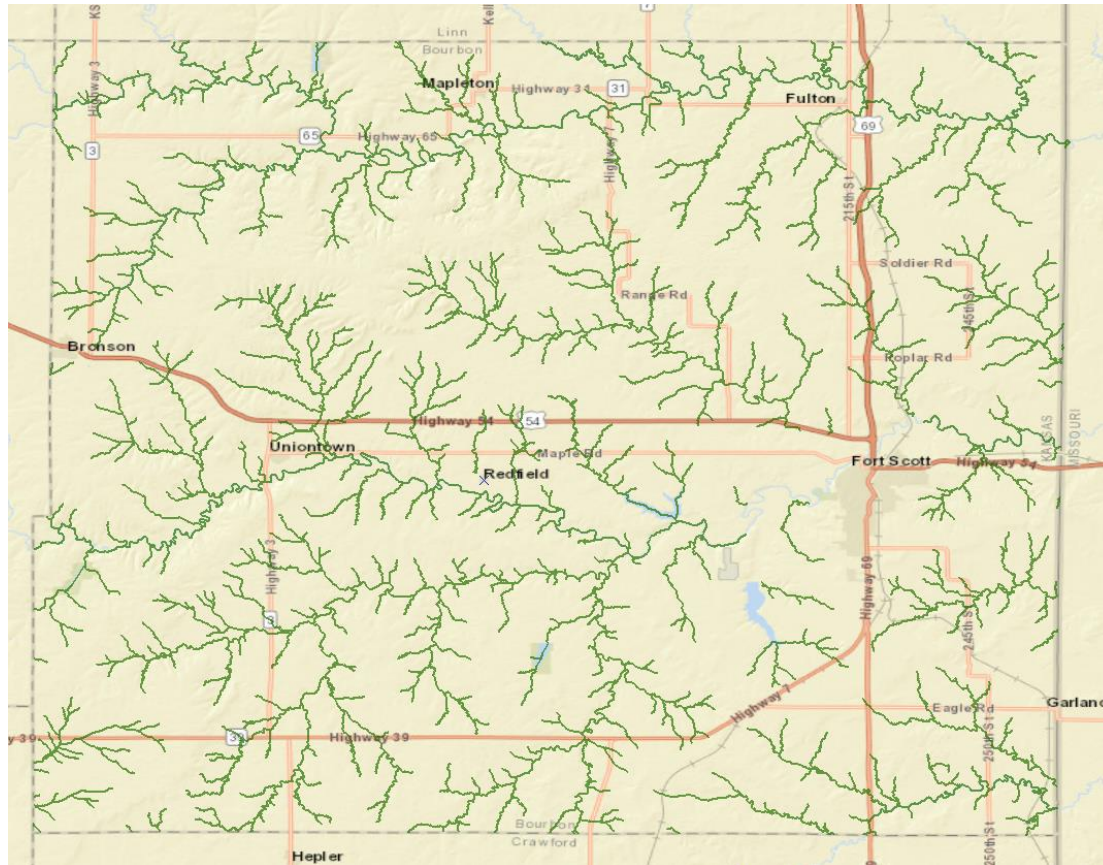




# Bourbon County- Mapping Update

## New Zone A

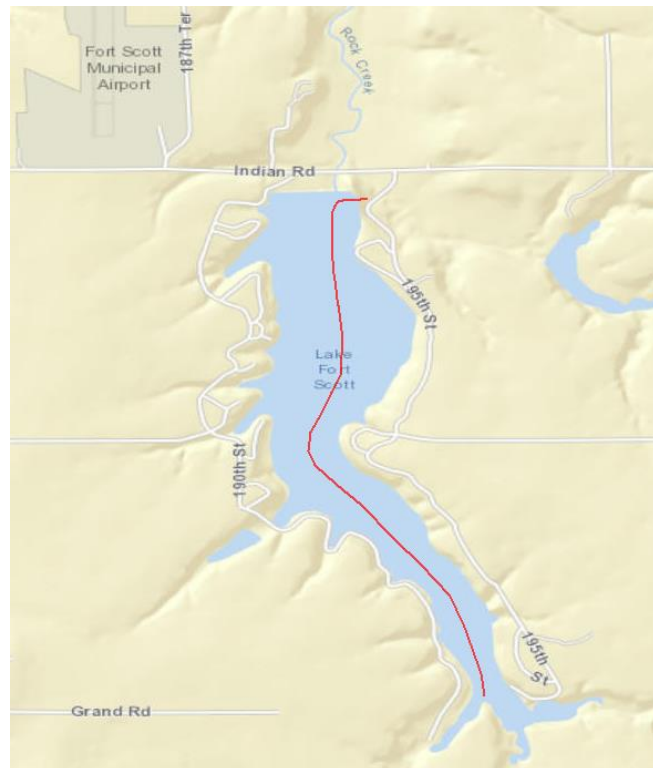
- 2D HEC-RAS Hydrology and Hydraulics



# Bourbon County- Mapping Update

## Static Zone AE

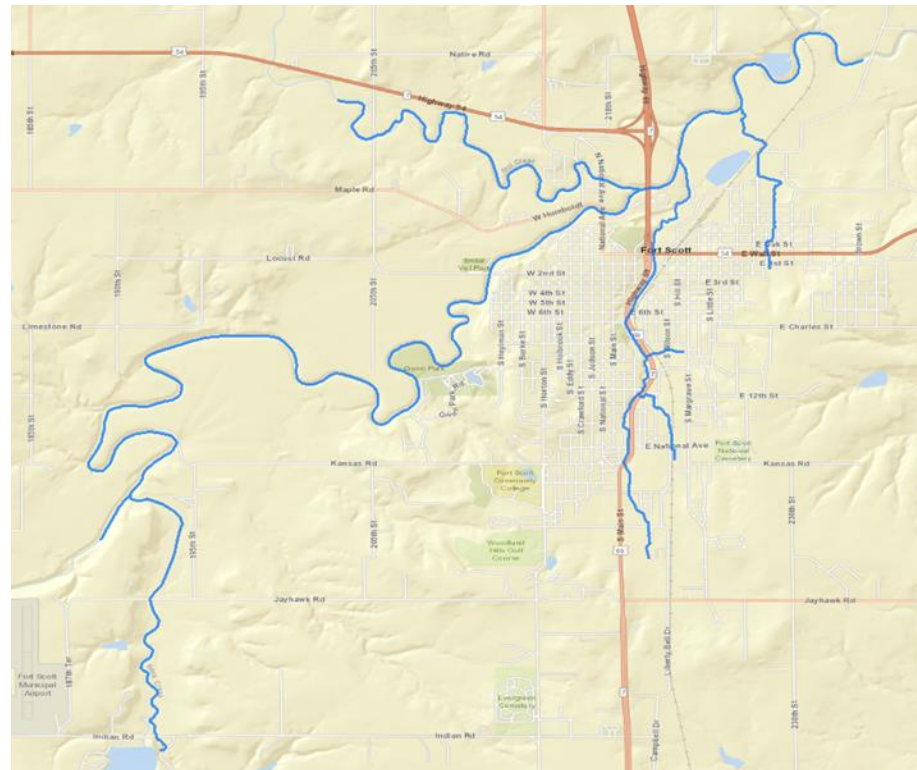
- Lake Fort Scott
  - 1% Annual Chance Elevation = 865.2 feet (NAVD88)



# Bourbon County- Mapping Update

## Existing Zone AE

- Incorporate Zone AE with Floodway detailed modeling from the March 2016 Physical Map Revision for the City of Fort Scott.
  - Buck Run
  - Buck Run East Fork
  - Buck Run Tributary
  - East Creek
  - Marmaton River
  - Mill Creek
  - Rock Creek



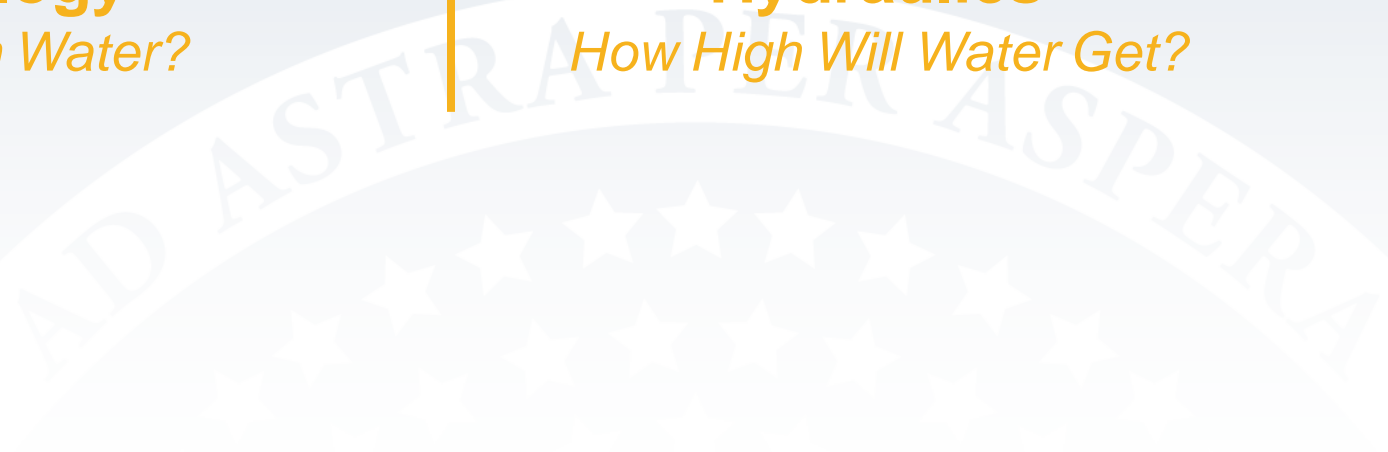
# Definitions



**Hydrology**  
*How Much Water?*



**Hydraulics**  
*How High Will Water Get?*







# Data Gathered

- Information gathered during the BLE Phase of the project was incorporated and/or used for validation of modeling
- Survey and as-built plan information was gathered for bridge and culvert openings for enhanced areas

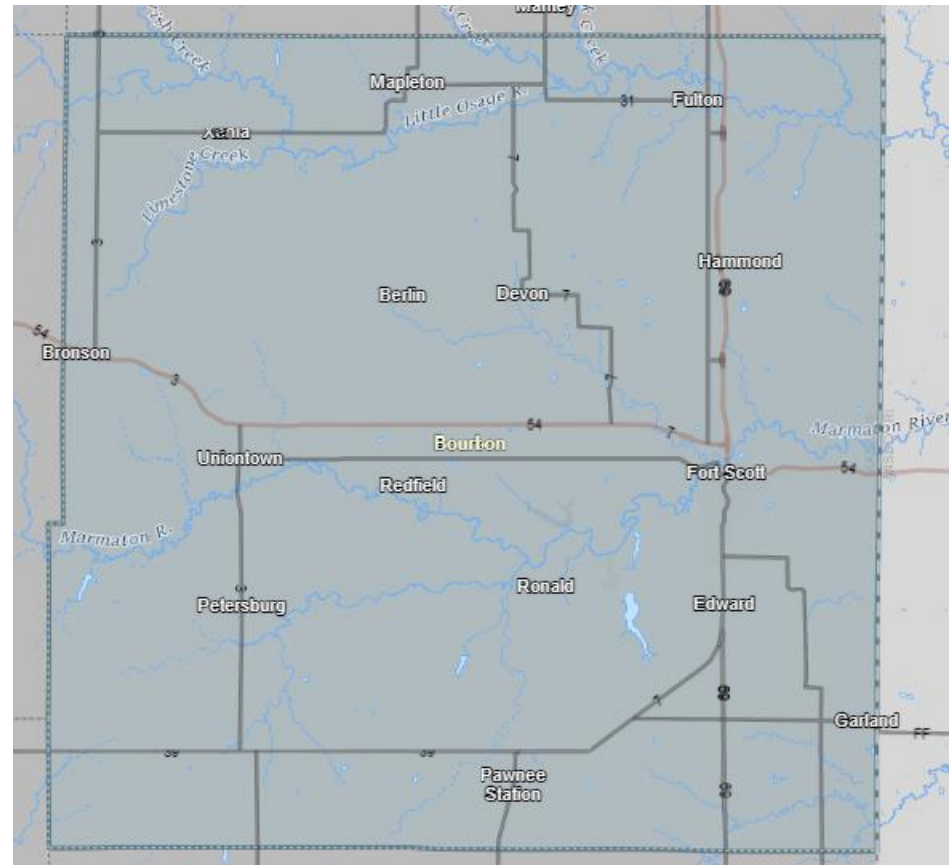


# LiDAR Data

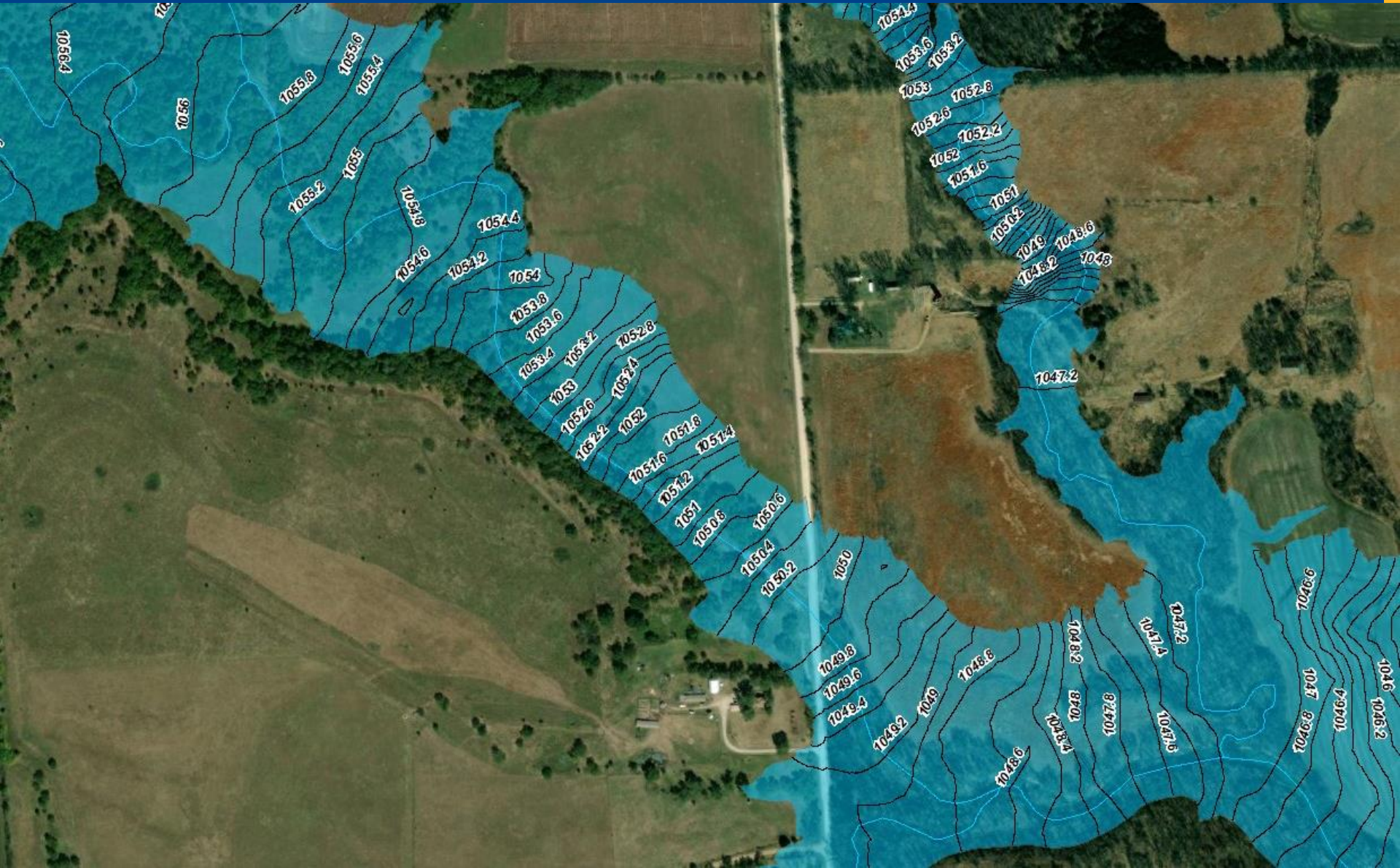
- Updated digital floodplain maps will be developed on the 2012 acquired LiDAR
- 2018 LiDAR recently became available
- Comparison between the 2018 and 2012 LiDAR was performed
- Did not result in enough change in ground elevation to significantly impact floodplain boundaries

# Levees

- There are no levees in Bourbon County

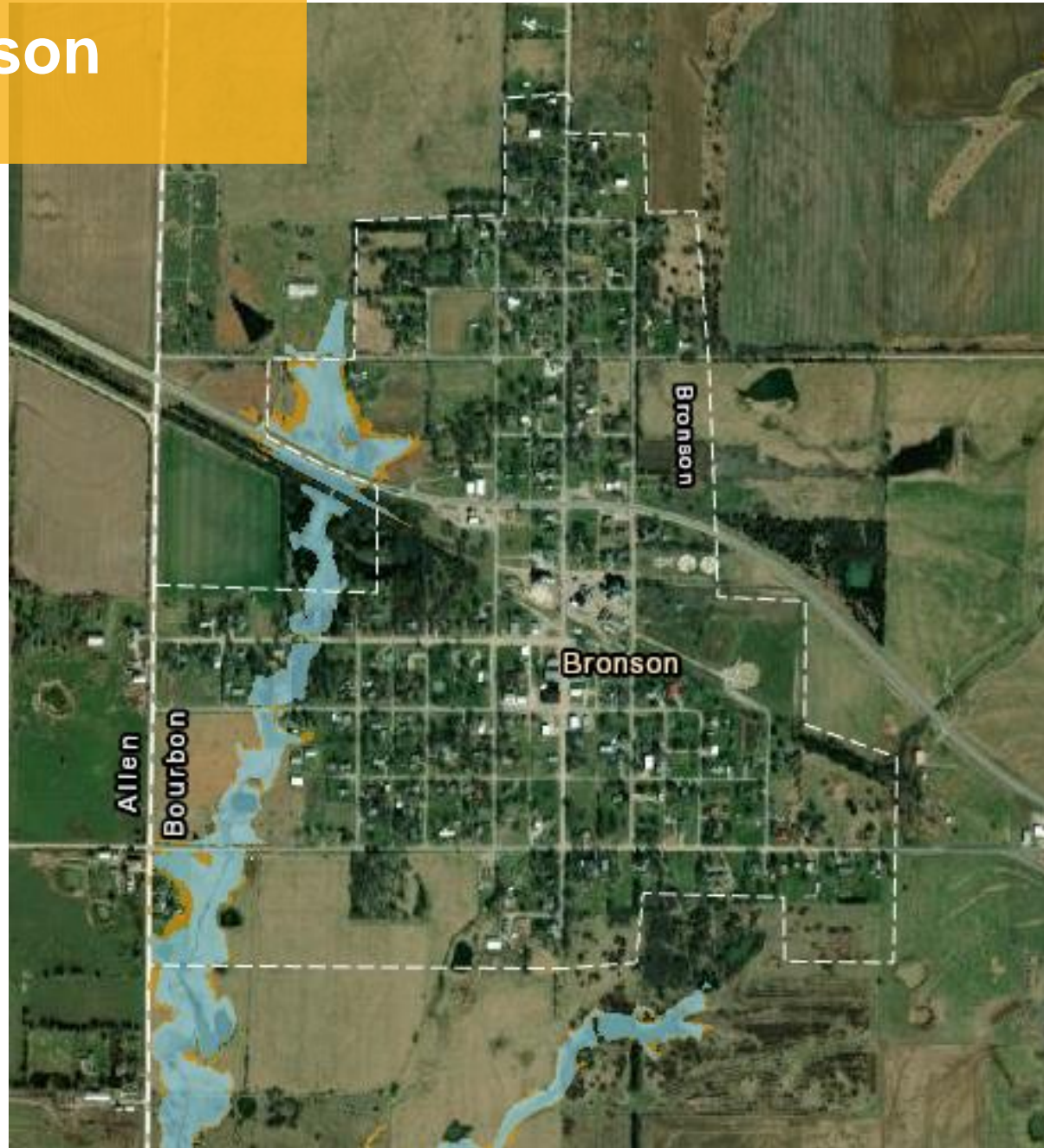


# Example of Zone A



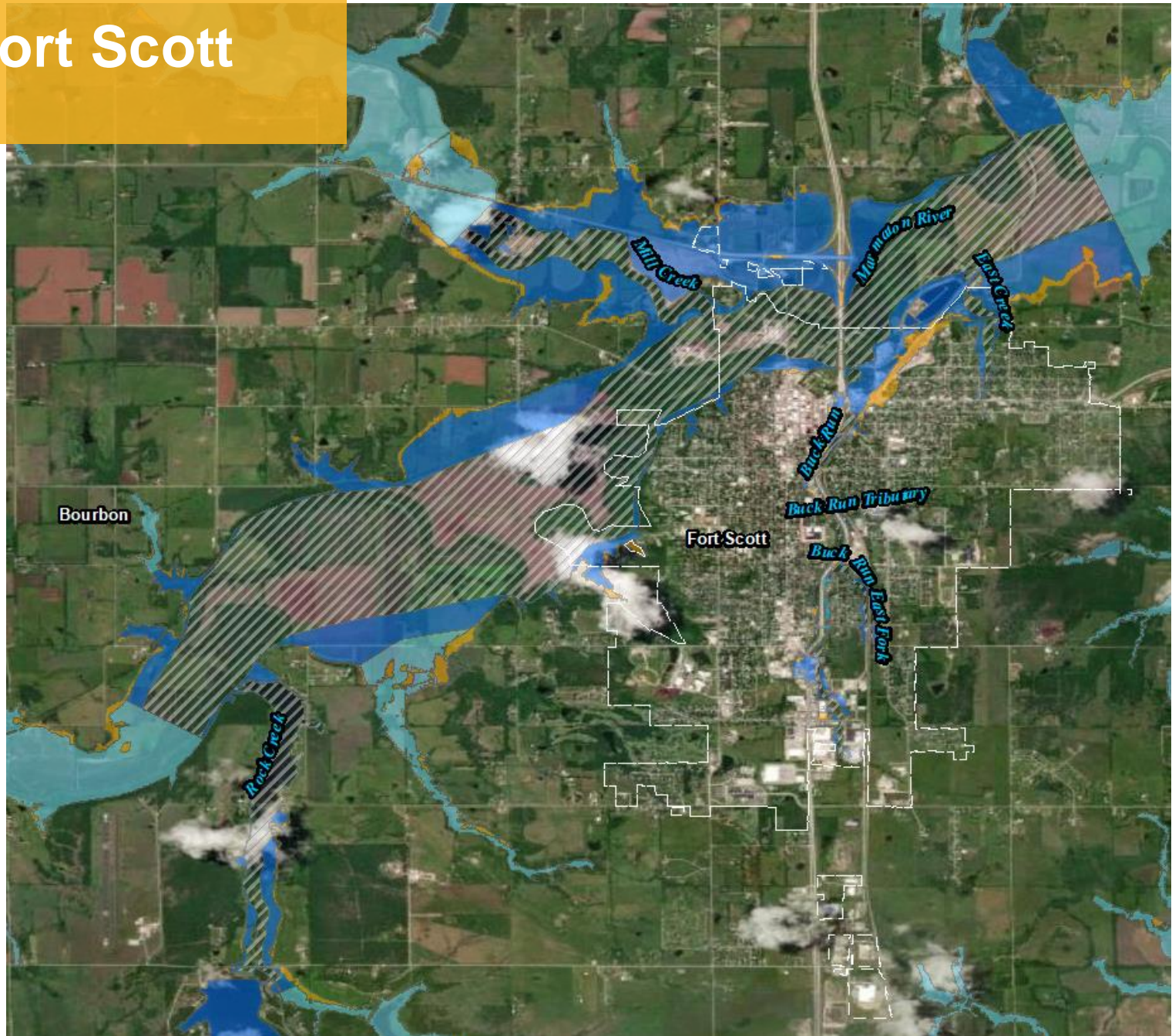


# Bronson





# Fort Scott





# Fulton

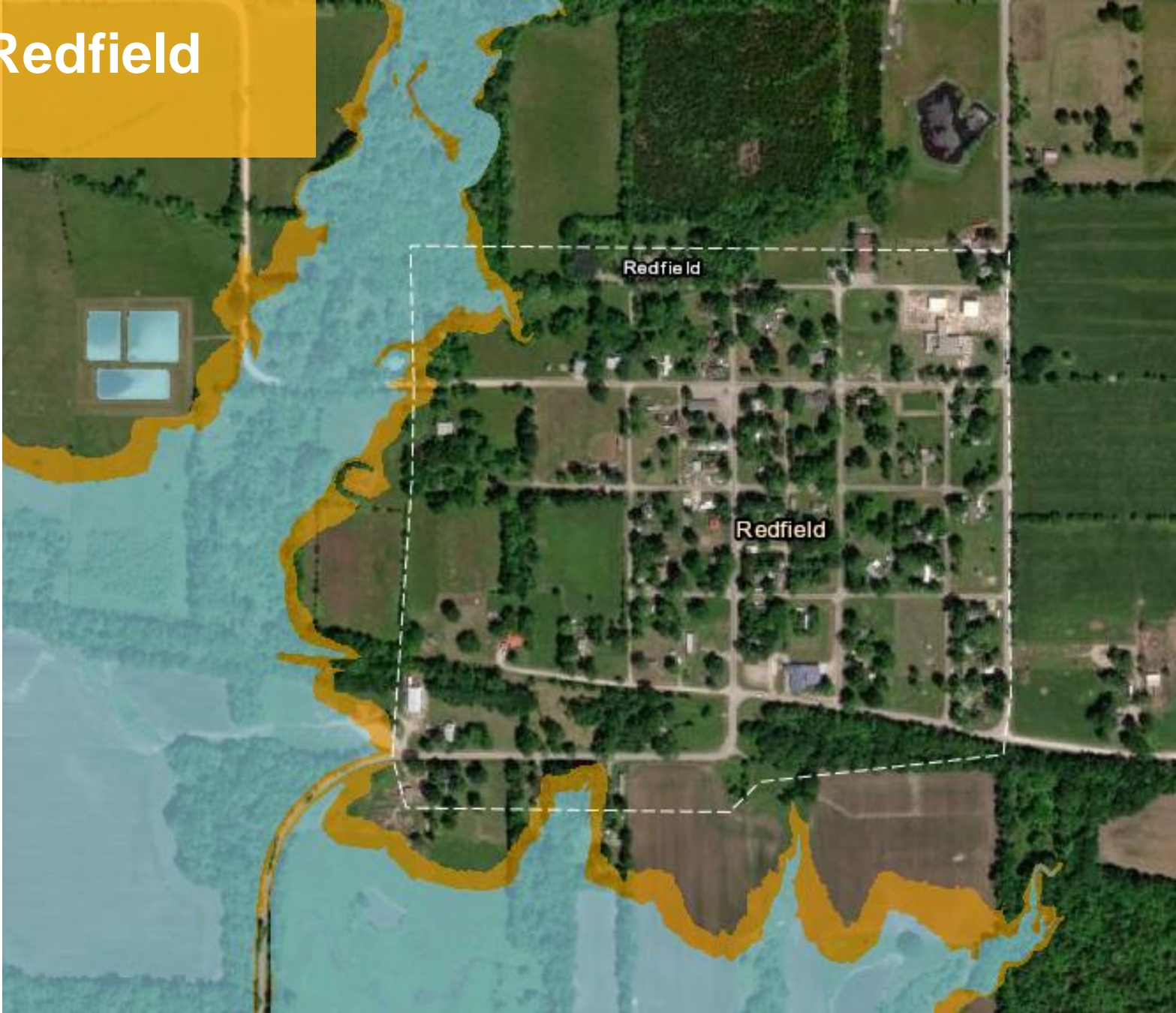


# Mapleton





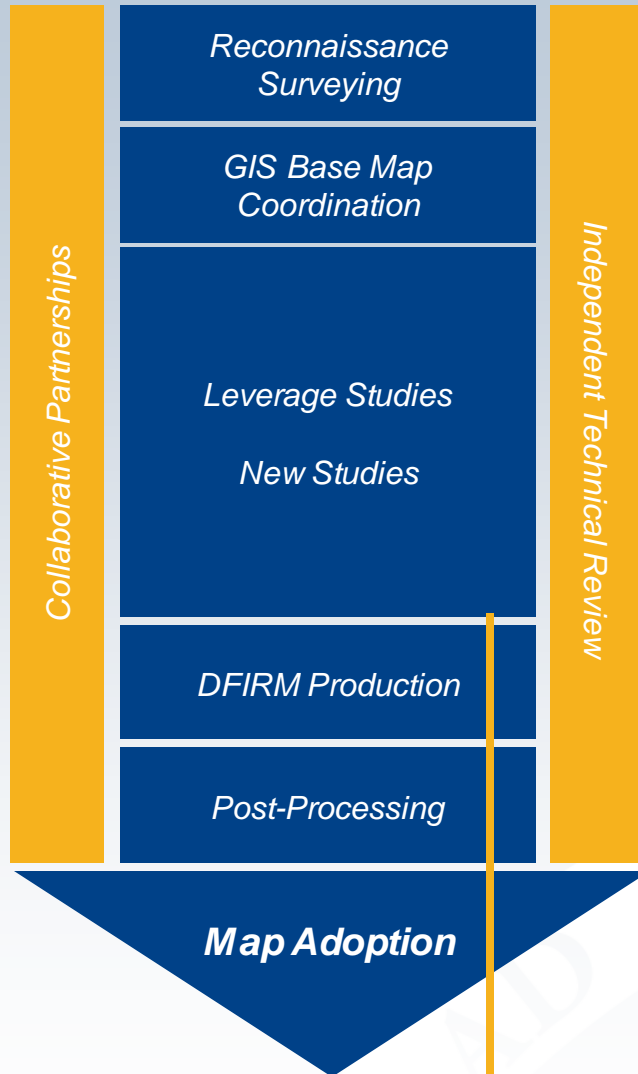
# Redfield





# Uniontown





## Project Tasks

1. Discovery
2. Base Map Preparation
3. Survey and Topography
4. New Studies
5. DFIRM and FIS Production
6. Post-Preliminary

Finishing this phase: data development

# Your Maps Undergo Significant Review



- Wood E&IS Review
  - Engineering reviewed by separate Wood E&IS office
- Independent Technical Review (ITR)
  - Third party review of engineering
  - AECOM
- KDA Review
  - Visual review
  - Eye test
  - Identify impact of the map
- FEMA Review
  - Formal quality review process of regulatory products
- Your Review!
  - Community Review
  - Public Review

# Community Map Review



ASPERA

# Your Map Review

## This is your opportunity to have an impact!

- We want to agree on what your map looks like before Preliminary Status
  - That's when we enter the regulatory map-making phase, and it's harder to change things
- A web map has been provided for review  
<https://gis2.kda.ks.gov/gis/bourbon/>
- This is where **YOU** look out for **YOU: please provide your comments by August 15, 2022**





Layers (Click to expand)

- Comments
- Floodplain Data
  - Streams
  - Whole Foot Base Flood Elevation (BFE)
  - Base Flood Elevation (BFE) - Zone A
  - Base Flood Elevation (BFE) - Zone AE
  - Community Boundaries
  - Draft Changes Since Last FIRM
  - Special Flood Hazard Area
  - Advisory Floodplains

- BLE Data
  - Base Flood Elevation (BFE) 10-14-2019
  - Streams
  - Advisory Floodplains
  - Draft Changes Since Last FIRM 10-14-2019
  - Draft BLE Floodplains 10-14-2018

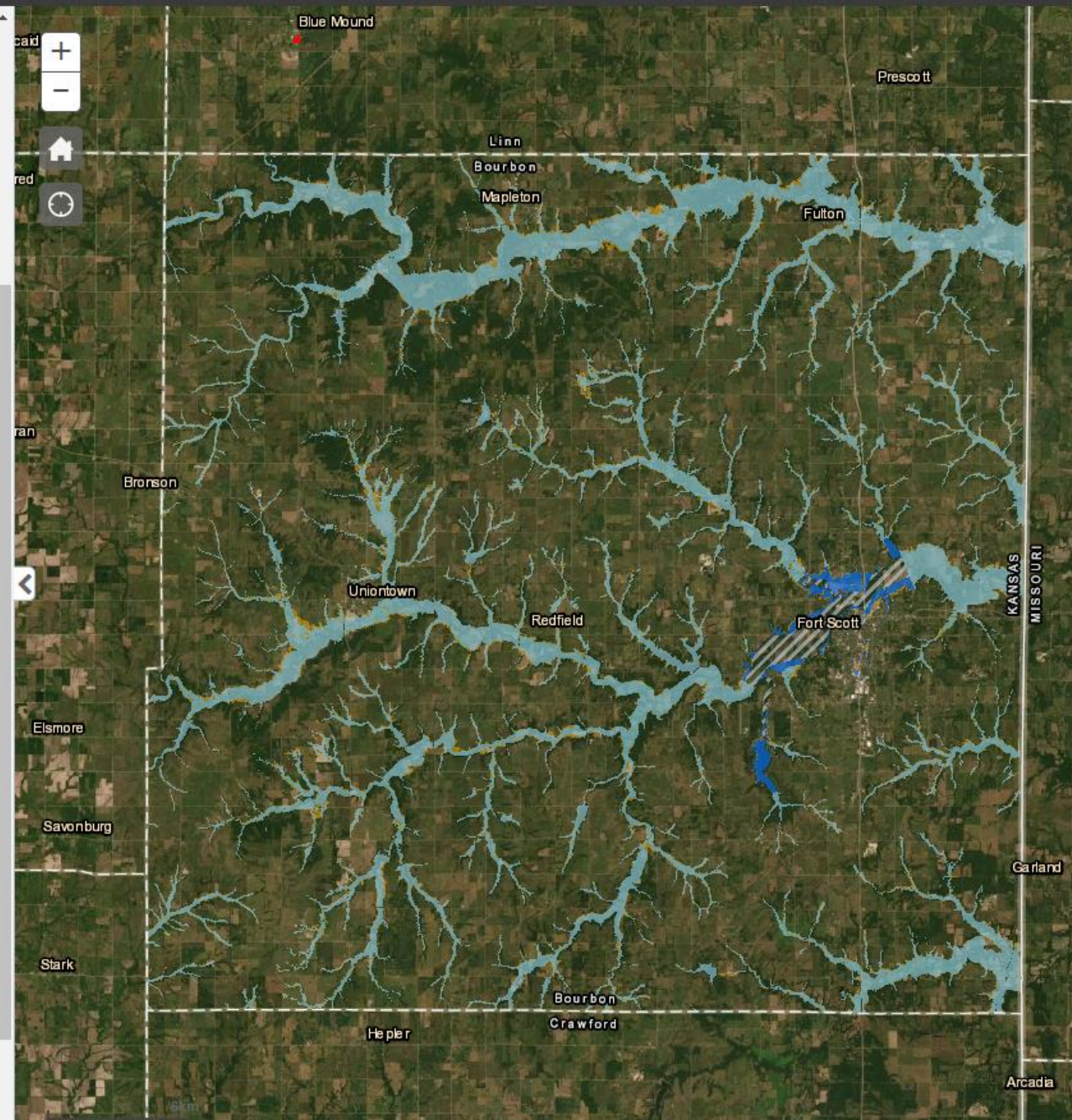
- Current Effective Floodplain Data
- NG911

Editor

Leave Comment

Draw

Measurement



# Your Map Review



Recent construction (e.g., a new building development that incorporated fill or changes to roadways, bridges, or culverts)



High Water Marks showing past flooding impacts



Floodplain boundaries that align with your experience of large-scale flooding



Model stream extents (where floodplains begin and end)



Political boundaries, especially if there is a recent annexation



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***IMPORTANT STEP:*** All community comments will be addressed/reviewed before doing a public review



# Your Residents Also Have the Opportunity to Review the Draft Data

- Can review and comment online, using same Review Web Map
- Will run for at least 30 days
- We will also hold an Open House
  - Typically consists of computer stations where public can discuss draft floodplains with KDA, engineers, mapping experts, and insurance specialists
- We'll need your help notifying your residents and finding location
- Tentatively scheduled for November 2022





# Open Discussion

**Zoom attendants unmute  
your phones and let's talk  
about this.**

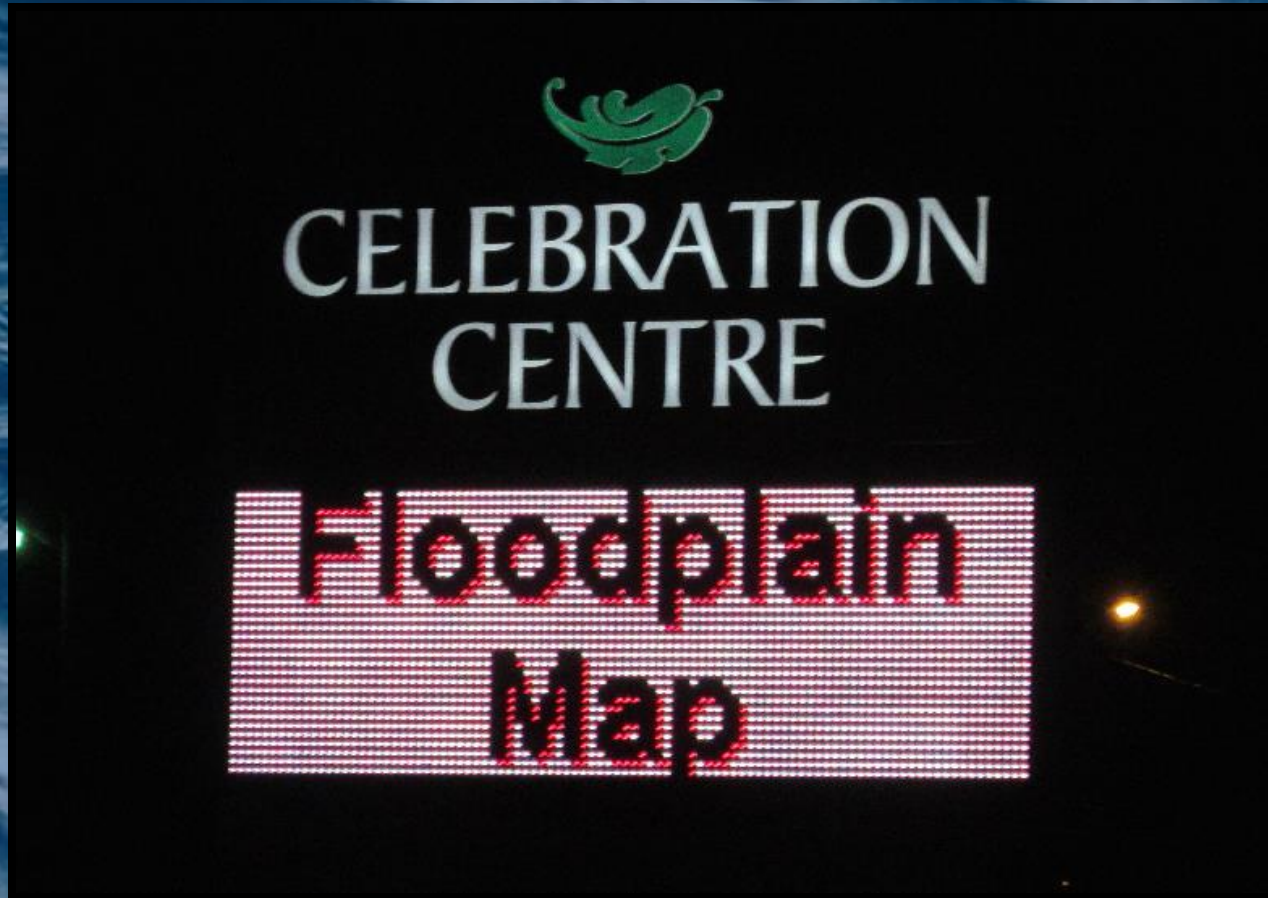
## **Our questions:**

- What location should we hold the Open House?
- Could you help promote an Open House?
- If so, how would you do that? Social media? Newsletters? Website posting? Direct mail?

***What are your questions?  
We know you have some...***



# Next Steps



# Timeline Review

- Your Review
  - Please get comments in by August 15, 2022
- Public Open House
  - Estimated: November 2022
- Preliminary Map Distribution
  - Estimated: April 2023
- Preliminary DFIRM Community Coordination Meeting
  - Estimated: May 2023
- Appeal Period
  - Estimated: August-November 2023
- Letter of Final Determination
  - Estimated: February 2024
- Effective Maps
  - Estimated: August 2024

Where we still have flexibility to change the data

Where you have to follow a more formal process (with higher effort) to request any changes to the data

# Your Next Steps

**Review your community's maps and comment on areas of concern AND/OR areas that look right.**

*There are a few ways to do this:*



**Lead the public outreach for your community**

We can help you target who most needs to know;  
but will need your help to lead the outreach effort

***Let us know if you need help or have any remaining questions!***



# Key Take-aways

*Floodplain Mapping Projects take time*

*Your involvement in this process will result in better flood information for your community*

*Get it right before Preliminary!*

***DON'T HESITATE TO CALL,  
WE ARE HERE TO HELP***



*Where to go for...*

INFEQ





# Online Project Information

- **Project Website**
  - <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/osage-custom-watershed>
  - Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- **Web Review Map**
  - <https://gis2.kda.ks.gov/gis/bourbon/>
  - Draft Floodplain Review
- **Story Maps**
  - Project Info
  - “Floodplain Current”: Mapping Process ‘Nuts and Bolts’

# Base Flood Elevation Portal



## Kansas Base Flood Elevation Portal

[Home](#)

[About](#)

[Help](#)

### Portal Registration

First Name

Last Name

User name

Title

Phone

Email Address

Address

City

Zip

State

[Register](#)

**For Zone A floodplains, you can request BFE Data. Keep in mind that the data is still subject to change.**

# Contact Information



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# Contact Information



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Regional Project Officer



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***And now...***

*We are going to show you how  
to make comments and review  
your community's map*

***Any questions first?***