



**ILLINOIS**

Illinois State Water Survey

**PRAIRIE RESEARCH INSTITUTE**

# Henry, Whiteside and Lee Counties, Illinois

## FEMA Risk MAP Project Initiation Community Coordination Call

November 17, 2023

<https://www.kwqc.com/>

**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE



**FEMA**

# Agenda

---

Rollcall

---

Introduction

---

Project Objectives and Goals

---

National Flood Insurance Program

---

Terminology

---

Project Scope

---

Data Development

---

Communication & Outreach

---

Schedule

---

Community Participation

# Roll Call

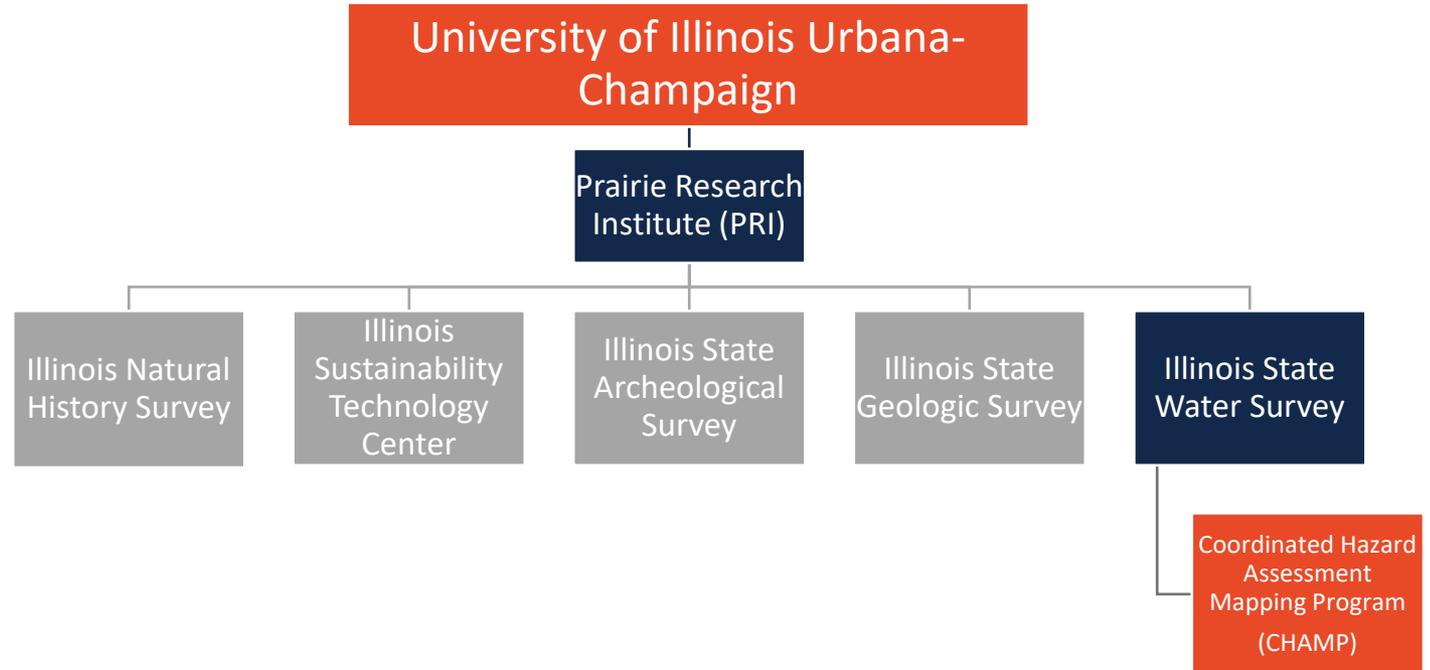
- Henry County\*
  - City of Colona
- Whiteside County \*
  - Village of Deer Grove+
- Lee County \*
- Other Agencies
- FEMA
- IDNR-OWR
- IEMA
- Bi-State Regional Planning Commission

- \*Participates in the National Flood Insurance Program (NFIP)
- + Participated in Multi-Jurisdictional All Hazards Mitigation Plan 2019

# Introduction

# Introduction

## Who We Are



**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE

<https://www.illinoisfloodmaps.org/>

<https://www.isws.illinois.edu/champ>

# Introduction

## Our Partners

### FEMA

ISWS is a Cooperating Technical Partner (CTP) with the Federal Emergency Management Agency. (FEMA)



The Cooperating  
Technical Partners (CTP)  
Program

### IDNR-OWR

ISWS partners with The Illinois Department of Natural Resources-Office of Water Resources (IDNR-OWR). Together we prioritize Illinois floodplain studies and mapping projects.



### Your Community

ISWS provides ongoing engagement with state and local officials and watershed stakeholders to reduce flood risk.

**I ILLINOIS**

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

# Introduction

## What We Do

### PRODUCE FLOOD STUDIES



## FLOOD INSURANCE STUDY

**WINNEBAGO COUNTY, ILLINOIS AND INCORPORATED AREAS**

Volume 1 of 2

COMMUNITY NAME	COMMUNITY NUMBER
CHERRY VALLEY, VILLAGE OF	170721
DURAND, VILLAGE OF	170789
LOUIS PARK, CITY OF	170722
MACHESNEY PARK, VILLAGE OF	171009
NEW MILFORD, VILLAGE OF	175182
PECATONICA, VILLAGE OF	170787
ROCKFORD, CITY OF	170523
ROCKTON, VILLAGE OF	170774
ROSDALE, VILLAGE OF	170724
SOUTH BELLEVUE, CITY OF	170725
WINNEBAGO COUNTY (UNINCORPORATED AREAS)	170720
WINNEBAGO, VILLAGE OF	175183

Winnebago County



\*NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

REVISED: FEBRUARY 17, 2016



### Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER  
17201CV001B

### GENERATE FLOODPLAIN MAPS

#### National Flood Hazard Layer FIRMette



**Legend**

SEE THIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR THESE PANEL LOCATIONS

**SPECIAL FLOOD HAZARD AREAS**

- Without Special Flood Elevation (SFE) WITH SFE or Depth
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**

- 0.2% Annual Chance Flood Hazard Areas of 2m Annual Chance Flood with average depth less than one foot or with drainage areas of less than one square mile
- Areas designated as Annual Chance Flood Hazard
- Area with Modified Flood Risk due to Levees
- Area with Flood Risk due to Levees

**OTHER AREAS**

- Area of Minimal Flood Hazard
- Effective Levees
- Area of Undetermined Flood Hazard

**OTHER AREAS**

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**GENERAL STRUCTURES**

- Cross Sections with 2m Annual Chance Water Surface Elevation
- Culvert
- Base Flood Elevation Line (BFE)
- Levee
- Jurisdiction Boundary
- Culvert
- Cross Section Baseline

**OTHER FEATURES**

- Profile Baseline
- Hydrographic Feature

**MAP PANELS**

- Digital Data Available
- No Digital Data Available
- Unmapped

This map complies with FEMA's standards for the use of digital flood maps if it is not used as described below. This basemap complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFPA web services provided by FEMA. This map was prepared as of 10/13/2016 and does not reflect changes or amendments subsequent to this date and time. The NFPA and effective information may change or become superseded by new data over time.

This map image is void if the use or reuse of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifier, FEMA panel number, and FEMA effective date. Map images for unmapped and undetermined areas cannot be used for regulatory purposes.

Basemap: 10000 National Map, Orthorectified, Data as of 06/01/2016

# Introduction

## How We Are Funded

**I ILLINOIS**

Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE



FEMA administers the National Flood Insurance Program (NFIP).



The Risk Mapping, Assessment, and Planning (Risk MAP) Program is the FEMA process used to implement NFIP floodplain studies and mapping projects.



## The Cooperating Technical Partners (CTP) Program

FEMA provides grants to Cooperating Technical Partners to complete Risk MAP work.

# Introduction

**INFORM RESIDENTS AND COMMUNITIES** about flood hazards in their communities.

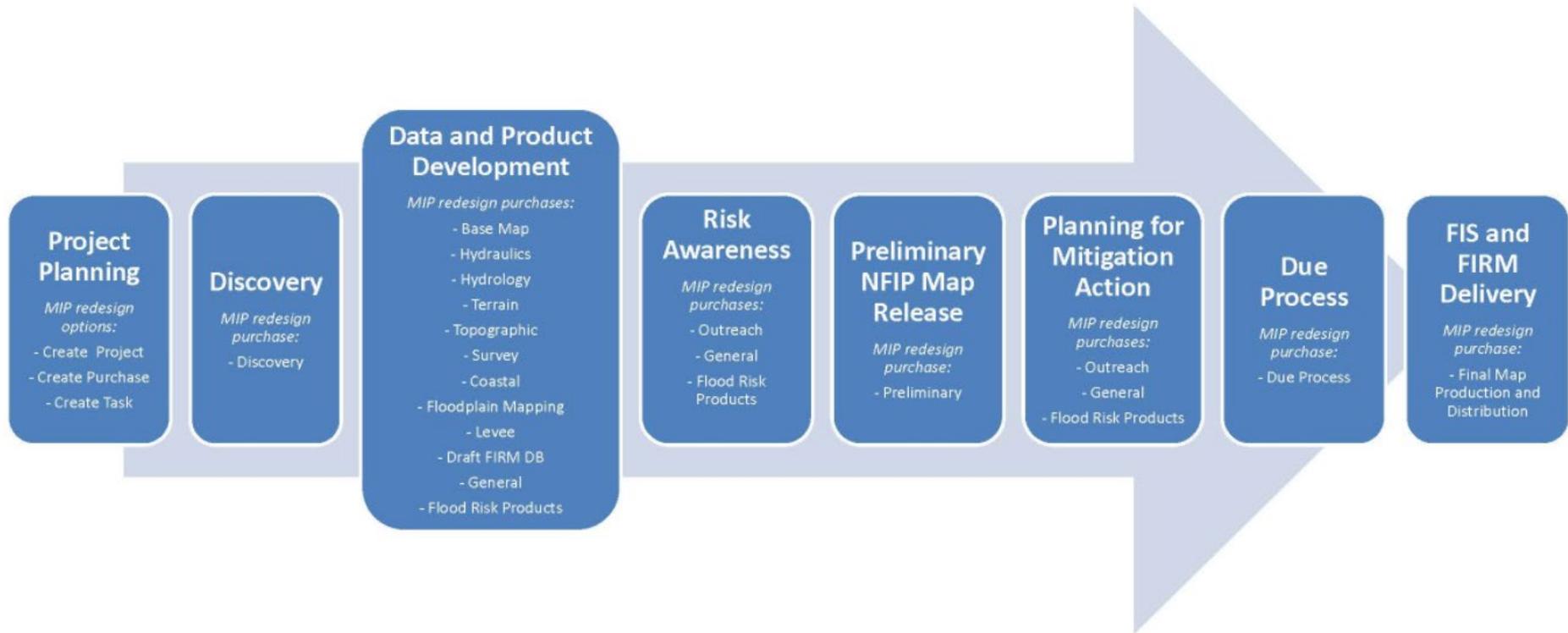
What We Do



**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE

# Project Objectives and Goals

# FEMA National Objectives and Goals





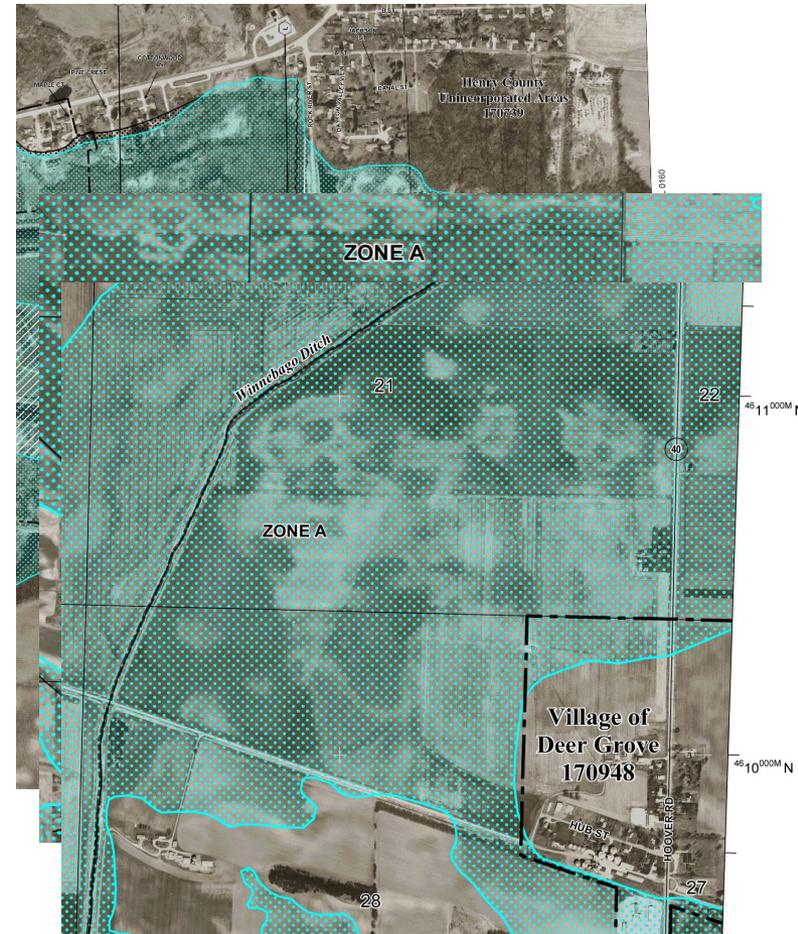
# Update Flood Risk Data and Maps

## Effective Digital FIRM Dates

Henry County: June 2, 2011

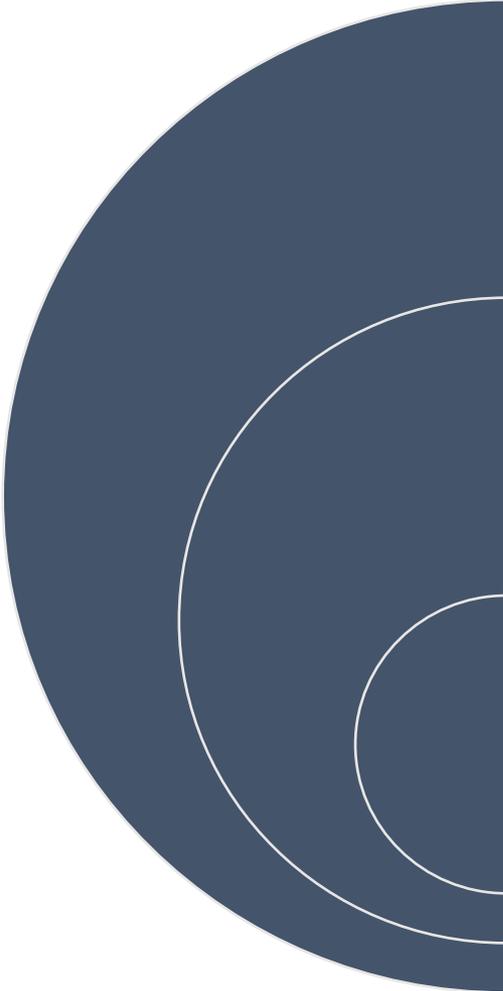
Lee County: April 5, 2010 and  
August 17, 2016

Whiteside: February 18, 2011  
and February 17, 2017



# National Flood Insurance Program

# National Flood Insurance Program



The NFIP is a voluntary program based on a mutual agreement between the Federal government and a community.

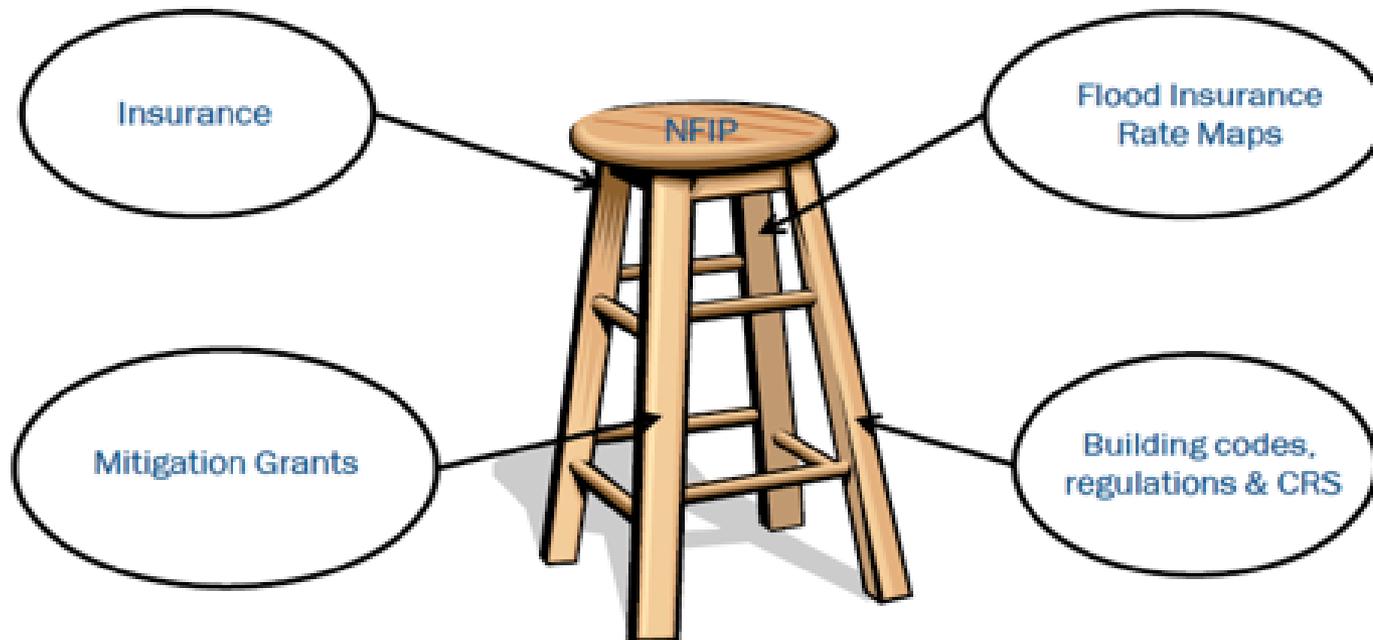
In exchange for adopting and enforcing a floodplain management ordinance, Federally-backed flood insurance is made available to property owners throughout the community.

**Erin Conley, NFIP State Coordinator**

[erin.c.conley@Illinois.gov](mailto:erin.c.conley@Illinois.gov)

# National Flood Insurance Program

## Three +1 Related Program Areas



# NFIP Participating Communities

<https://www.fema.gov/cis> downloaded 10/25/2023

Community	CRS Status	CAC Date	CAV Date	No. Flood Policies	Total Coverage, \$	Total Claims Since 1978	Total Paid Since 1978, \$	Rep Loss Structures
City of Colona	NP	--	04/05/2017	54	6,465,000	17	92,070	3
Henry County Unincorporated Areas	NP	03/30/2011	02/10/2000	23	5,302,000	104	644,466	39
Village of Deer Grove	NA							
Whiteside County Unincorporated Areas	8	09/12/1996	02/29/2016	123	24,156,000	196	1,420,537	45
Lee County Unincorporated Areas	NP	03/30/2011	03/11/1998	53	9,575,000	90	474,164	25

NP do not participate in CRS

# Terminology

# What is a Special Flood Hazard Area?

The FEMA Special Flood Hazard Area (SFHA) zone type designation is related to the method and level of hydraulic analysis performed.

Riverine hydraulic analysis typically results in SFHA designation as Zone A or Zone AE, based on the analysis level deemed appropriate for the study area.

The Base Flood Elevation (BFE) is the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.

<b>Zone A</b>	Areas subject to inundation by the 1-percent-annual-chance flood event. <b>NO Base Flood Elevations are shown.</b>
<b>Zone AE</b>	Areas subject to inundation by the 1-percent-annual-chance flood event. <b>Base Flood Elevations ARE shown.</b>

# What is a Special Flood Hazard Area?

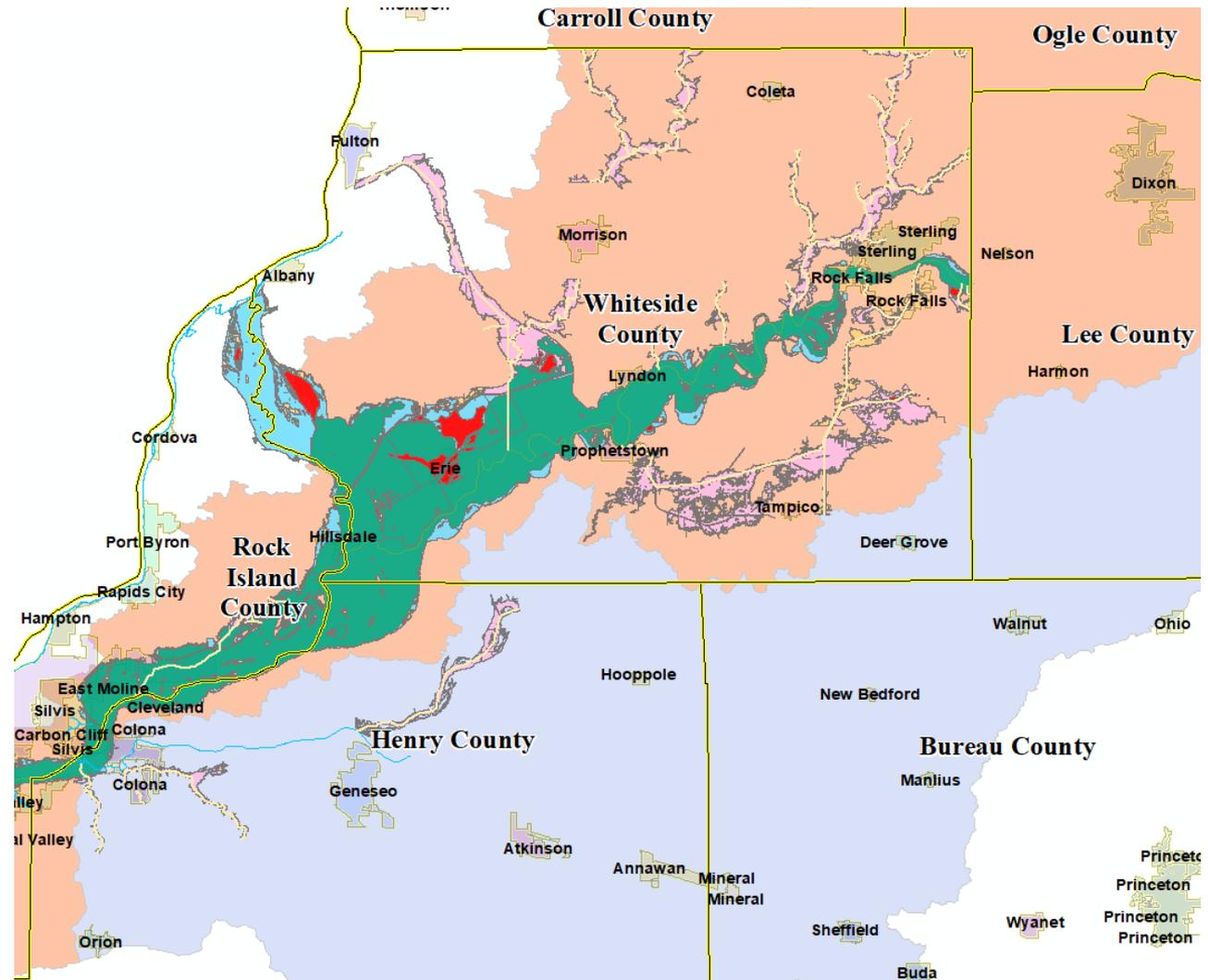


# Project Scope

# Previous Projects – Lower Rock

Virtual Flood Risk Review Meetings in June of 2021

**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE



# Project Scope

## Stream Study Lines

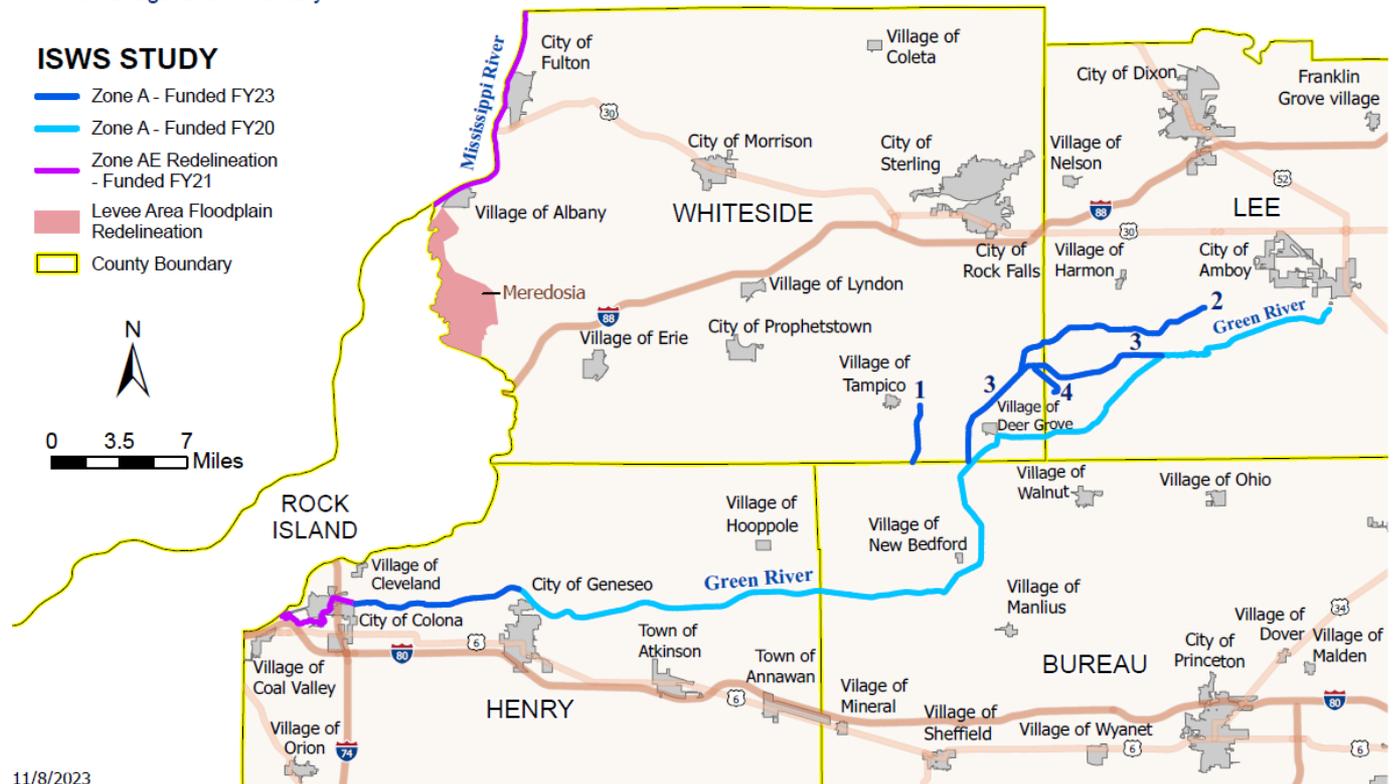
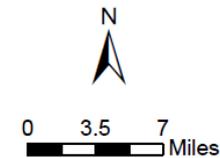
**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE

## Henry, Whiteside, and Lee County Proposed Stream Study

1. Hennepin Feeder Canal
2. Main Ditch
3. Winnebago Ditch
4. Winnebago Ditch Tributary A

### ISWS STUDY

- Zone A - Funded FY23
- Zone A - Funded FY20
- Zone AE Redelineation - Funded FY21
- Levee Area Floodplain Redelineation
- County Boundary

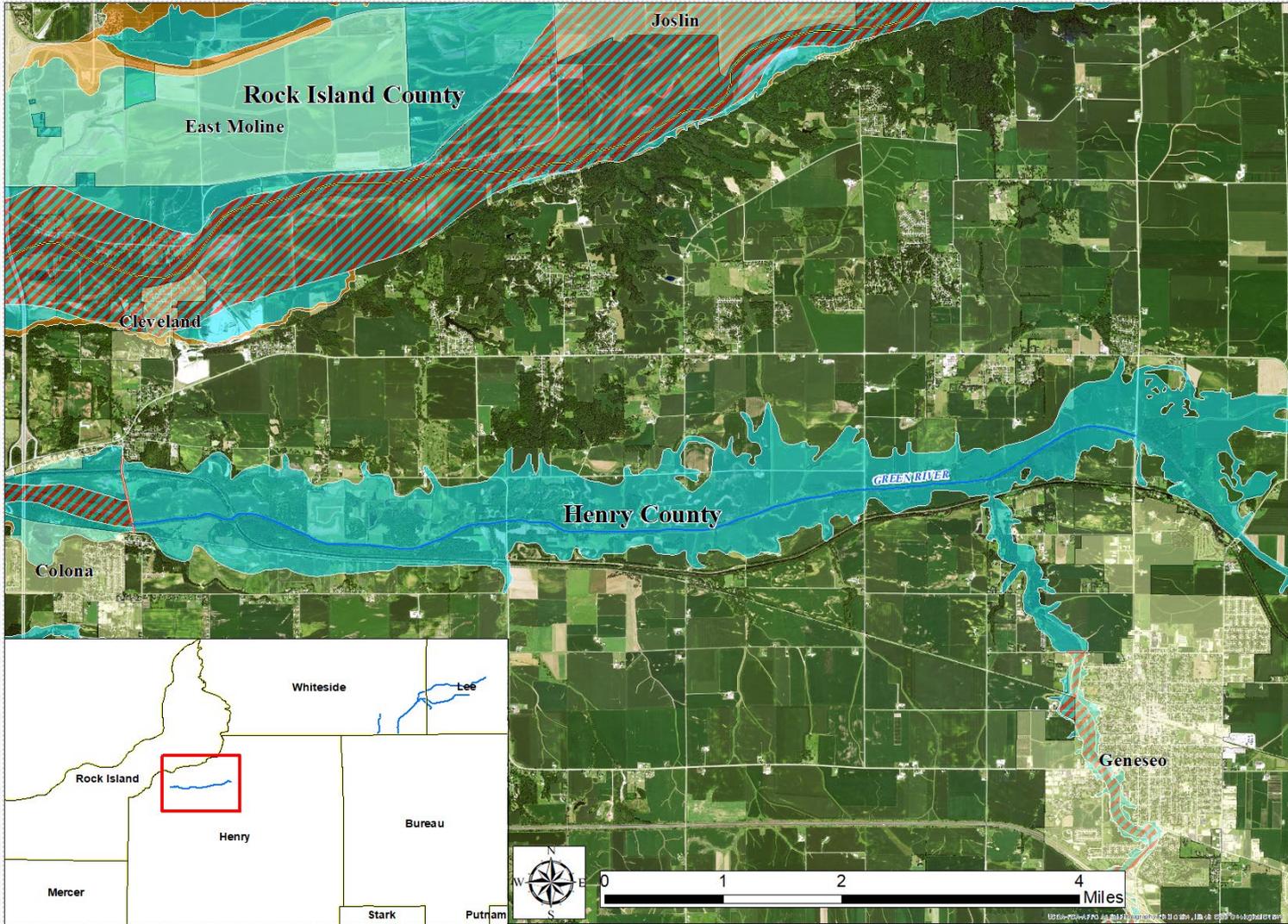


11/8/2023

# Project Scope

Green River  
(Henry  
County)

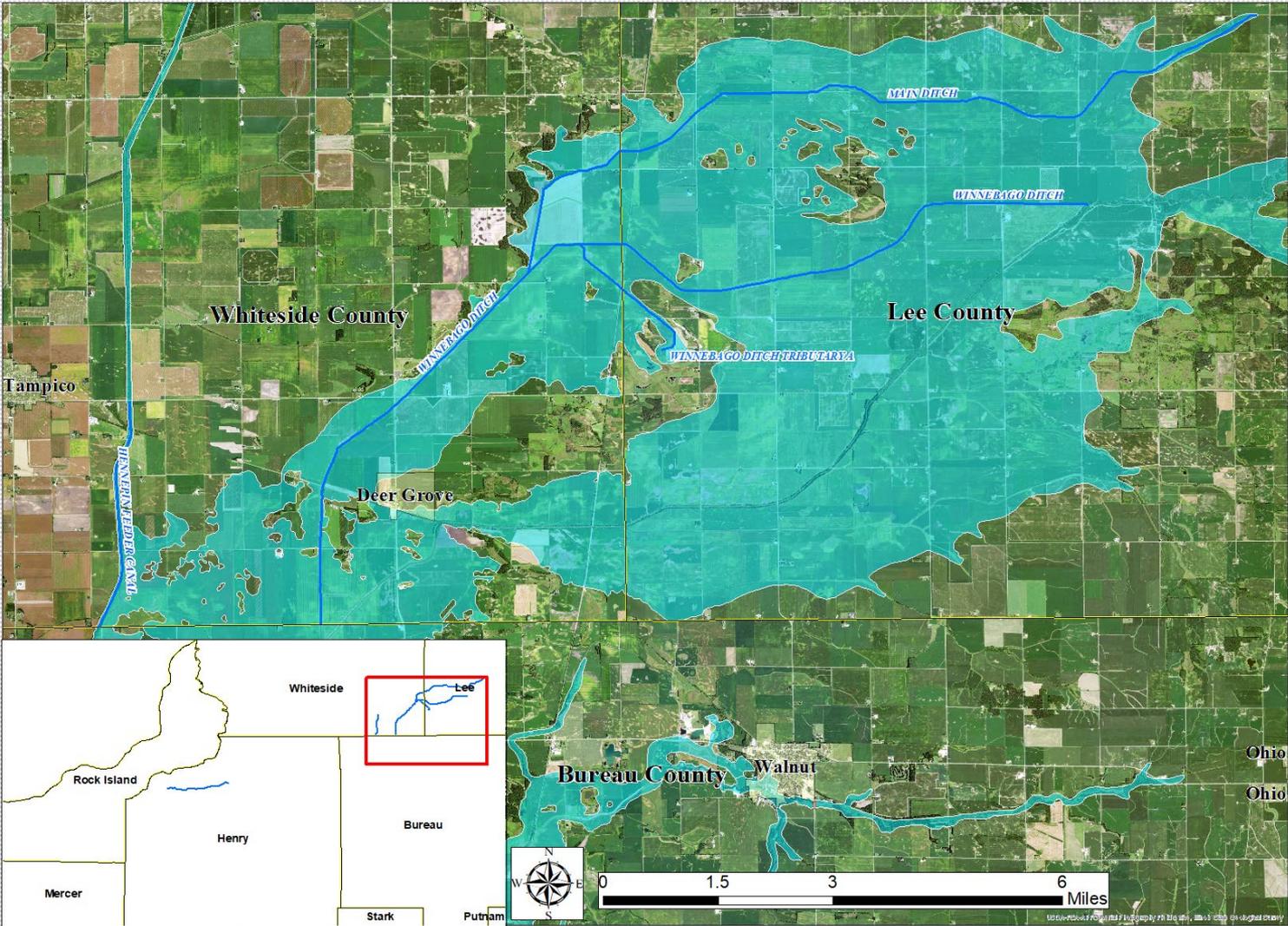
**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE



# Project Scope

Winnebago Ditch  
(Whiteside and Lee County)

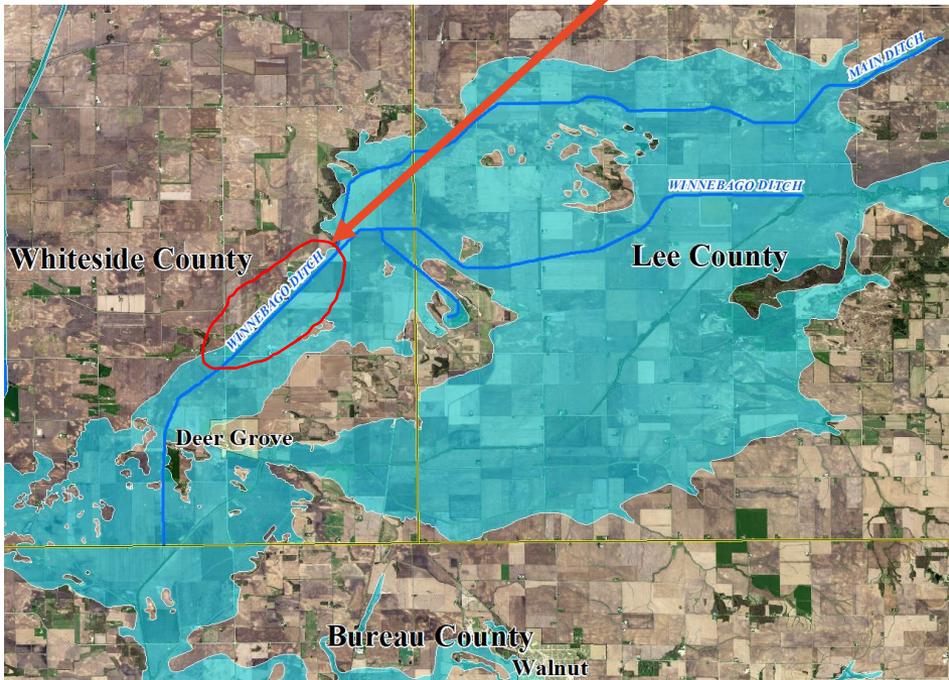
**I ILLINOIS**  
Illinois State Water Survey  
PRAIRIE RESEARCH INSTITUTE



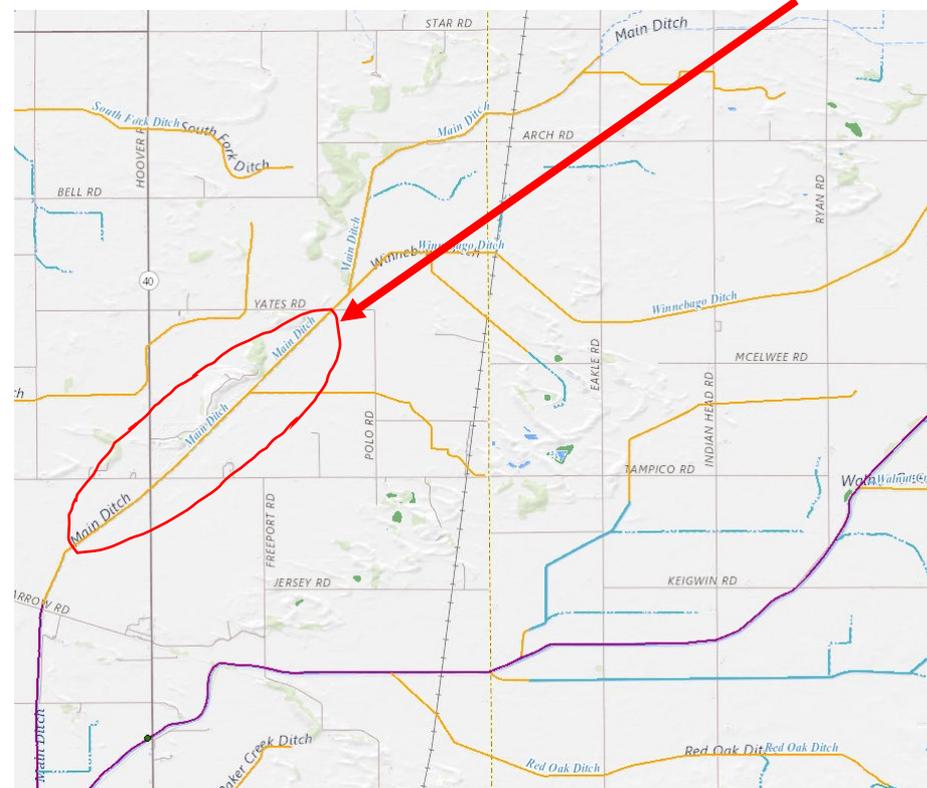
# Project Scope

## Stream Name Discrepancy for Winnebago Ditch and Main Ditch

FEMA Map calls highlighted reach “Winnebago Ditch”



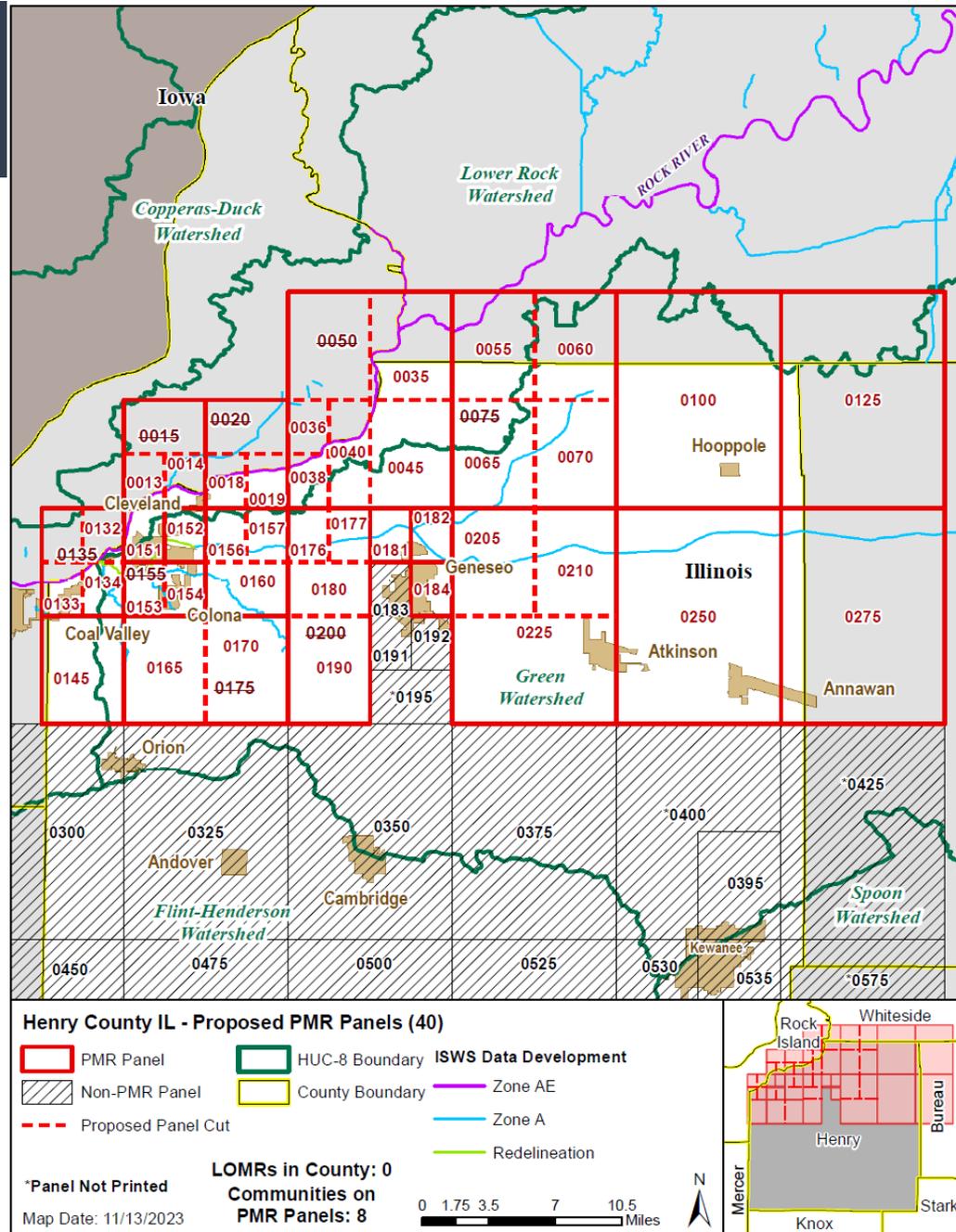
Other National sources call highlighted reach “Main Ditch”



Is there a local preference for this stream name?

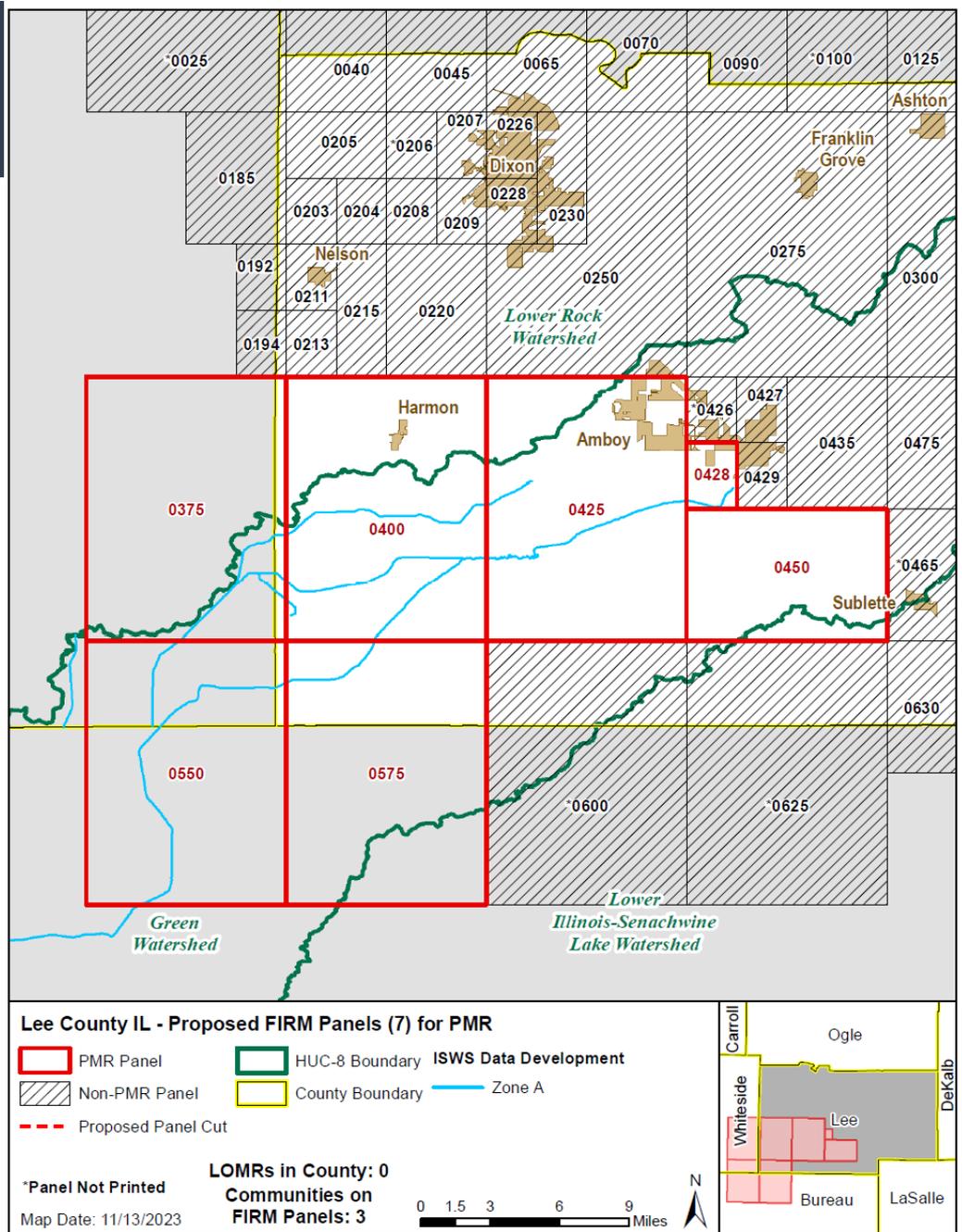
# Henry County

Future Regulatory Mapping Project:  
 - Partial County Physical Map Revision (PMR) with updated Flood Insurance Study (FIS)



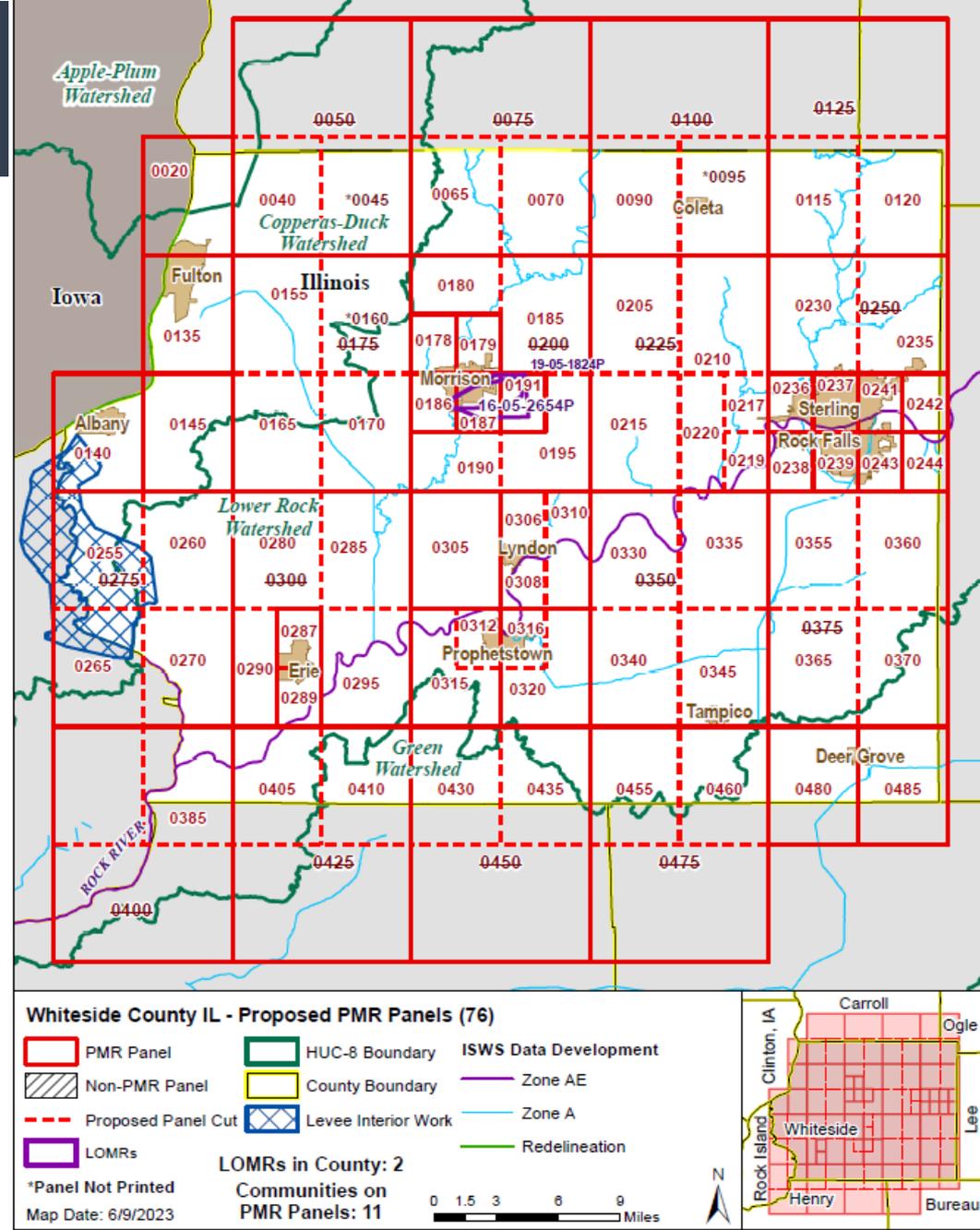
# Lee County

Future Regulatory Mapping Project:  
 - Partial County Physical Map Revision (PMR) with updated FIS



# Whiteside County

Future Regulatory Mapping Project:  
 - Full Countywide FIRM Revision and new FIS



# Project Scope

## 1. Hydrology

HEC-RAS 2D “Rain on Mesh” and Stream Gage Analysis Weighted with Regression Equations

## 2. Hydraulics

- HEC-RAS 2D Modeling

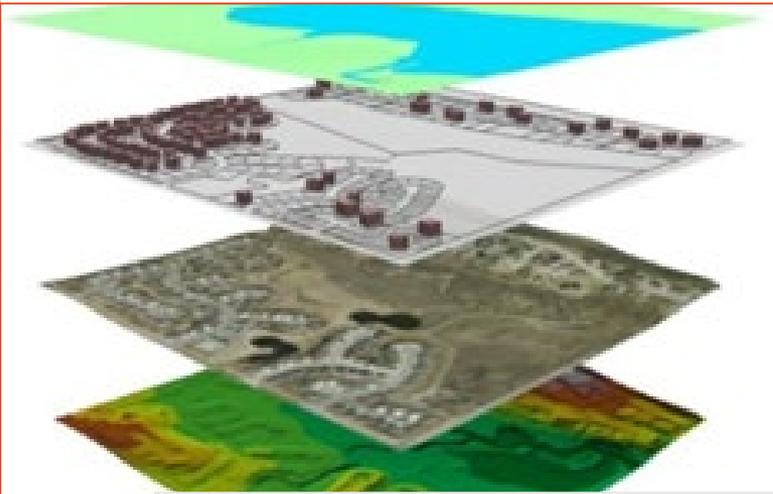
## 3. Develop Draft Floodplain Delineations

## 4. Community Outreach and Engagement

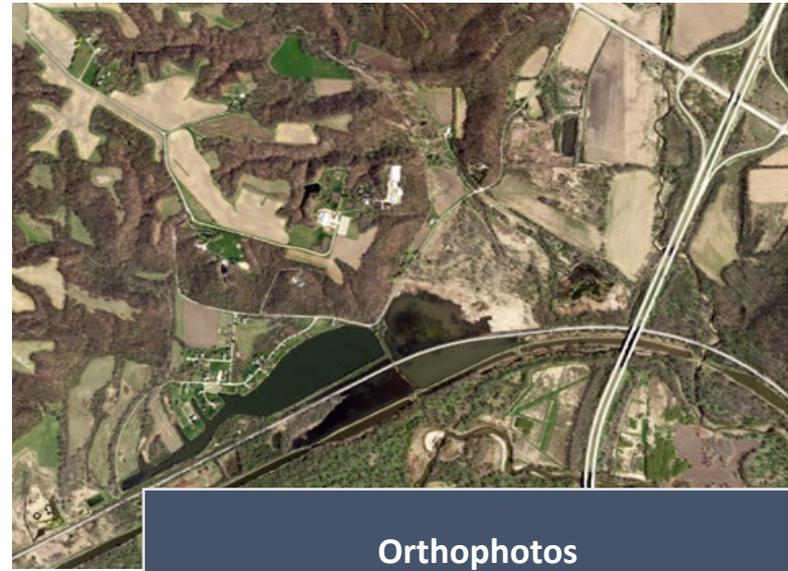
## 5. Complete Digital Flood Insurance Rate Maps (Future Phase)

# Data Development Phase

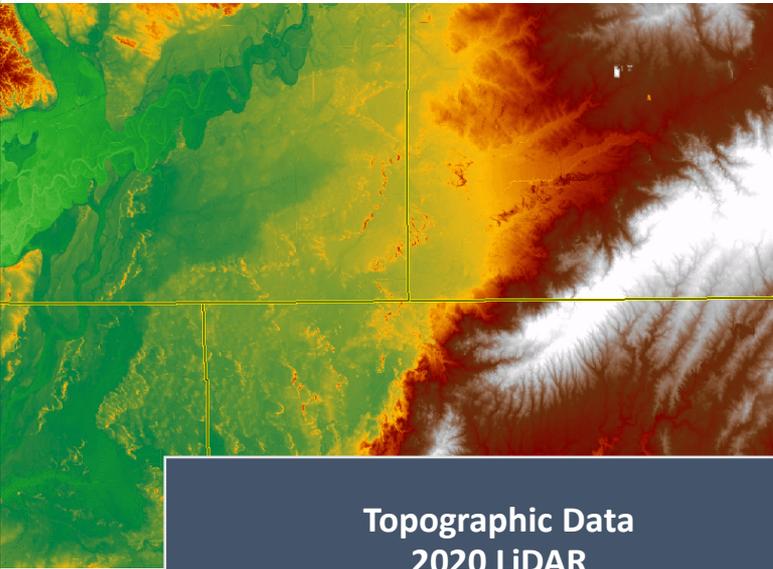
# Mapping Data



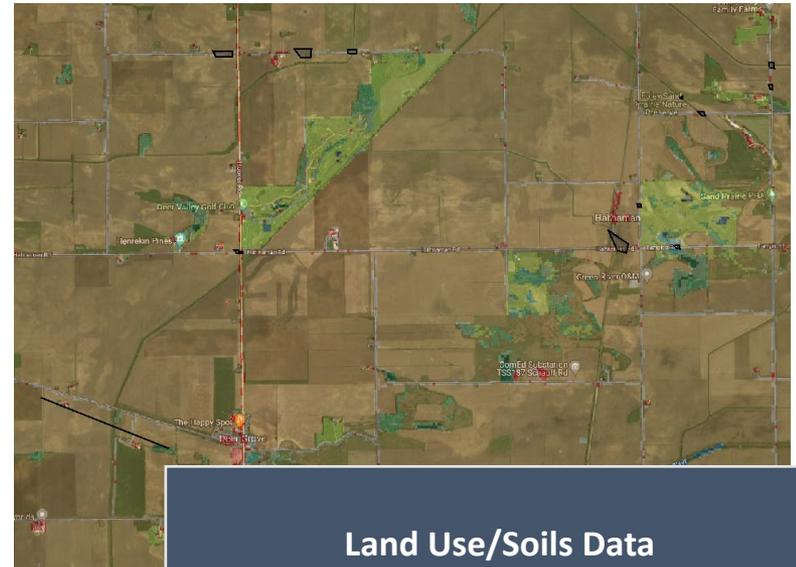
Mapping Data



Orthophotos



Topographic Data  
2020 LiDAR



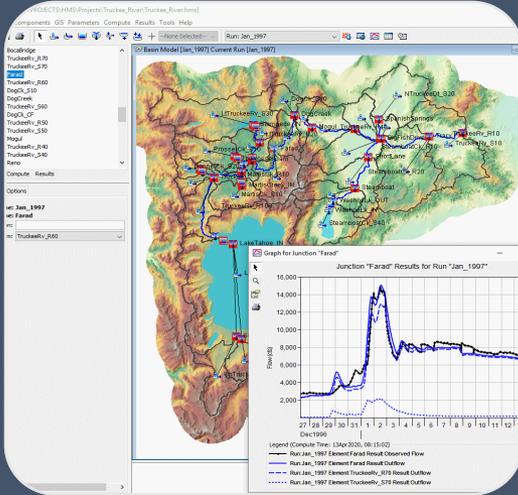
Land Use/Soils Data

# Proposed Engineering Methods

## Hydrologic Studies

Determine 100-Year stream **Flows** using:

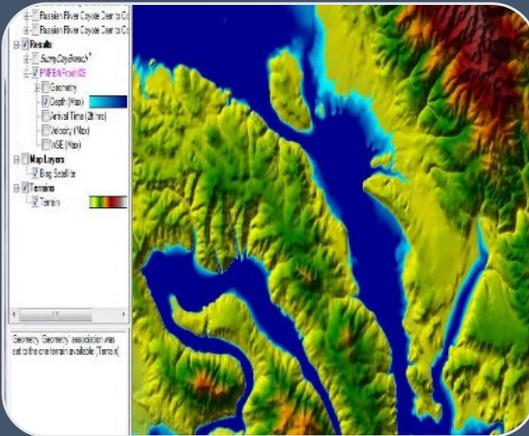
- Stream Gage Analysis and USGS Regression Equations (Green River)
- Army Corps of Engineers HEC-RAS 2D Rain-On-Mesh (Other streams)
- Bulletin 75 (2020) Precipitation Data
- 10%, 4%, 2%, 1%, 0.2% and 1%+ annual chance flows



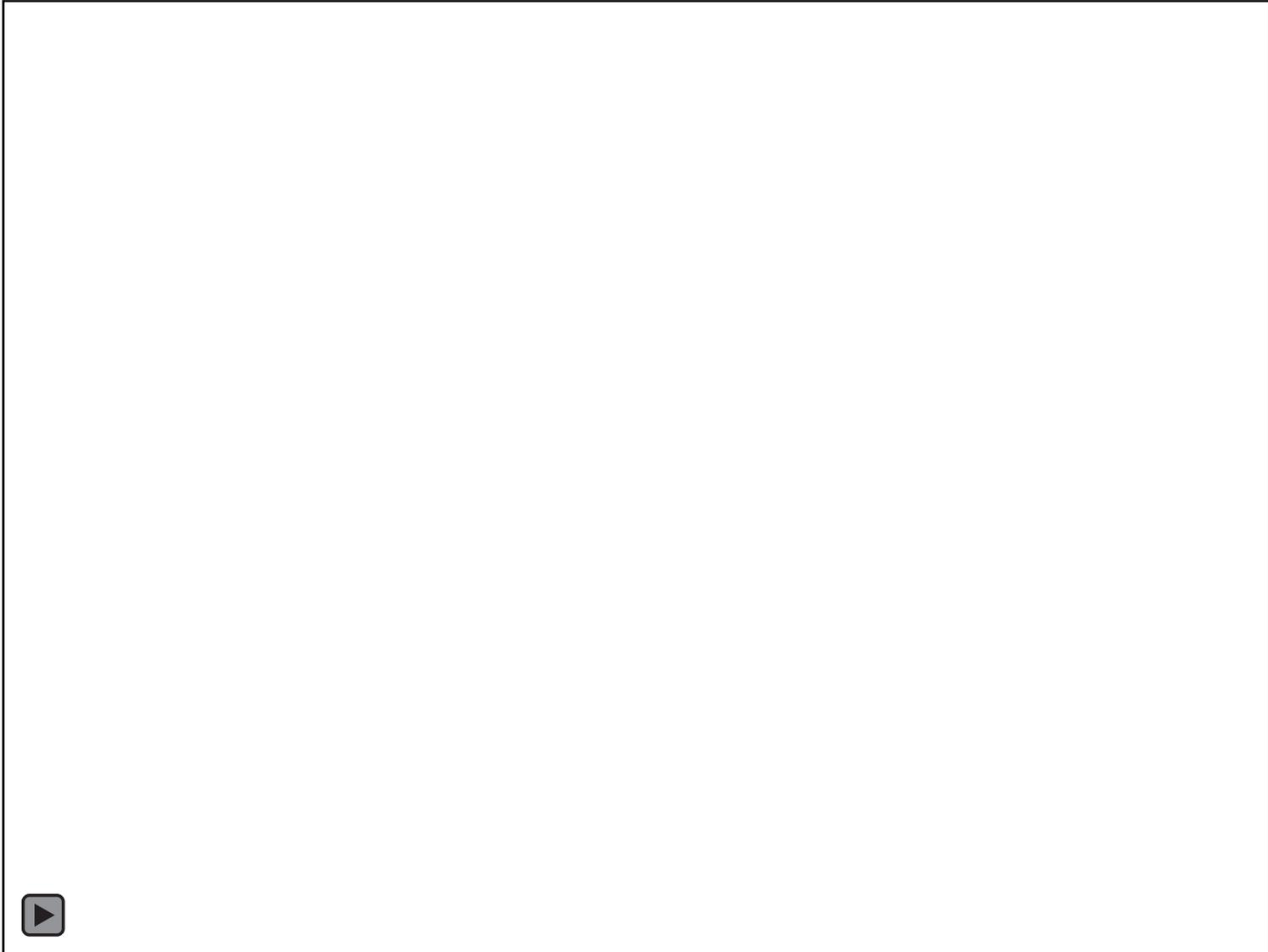
## Hydraulic Studies

Determine 100-Year flood **Elevations** using Army Corps of Engineers

- **HEC-RAS 6.2 or higher** River Analysis System Hydraulic Model
- All hydraulic modeling will be performed using 2D methods



# HEC-RAS 2D Modeling



# Communication and Outreach

# Communication and Outreach

Communication Plan

Project Initiation Community Coordination Meeting (today)

Proposed Engineering Methods Notification Letter

- 30-Day Comment Period

Flood Risk Review Meeting

- 30-Day Comment Period

Data Submission Notification Letter

- 30-Day Comment Period

Please reach out to **Mary Richardson** at [mjr@illinois.edu](mailto:mjr@illinois.edu)

# Communication and Outreach

## Proposed Engineering Methods Letter

FEMA Standard ID 620



# Communication and Outreach

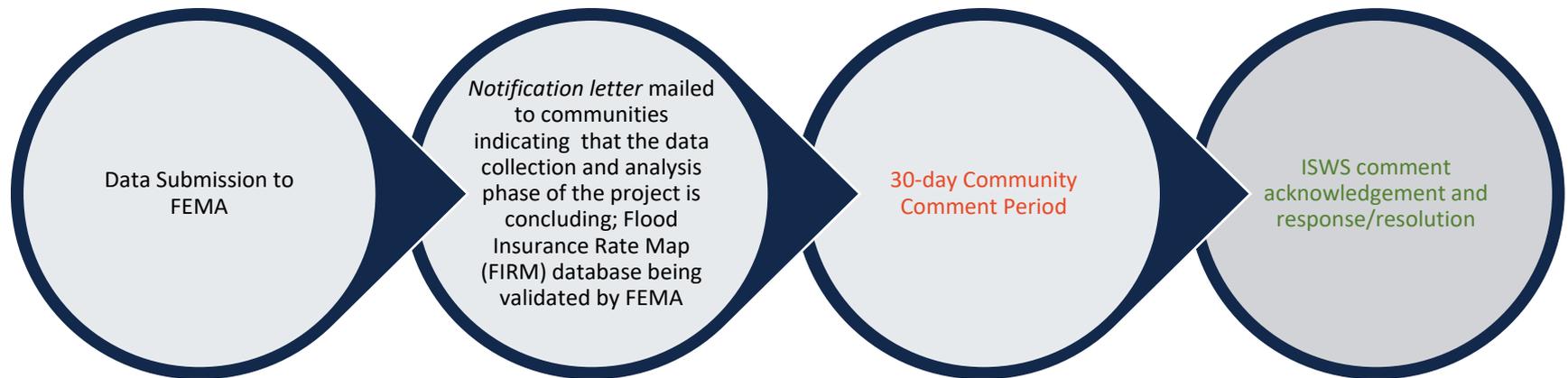
## Flood Risk Review Meeting



# Communication and Outreach

## Data Submission Notification

FEMA Standard ID 621



# Project Schedule

# Project Schedule

## Project Initiation and Community Coordination Meeting

- **Today**

## Engineering Methods Letters to communities

- Letters will be issued later today.

## Complete all Hydrologic Studies

- December 2023 for Green River; March 2024 for Winnebago Ditch and Main Ditch

## Complete all Hydraulic Studies

- December 2023 for Green River; March 2024 for Winnebago Ditch and Main Ditch

## Flood Risk Review Meeting

- March 2024 for Green River; Fall 2024 for Winnebago Ditch and Main Ditch

## Digital Flood Insurance Rate Map Project to follow pending conclusion of data development

- **Future Phase** (To Be Determined)

# Community Participation

# Community Participation

Please provide us with the following data or information:

- Flood prone areas
- Flood photos/Drone video
- Historic highwater marks
- Local floodplain studies and survey data
- Any other data or information

Stay engaged in the process...

- Attend meetings
- Ask questions
- Inform others
- Update contact Information

# Community Participation

## In Summary

**Local Partners are critical to the project**

- Best understand their community needs
- Can provide critical information to enhance the studies with local knowledge

**Our goal is to make managing and mitigating flood risk easier for our local partners**

- Use the latest data to understand flood risk
- Utilize the tools and mapping available to assist communities in administering the NFIP locally

**Please ask questions and share your concerns**

- Communicating early and often ensures the flood risk products capitalize on local knowledge and best address local needs

# Questions?

## Illinois State Water Survey PRAIRIE RESEARCH INSTITUTE

Project Manager: Chris Hanstad, P.E., CFM  
[hanstad@illinois.edu](mailto:hanstad@illinois.edu)

Outreach: Mary Richardson, CFM  
[mjr@illinois.edu](mailto:mjr@illinois.edu)

Mitigation Planning: Glenn Heistand, P.E., CFM  
[heistand@illinois.edu](mailto:heistand@illinois.edu)

[www.illinoisfloodmaps.org](http://www.illinoisfloodmaps.org)