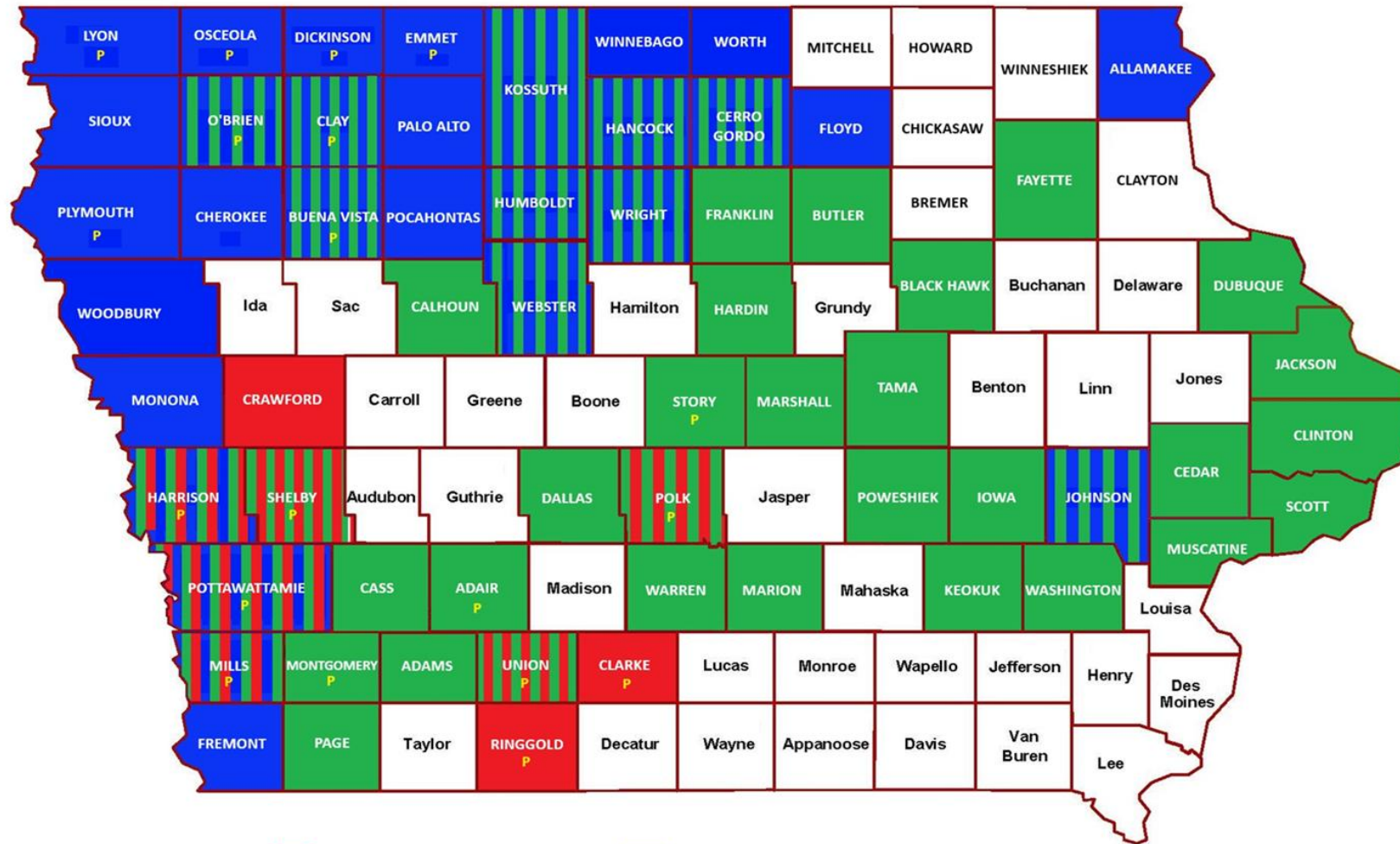




IOWA DEPARTMENT OF NATURAL RESOURCES

Leading Iowans in Caring For Our Natural Resources

## 2024 SPRING DISASTER DECLARATIONS



■ APRIL DISASTERS

■ JUNE DISASTERS

■ MAY DISASTERS

P PRESIDENTIAL DISASTER DECLARATIONS



# Spring 2024: Severe Storms, Tornadoes & Flooding



Photo credit: Des Moines NWS

# Disaster Assistance and Recovery

## April 2024 Tornadoes – Minden, Avoca and Greenfield

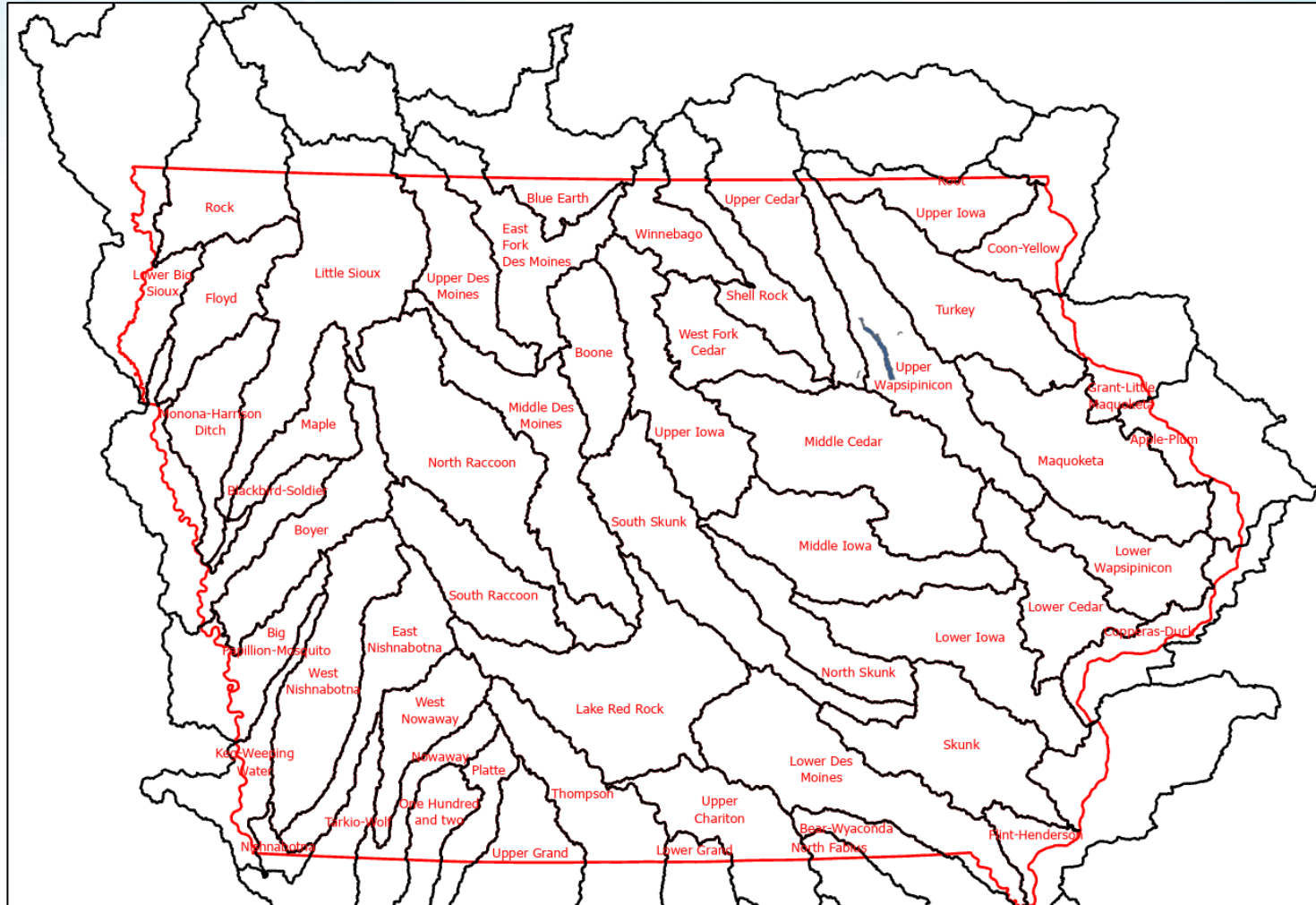
- 40 percent of Minden homes (pop. ~600) damaged or destroyed, and water supply facility was completely destroyed.
  - Iowa DNR worked with the city, Iowa Rural Water, and other agencies to quickly establish a temporary system for safe drinking water until a new facility is built.
- Greenfield – more than 150 homes damaged or destroyed
  - Iowa DNR provided debris management guidance, working closely with local, state and federal officials to assist clean-up.



*Above: Greenfield  
Left: Minden*



# Iowa Controls It's Own Water Quality and Flood Risk ... pretty much 😊



# Disaster Assistance and Recovery

**Ten separate natural disaster events** hit Iowa in four consecutive months, impacting **62 counties**

## Northwest Iowa Flooding – June 2024

- **250 Iowans rescued from rising flood waters** by COs in Spencer, Rock Valley, Hawarden and Correctionville
- **34 drinking water supplies** impacted
- **88 wastewater facilities impacted**, ranging from bypasses to system failures; some still recovering
- DNR also provided engineering expertise and numerous other emergency response and assistance

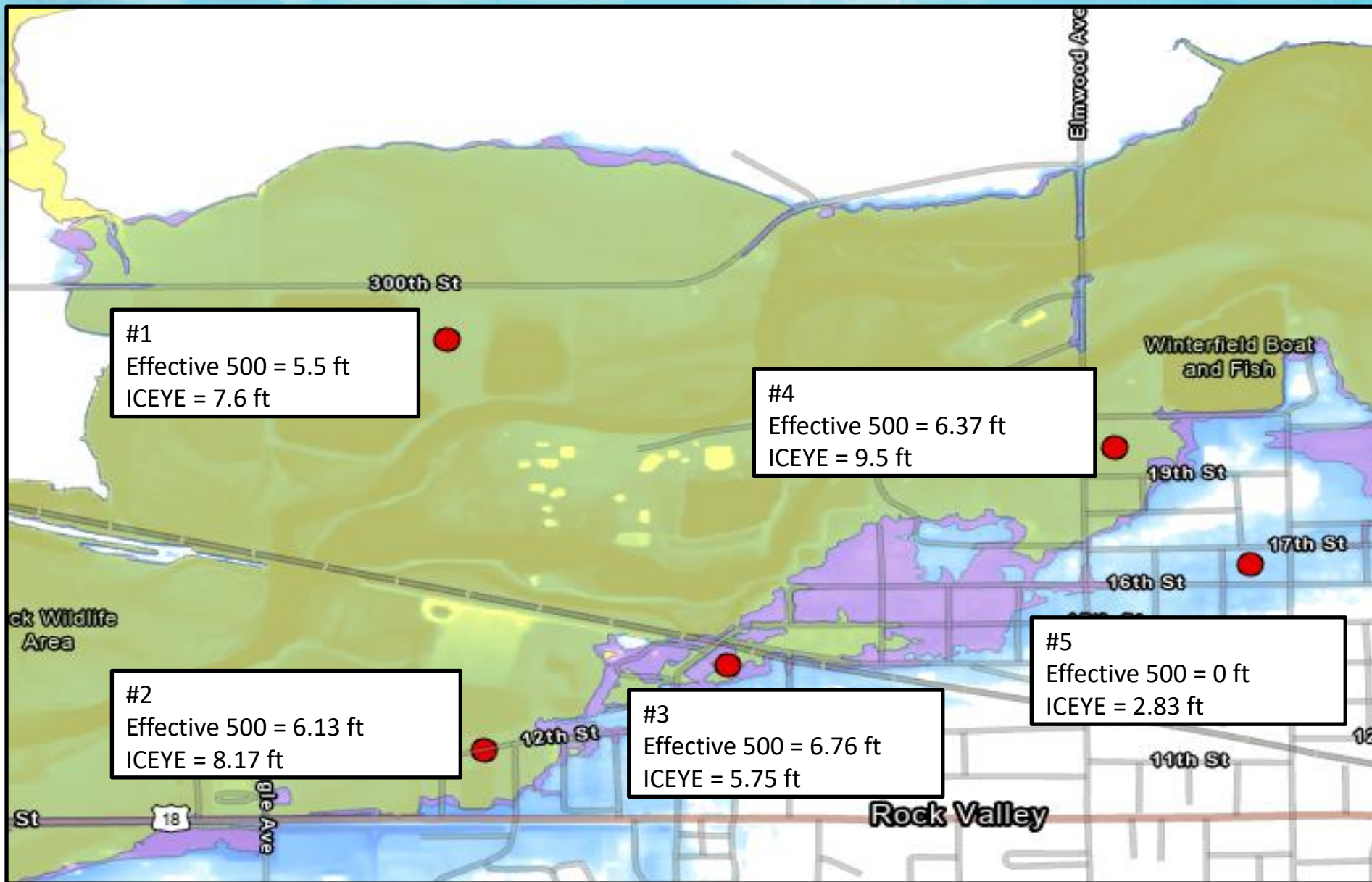


*Spencer – water rescue*

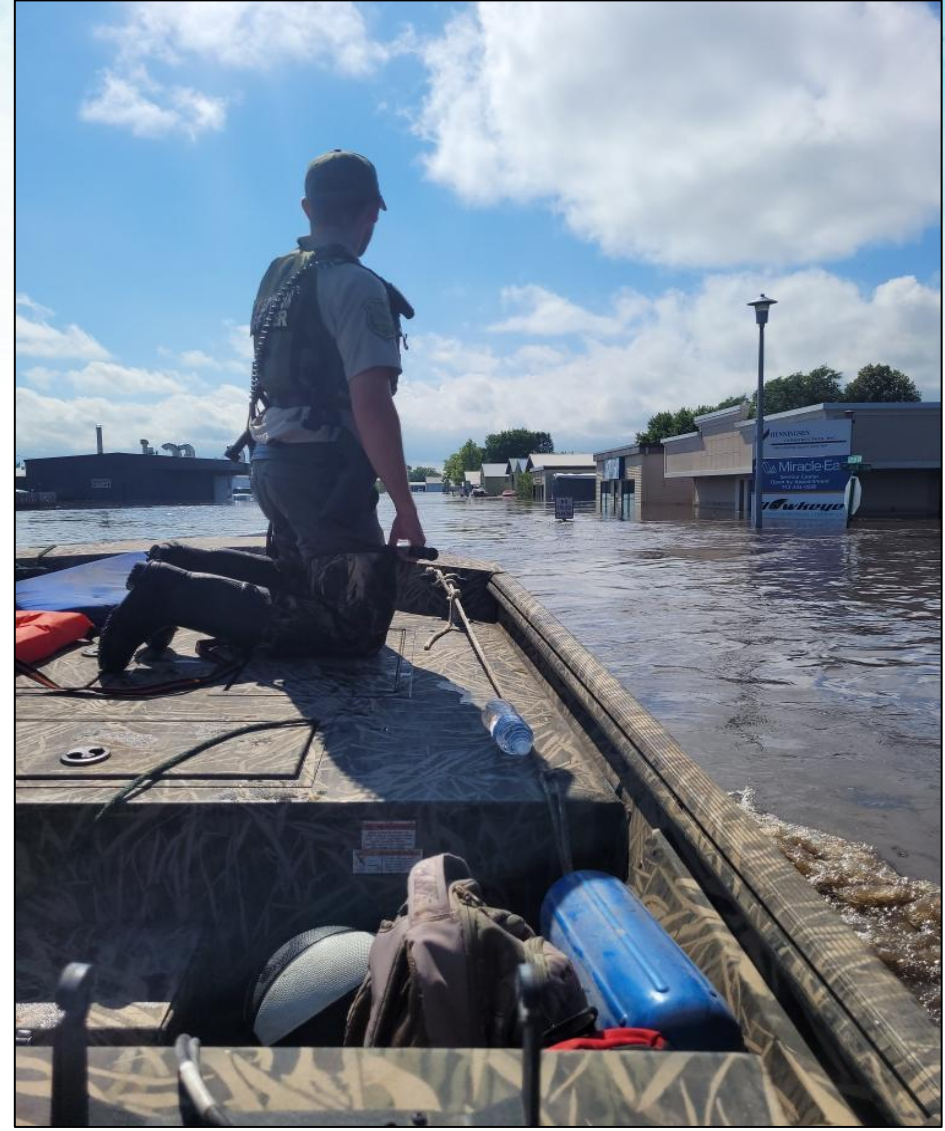


*Hawarden – flooding in June 2024*













# Disaster Assistance and Recovery

## Debris, HHMs and Solid Waste Management During Disasters

- Disaster debris staging areas -- temporary solid waste transfer stations
- DNR Field Offices work with impacted communities to create and approve plans for efficient, fast, safe and responsible clean-up of solid waste
- Minimize long-term impacts to public health and the environment



*Minden – HHM collection*

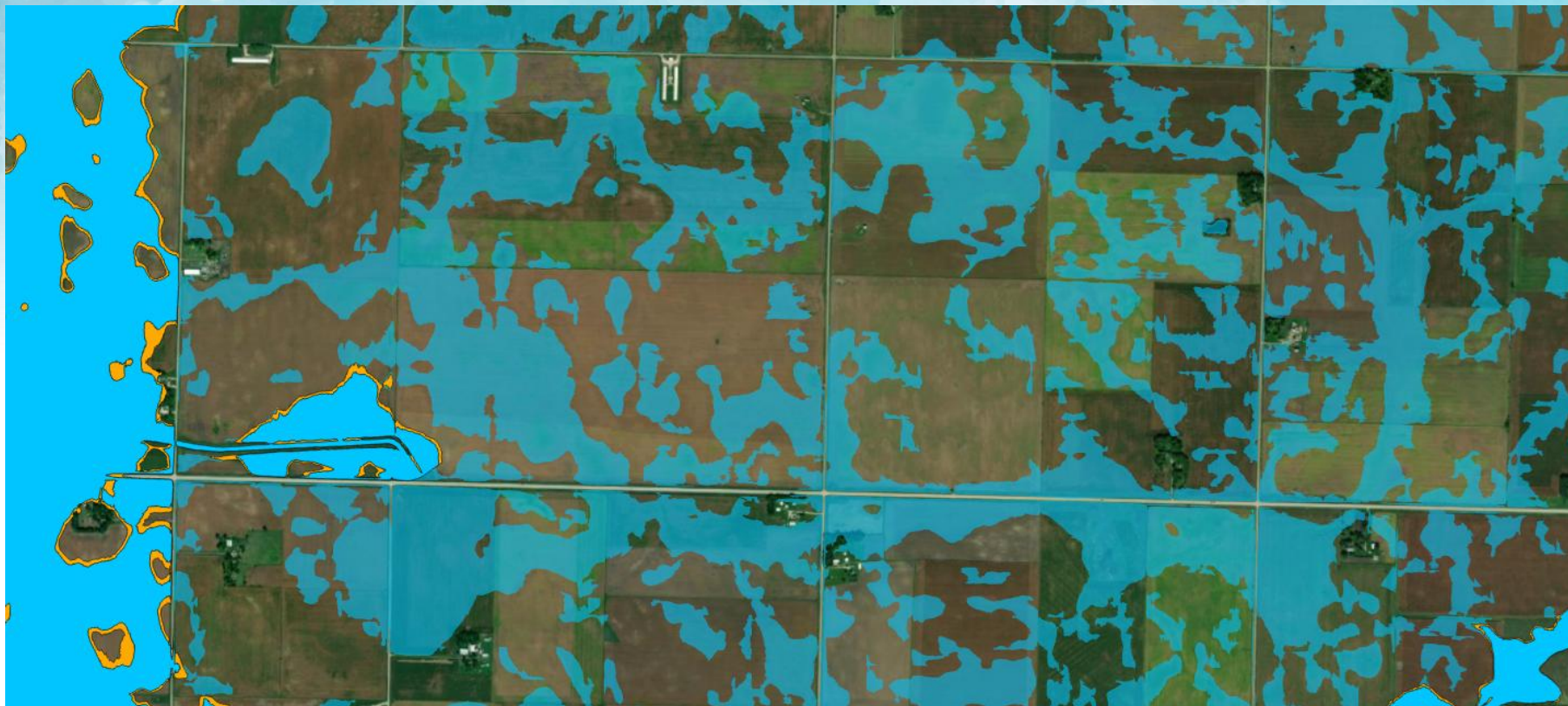


*Spencer – appliance debris staging area*



# Two-Dimensional Base Level Engineering (2D BLE)

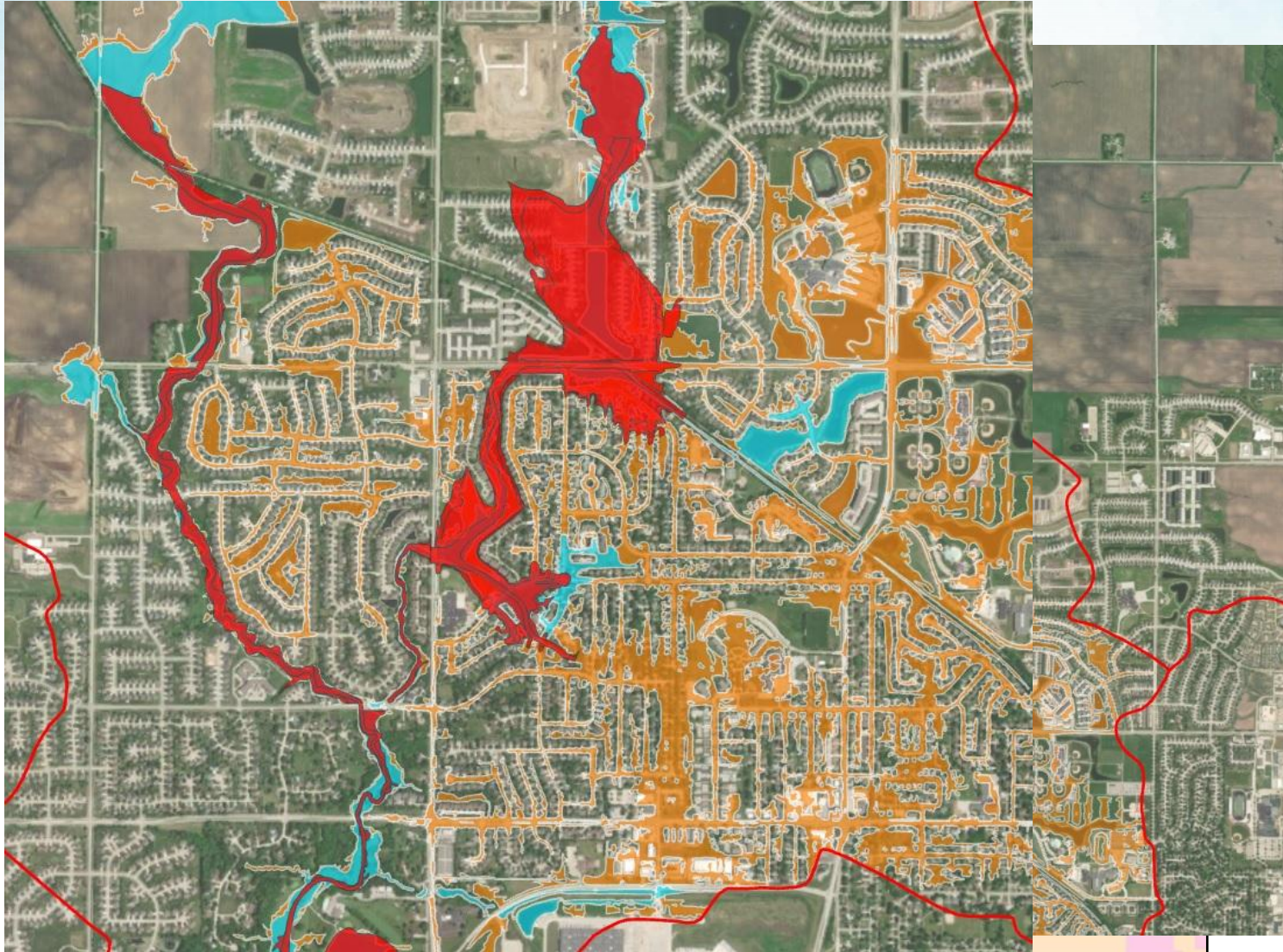
- **More accurately characterizes the risk that already exists**
- **Informs the next generation of FIRMs**
- **Provides better information for planning purposes**
- **More accurate data for understanding mitigation options and resiliency for communities**



**BLE Shows fluvial (stream) as well as pluvial (overland) flooding**



# Data Already Generated is Being Used for Planning



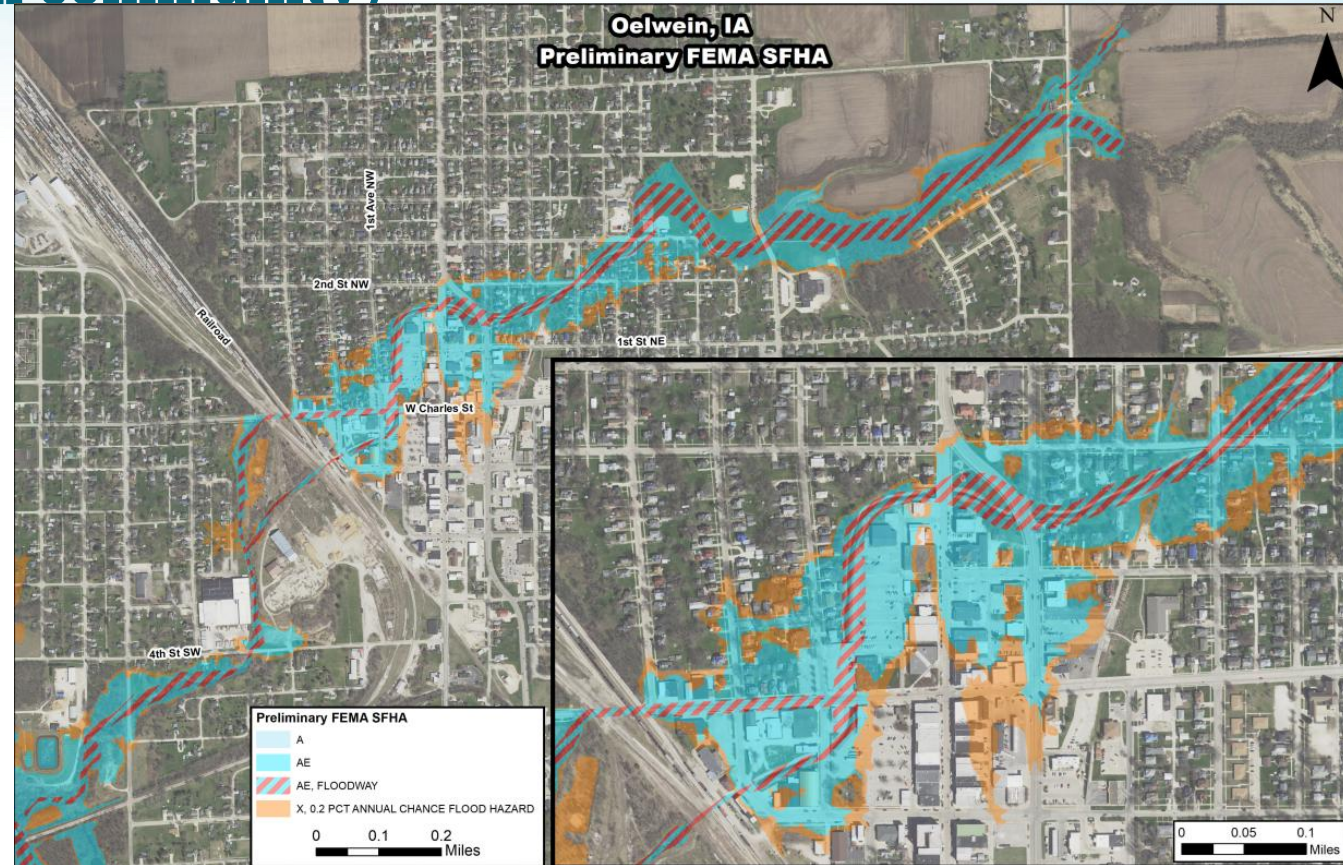


# Real Time Technical Assistance (RTTA)

Identifies mitigative actions your community can take and provides data to apply for Mitigation Grants (no cost to or commitment from community)

Factors considered:

- Size of community
- Answer “what if” questions
- Smaller streams
- Larger communities can be done but need to get into grant

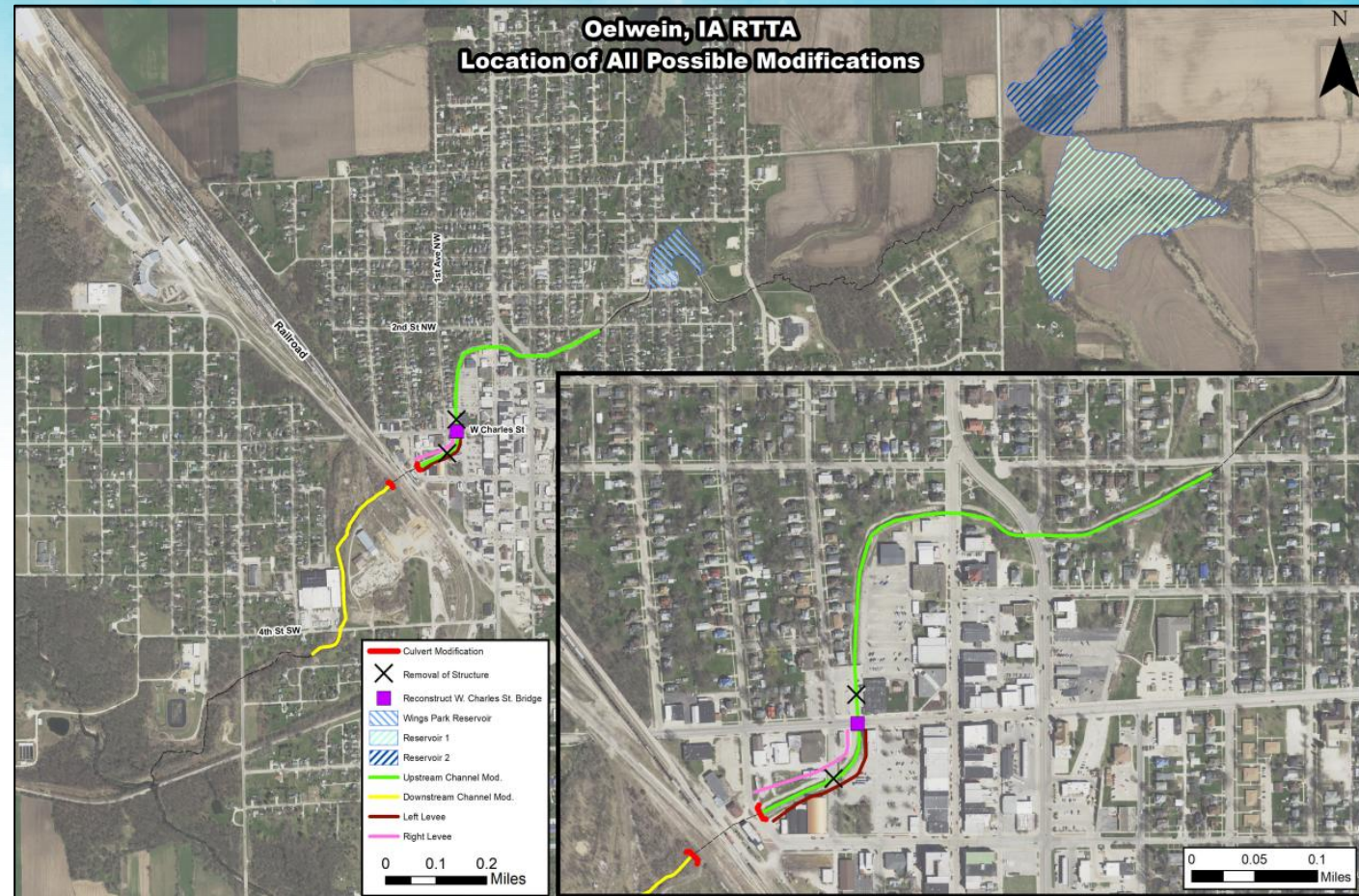




# Some mitigation needs to include multiple actions to realize the desired outcome: *reduced risk*

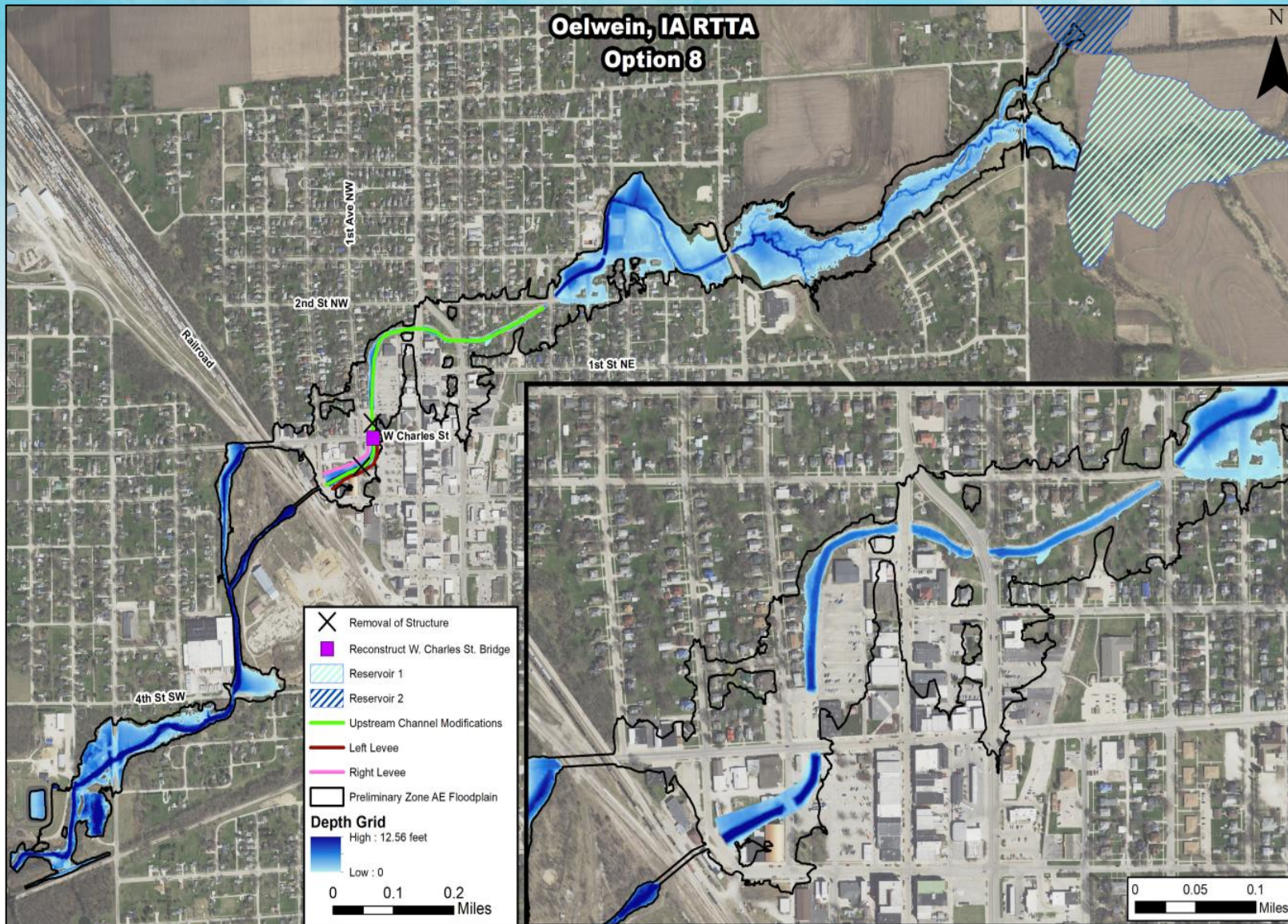
Feature	Option										
	1	2	3	4	5	6	7	8	9	10	11
Increased railroad culvert size	✓										
Removal of 1st Ave SW Bridge		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Removal of parking deck North of W. Charles Street		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reconfiguration & replacement of W. Charles Street Bridge		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storage in Wings Park			✓								
Storage reservoirs upstream of Outer Rd				✓		✓	✓	✓	✓	✓	
Lined rectangular channel, upstream of railroad					✓	✓					
Deepened & Lined rectangular channel, upstream of railroad							✓	✓	✓	✓	✓
Deepened & Lined trapezoid channel, downstream of railroad									✓	✓	✓
Small flood wall on left side of channel upstream of railroad								✓			
Small flood wall on right side of channel upstream of railroad								✓		✓	
<b>Recommended</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>~</b>	<b>X</b>	<b>~</b>	<b>~</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>X</b>

- Culvert Modification
- X Removal of Structure
- Reconstruct W. Charles St. Bridge
- ▨ Wings Park Reservoir
- ▨ Reservoir 1
- ▨ Reservoir 2
- Upstream Channel Mod.
- Downstream Channel Mod.
- Left Levee
- Right Levee



**Oelwein asked DNR for assistance in evaluating mitigation options (some that were already being considered)**





Results of RTTA informed mitigation planning, showing most effective options but also revealing lower cost options, giving the community a path forward while confirming planning that was in progress.