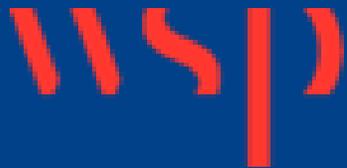




**FEMA**



# Ellsworth County

*Floodplain Mapping Project  
Data Development Kickoff Meeting*

*April 12, 2023*

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



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***Your engagement  
in this process is  
important to the  
success of this  
project, so thank  
you for taking the  
time to be here  
today!***



**THANK  
YOU**



# Introductions

## Kansas Department of Agriculture

**Joanna Rohlf, CFM,  
GISP**

*Floodplain Mapping  
Coordinator*

**William Pace, CFM**

*Floodplain Mapping  
Specialist*

**Patrick Bonine**

*Floodplain Mapping  
Specialist*

**Tara Lanzrath, CFM**  
*State NFIP Coordinator*

**Cheyenne Sun Eagle,  
CFM**

*NFIP Specialist*

## FEMA – Region VII

**Dawn Livingston**  
*Regional Project Officer*

## WSP USA Environment & Infrastructure Inc.

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

**Erika Stanley**  
*Sr. GIS Analyst*





## Today's Goals

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*Share details on the mapping project*

*Get initial feedback on modeling methods*

*Review future steps*

# *Background*

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# Background

- Middle Smoky Hill Custom Watershed BLE Project
  - *Kick-off Meeting: November 2020*
  - *Discovery Meetings and BLE Review: May 2021*

## Discovery Report

Middle Smoky Hill Custom Watershed  
HUCS 10260006, 10260007

Cities of Brownell, Bunker Hill, Collyer, Dorrance, Ellis, Ellsworth, Galatia, Gorham, Grainfield, Grinnell, Hays, Kanopolis, Liebenthal, McCracken, Park, Russell, Schoenchen, Susank, Victoria, WaKeeney, Wilson

Barton, Ellis, Ellsworth, Gove, Lincoln, Ness, Rush, Russell, Sheridan, Trego Counties

Report Number 01  
May 2021



# Background

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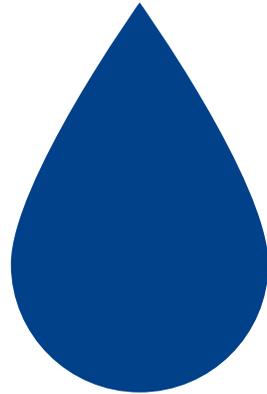
- Current Effective Mapping for Ellsworth County is dated August 10, 2021.
  - Only a portion of the county was updated.
  - The update incorporated modeling from the Cow Watershed and the Lower Smoky Hill Watershed Flood Risk Projects.
- It was determined that updated modeling and mapping for the portion of Ellsworth County in the Middle Smoky Hill Watershed using newer Lidar and 2D modeling techniques, would be beneficial.

# *Review of the Work Ahead and How We Propose Doing It*

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# Definitions

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**Hydrology**  
*How Much Water?*



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





## ***Model Enhancements***

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- Enhancements will be made to the BLE modeling that was performed.
  - Lidar, flown in 2018, will be used.
  - Comments made will be used to enhance the modeling.
  - Additional review/refinement of mesh will be done to improve accuracy of modeling.
  - Enhanced Zone A and Zone AE with Floodway on selected streams will include field measured structure data, as-built survey plans, and additional landuse refinements.



## ***Model Enhancements***

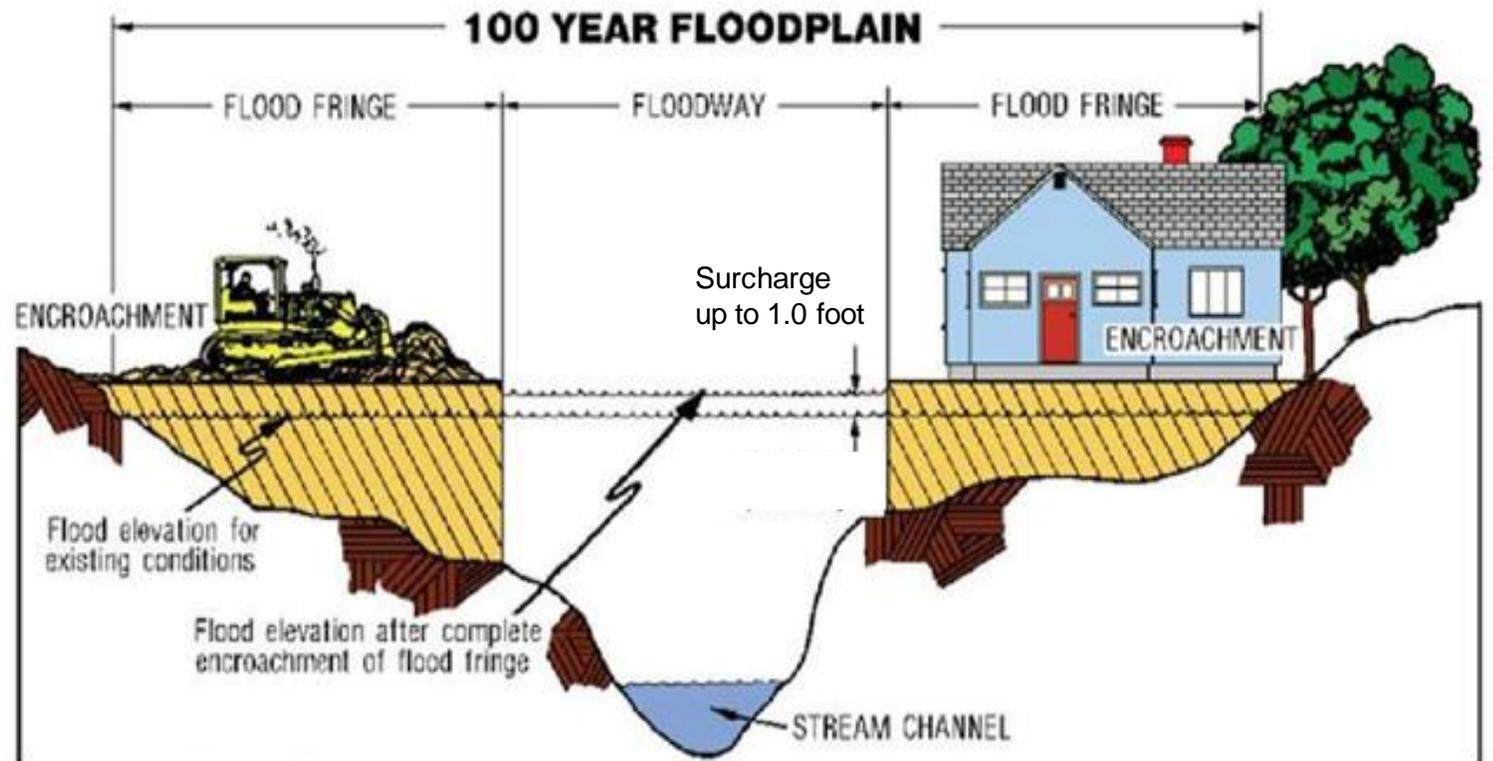
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- The hydrology is built into the RAS modeling platform using excess rain-on-mesh modeling.
- HEC-RAS calculates the excess rainfall from an initial abstraction based on NRCS Curve Number methodology.
- Details added to 2D mesh as needed.
- Add detail to significant flood control dams as needed.
- Model flows will be compared to Kansas regression flows and gage (where available) for validation and calibration.



*A portion of the Zone AE modeling includes the development of a floodway*

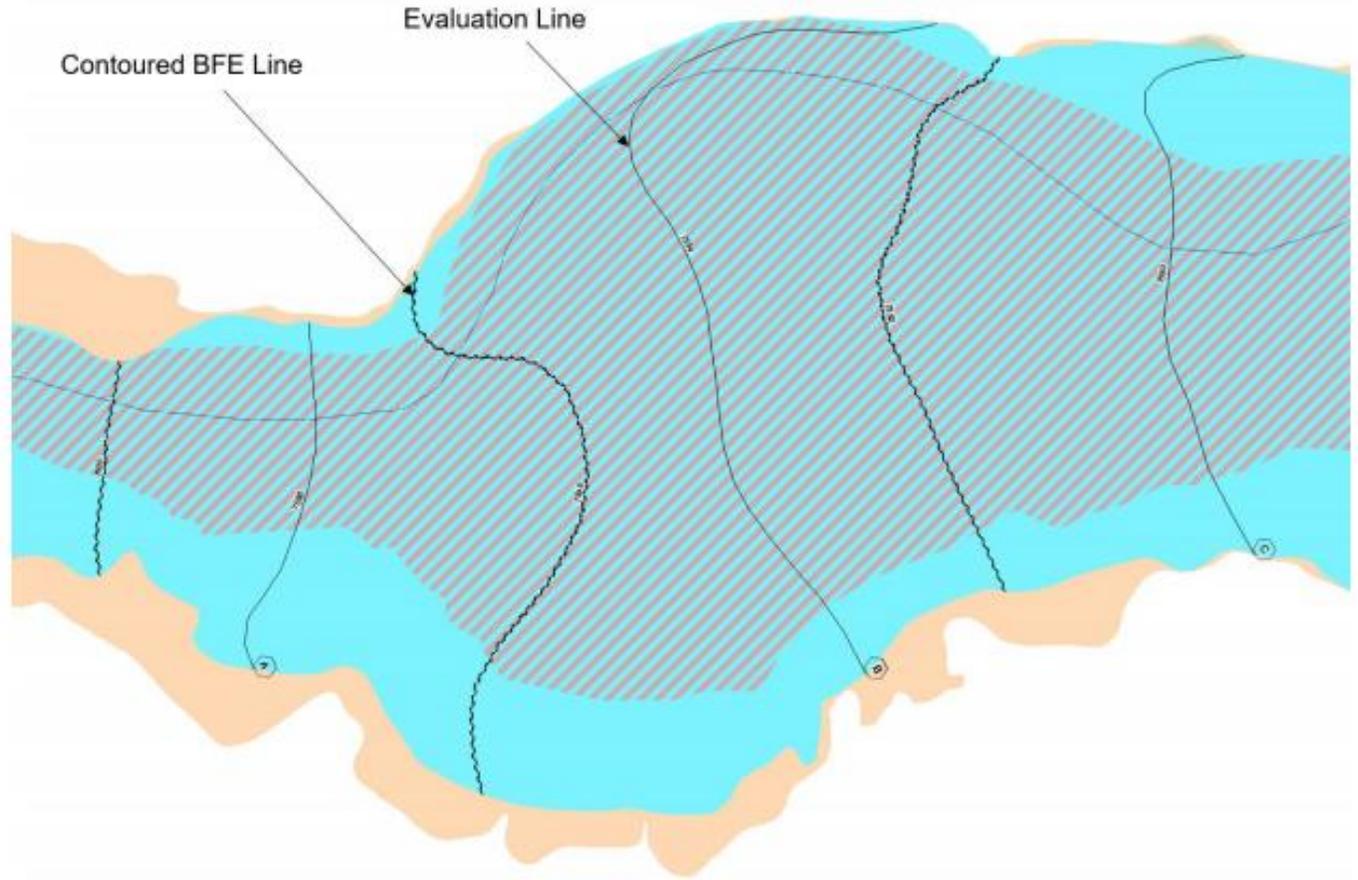
A Floodway is the area within the floodplain that must be reserved in order to discharge the base flood without cumulatively increasing the WSE by more than 1.0 foot.





# *2D Floodways will be developed*

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There are 0 levees in the project area.

# Levees

A screenshot of the National Levee Database web application. The interface includes a navigation bar at the top with links for HOME, ADVANCED SEARCH, DASHBOARD, MAP, and EXPLORE. Below the navigation bar is a search bar with the text "Start a new search". The main content area is divided into a left sidebar and a right map area. The sidebar contains filter sections: "Levee Filter List" with "ADD FILTERS" and "UPDATE RESULTS" buttons; "Location" with "Applied" status, radio buttons for "By Geography" (selected) and "By Proximity", and a dropdown menu for "County State" set to "Ellsworth"; "Systems : System Name" with a search input field; and "Segments : Authorization Category" with checkboxes for "USACE Federally Constructed and USACE Federally Operated", "USACE Federally constructed, turned over to public sponsor for operations and maintenance", "Locally Constructed, Locally Operated and Maintained", "Other Federal Agency", and "Deauthorized". Below these are "Segments : Interested Federal Agency" with a checkbox for "U.S. Army Corps of Engineers". The map area shows a topographic map of Ellsworth County, Kansas, with a grid overlay. A "SHOW LIST" button and "Layer Controls" are visible at the top of the map. The map shows various geographical features like Wilson State Park, Kanopolis State Park, and several creeks. A scale bar at the bottom left indicates 5 miles. The coordinates 38.489070, -98.258200 are shown at the bottom right.

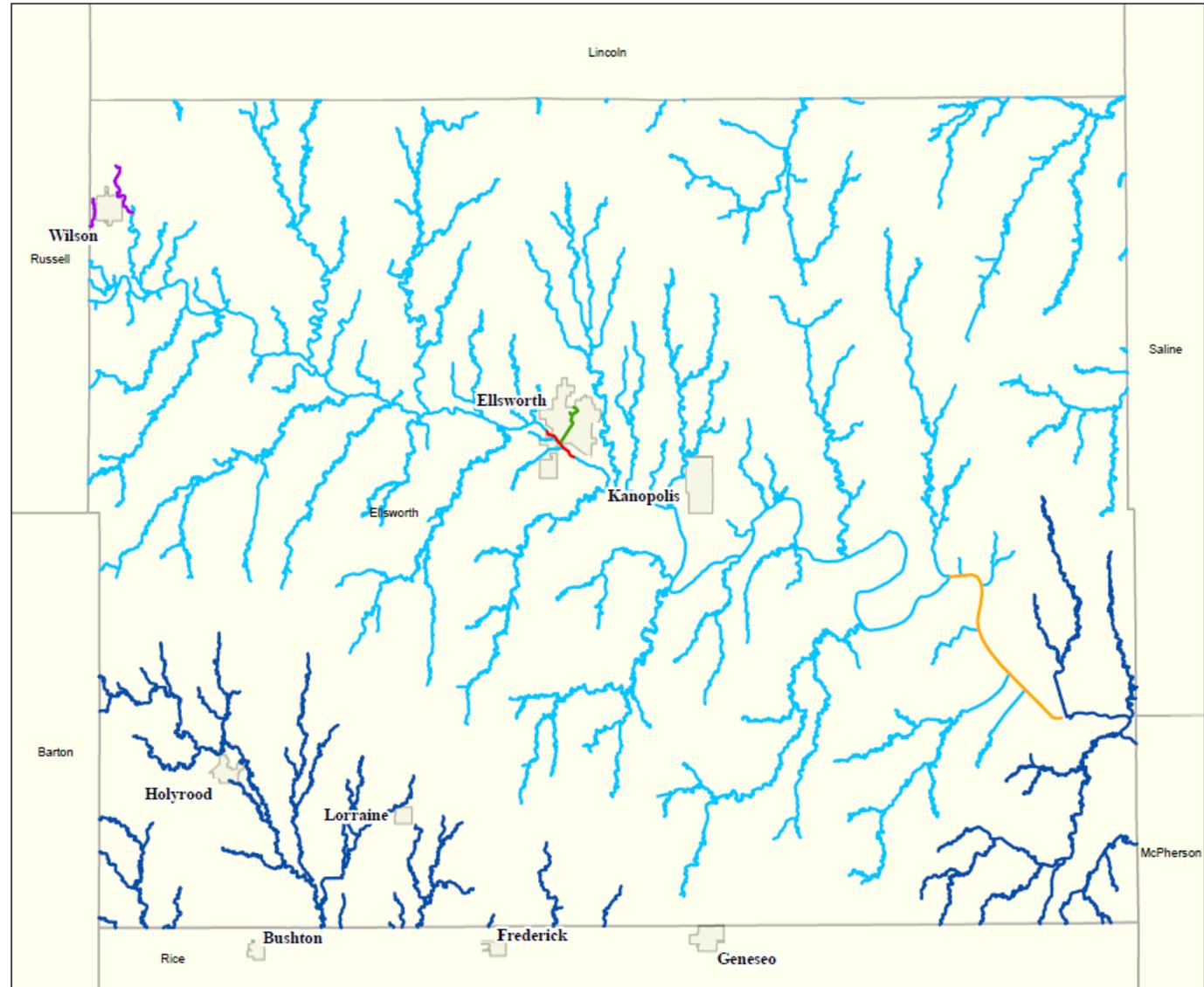
# *Data Development Scope*

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# Ellsworth County 2023 Proposed 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 2D Hec-Ras hydraulics.
- **New Zone AE with Floodway - Gage**  
 New Zone AE studies will be developed for these streams using 2D Hec-Ras hydraulics and hydrology calibrated to Gage model flows. Floodways will be developed. Field measured structure data will be incorporated into the modeling. BFEs will be shown on the maps.
- **New Zone AE with Floodway**  
 New Zone AE studies will be developed for these streams using 2D Hec-Ras hydraulics and hydrology. Floodways will be developed. Field measured structure data will be incorporated into the modeling. BFEs will be shown on the maps.
- **New Static AE - Statistical Analysis**  
 New Static Zone AE studies will be developed for these streams using statistical analysis to determine static water surface elevations.
- **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. BFEs will not be shown on the map.
- **Existing Studies - Will not be revised**



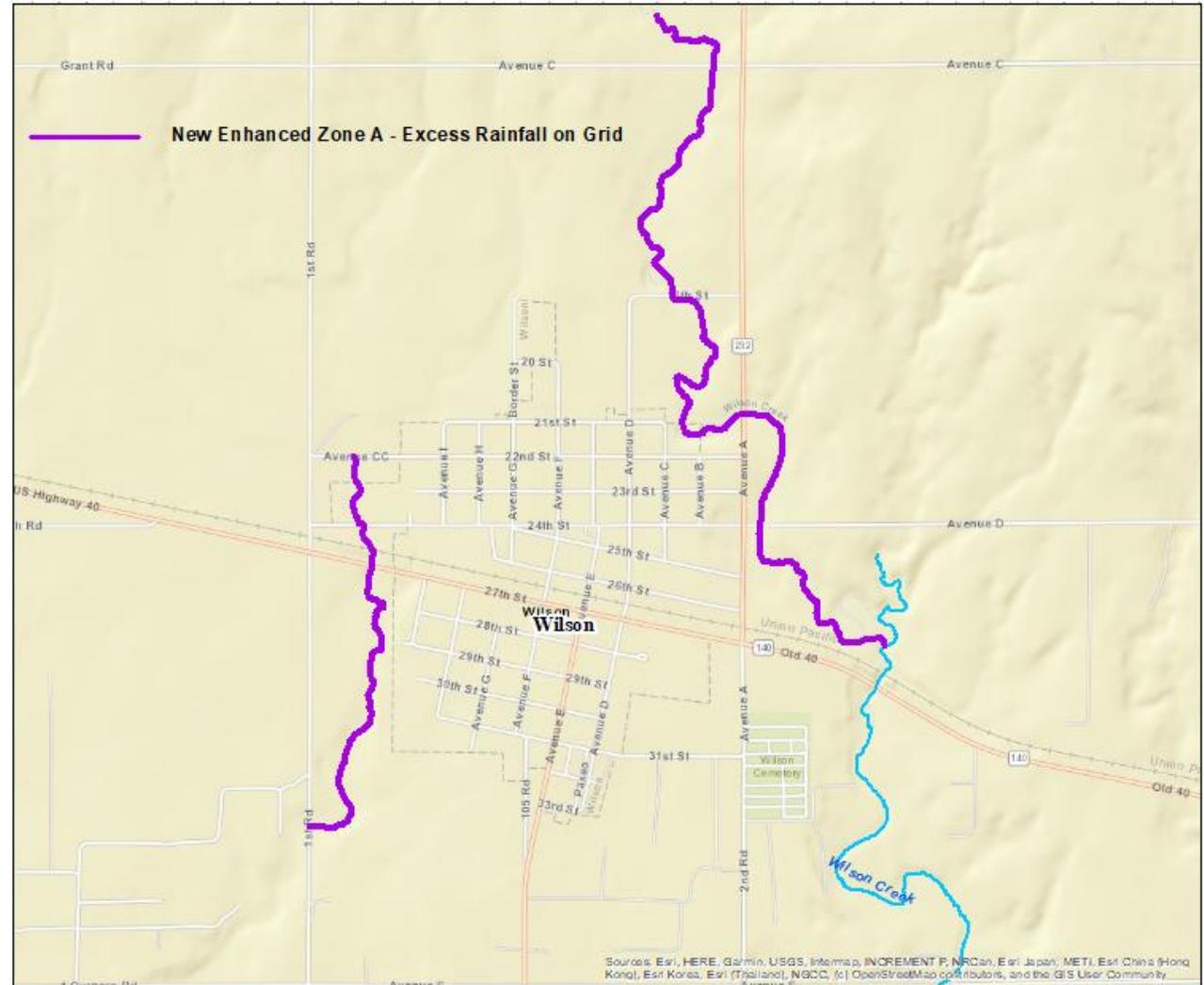






# New Enhanced Zone A

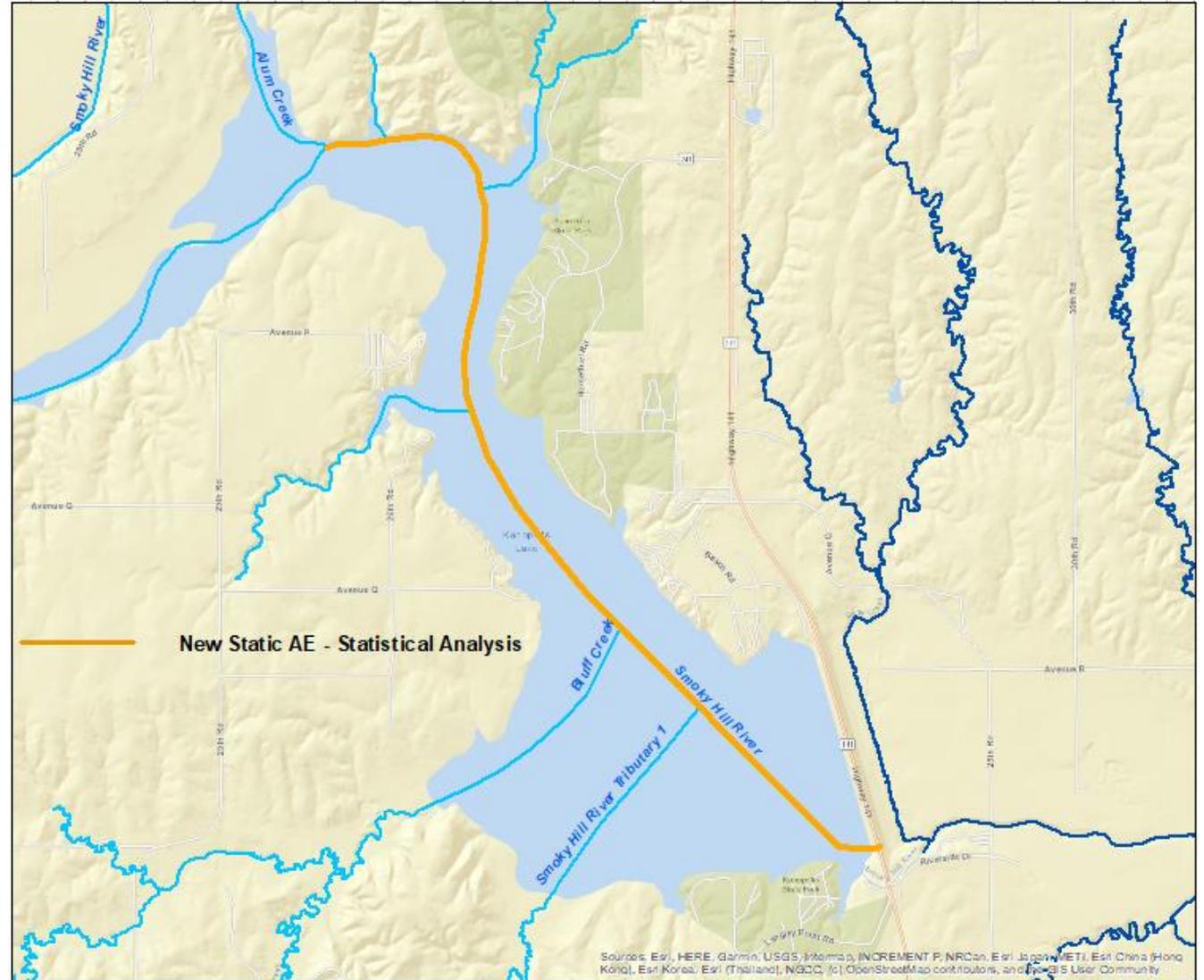
- Wilson:
  - Wilson Creek
  - Smoky Hill River Tributary 29





# New Static Zone AE

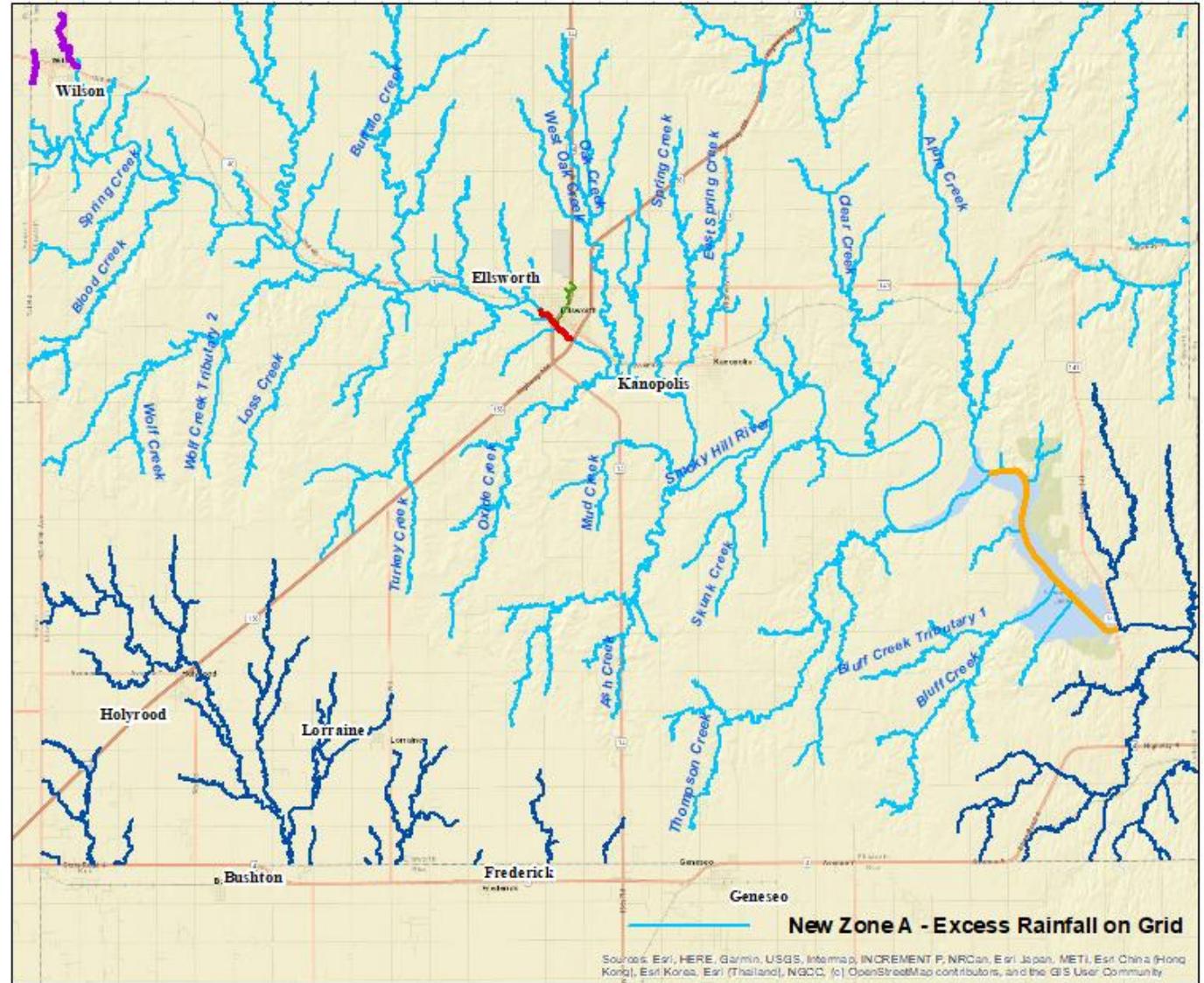
- Kanopolis:
  - Smoky Hill River





# New Zone A

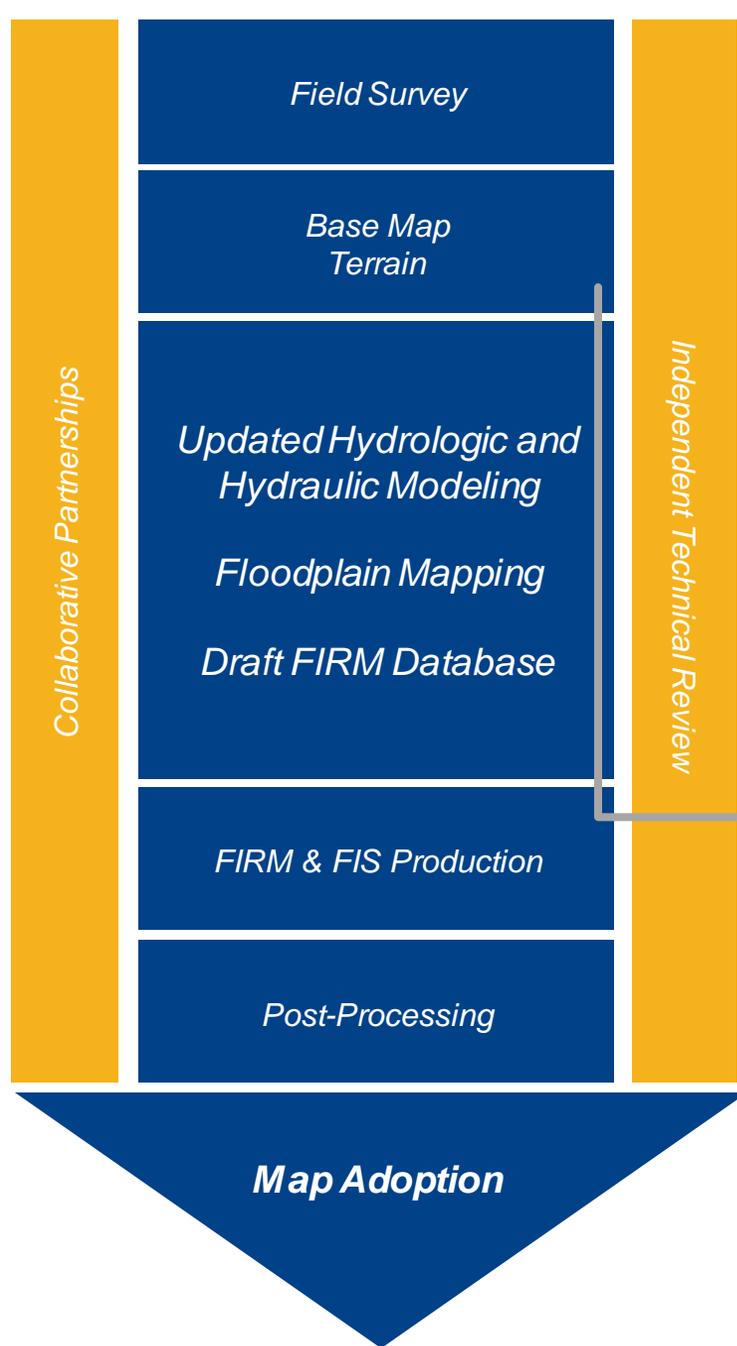
- Ellsworth County



# *Next Steps*

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Data  
Development



## Project Tasks

1. Field Survey
2. Base Map and Topography Preparation
3. Hydrologic and Hydraulic Modeling
4. Floodplain Mapping
5. DFIRM and FIS Production
6. Post-Preliminary

We are about to begin  
the modeling task



## ***Our Next Steps:***

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- We will complete the engineering analysis previously described.
- Several rounds of reviews will be completed.
- We will develop your draft regulatory floodplain maps.
  - Also known as your Flood Insurance Rate Map (FIRM)
- We will develop your draft Flood Insurance Study (FIS).
- We will have a community review period and a public review period

# Project Timeline



A horizontal timeline bar with three vertical tick marks. Below the bar, three columns of text describe the project stages. The first column is under the first tick mark, the second under the second, and the third under the third. A yellow horizontal bar is located above the first tick mark.

**Kick-off Meeting and Initial Community Feedback:**  
[TODAY!]

**Data Development Work:**  
[Now until the Summer of 2024]

- *Base Map*
- *Topographic Data*
- *Field Survey*
- *Develop Hydrologic and Hydraulic Models*
- *Floodplain Mapping*

**Flood Risk Review Meeting:**

[~March 2024]

- Your **review** and **feedback** on the draft maps

## Project Timeline, continued

Community  
**comments will  
be addressed**

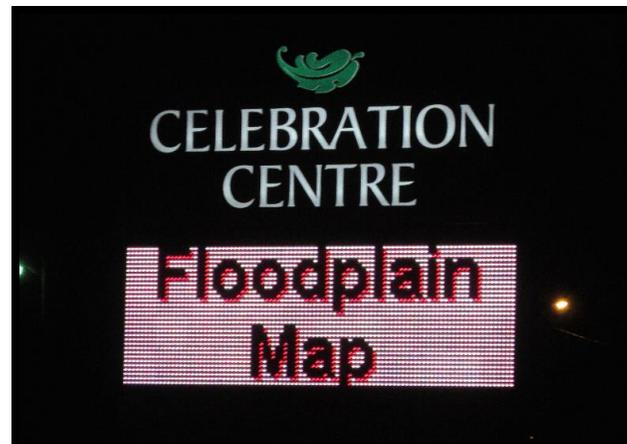
**Public review of  
the draft maps**

- *Includes Public  
Open House*

**Preliminary Map  
Products**

- *Preliminary DFIRM  
Community  
Coordination Meeting*

**Post-  
Preliminary  
Processing**





## *Key Takeaways*

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*Floodplain Mapping Projects take time*

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

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

# *Resources*

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# Online Project Information

## Project Website

- Scoping Maps, Project Timeline, Meeting Presentations, Newsletters, Technical Reports, Web Review Map
- <https://agriculture.ks.gov/divisions-programs/dwr/floodplain/mapping/mapping-projects/lists/mapping-projects/middle-smoky-hill-custom-watershed>

## Web Review Map: <https://gis2.kda.ks.gov/gis/ellsworth/>

- Provide comments on areas impacted by past floods, community needs, etc.
- Review of floodplain data

## Story Maps

- Project Info
- “Floodplain Current”: Mapping Process ‘Nuts and Bolts’

***Any Questions?***

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