

# Stark County

## FEMA Risk MAP

### Project Initiation Coordination Call

July 22, 2020

**I ILLINOIS**

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE



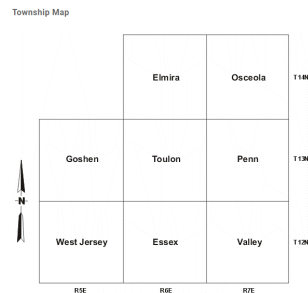
**FEMA**

# Agenda

- Roll Call
- Introduction
- Project Objectives
- Effective Paper Maps vs. Future Digital Maps
- National Flood Insurance Program
- Data Development Phase
  - Project Scope
  - Project Communication
  - Estimated Project Schedule
  - Community Participation
- Questions

# Roll Call

- Village of Bradford
  - Village of La Fayette
  - City of Toulon
  - City of Wyoming
  - Unincorporated Stark Co.
  - Townships
- FEMA
  - IDNR
  - IEMA
  - ISWS
  - Other Agencies



- Regional ESDA / Co. EMA
- Other local stakeholders

# Introduction

- The Illinois State Water Survey (**ISWS**) is a division of the Prairie Research Institute (**PRI**) at the University of Illinois.
- The Coordinated Hazard Assessment and Mapping Program (**CHAMP**) is a section within ISWS.



The staff of the Coordinated Hazard Assessment and Mapping Program which includes 18 Certified Floodplain Managers (CFM), seven Professional Engineers (PE), and seven Geographic Information Systems Professionals (GISP)

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

# Introduction

- ISWS is a Cooperating Technical Partner (**CTP**) with the Federal Emergency Management Agency (**FEMA**). CHAMP staff perform floodplain studies, mapping, and related activities for Illinois communities through this partnership.
- ISWS also partners with the Illinois Department of Natural Resources-Office of Water Resources (**IDNR-OWR**) to help prioritize Illinois floodplain studies and mapping projects.
- Risk Mapping, Assessment, and Planning (**Risk MAP**) is the FEMA process used to implement National Flood Insurance Program (**NFIP**) floodplain studies and mapping projects.



# Project Objectives

# Stark County Project Objectives

- To develop new floodplain studies for Stark County.
- To incorporate the study results into a countywide Flood Insurance Study (**FIS**) report.
- To incorporate resulting floodplain delineations into a countywide digital Flood Insurance Rate Map (**FIRM**).

# FEMA National Objectives

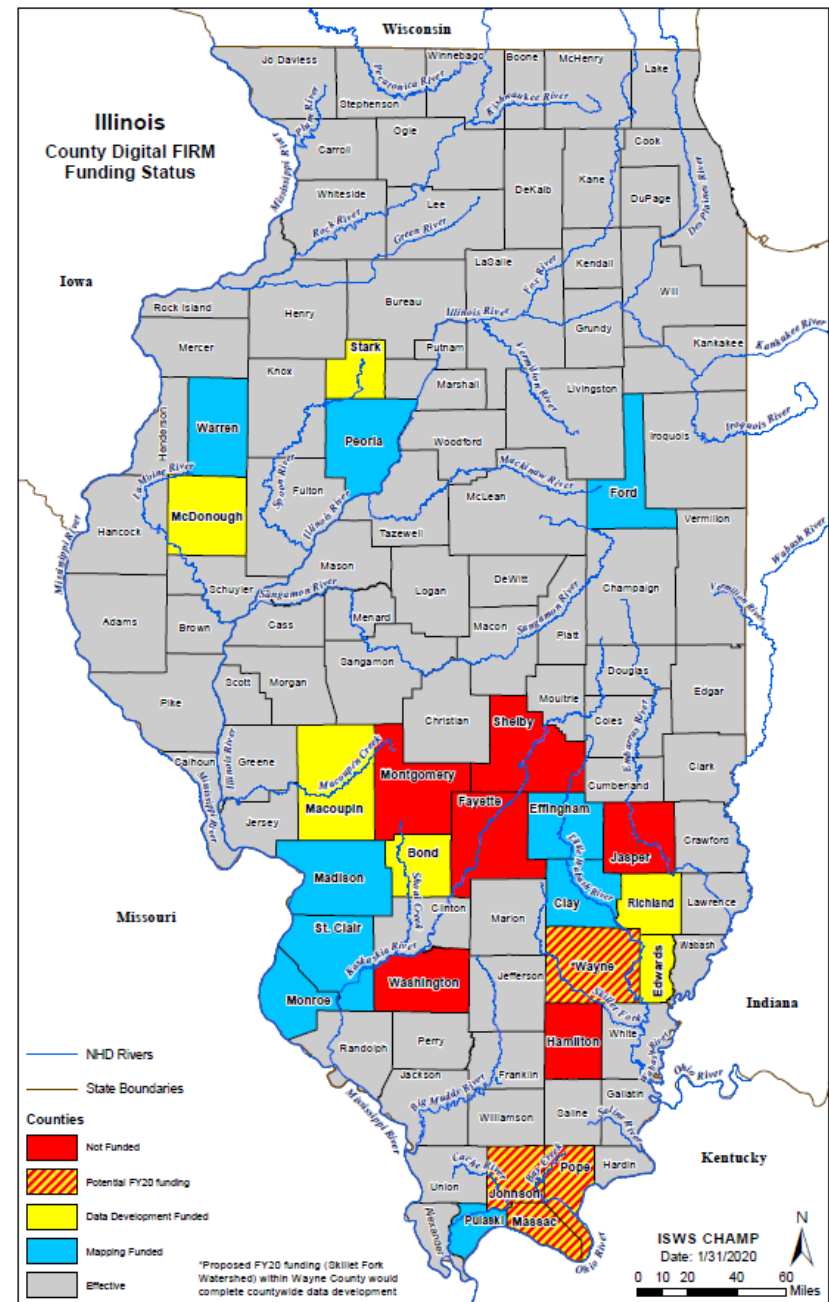
- To update NFIP products throughout the nation.
  - Requiring model-backed floodplain studies.
  - Producing countywide database-backed FIRMs & FIS reports.
- To make NFIP products available on-line.
- To Produce a National Flood Hazard Layer (NFHL).
- To Provide better tools for floodplain management.






# Illinois Countywide Digital FIRM Status

102 Counties

- 77 effective ✓
- 9 mapping funded
- 6 data development
- 4 proposed funding
- 6 not yet funded

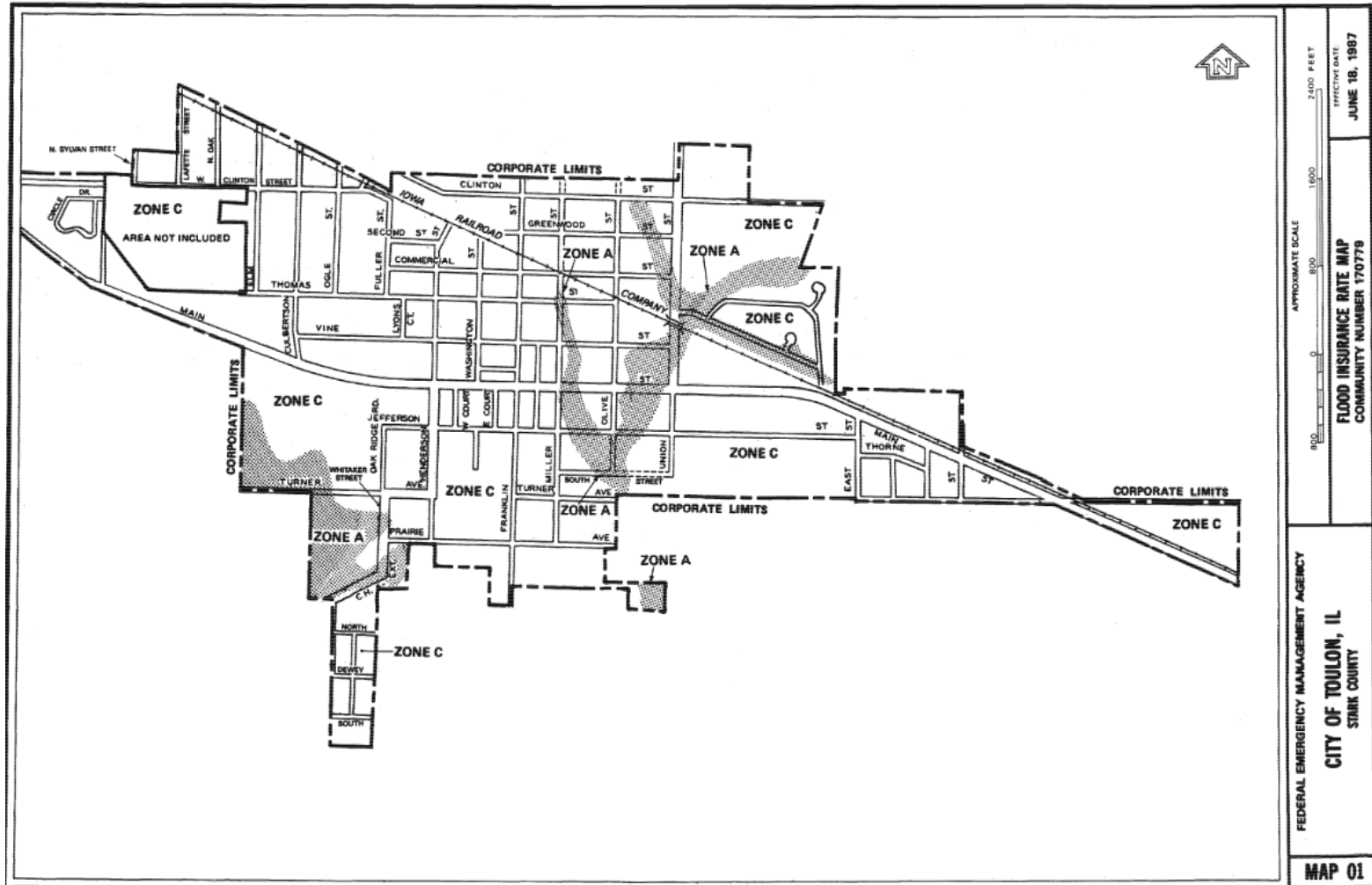




# Effective Paper Maps vs. Future Digital Maps

# Effective Paper FIRM

A graphical representation of the real world



# Effective Paper FIRM

May not lineup well over other data layers



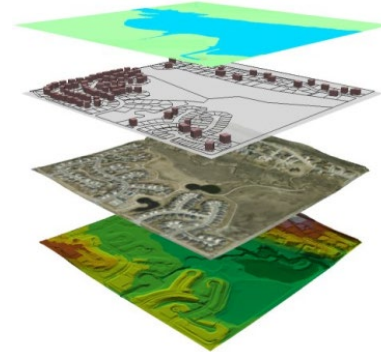
# Geospatial Data

Provides for exact placement of geographic data  
Allowing measurement of true distance and precise digitization



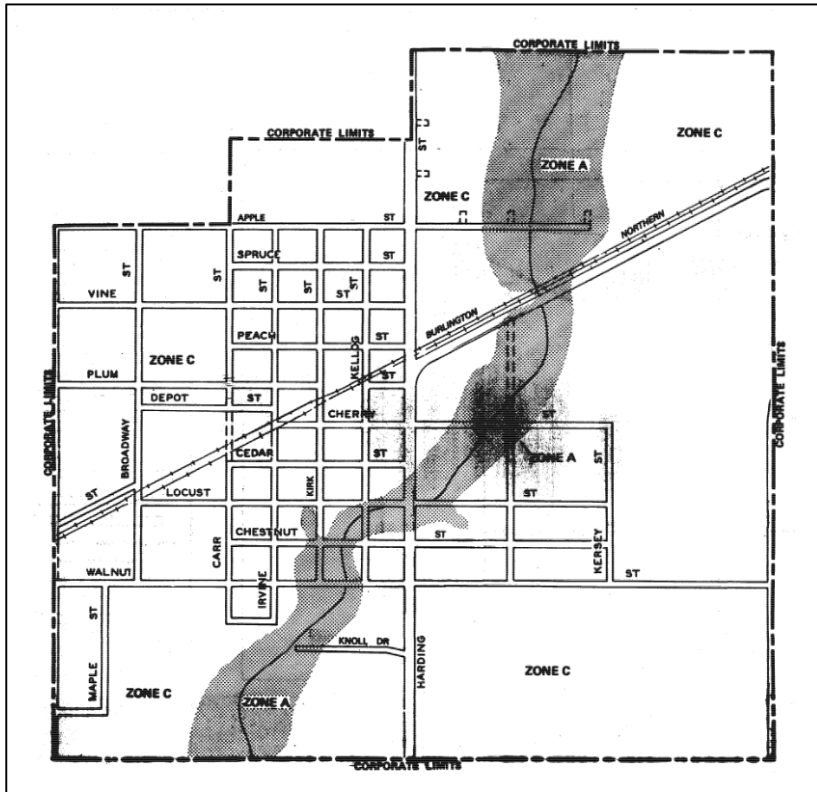
# Advantages of Digital Maps

- Cartographically accurate
- Easier and faster to update
- Can be used with local digital data (such as a parcel layer or a zoning layer)
- Serve as a tool for floodplain management

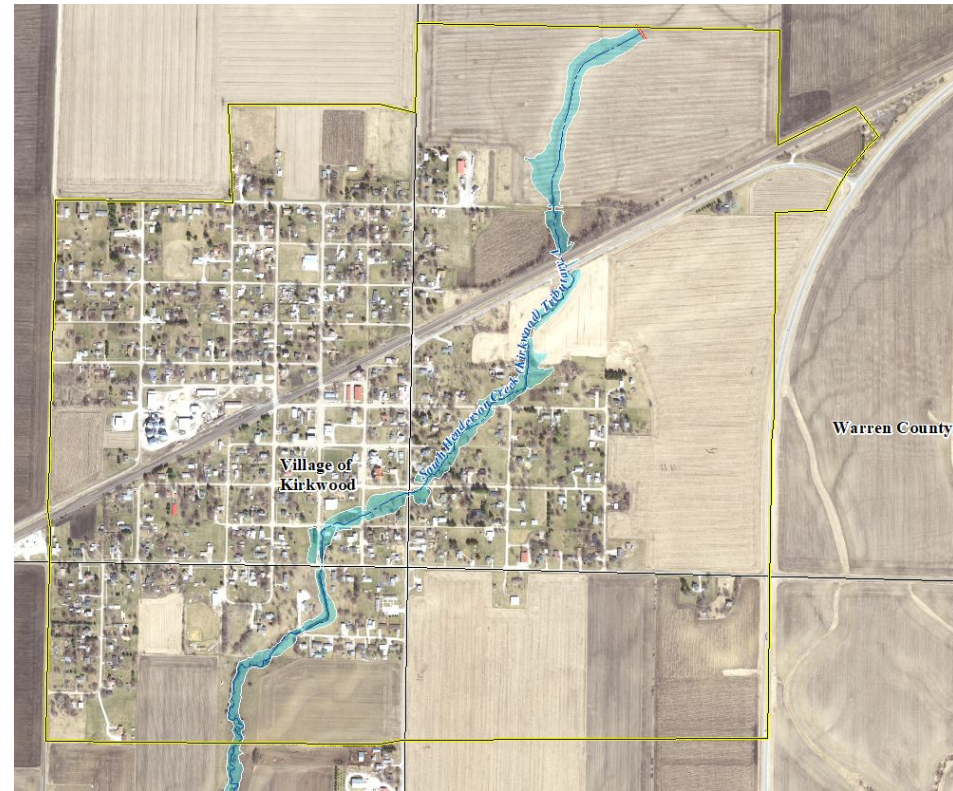


# Paper map vs. Digital map

## Effective Paper Map



## Future Digital Map



**Special Flood Hazard Area (SFHA)**

# Special Flood Hazard Area (SFHA)

- The land area subject to a **1% or greater** chance of flooding in any given year.
- SFHA is the **high-risk** floodplain for flood insurance.
- These areas are indicated on the Flood Insurance Rate Maps in this county as **Zone A**.



# Stark County Effective community-based products vs. Future county-based products

Effective

## Community-based

4 community map sets

- This includes Stark County (Unincorporated Areas)
- No map for La Fayette

No FIS reports

No FIRM Databases

Future

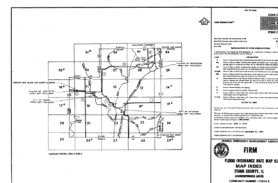
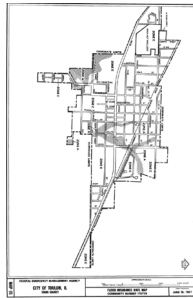
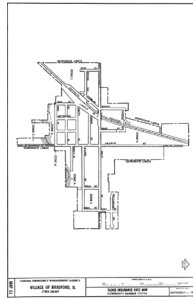
## County-based

1 countywide map set

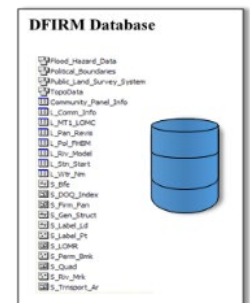
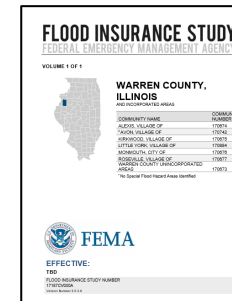
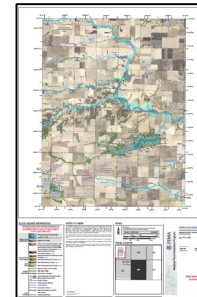
- Inclusive of all communities regardless of floodplain status

A countywide FIS report

A countywide FIRM Database



County Index Map  
Showing 29 panels





# National Flood Insurance Program (NFIP)

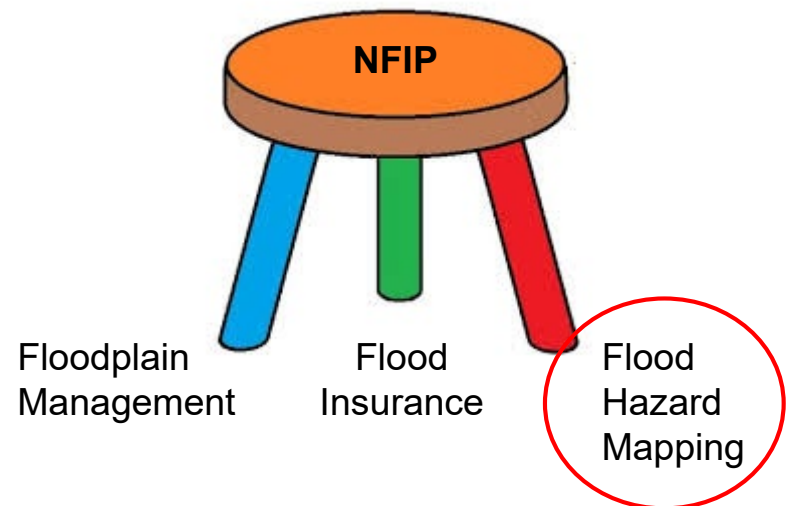
# The National Flood Insurance Program

- 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.

# National Flood Insurance Program (NFIP) Three Related Program Areas

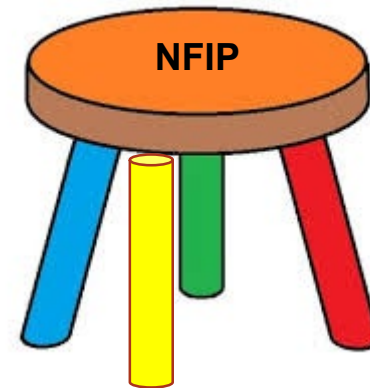
The program balances three related areas that must support each other.

- floodplain management
- flood insurance
- flood hazard mapping



# National Flood Insurance Program (NFIP) Related Program Areas

The program is recognizing  
the importance of mitigation



Mitigation

Every dollar invested in mitigation, saves \$7 in future losses

# Community Impact

## **New Floodplain Maps:**

- Can affect which residents are required to carry flood insurance.
- Show areas of the community which are subject to floodplain management regulations.
- Can affect community planning and flood mitigation.



# Project Scope Data Development Phase

# The county has been divided into study areas by watershed



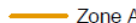
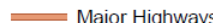
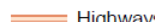
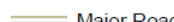
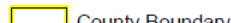


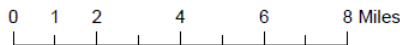
# Stark County Proposed Studies



1. West Fork Spoon River Tributary E
2. East Fork Spoon River
3. East Fork Spoon River Tributary C1
4. East Fork Spoon River Tributary C
5. West Fork Spoon River Tributary A
6. East Fork Spoon River Tributary B
7. East Fork Spoon River Tributary A
8. Coopers Defeat Creek Tributary A
9. Indian Creek
10. Indian Creek Tributary E
11. Indian Creek Tributary D
12. Spoon River Tributary J1
13. Spoon River Tributary J
14. Spoon River Tributary H
15. Spoon River Tributary I

### Proposed Stream Study Type

-  Zone A
-  Major Highways
-  Highways
-  Major Roads
-  County Boundary



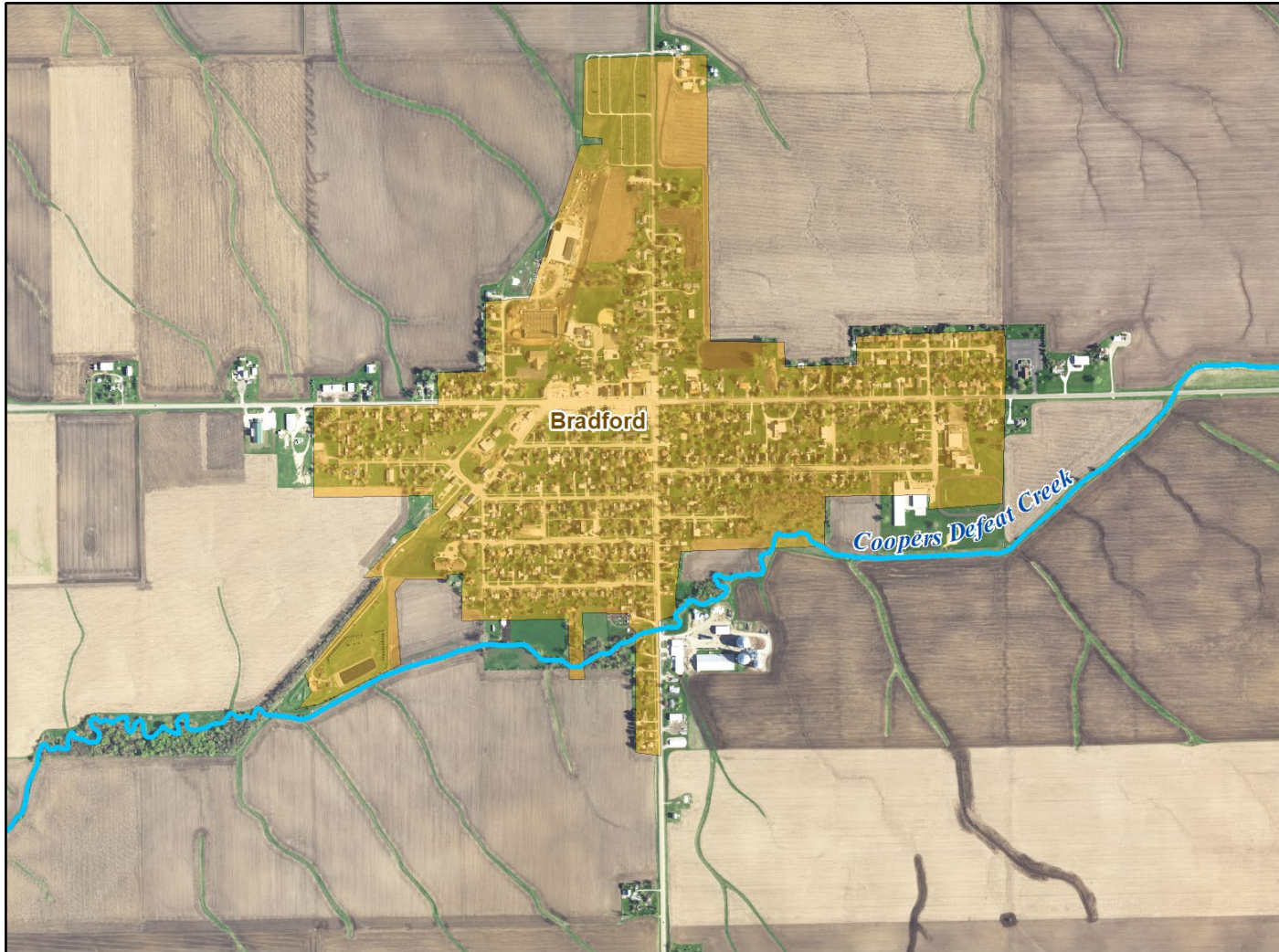
# Floodplain Studies Overview

- Model 156 miles of stream
- Map Zone A SFHA
- NAVD88 Vertical Datum

Average Vertical Datum Conversion Factor for Stark County, IL = -0.24ft

$$\text{NGVD29} - 0.24 = \text{NAVD88}$$

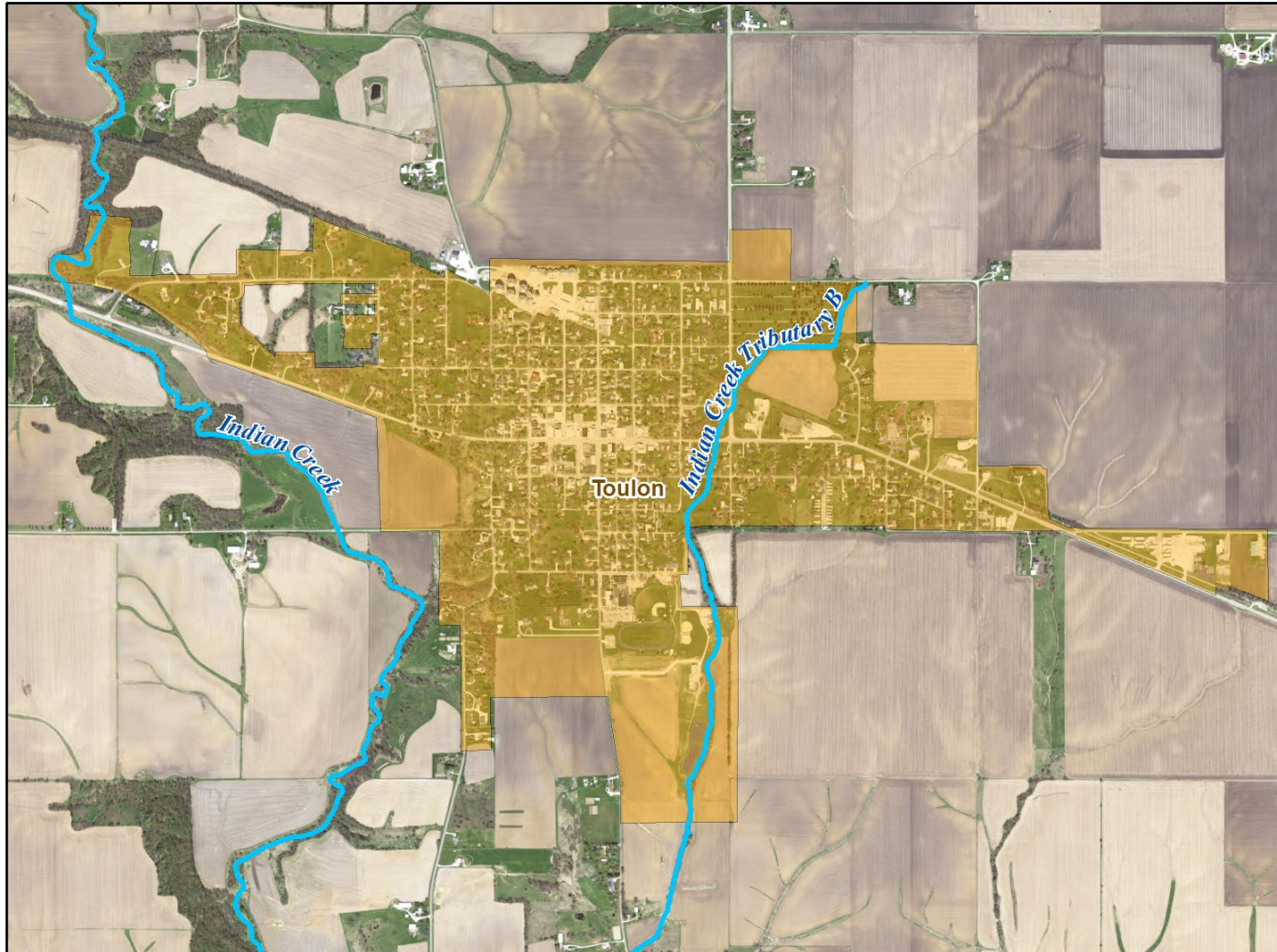
# Bradford Area Proposed Study Streams



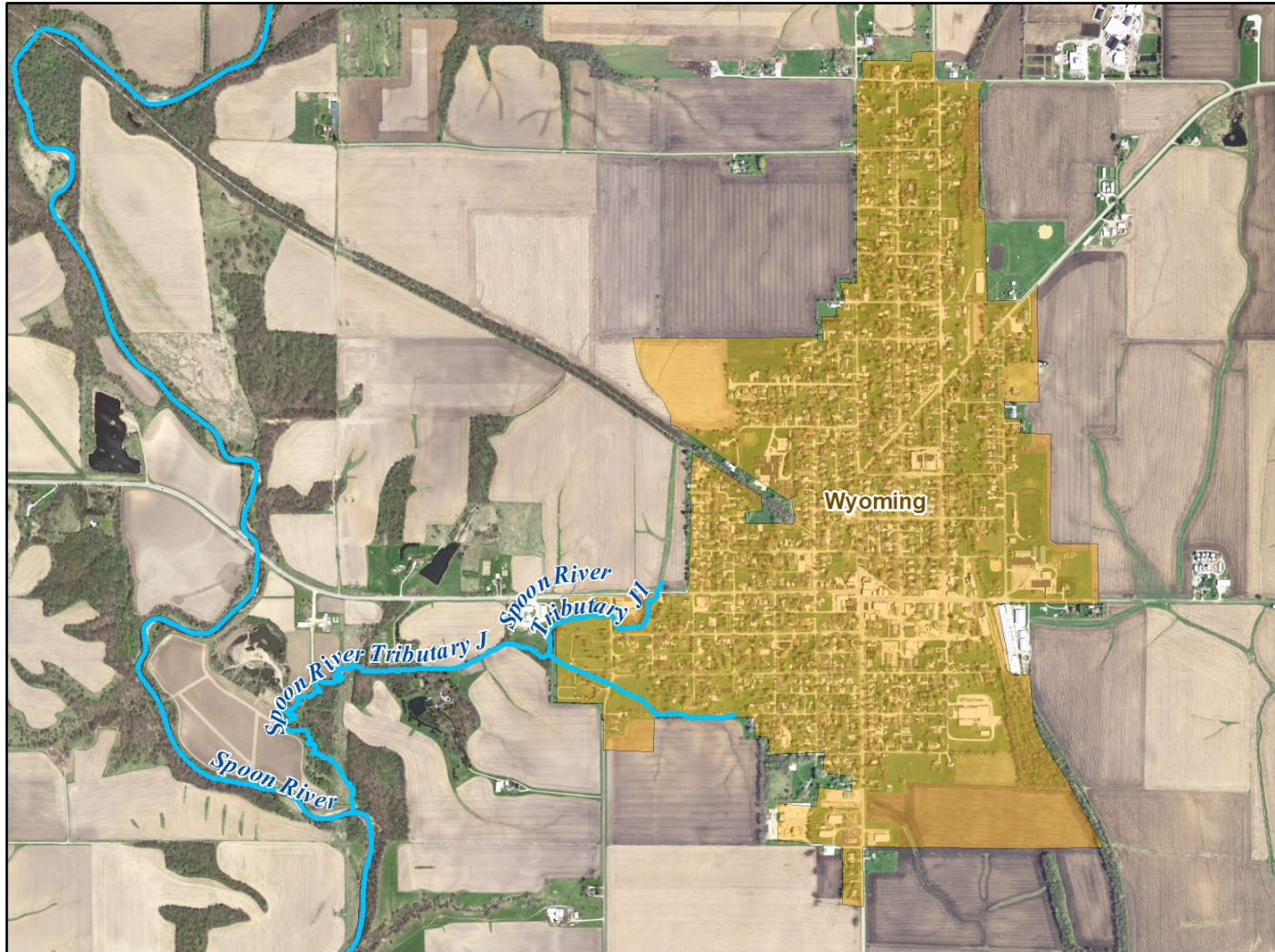
# La Fayette Area Proposed Study Streams



# Toulon Area Proposed Study Streams



# Wyoming Area Proposed Study Streams





# Project Communication Data Development Phase

# Communication Plan

- Project Initiation Coordination Call (today).
- Proposed Engineering Methods Notification Letter (by end of July).
- Flood Risk Review Meeting.
- Data Submission Notification Letter.

# Proposed Engineering Methods Letter

- Mailed to community CEOs.
- Details the streams to be studied within the community and the engineering methods proposed for each study stream.
- Informs the community of a 30-day period to provide comments on the proposed engineering methods for the study streams.



# Engineering Methods 101

- **Hydrology** – Determine 1% Annual Chance (100-Year) stream flows
  - USGS Regression Equations
- **Hydraulics** – Determines 1% Annual Chance (100-Year) flood elevations
  - USACE HEC-RAS Hydraulic Models
    - One-dimensional steady flow

# Flood Risk Review Meeting

- A technical meeting to review *draft* workmaps with community officials, engineers, and floodplain managers. Public meetings will be held later in the project.
- The meeting initiates a 30-day comment period for communities to provide feedback on the *draft* floodplain mapping.

# Data Submission Notification Letter

- Mailed to community CEOs.
- Makes community aware the data collection and analysis phase of the project is concluding, and Flood Insurance Rate Map (FIRM) database is being validated by FEMA.
- Initiates a 30-day period for community to comment on the data in the FIRM database.



# Project Schedule Data Development Phase

# Estimated Schedule

- Engineering Notification letters to communities late July 2020.
- ISWS to finish floodplain studies early 2021.
- Flood Risk Review Meeting likely Spring 2021.
- Complete draft FIRM database to conclude data development phase of project and send Data Submission Notification letters likely mid 2021.
- Digital Flood Insurance Rate Map Project to follow pending conclusion of data development.



# Community Participation Data Development Phase



# Community Participation

- Do you have data or information that we can use for the floodplain studies?
  - Local floodplain studies
  - Identified flood prone areas
  - Flood photos
  - Historic high-water marks
- Stay engaged in the process...
  - Attend meetings
  - Ask questions
  - Inform others
  - Update contact Information



Questions





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## Illinois State Water Survey

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