



**ILLINOIS**

Illinois State Water Survey

**PRAIRIE RESEARCH INSTITUTE**

Rock Island County, Illinois

FEMA Risk MAP

Project Initiation Community  
Coordination Call

October 31, 2022

# Agenda

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Rollcall

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Introduction

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Project Objectives and Goals

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National Flood Insurance Program / Mitigation

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Project Scope

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Data Development

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Communication

---

Schedule

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Community Participation

# Rollcall

## Rock Island County\*

Village of Andalusia\*  
Village of Coal Valley\*  
Village of Cordova\*  
Village of East Moline\*  
Village of Hampton\*  
Village of Milan\*  
City of Moline\*  
Village of Port Byron\*  
Village of Rapids City\*  
City of Rock Island\*

FEMA

IDNR

IEMA

R1PC Other Agencies

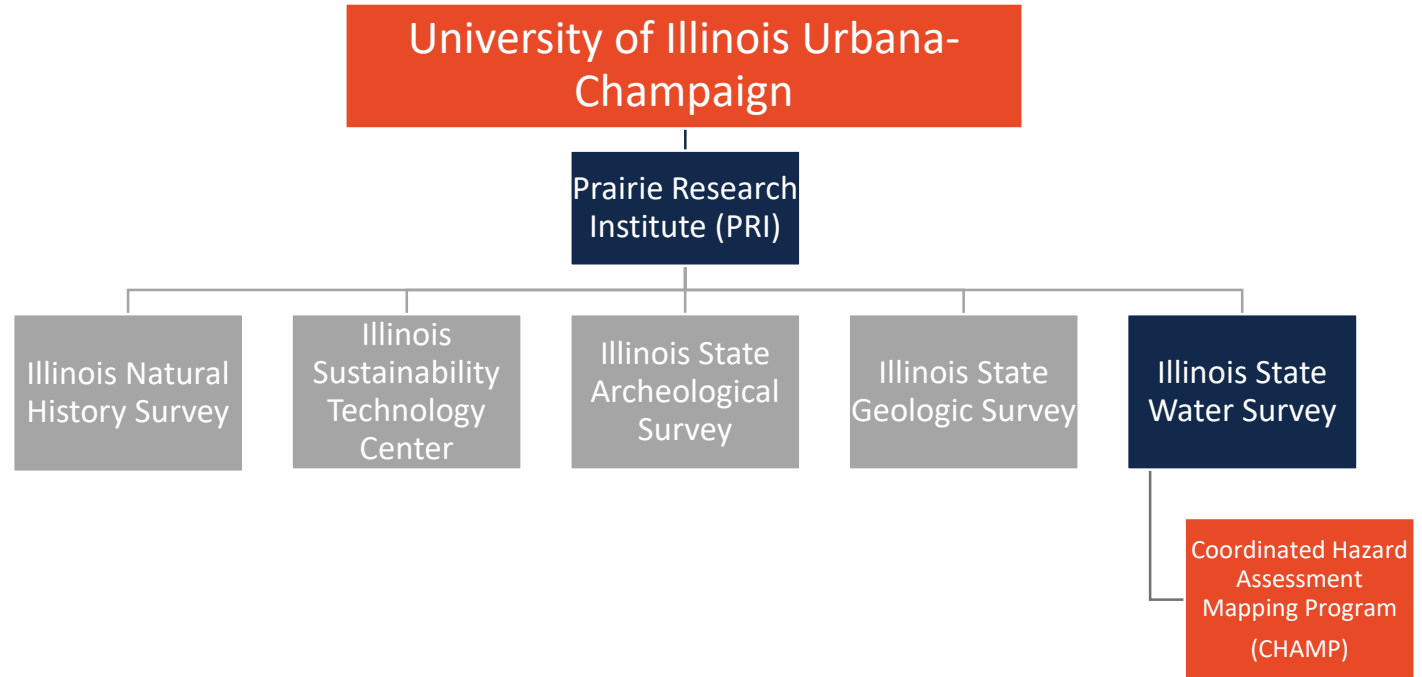
Others?

\* National Flood Insurance Program (NFIP) participants

# Introduction

# Introduction

## Who We Are



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<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.

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# 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 BELLEVILLE, CITY OF	170725
WINNEBAGO COUNTY (UNINCORPORATED AREAS)	170720
WINNEBAGO, VILLAGE OF	175183

\*NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED

Winnebago County



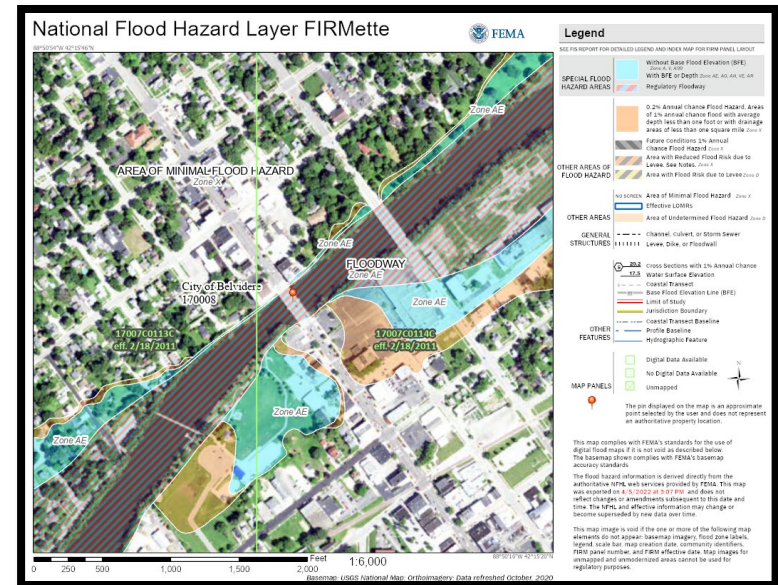


**Federal Emergency Management Agency**

FLOOD INSURANCE STUDY NUMBER  
17201CV001B

REVISED: FEBRUARY 17, 2016

### GENERATE FLOODPLAIN MAPS





# Introduction

## How We Are Funded

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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.

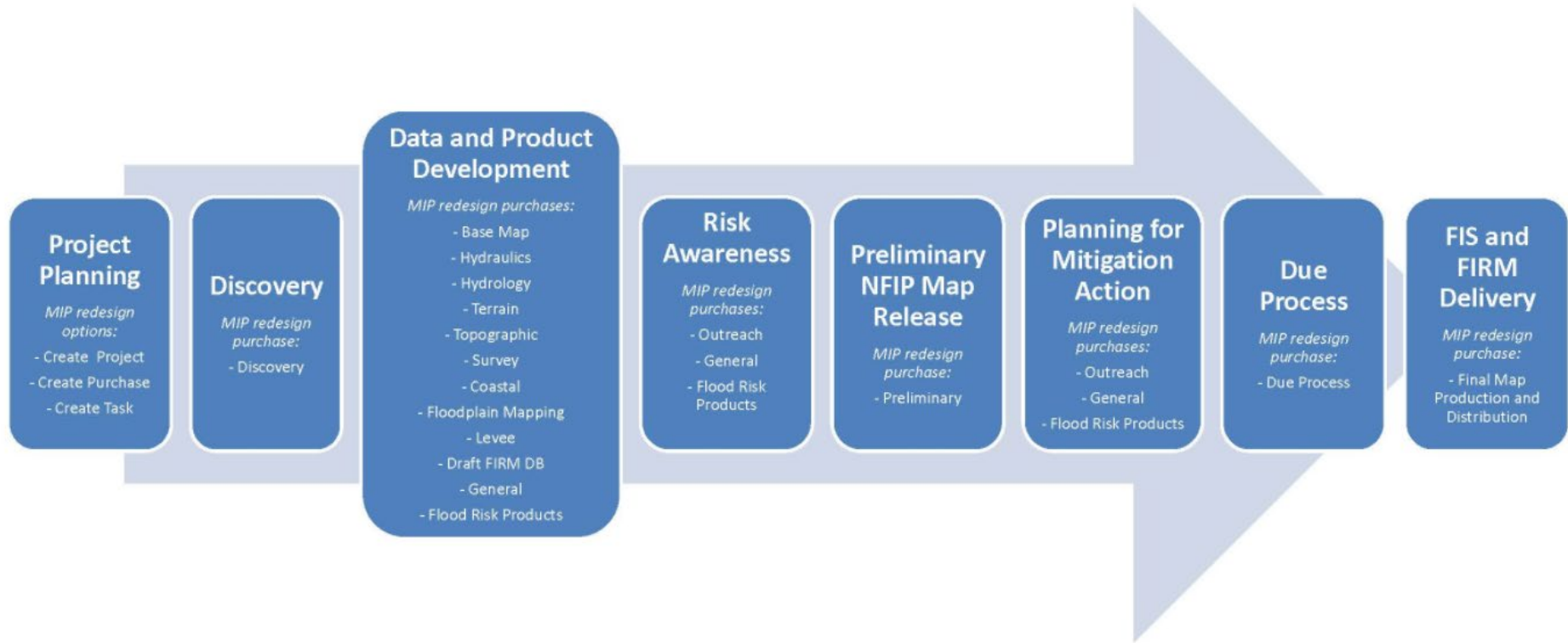
What We Do



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# Project Objectives and Goals

# FEMA National Objectives and Goals



# State Objectives and Goals

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Update Flood Risk with Hydrologic and Hydraulic Analyses for Select Streams

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Update Digital Floodplain Maps

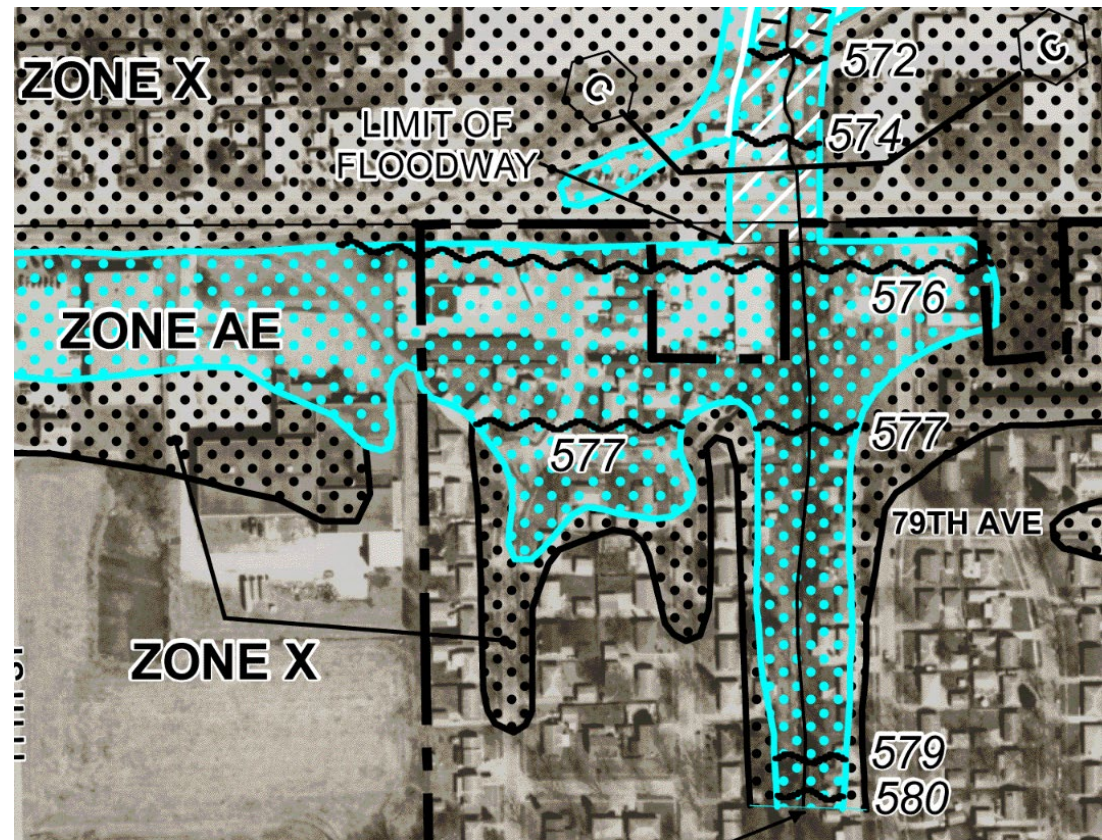


<https://www.illinoisfloodmaps.org/>

# Update Flood Risk Data and Maps

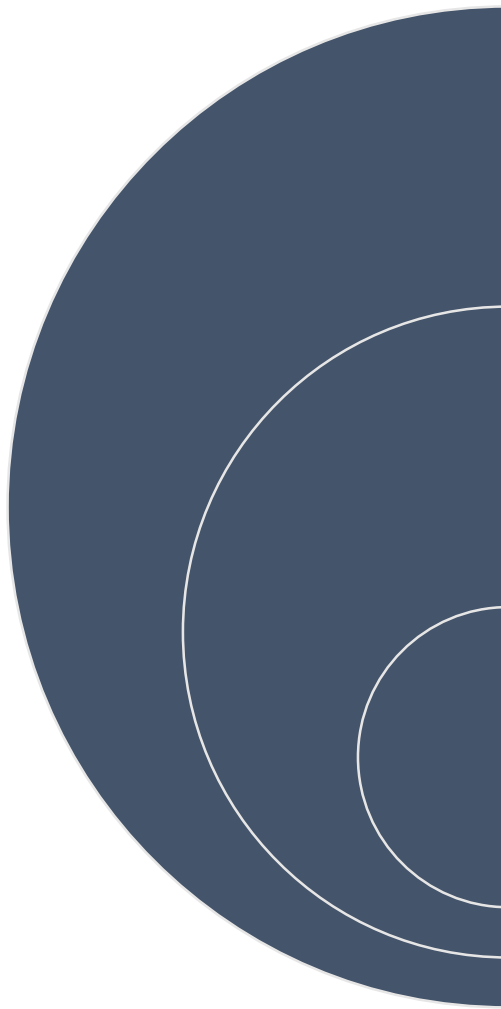
Rock Island County  
DFIRMs Effective  
date: April 5, 2010

Studies for Rock  
Island County  
stream date back to  
1970s.



# 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.

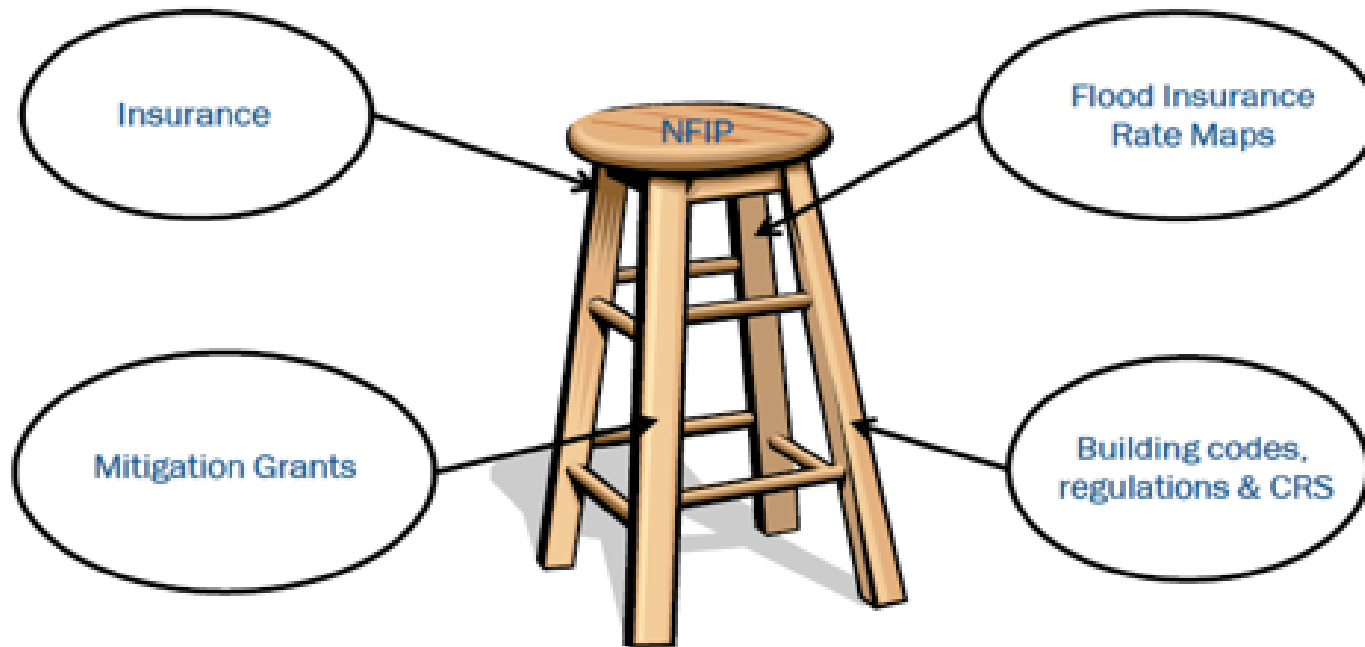
**Erin Conley, NFIP State Coordinator**

[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 10/24/2022

Community	CRS Status	CAC Date	CAV Date	No. Flood Policies	Total Coverage, \$	Total Claims Since 1978	Total Paid Since 1978, \$	Rep Loss Structures
Village of Andalusia		8/24/1994	8/9/2016	55	7,971,600	49	368,459	23
Village of Carbon Cliff		9/10/1996	8/6/2013	59	4,938,500	75	923,833	29
Village of Coal Valley		--	--	--	--	--	--	--
Village of Cordova			9/17/2004	2	169,000	12	67,290,	8
City of East Moline			11/29/2018	15	3,115,100	190	1,060,205	60
Village of Hampton			10/28/1993	23	3,885,100	51	370,621	22
Village of Hillsdale		4/5/2017	3/24/2004	53	4,481,800	66	366,817	6
Village of Milan			4/6/2017	17	4,271,600	57	363,184	21
City of Moline	8		8/6/2019	165	44,204,700	308	4,172,633	116
Village of Port Byron			2/15/2018	14	3,403,500	21	144,952	9
Village of Rapid City		10/23/2018		5	868,000	4	24,738	0
City of Rock Island			3/30/2011	41	12,123,800	45	231,396	19
City of Silvis		9/23/1998		1	350,000	1	0	0
Rock Island County Unincorp	7		3/25/2004	269	37,861,800	1250	11,057,454	597

# Hazard Mitigation

**Table 3-4  
Planning Area Hazard Scores Comparisons**

	2009 Scores	Updated Scores	Previous Rank	Updated Rank
Dam Failure	10.59	21	14	11
Drought	16.00	27	10	9
Earthquake	17.53	21	9	11
Expansive Soils	8.65	21	15	11
Extreme Heat	23.47	39	4	3
Flash Flooding	19.88	33	7	5
Grass, Field or Woodland Fire	15.88	21	11	11
Hazardous Materials	22.76	33	6	5
Influenza Pandemic	NA	39	NA	3
Landslides	10.29	21	13	11
Land Subsidence	11.00	21	12	11
Levee Failure	NA	33	NA	5
Radiological Incident	18.59	27	8	9
River Flooding	22.76	33	5	5
Severe Storms Combined	32.06	51	1	1
Severe Winter Storms	29.76	51	2	1



## Rock Island County Hazard Mitigation Plan Update

2020 Revision



# 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.

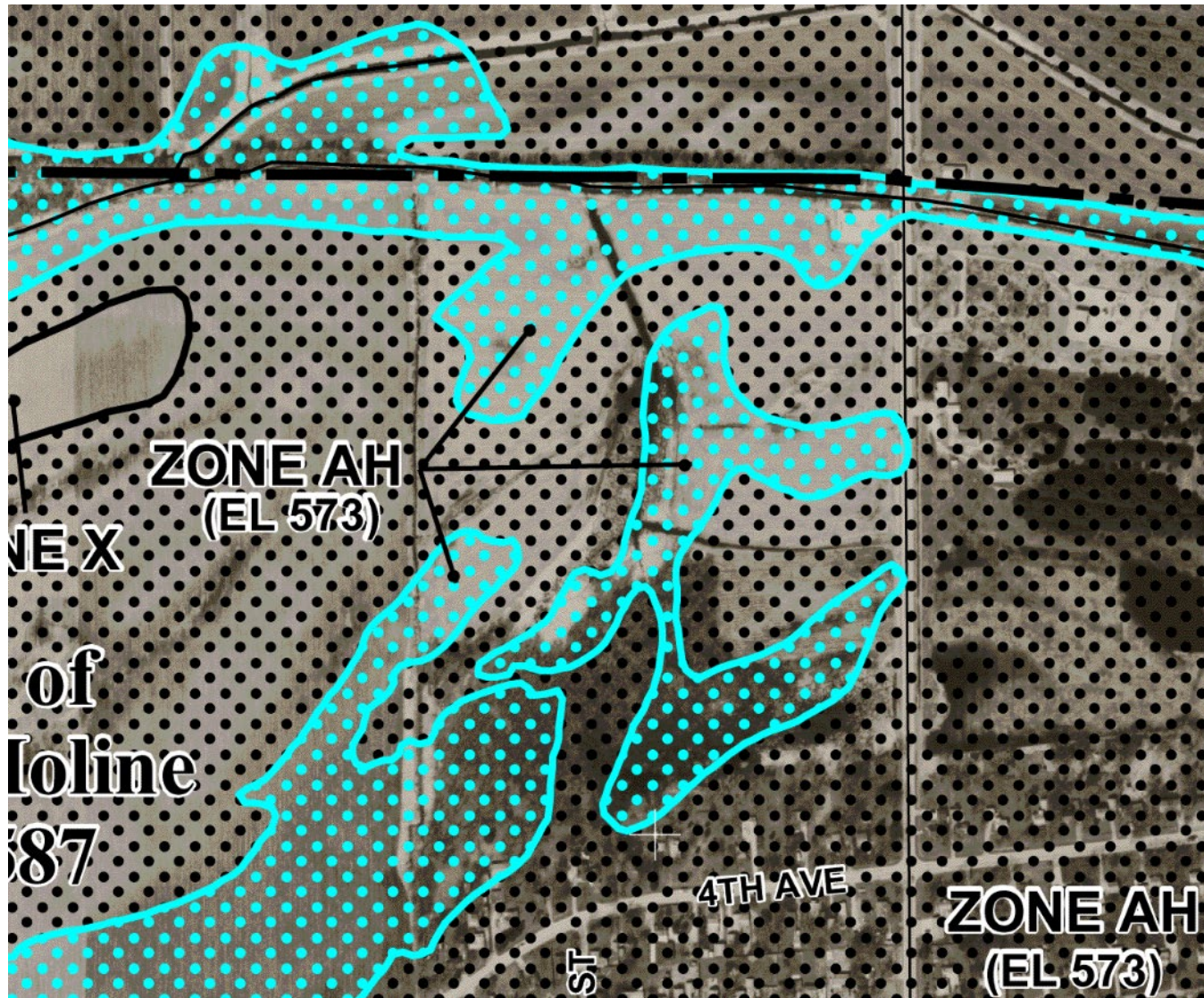
The Base Flood Elevation (BFE) is the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.

<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>
<b>Zone AH</b>	Area subject to inundation by the 1-percent-annual-chance flood event. Usually for shallow ponding (1-3 foot depth) <b>Base Flood Elevations ARE shown.</b>

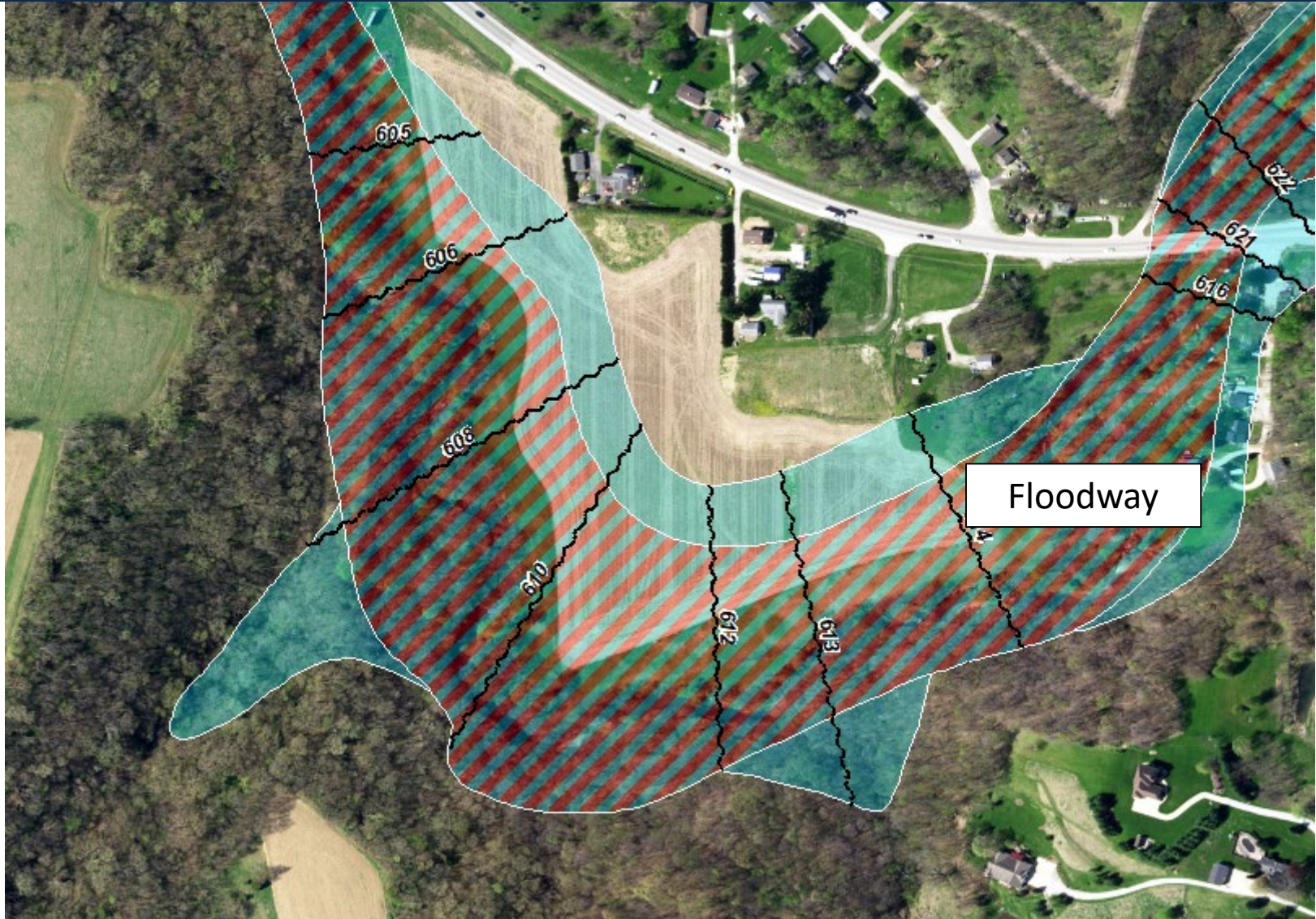
# What is a Special Flood Hazard Area?



# What is a Special Flood Hazard Area?



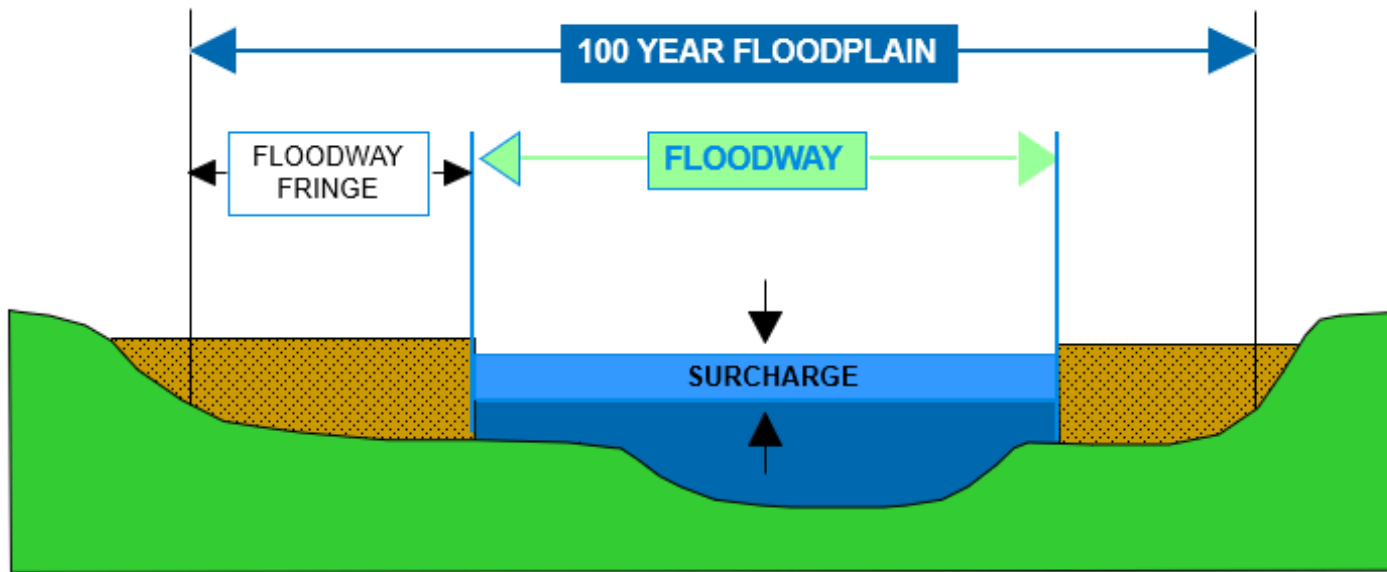
# What is Floodway?





# What is Floodway?

- National Standard = 1 foot floodway surcharge
- Illinois Standard = 0.1 foot floodway surcharge



**FLOODWAY + FLOODWAY FRINGE = 100 YEAR FLOODPLAIN**  
**SURCHARGE NOT TO EXCEED 0.1 FOOT**

# Project Scope

# Project Scope

## 1. Hydrology

HEC-HMS with Bulletin 75 rainfall  
HEC-RAS 2D “Rain on Mesh”  
USGS StreamStats

## 2. Hydraulics

- HEC-RAS 2D for Coal Creek, Eckhart Creek, Kyte Creek and Unnamed Ponding Areas in East Moline
- HEC-RAS 1D for Barber Creek, Coal Creek, Coal Creek Tributary, Eckhart Creek, Kyte Creek, and Shaffer Creek

## 3. Develop Draft Floodplain Mapping

- Mill Creek and Mississippi River Redelineation and levee areas

## 4. Community Outreach and Engagement

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

# Project Scope

## Rock Island County Project Location Map

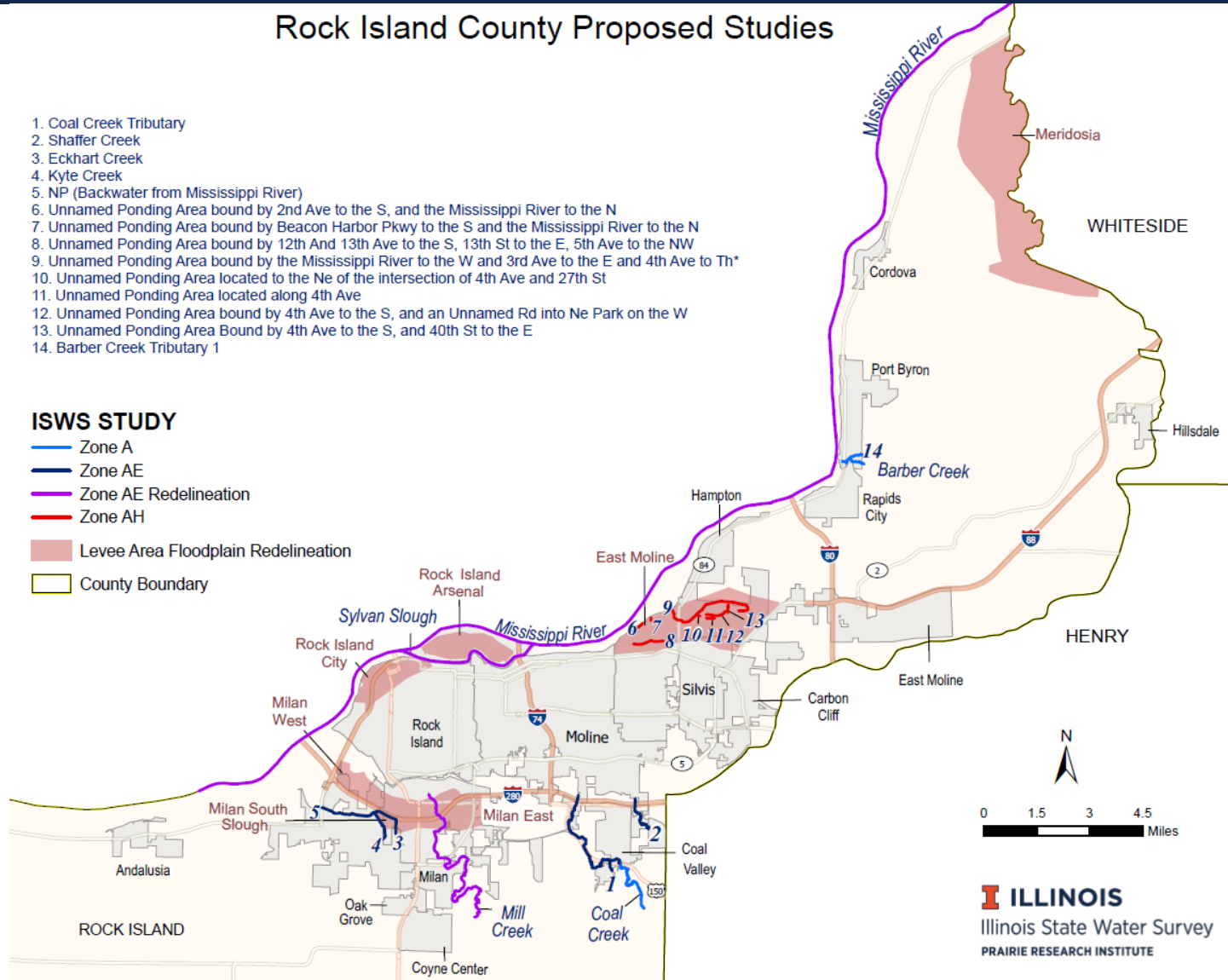
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### Rock Island County Proposed Studies

1. Coal Creek Tributary
2. Shaffer Creek
3. Eckhart Creek
4. Kyte Creek
5. NP (Backwater from Mississippi River)
6. Unnamed Ponding Area bound by 2nd Ave to the S, and the Mississippi River to the N
7. Unnamed Ponding Area bound by Beacon Harbor Pkwy to the S and the Mississippi River to the N
8. Unnamed Ponding Area bound by 12th And 13th Ave to the S, 13th St to the E, 5th Ave to the NW
9. Unnamed Ponding Area bound by the Mississippi River to the W and 3rd Ave to the E and 4th Ave to Th\*
10. Unnamed Ponding Area located to the Ne of the intersection of 4th Ave and 27th St
11. Unnamed Ponding Area located along 4th Ave
12. Unnamed Ponding Area bound by 4th Ave to the S, and an Unnamed Rd into Ne Park on the W
13. Unnamed Ponding Area Bound by 4th Ave to the S, and 40th St to the E
14. Barber Creek Tributary 1

#### ISWS STUDY

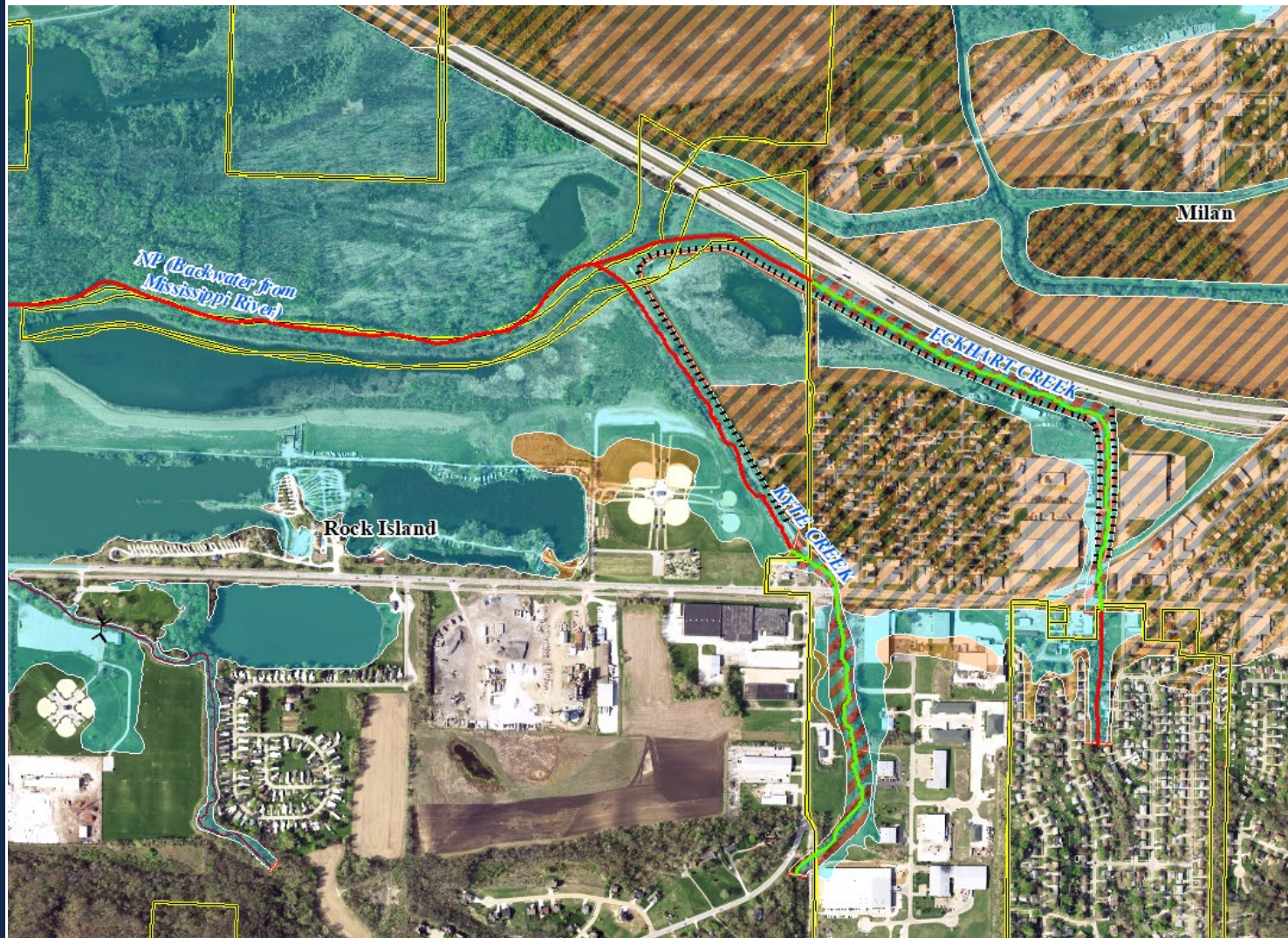
- Zone A
- Zone AE
- Zone AE Redelineation
- Zone AH
- Levee Area Floodplain Redelineation
- County Boundary



# Project Scope

## Kyte and Eckhart Creek

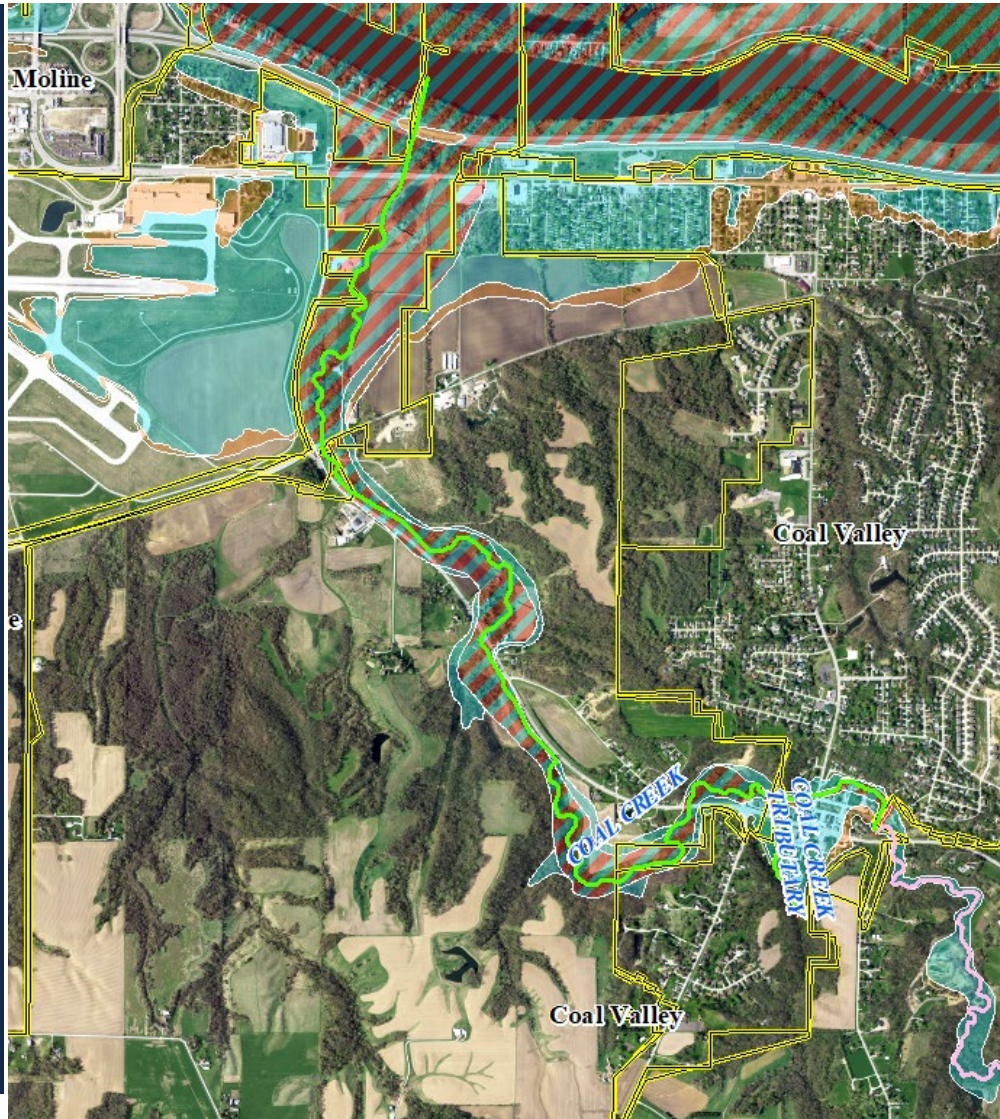
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# Project Scope

## Coal Creek and Coal Creek Tributary

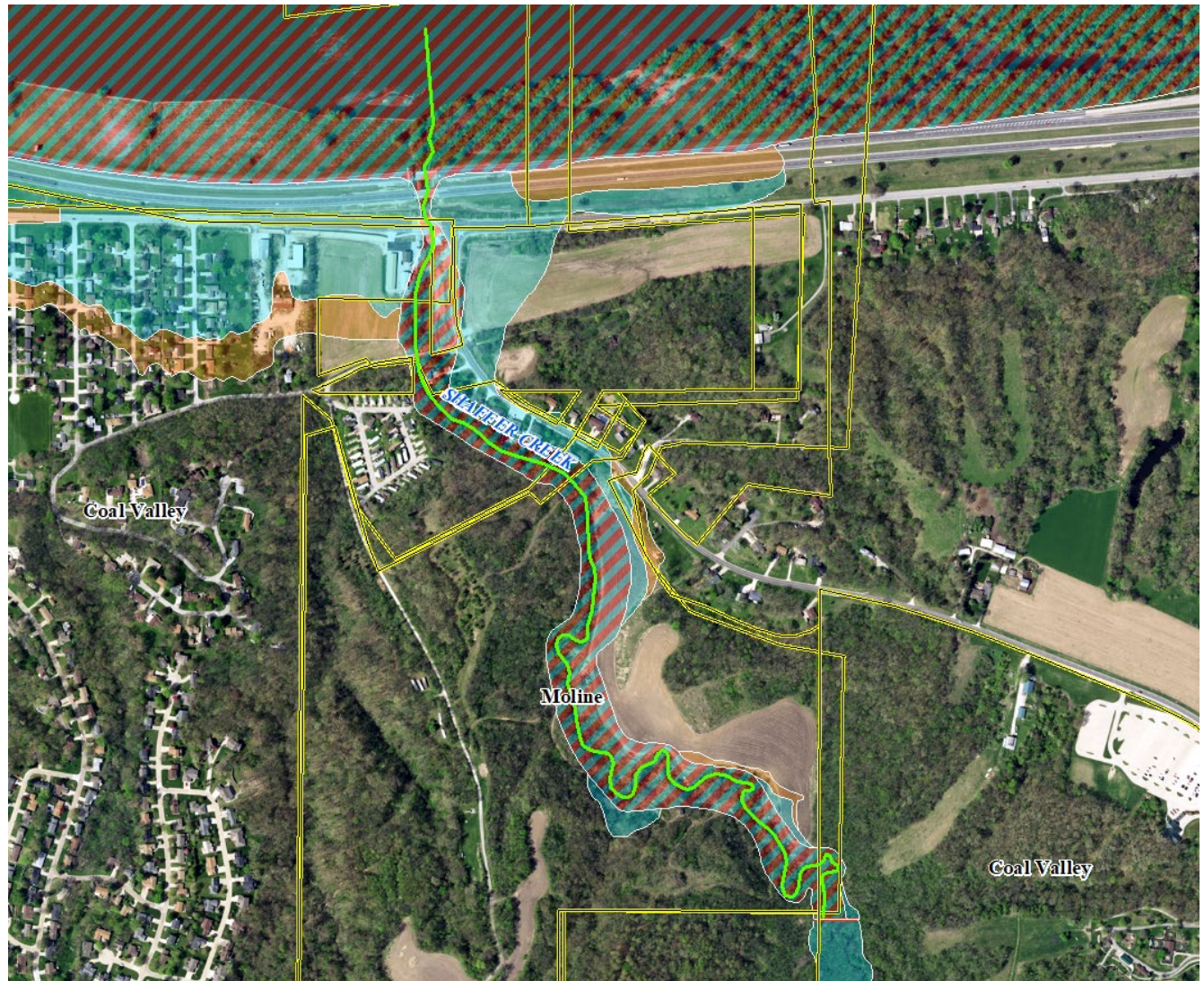
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# Project Scope

## Shaffer Creek

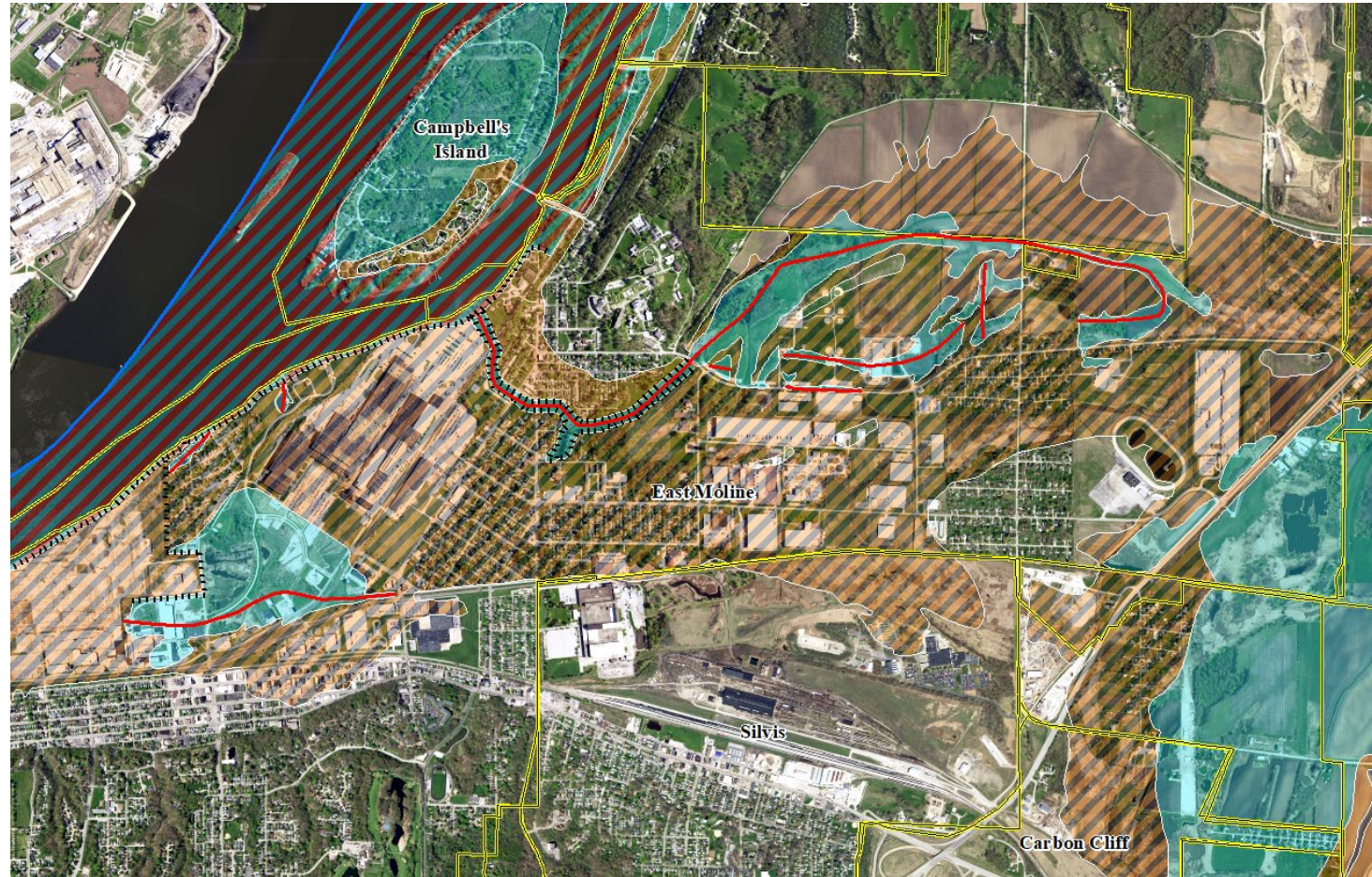
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# Project Scope

## East Moline Ponding Areas

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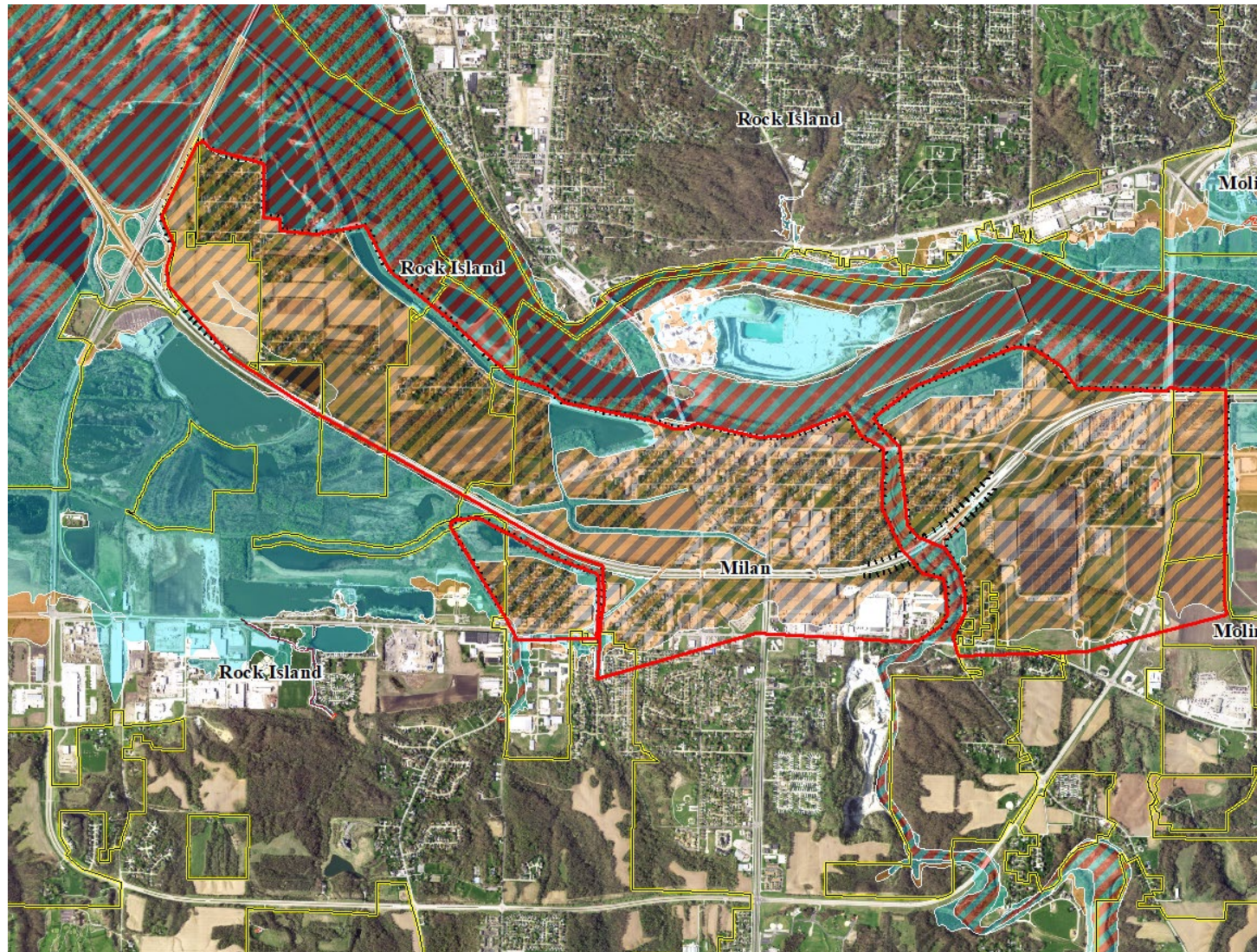




# Project Scope

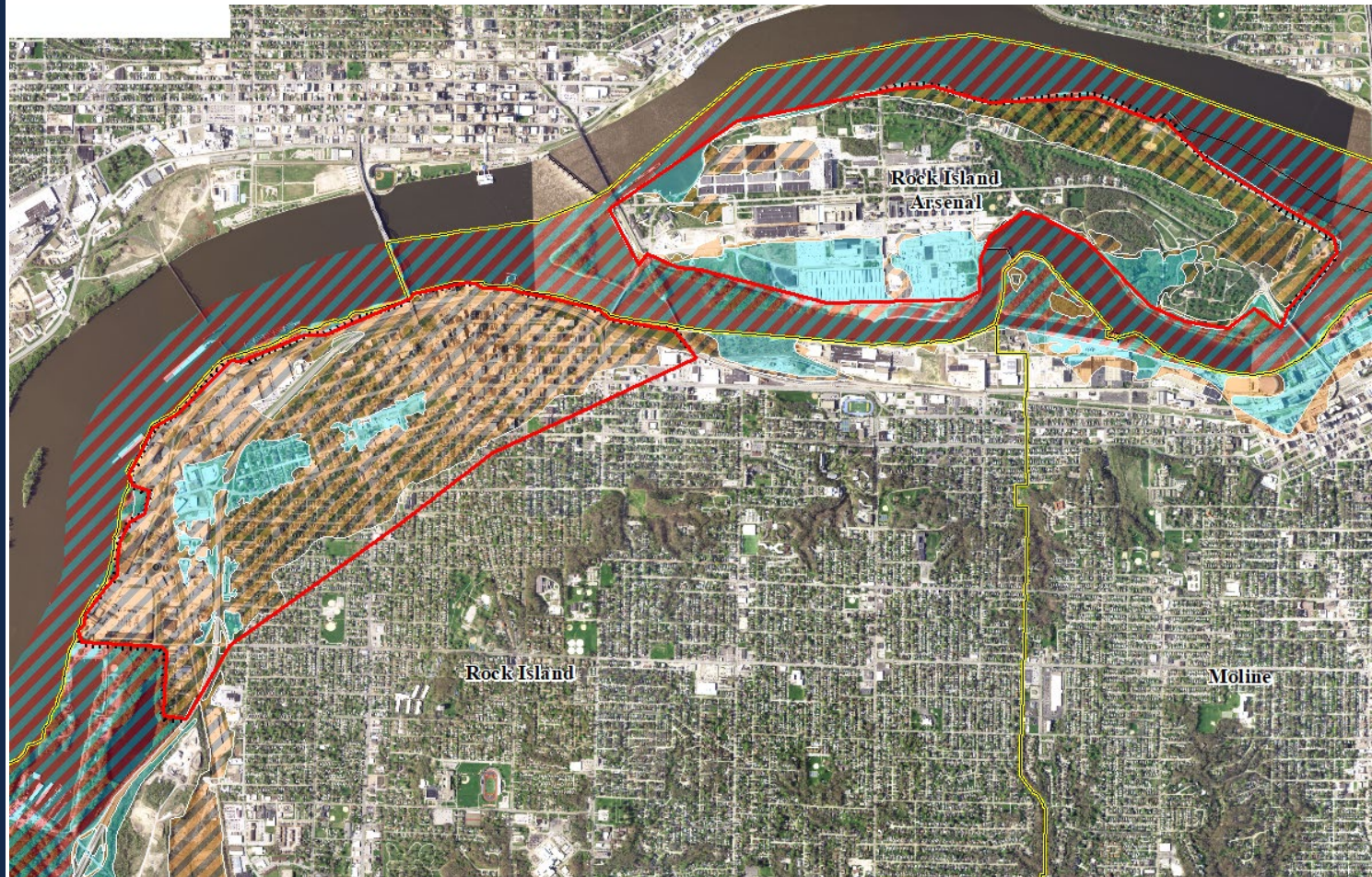
Levee Area  
Redelineation  
Milan West/  
East/ South  
Slough

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# Project Scope

Levee Area  
Redelineation  
Rock Island  
City/ Arsenal

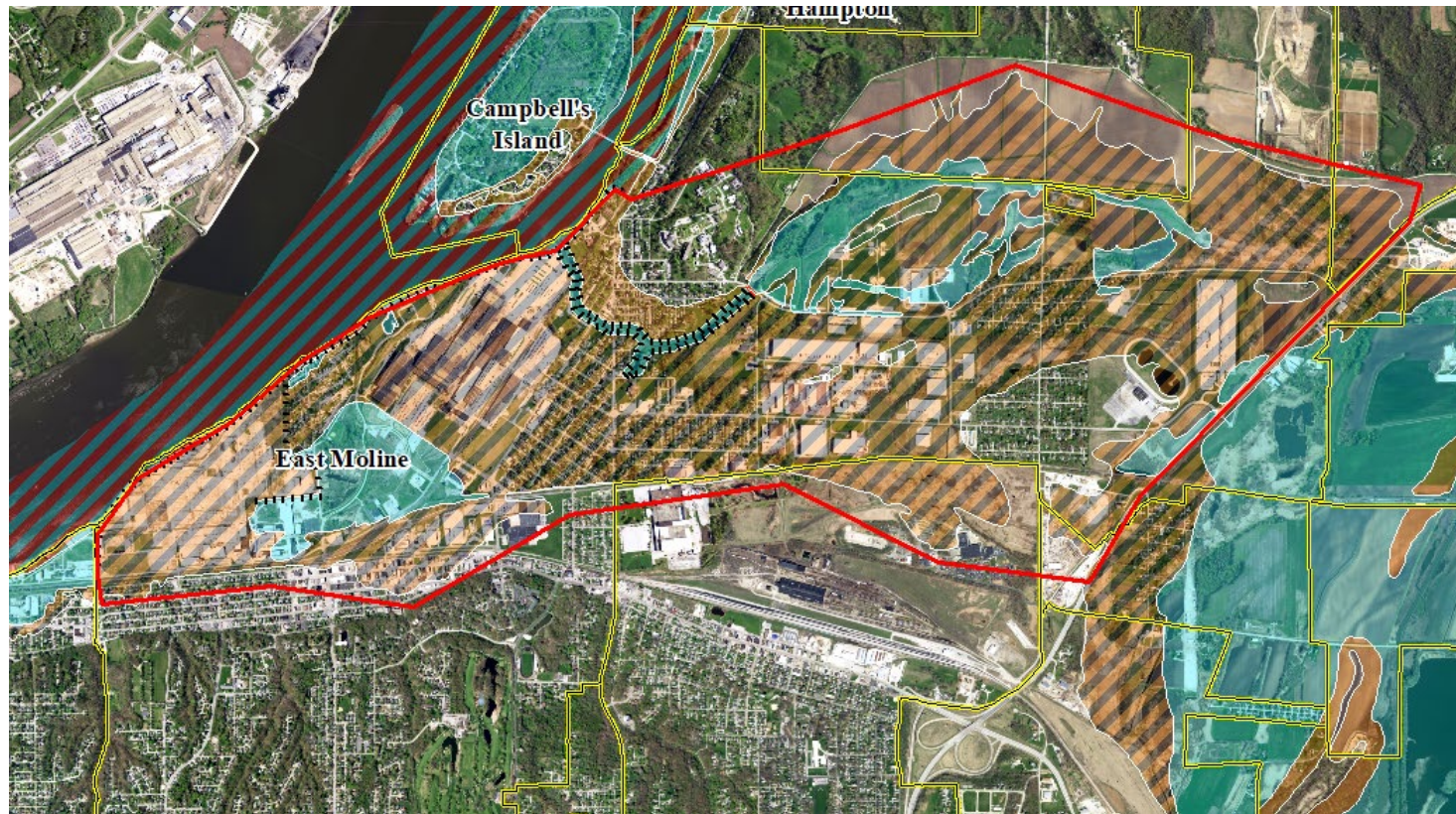


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# Project Scope

## Levee Area Redelineation East Moline

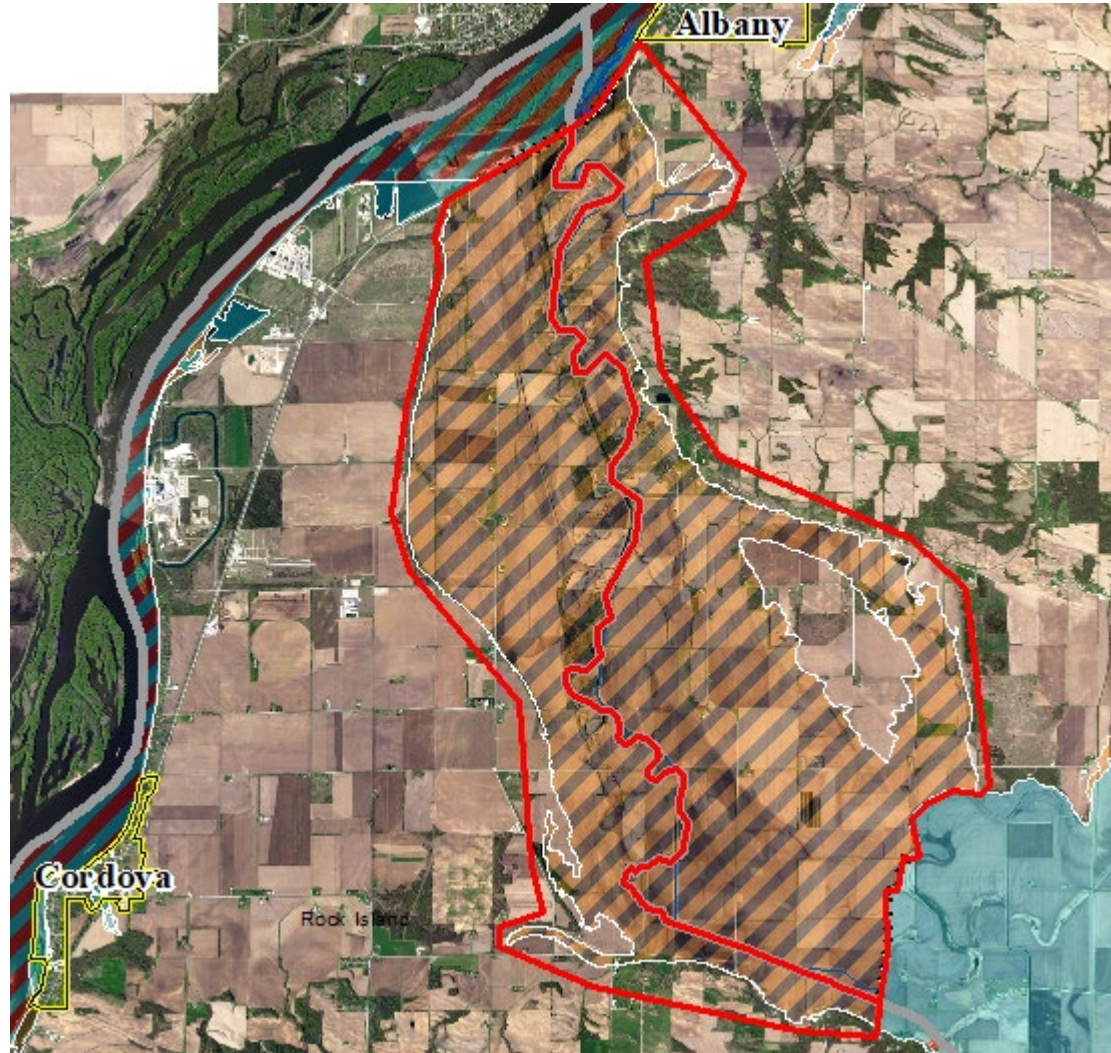
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# Project Scope

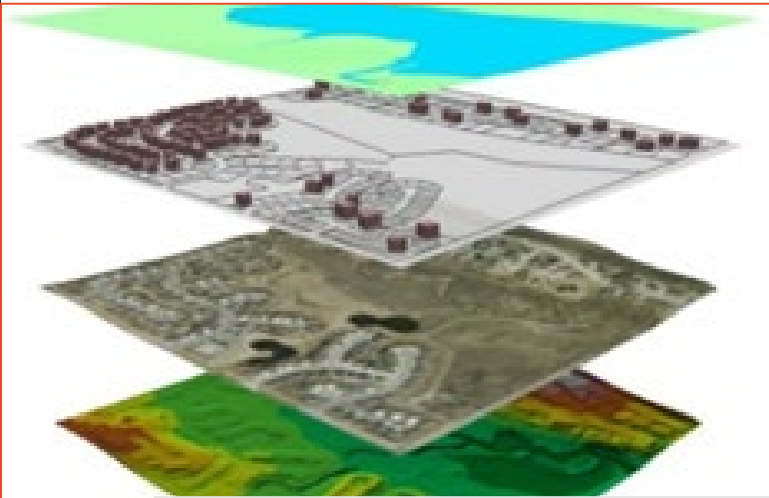
## Levee Area Redelineation Meredosia

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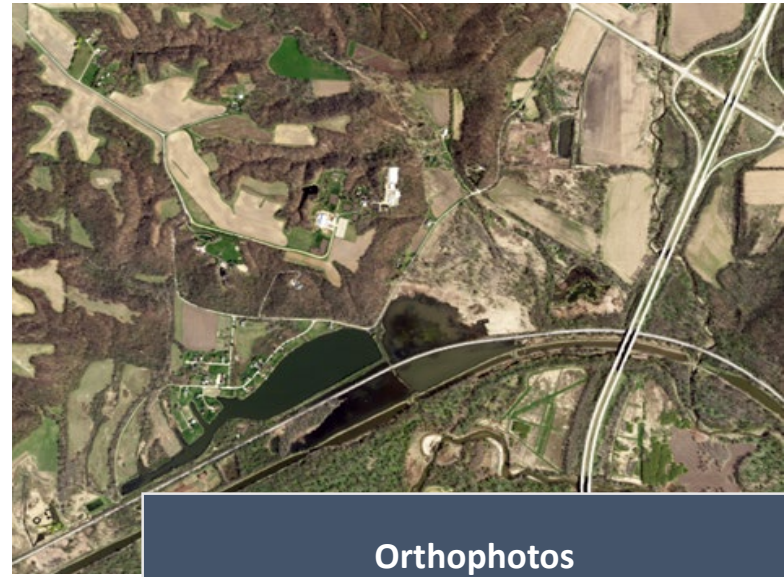


# Data Development Phase

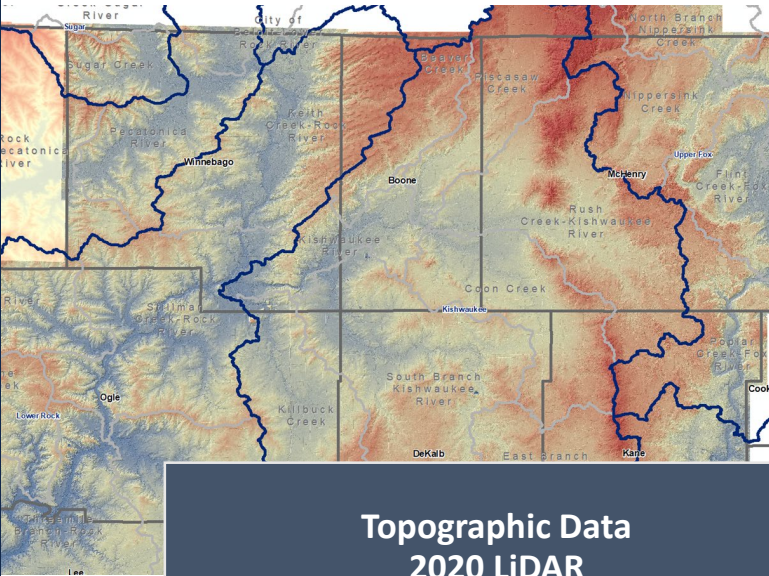
# Mapping Data



Mapping Data



Orthophotos



Topographic Data  
2020 LiDAR



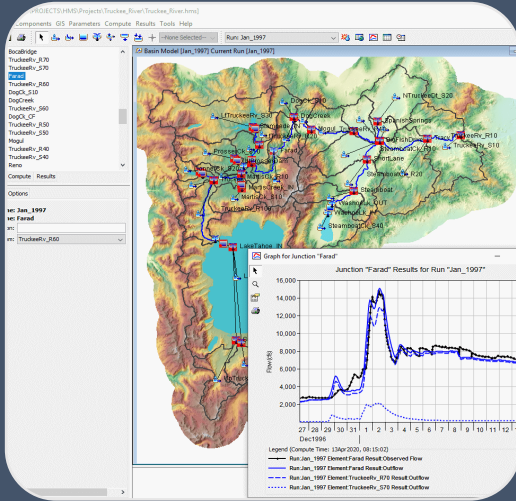
Survey

# Proposed Engineering Methods

## Hydrologic Studies

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

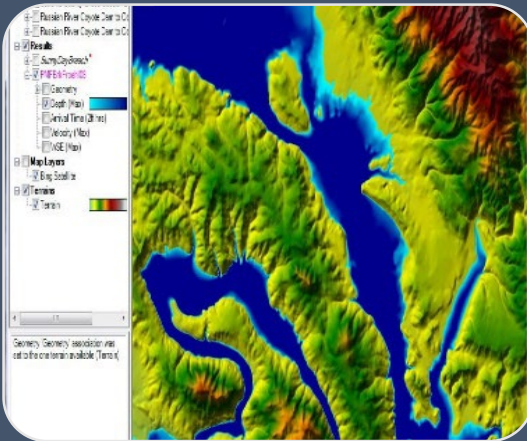
- HEC-HMS version 4.10 or higher
- USGS StreamStats Online Application
- Army Corps of Engineers HEC-RAS 2D Rain-On-Grid
- 10%, 4%, 2%, 1%, 0.2% and 1%+ annual chance storm events



## Hydraulic Studies

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

- **HEC-RAS 6.2 or higher** River Analysis System Hydraulic Model
- Several floodplain studies will utilize 2D modeling capabilities
- Remaining streams will be modeled with 1D methodology



# 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

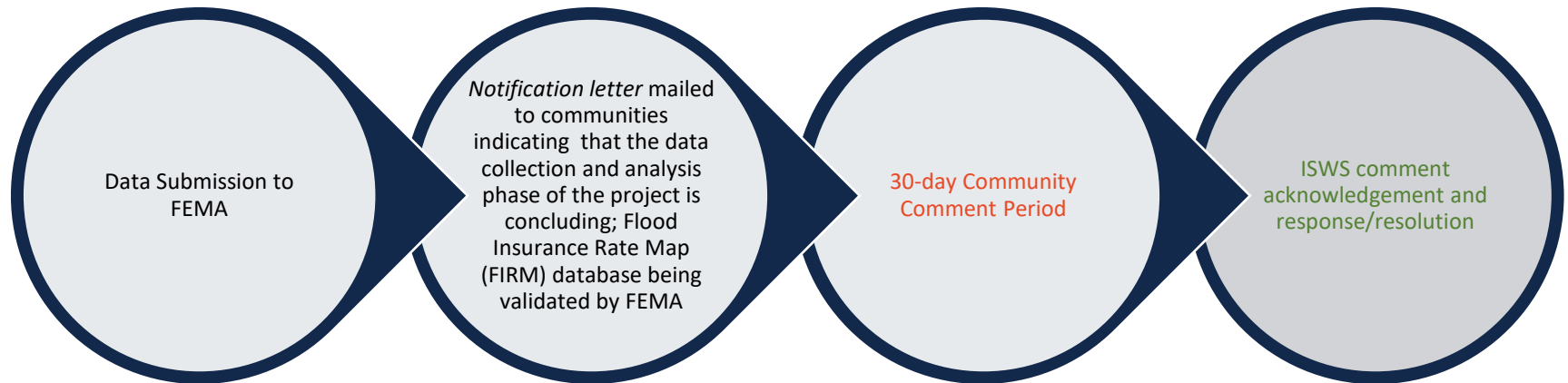
## Flood Risk Review Meeting



# 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

- November/December 2022

## Complete all Hydrologic Studies

- January 2024

## Complete all Hydraulic Studies

- January 2024

## Flood Risk Review Meeting

- April 2024

## Submit Funded Flood Studies to IDNR for State review

- June 2024

## 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: Lisa Graff, GISP, CFM  
[lgraff@illinois.edu](mailto:lgraff@illinois.edu)

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