



ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

Richland County

FEMA Risk MAP

Project Initiation Coordination Call

December 7, 2020

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Illinois State Water Survey

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FEMA

Richland County Floodplain Mapping Project Initiation Meeting

Agenda

- Rollcall
- Project Objectives and Goals
- National Flood Insurance Program / Mitigation
- Project Scope
- Communication
- Schedule
- Community Participation

Rollcall

- County Engineer
- FPA
- Community CEO
- Emergency Manager
- IDNR/OWR
- FEMA
- IEMA
- Anyone else?

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, mitigation planning, 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 and Goals

FEMA National Objectives



- Little Wabash Discovery *August 2016*
- Little Wabash Data Development *February 2020*
- Complete County Data Development *Now*

Richland County Project Objectives

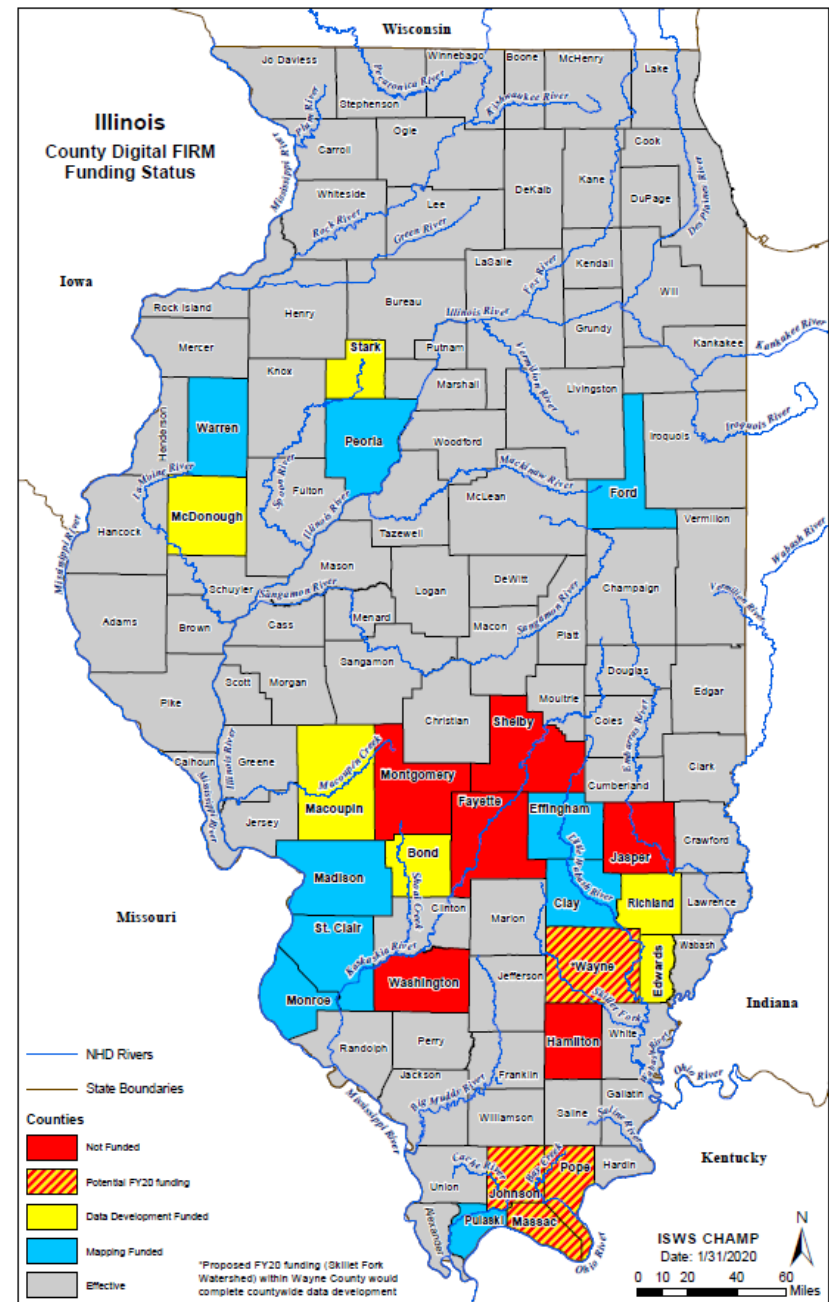
- Develop new floodplain studies for Richland County.
- Incorporate the study results into a Hydrologic and Hydraulic report.

For the next phase, to incorporate resulting floodplain delineations into a countywide digital Flood Insurance Rate Map (FIRM).

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

Richland County

Effective Community-based

No FIS reports

No FIRM Databases

Paper Flood Hazard
Boundary Map (FHBM)

- 11/1/1984
- Unincorporated: 6 Panels
- Community: 1 Panel

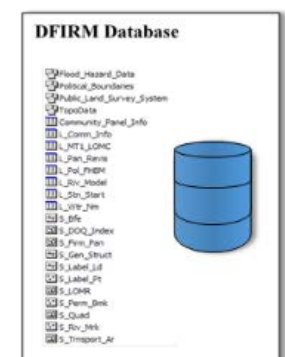
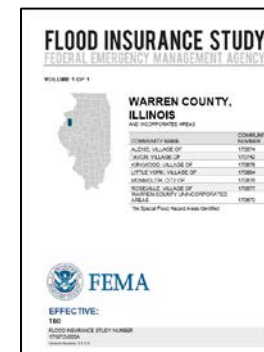
Future County-based

Countywide FIS report

Countywide FIRM Database

Digital FIRMs:

- 1 Countywide map set

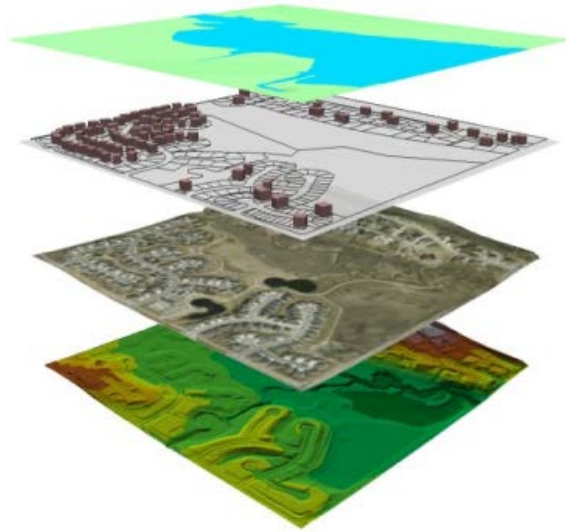


Effective Paper FIRM (FHBM)

A graphical representation of the real world



Digital Maps

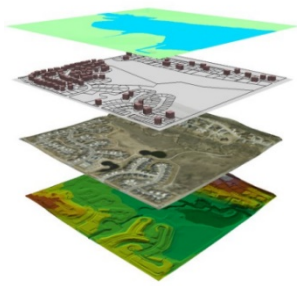


- 1. Floodplain delineation**
- 2. Roads**
- 3. Orthophotos (aerials)**
- 4. Topography**

Advantages

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

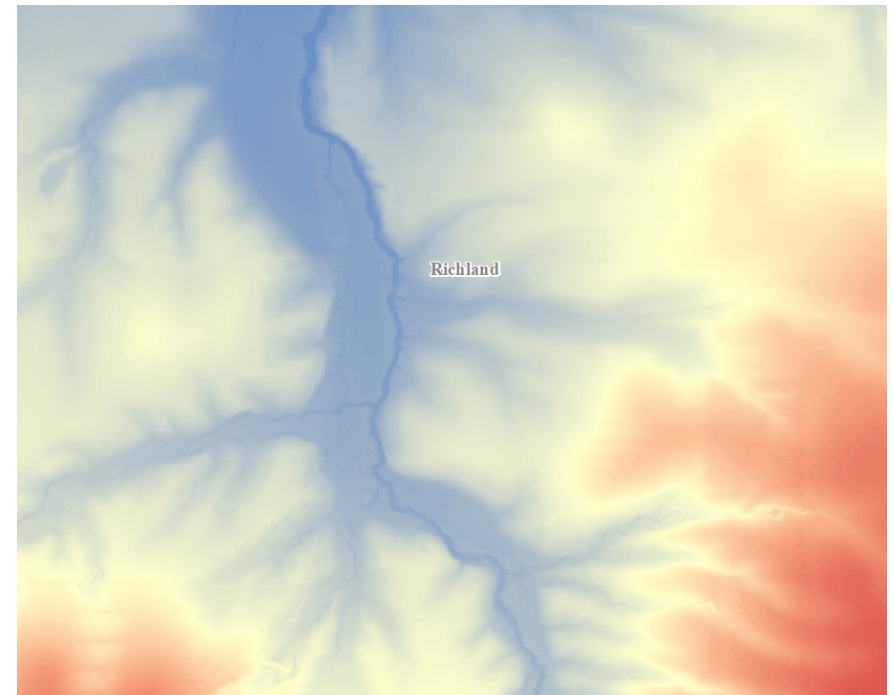
Proposed Data



Orthophoto:
2017 IDOT imagery



Topographic Data:
Digital Terrain Model (DTM)
from 2011 LiDAR



Special Flood Hazard Area

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 designated as **Zone A** or **Zone AE** based on the analysis level deemed appropriate for the study area.

Zone A	Areas subject to inundation by the 1-percent-annual-chance flood event. NO Base Flood Elevations are shown.
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National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP)

- 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.

NFIP Participating Communities Richland County, Illinois

<https://www.fema.gov/cis/IL.pdf> downloaded 11/19/2020

CID	Community	Init FHBM	Init FIRM	Curr Eff Map
170995#	Richland County	06/08/79	---	11/01/84
170581#	Olney, City of	02/22/74	09/04/85	09/04/85

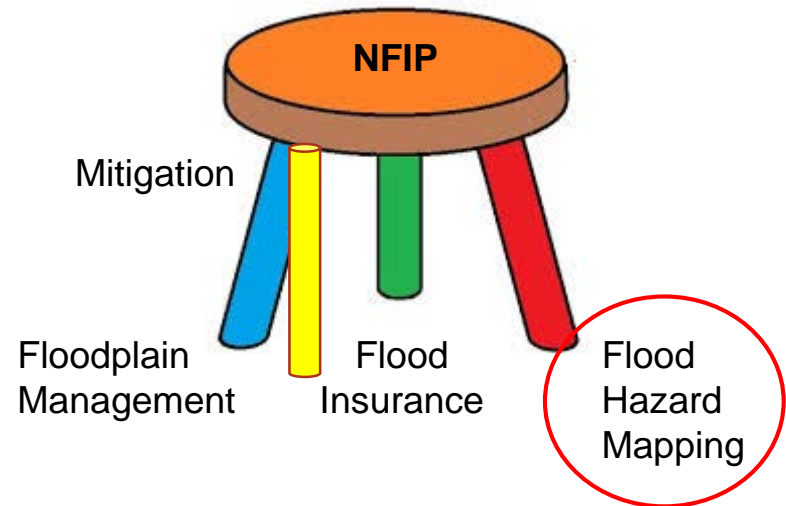
	Emergency Program	Regular Program
Building Coverage		
Single-family dwelling	\$ 35,000*	\$250,000
Two- to four-family dwelling	\$ 35,000*	\$250,000
Other residential	\$100,000*	\$250,000
Non-residential	\$100,000*	\$500,000
Contents Coverage		
Residential	\$ 10,000	\$100,000
Non-residential	\$100,000	\$500,000

https://www.fema.gov/media-library-data/20130726-1438-20490-1905/f084_atq_11aug11.pdf

National Flood Insurance Program Three Related Program Areas

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

- floodplain management
- flood insurance
- flood hazard mapping

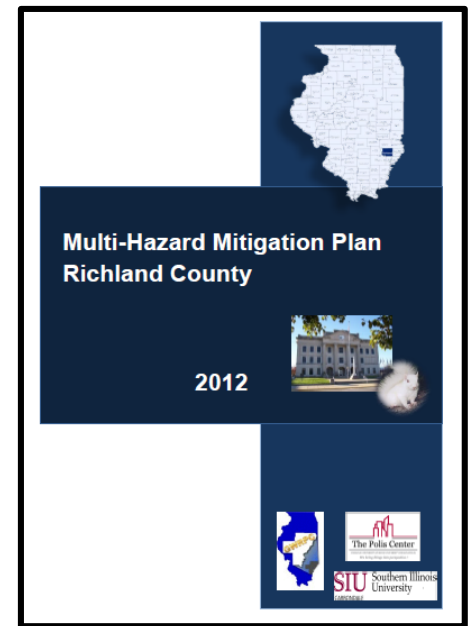


The program is recognizing the importance of mitigation



Hazard Mitigation

Richland County Hazard Mitigation Plan (2013)



HAZARD CATEGORIES	PROBABILITY	IMPACT	OVERALL RISK
	<i>Low, Medium, High</i>	<i>Minimal, Moderate, Significant</i>	<i>Low, Moderate, Severe</i>
RICHLAND COUNTY (ALL)			
Tornado	Medium	Moderate	Moderate
Flood	High	Moderate	Severe
Dam/Levee Failure	Low	Significant	Moderate
Earthquake	Medium	Significant	Moderate
Severe Thunderstorm	High	Significant	Severe
Winter Weather (snow & ice)	High	Significant	Severe
Drought/Extreme Heat	Medium	Minimal	Low
Hazardous Materials Release	High	Significant	Severe
Structural Failure & Fires	Medium	Moderate	Moderate

Hazard Mitigation

FEMA-Declared Emergencies (1961-2011)

Date of Incident	Date of Declaration	Disaster Description	Type of Assistance
May 15 – July 3, 1990	June 22, 1990	Severe Storms and Tomadoes,	Individual
April 28 – 17May, 1996	May 6, 1996	Severe Storms and Flooding	Public
April 21-May 23, 2002	May 21, 2002	Severe Storms, Tomadoes, and Flooding	Individual and Public
Dec 21 – Dec 23, 2004	February 1, 2005	Snow	Public
Jan 31-Feb 3, 2011	March 17, 2011	Severe Winter Storm and Snowstorm	Public




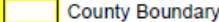
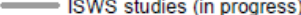

Goal: Support compliance with the NFIP

- (High) Increase public awareness of the benefits of the NFIP program
 - Create new or revise existing plans/maps for the community
- (Medium) Improve and enforce floodplain ordinances to ensure that new construction does not occur in floodplains

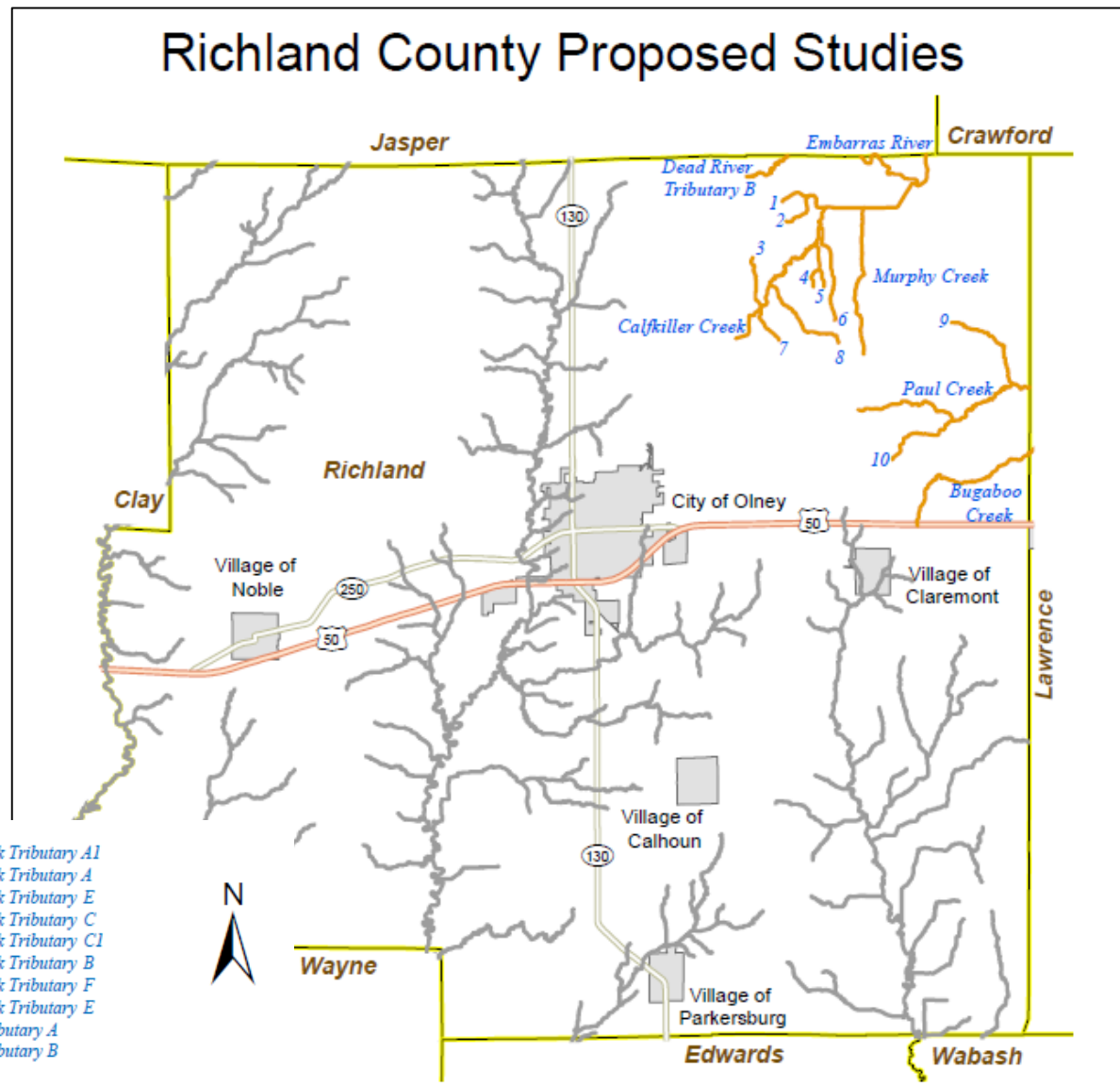
Project Scope Data Development Phase

Floodplain Studies Overview-Proposed Studies

Richland County Proposed Studies

-  Major Highways
-  Highways
-  Major Roads
-  County Boundary
-  ISWS studies (in progress)
- Proposed Stream Study Type**
-  Zone A

1. Calfkiller Creek Tributary A1
2. Calfkiller Creek Tributary A
3. Calfkiller Creek Tributary E
4. Calfkiller Creek Tributary C
5. Calfkiller Creek Tributary C1
6. Calfkiller Creek Tributary B
7. Calfkiller Creek Tributary F
8. Calfkiller Creek Tributary E
9. Paul Creek Tributary A
10. Paul Creek Tributary B



January 14, 2020

Project Scope

- Develop New Floodplain Studies
 - 32 miles of update Effective Zone A streams
 - 7 miles new Zone A streams
 - 18 miles of re-delineation of Embrassas River
- Develop Draft Floodplain Mapping
- Community Outreach and Engagement

Complete Digital Flood Insurance Rate Maps
(Later Phase)

Project Communication Data Development Phase

Proposed Engineering Methods Letter

FEMA Standard ID 620

- Mailed to community CEOs, Floodplain Administrator, Community Engineer
- Details the streams to be studied in community and proposed engineering methods used to study each stream
- Informs community about 30-day period to provide comments on the proposed engineering methods for the study stream
- Email format during ongoing Covid-19 guidelines.

Proposed Engineering Methods

Hydrology – Determine 1% Annual Chance (100-Year) stream **flows**

- USGS Regression Equations

Hydraulics – Determines 1% Annual Chance (100-Year) flood **elevations**

- Zone A: HEC-RAS Hydraulic Models

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

FEMA Standard ID 621

- Mailed to community CEOs, Floodplain Administrator, Community Engineer
- 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
- Gives communities 30 days to comment on the data in the FIRM database

Communication Plan Review

- Project Initiation Coordination Call (today)
- Proposed Engineering Methods Notification Letter SID 620
 - 30-Day Comment Period
- Flood Risk Review Meeting
 - 30-Day Comment Period
- Data Submission Notification Letter SID 621
 - 30-Day Comment Period

Please reach out to Mary Richardson at mjr@Illinois.edu

Project Schedule

Data Development Phase

Estimated Schedule

- Engineering Notification Letters to communities likely by
 - *January 2021*
- ISWS to finish Zone A floodplain studies by
 - *Summer 2021*
- Flood Risk Review Meeting likely
 - *Summer 2021*
- Complete draft FIRM database to conclude data development phase of project by
 - *July 2022 or sooner for Internal Handoff to Mapping*

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

Data

Data Development Phase

Data Development Community Participation

- Do you have data or information that we can use for the floodplain studies?
 - 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

The screenshot displays the 'Richland County Comments' interface on the Illinois Flood Maps website. The main map area shows an aerial view of a residential and commercial area with various flood zones overlaid: Zone A (orange), Zone AE (green), and Zone C (grey). A comment form is open on the right side of the map, showing the following details:

- View Comment**
- Single-click a Comment to view its attributes.
- The Flood Risk Review comment period ended Mar 31, 2020. Thank you to those who submitted comments.
- Email:** rmeekma@illinois.edu
- Name:** Mike Bridges
- Organization:** Richland County, City Eng
- Category:** Other
- Water Name:** Fox River Trib C
- Comment:** RPM received phone call from Mike on 2/25/2020. Mike,
- Buttons:** Update, Delete

On the left side of the map, there is a legend and search bar:

- Comments:** 7
- Water Lines:** Zone A (orange), Enhanced Zone A (purple), Zone AE (green)
- Watershed Boundary:** (green outline)
- Other FEMA Flood Maps:** High: 1 (light grey), Low: 0 (dark grey)
- Search:** Find address or place

<https://www.illinoisfloodmaps.org/commentmap/richland.htm>

log in: watershed
password: illinoisfloods!123

Ultimate Goal! Paper Map to Digital Map





Questions and comments



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