FEMA

Peoria County Project Meeting December 04, 2018

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Sally McConkey P.E. CFM
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RiskMAP
Increasing Resilience Together

ILLINOIS
Illinois State Water Survey
PRAIRIE RESEARCH INSTITUTE

Risk MAP (Mapping, Assessment, Planning)

Through collaboration with State, Local, and Tribal entities, Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property

Meeting Goals

- **Provide information about the project**
- **Gather information**
- **Answer questions**

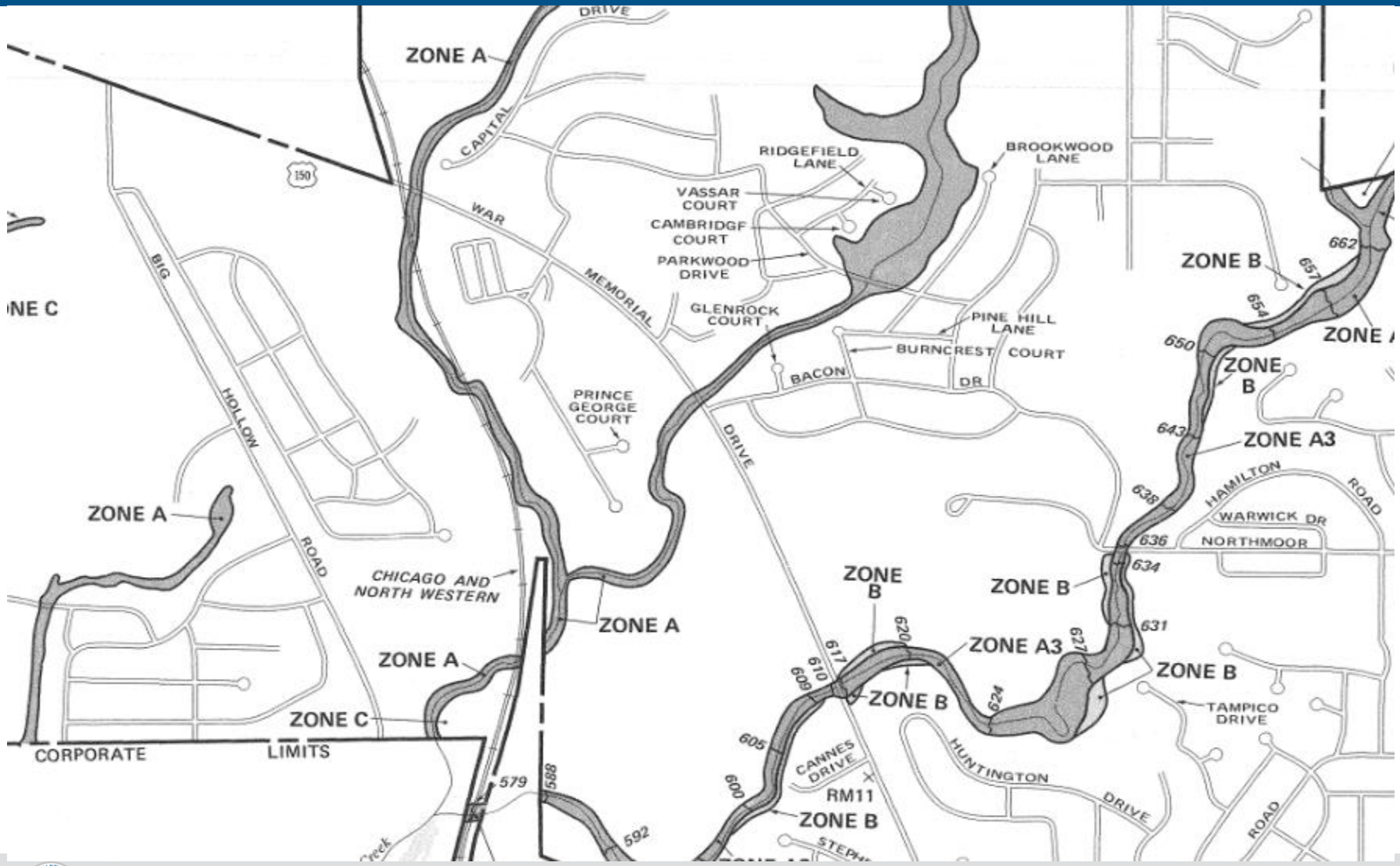
Topics

- **Background / Terminology / History of Flood Insurance Rate Map projects in Peoria County**
- **Scope of Current Project**
- **Project data needs**
- **Interactive web map**
- **Process Sequence**
- **Next steps**
- **Q&A**
- **Break out session**

Basic FIRM Terms: SFHA, Zone AE, Zone A and Zone X

- **SFHA: Special Flood Hazard Area (generic term for 1-percent-annual-chance floodplains shown on a Flood Insurance Rate Map)**
- **Zone AE: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones.**
- **Zone A: Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.**
- **Zone X: (shaded) Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones.**

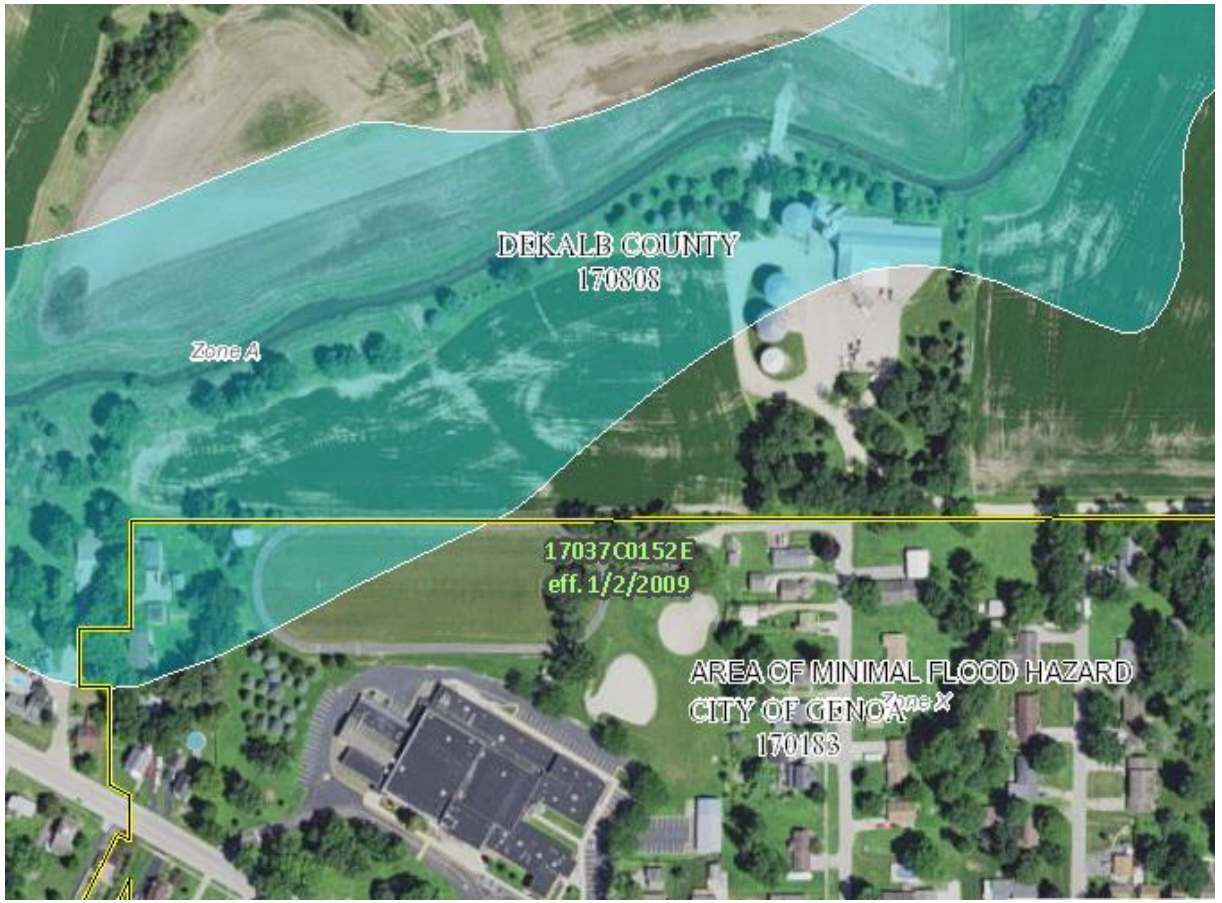
Paper FIRMs


ZONE A
CAPITAL
DRIVE
150
WAR
MEMORIAL
RIDGEFIELD LANE
VASSAR COURT
CAMBRIDGF COURT
PARKWOOD DRIVE
GLENROCK COURT
BROOKWOOD LANE
PINE HILL LANE
BURNCREST COURT
BACON
DR
ZONE B
662
657
654
650
ZONE A
ZONE B
643
ZONE A3
HAMILTON
ROAD
WARWICK DR
NORTHMOOR
638
636
634
631
627
624
620
617
610
609
605
600
ZONE B
ZONE A3
ZONE B
TAMPICO DRIVE
HUNTINGTON
DRIVE
CANNES DRIVE
RM11
ZONE B
ROAD
PRINCE GEORGE COURT
DRIVE
BIG
HOLLOW
ROAD
ZONE A
CHICAGO AND NORTH WESTERN
ZONE A
ZONE A
ZONE C
CORPORATE
LIMITS
579
588
592

Digital Flood Insurance Rate Map

Zone A

- **Areas subject to inundation by the 1-percent-annual-chance flood event.**
- **Base level engineering study (regression equations and no structures)**
- **NO Base Flood Elevations (BFEs) shown**



Digital Flood Insurance Rate Map

Zone AE

- **BFEs have been established based on detailed engineering study**
- **Profiles for 0.2%, 1% , 2%, 4% and 10% annual chance flood events**
- **floodway**
- **BFEs shown flood depths available**

Zone X shaded

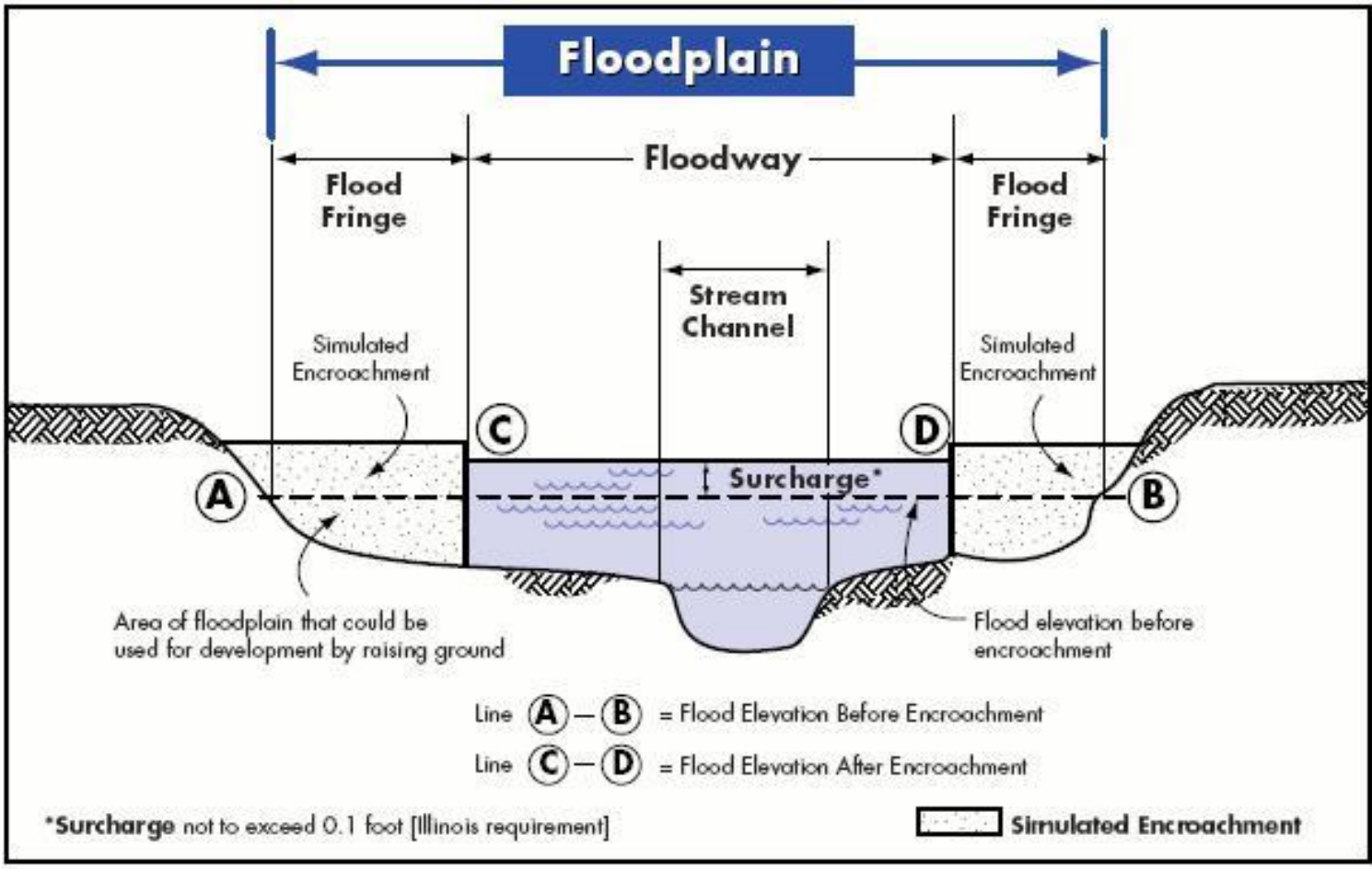
Floodway

Illinois Floodway Criteria

< 0.1 foot elevation increase

< 10% avg. velocity increase

< 10% decrease in storage (area)



Background/History of FIRMs

- **Effective Flood Insurance Rate Maps**
  - paper format & community based
  - effective dates 1979-1983
  - hydrologic and hydraulic studies 1974 to 2015 (after 1983 LOMRs)
- **2003 FEMA initiated a project to covert to digital / geospatial platform- lead by FEMA contractor**
- **Project on hold to resolve various issues**
- **2012 ISWS – held meeting with community and county representatives introducing a "restart" of the countywide mapping project (expected release of digital products 2016 – delayed)**
- **Project on hold to resolve outstanding levee issues**
- **2018 ISWS funded to update detailed studies for compliance with FEMA standards and release regulatory products**

Peoria County Project

Scope in 2012

- Countywide digital Flood Insurance Rate Maps
- Illinois River BFEs from USACE 2004 study
- Zone A floodplain boundaries derived from "base level" engineering models
- Incorporate effective Letters of Map Revision (LOMRs)- ongoing
- Datum conversion from NGVD 1929 to NAVD 1988: -0.271 feet
- Update Flood Insurance Study (FIS)
- ~~Zone AE floodplain boundaries re-delineated to match topographic data~~
- "Valid" Zone AE flood boundaries re-delineated to match topographic data

Added Scope 2018

- Zone AE – "unverified" studies → hydrology and hydraulics updated
- Resolution of levee accreditation/ de-accreditation issues (by FEMA)

Peoria County Data Development Scope

Data Development:

- 69 Miles Zone AE's w/FW
- 1 mile Zone A
- Big Hollow Creek, Big Hollow Creek Tributary A, North Fork Tributary Big Hollow Creek.
- Boyds Hollow Creek
- Dry Run Creek, Dry Run Creek A, East Branch Dry Run Creek, Dry Run Creek C
- Fargo Run, Fargo Run Tributary A, Fargo Run Tributary A1, Fargo Run Tributary B, Fargo Run Tributary C.
- Kickapoo Creek, Kickapoo Creek Tributary A,
- Poppet Hollow Creek
- Springdale Creek

- Modeling Methodology (FEMA 620 Letters).

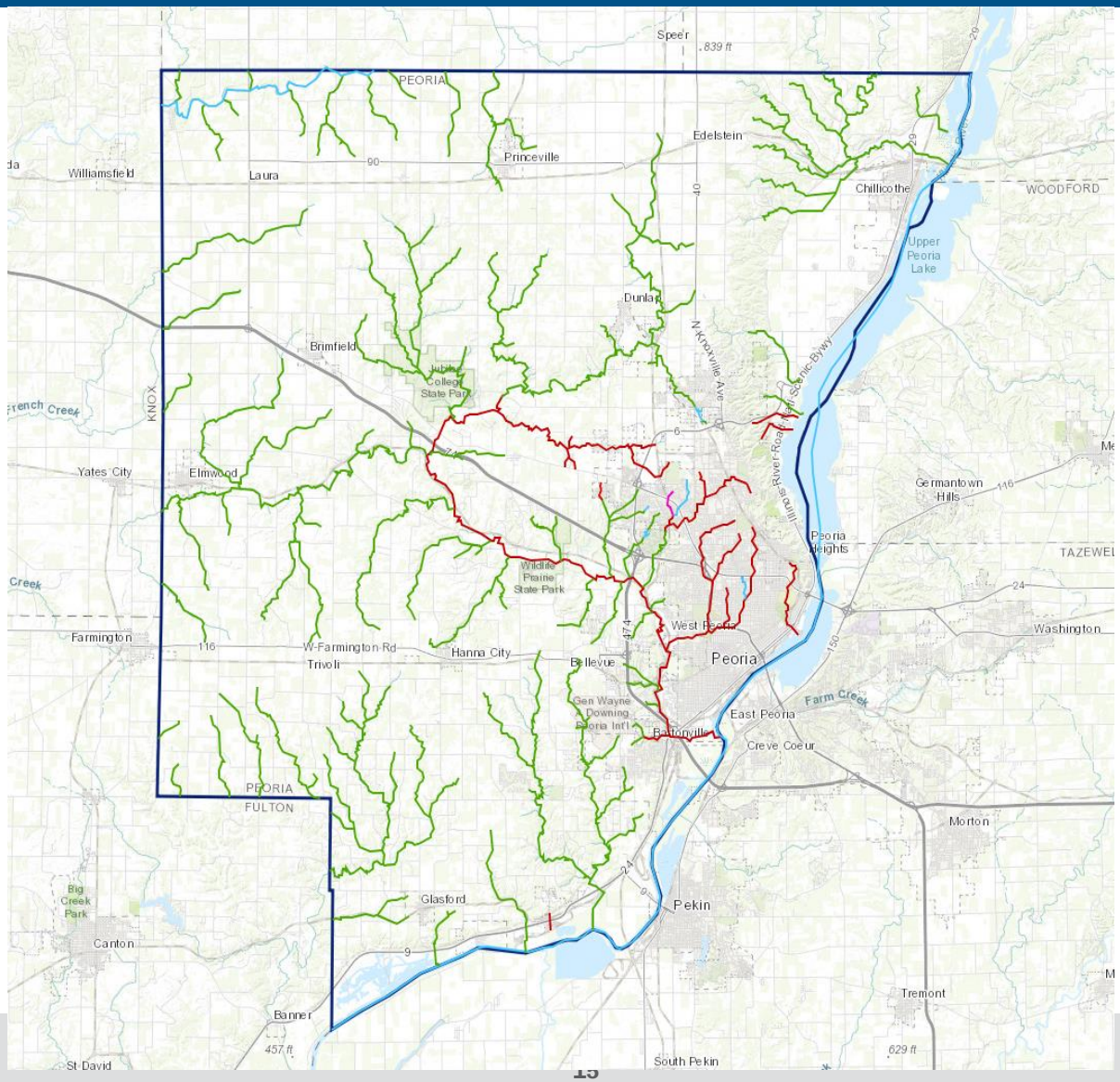
Project Data

- **Data Sources**
  - 2012 LiDAR;
  - 2011 Orthophoto basemap; (note: more recent Orthophotos are available SAM 06Dec2018)
  - Soil Survey (SSURGO) 2014
  - Land Use – 2011 National Land Cover
  - Bulletin 70 Rainfall Depths
    - Update to Bulletin 70 by ISWS (December 2018)
- **Need from Community**
  - Structure Data:
    - As-Built Plans, or
    - Proposed Field Survey, or
    - Planned structure replacement.
  - Channel Cross Sections:
    - Existing data, or
    - Proposed Field Survey.

Project Data – Cont'd

- **Need from Community**
  - Existing models for local projects
  - Storm sewer boundaries and networks
  - High Water Marks;
  - Flood photos with dates/time;
  - Add comments to interactive map.
  - Assistance with public notification for channel and bridge surveys (Winter/Spring 2019).
    - Survey notification plan:
      - ISWS will prepare a list of property addresses to receive notifications;
      - ISWS and communities will send a joint letter to individual property owners;
      - ISWS will issue a press release for news outlets to use;
      - Communities notify police, fire and public works departments;
      - Communities post notice on their websites.

Interactive Map (Overview)



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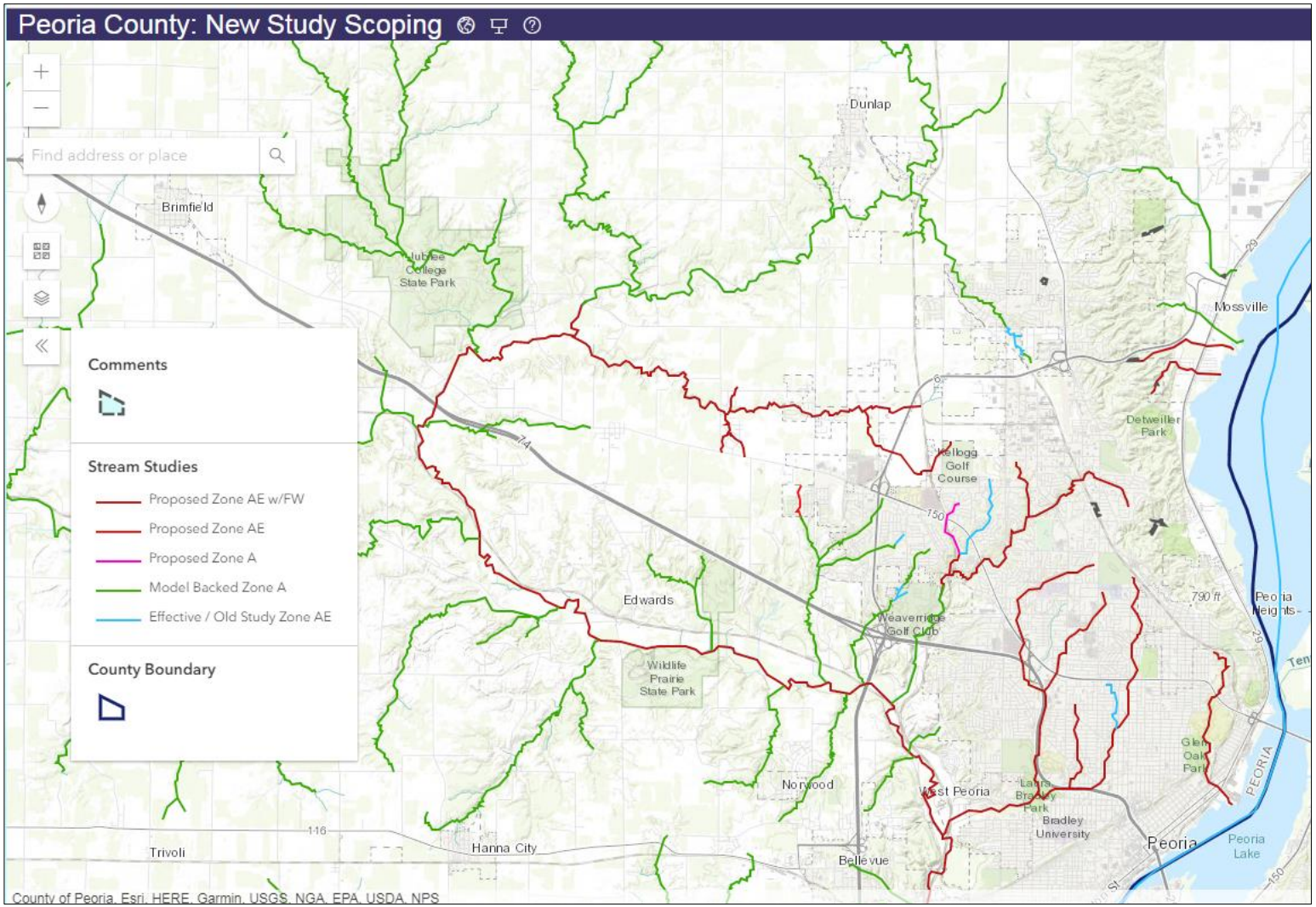
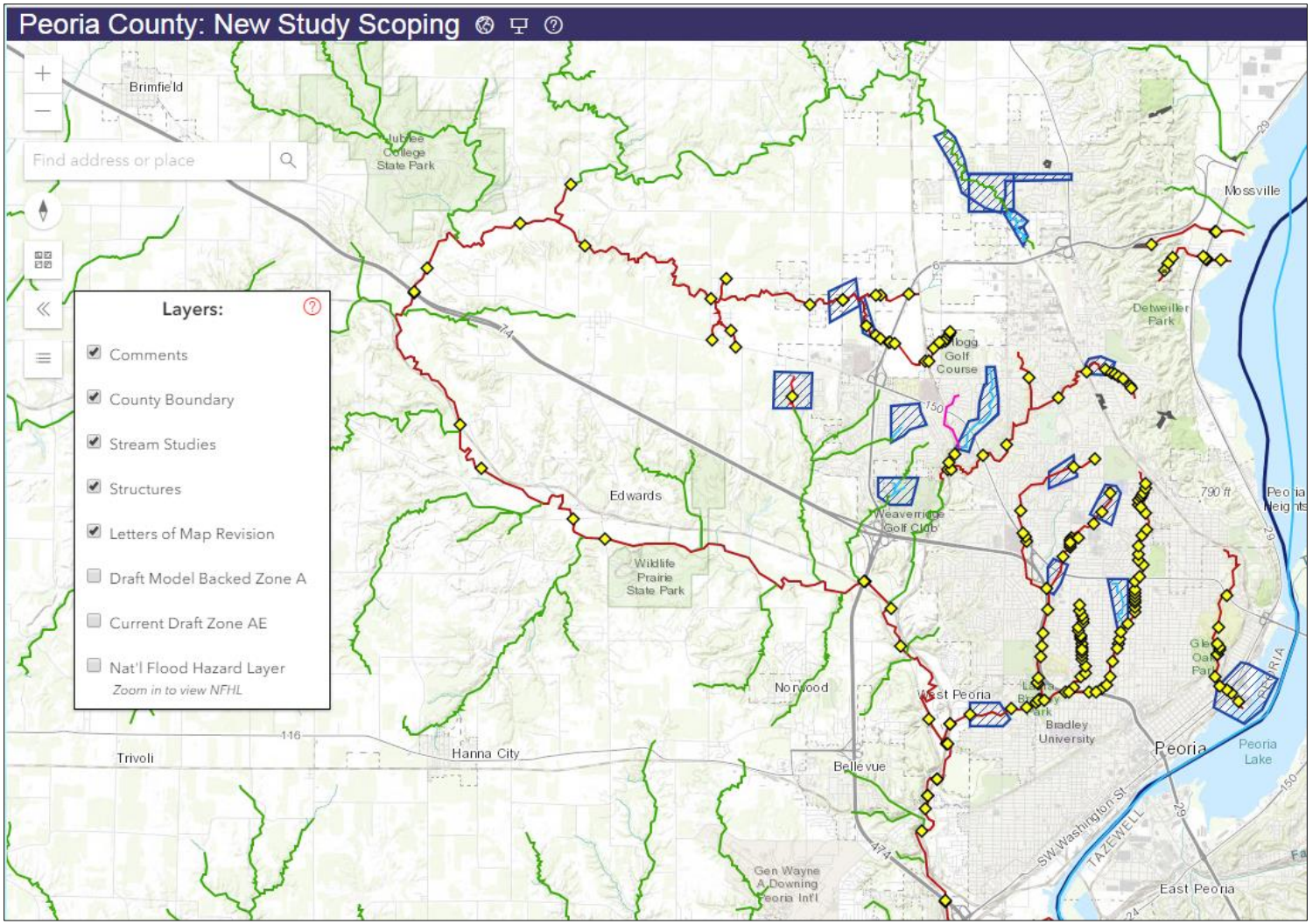
Interactive Map




Peoria County: New Study Scoping
Find address or place
Layers:
Comments
County Boundary
Stream Studies
Structures
Letters of Map Revision
Draft Model Backed Zone A
Current Draft Zone AE
Nat'l Flood Hazard Layer
Zoom in to view NFHL
Brimfield
Jubilee College State Park
Mossville
Detweiler Park
Edwards
Wildlife Prairie State Park
Norwood
Trivoli
Hanna City
Bellevue
Peoria
Peoria Lake
East Peoria
Bradley University
Gen Wayne A Downing Peoria Int'l

Data Form

Peoria Risk MAP Data Request

1. Contact Information

Name	Position
Address	
Email Address	Phone Number

2. Community Base Map Data (Please describe)

- Municipal Boundaries ☐
- Elevation/Topographic Data ☐
- Land Use and/or Zoning Plan Maps ☐

3. Engineering: Hydrologic Data

The following information is helpful in creating accurate, precise, and efficient models. Data sets in GIS, HEC-RAS, SWMM, and other digital formats are easiest to implement.

- Retention-Detention Areas ☐
- National Inventory of Dams (NID) Information ☐
- Reservoir Plans ☐
- Storm Sewer Network ☐
- Local Hydrology Studies ☐
- Historical Flood Data: news articles, high water marks, photos, disaster declarations ☐

I will deliver this information to ISWS through

4. Engineering: Hydraulic Data

The following information is helpful in creating accurate, precise, and efficient models. Data sets in GIS, HEC-RAS, SWMM, and other digital formats are easiest to implement.

- Streamline Alterations ☐
- Dredging, stream bed, and channel alterations ☐
- Stream embankments and obstacles ☐
- Levee: information, surveys, measurements ☐
- Local hydraulic studies ☐
- Structures: bridges, weirs, dams, as-built plans or surveys ☐

I will deliver this information through

Return to: Mary Richardson email: mjr@illinois.edu
Mail attn.: M J Richardson, ISWS, 2204 Griffith Dr., MC-674, Champaign, IL, 61820

Risk MAP process (~4 years)

- ***Data Development* – communities asked to provide data and feedback on planned flood studies and methods**
- **Field Survey data collection and modelling**
- ***Flood Risk Review Meeting* – communities review draft maps and models and provide feedback**
- ***Preliminary Flood Insurance Study and Maps* – distributed to communities for comment**
- ***Open House Meeting and Community Official Meeting* – review preliminary studies and maps, review due process**
- ***Comment Period* - for Preliminary Flood Insurance Study and Maps – 30 days**
- ***Appeal Period* - for Preliminary Flood Insurance Study and Maps – 90 days**
- ***Comments and Appeals Resolved* – written communication to communities**
- ***Final Flood Insurance Study and Maps* – provided to communities with notification regarding adoption (6 months to adopt)**
- ***Flood Insurance Rate Map and Study* – effective for flood insurance and floodplain management**

Expedite the process - Best to deal with new data and community concerns by Flood Risk Review.

NEXT STEP: Gather information on flood study and mapping needs

- streams where the effective study/ mapping does not reflect existing conditions
- streams where base flood elevations are needed
- areas of growth where more detailed flood study data is needed
- available technical data to support hydrologic and hydraulic studies
- storm sewer networks
- restrictive bridges, culverts or other structures
- overtopped roads
- dams
- areas of stream erosion
- levees and levee like structures and failures
- flood photos, high water marks, reports of past flooding
- Only two gages in the study area, extremely important to provide observations of past flood events or current flood events during the project

QUESTIONS?

- Mary Richardson CFM
- Sally McConkey P.E. CFM
- Aaron Thomas P.E., CFM
- Roger Denick P.E., CFM (STARR II- Stantec)