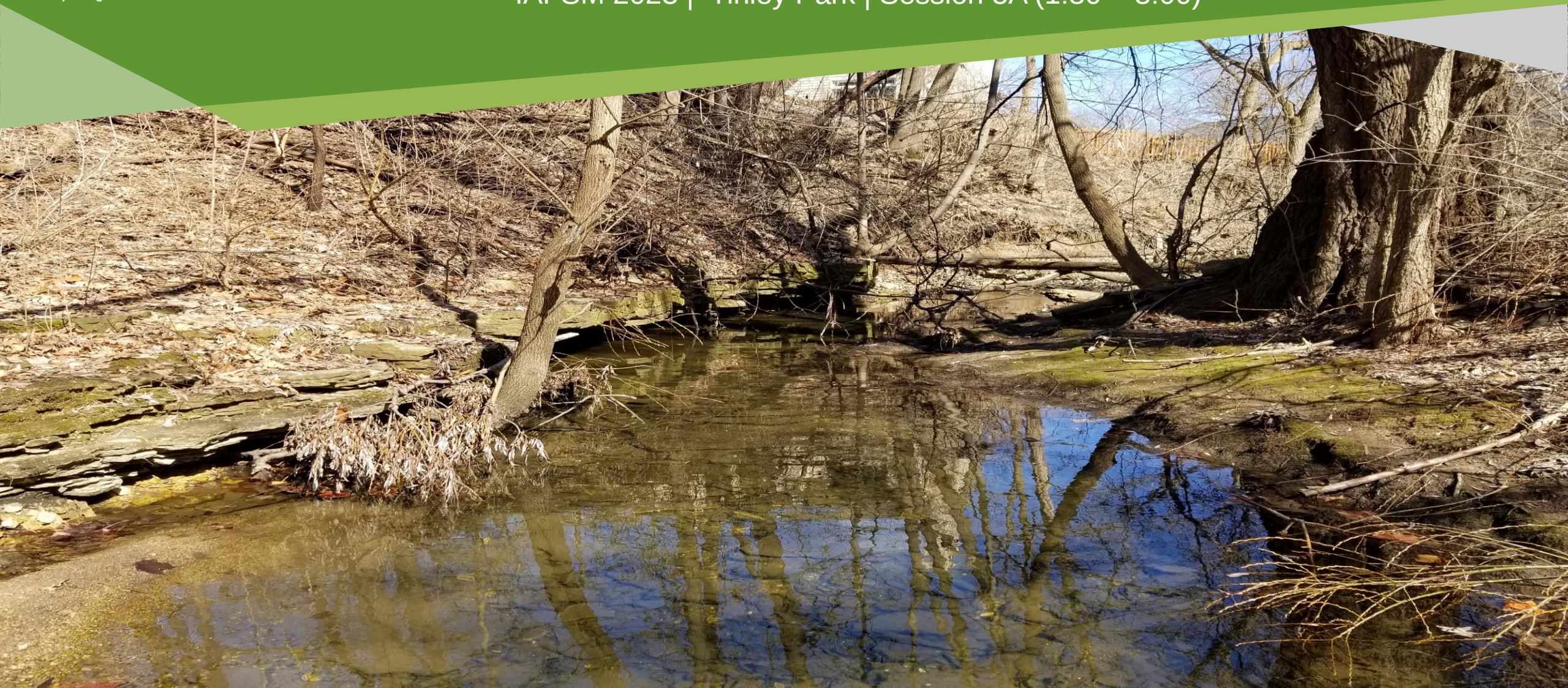
HRGreen
Building Communities.
Improving Lives.

CITY OF BATAVIA

Mahoney Creek Watershed Planning and Project Implementation in Batavia, Illinois

IAFSM 2023 | Tinley Park | Session 5A (1:30 – 3:00)

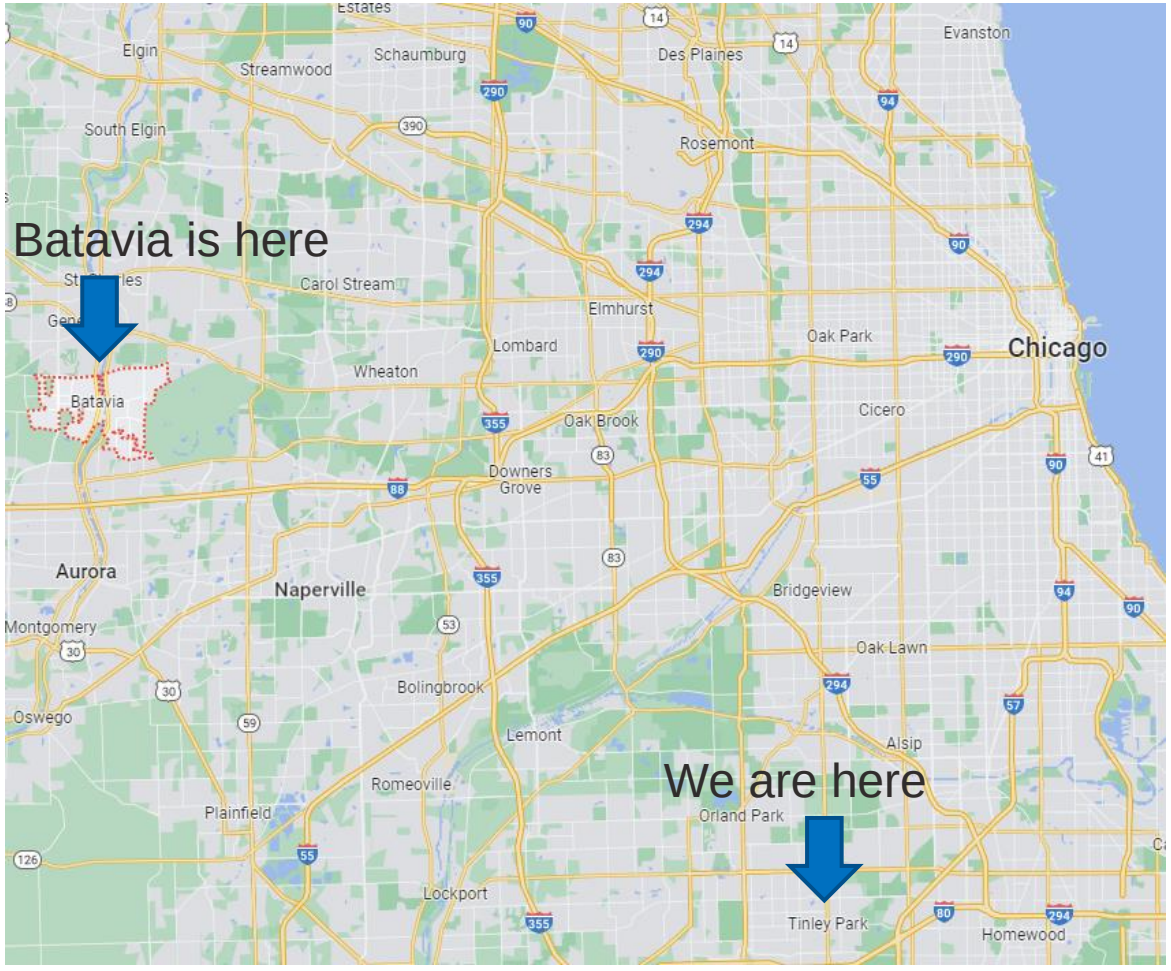


Agenda

- Project location and timeline
- History of the area and stream
- Project need
- Mahoney Creek stream assessment
- Watershed Based Planning
- Project Implementation
- Next Steps

Project Location

- Mahoney Creek is tributary to the Fox River
- The watershed is nearly entirely contained within the City
- Total watershed is 2.03 sq. mi.
- The Mahoney Creek Tributary is the only large tributary to the stream

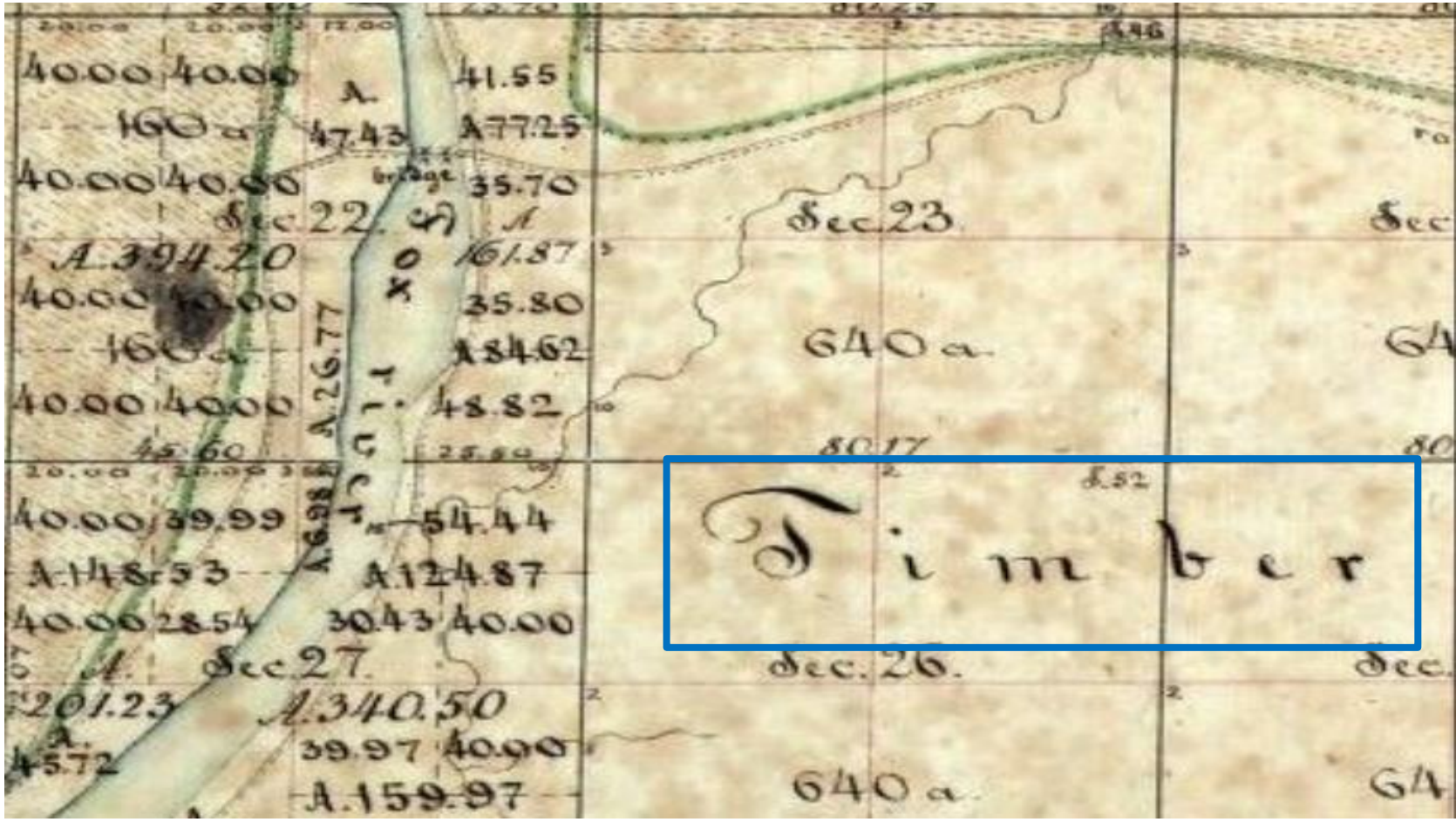


Project Timeline

- 2008: A study of the Mahoney Creek Tributary was completed
- 2018: A conceptual plan for adding detention was completed and property acquired
- 2019: HR Green brought on to assist with a stream assessment
- 2020: Mahoney Creek Stream Assessment completed
- 2021: Design of Mahoney Creek Tributary Detention Basins is completed
- 2022: Mahoney Creek Watershed Based Plan submitted
- 2022: Construction of the Mahoney Creek Tributary Detention Basins completed
- 2023: Pursuit of grant funding for future projects

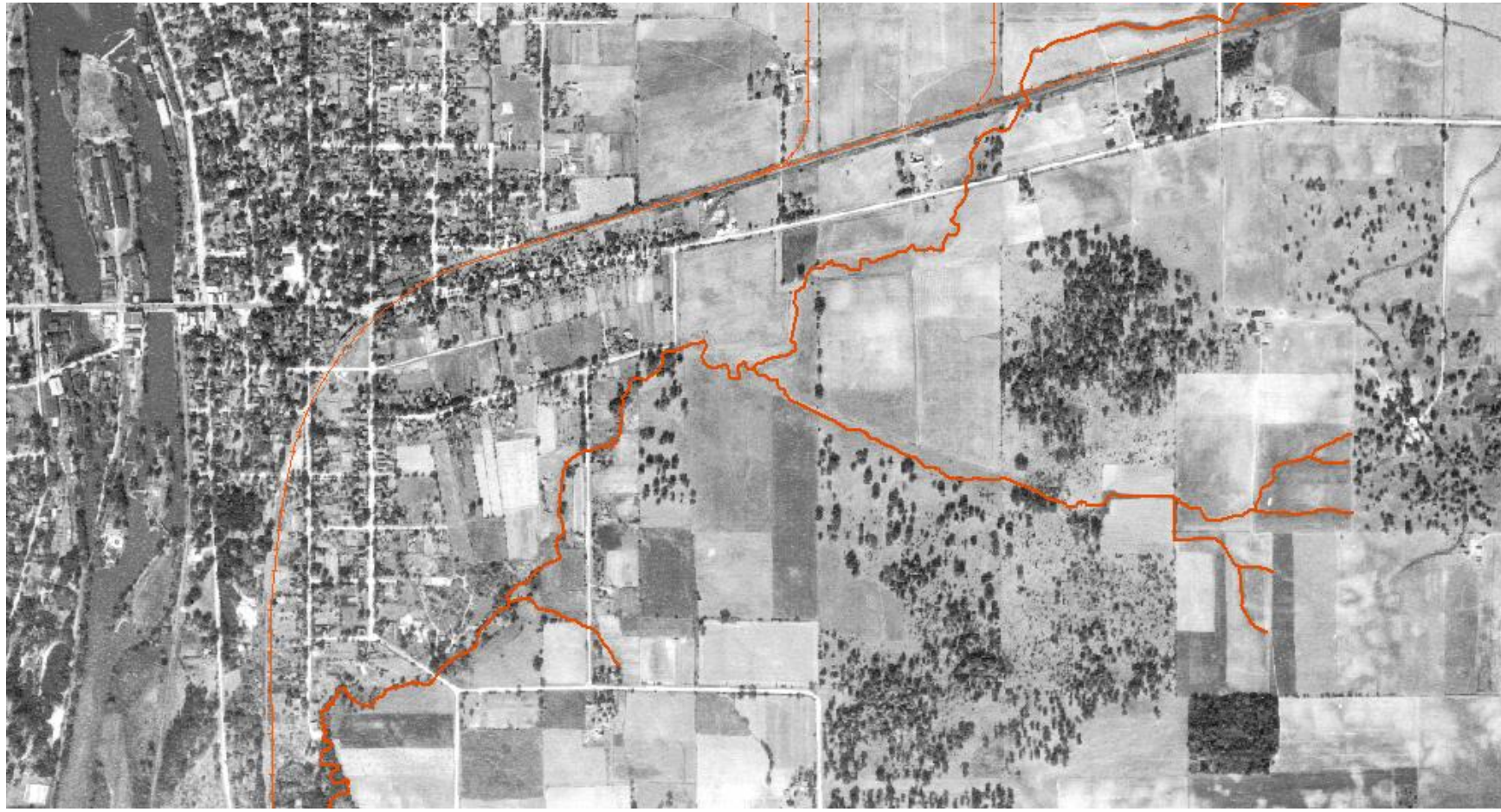
History of the area and streams - 1840

- The state of Illinois published plat maps from 1840. 180 years ago the area was identified as “Timber” or what is now referred to as “Savanna or Woodland”
- The Mahoney Creek Tributary was not identified



History of the area and streams - 1939

- The historic stream alignment is outlined in orange
- The City has been established
- Much of the timber land has been converted to farm land



History of the area and streams – 2020's

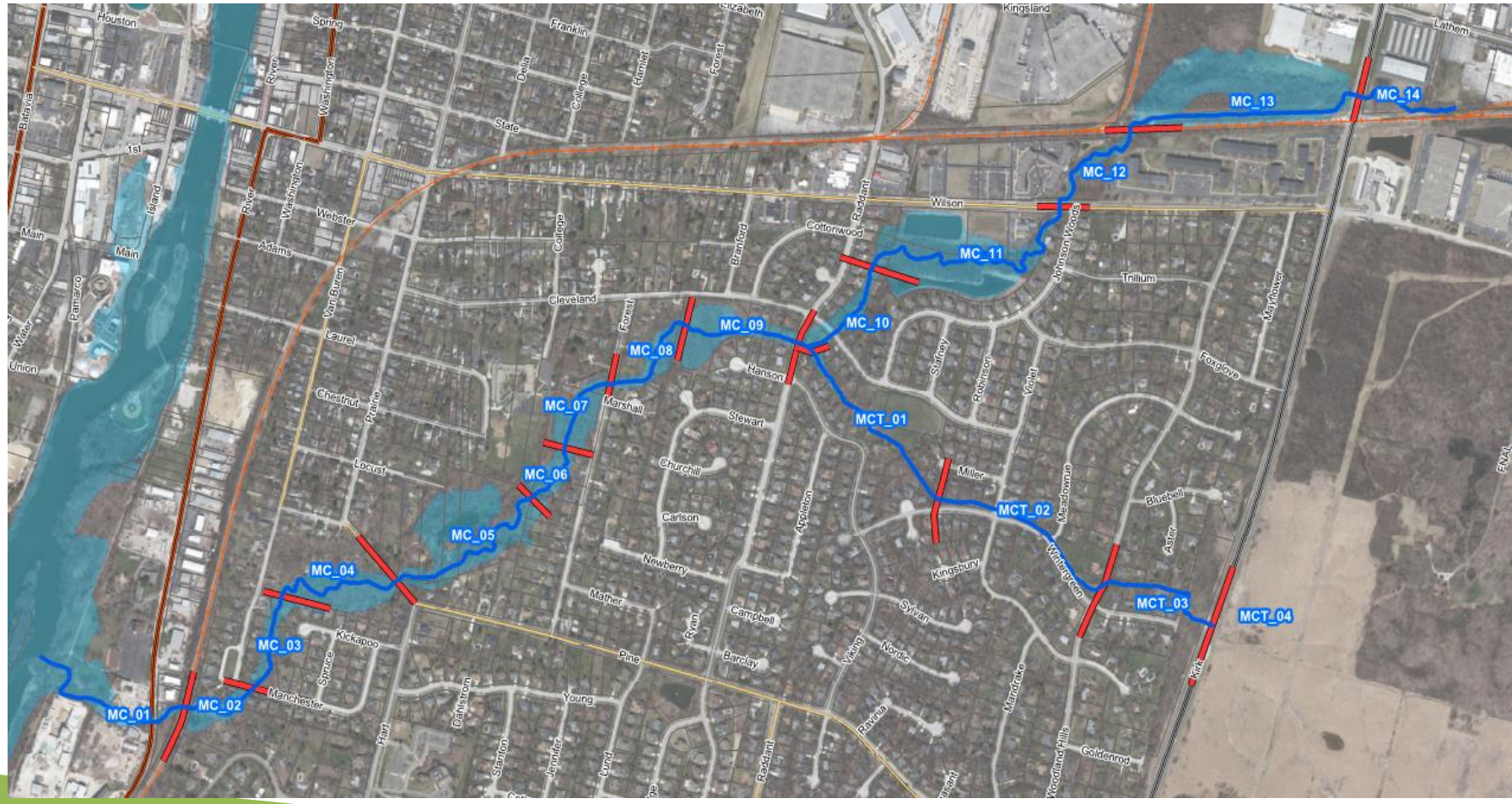
- Over time the stream has been moved and channelized
- The historic stream alignment is outlined in orange
- The current day stream is shown in blue
- Most of the watershed is residential or industrial
- Online detention and stormwater easements placed on the stream

Project Need

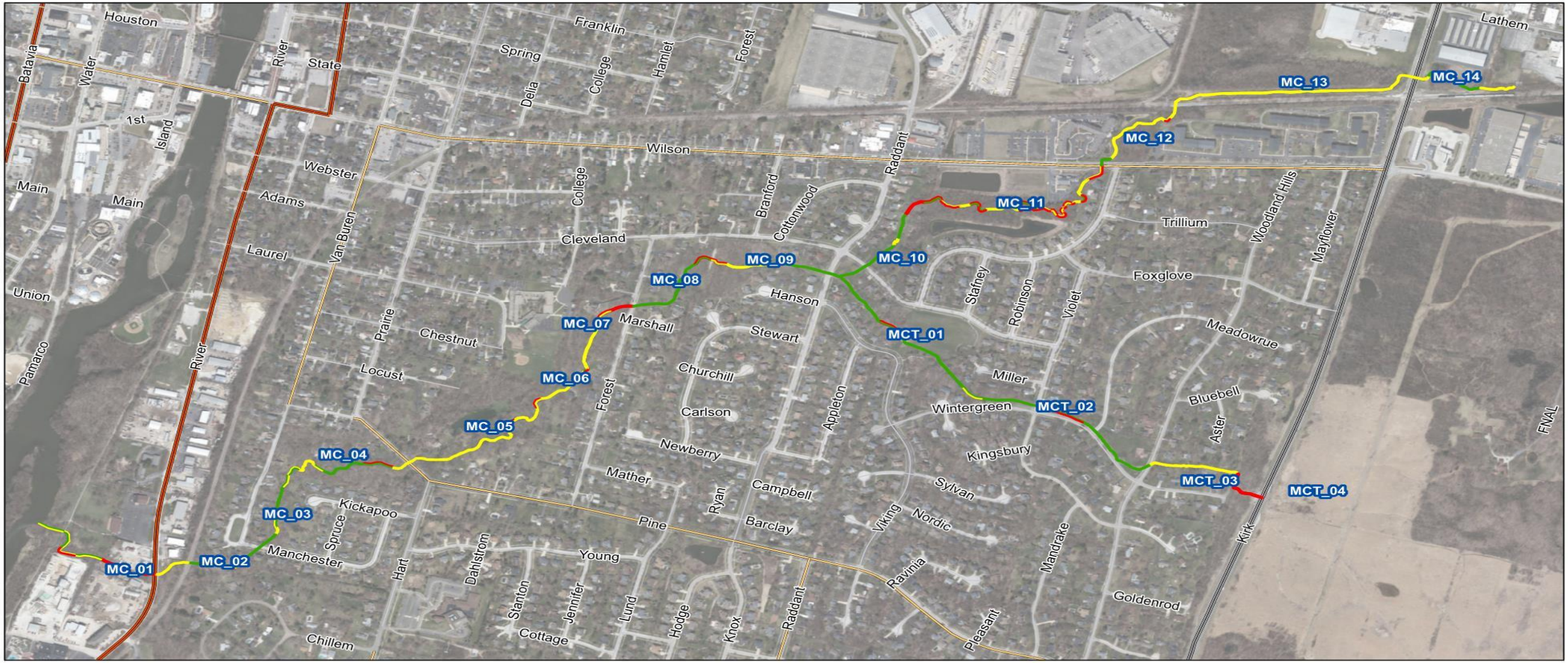
- Assess the current condition of Mahoney Creek and the Mahoney Creek Tributary
- Identify potential improvements to the waterway and adjacent land
- Prioritize projects based on need, accessibility and funding
- How do we handle nuisance flooding reports
- Concern over future map updates or new FIRMs along the Mahoney Creek Tributary

Mahoney Creek Stream Assessment

- The stream was broken into 17 reaches
- Each reach was assessed by an ecologist and an engineer.
- Ratings were assigned based on numerous characteristics of the stream and surrounding vegetation.



Mahoney Creek Stream Assessment



Mahoney Creek Stream Assessment

City of Batavia
Illinois

Legend

Erosion Severity
- Major
- Minor
- Moderate

- City Roads
- County Roads
- State Roads
- Township Roads

MC_## Mahoney Creek Reach ID
MCT_## Mahoney Creek Tributary Reach ID

CITY OF BATAVIA

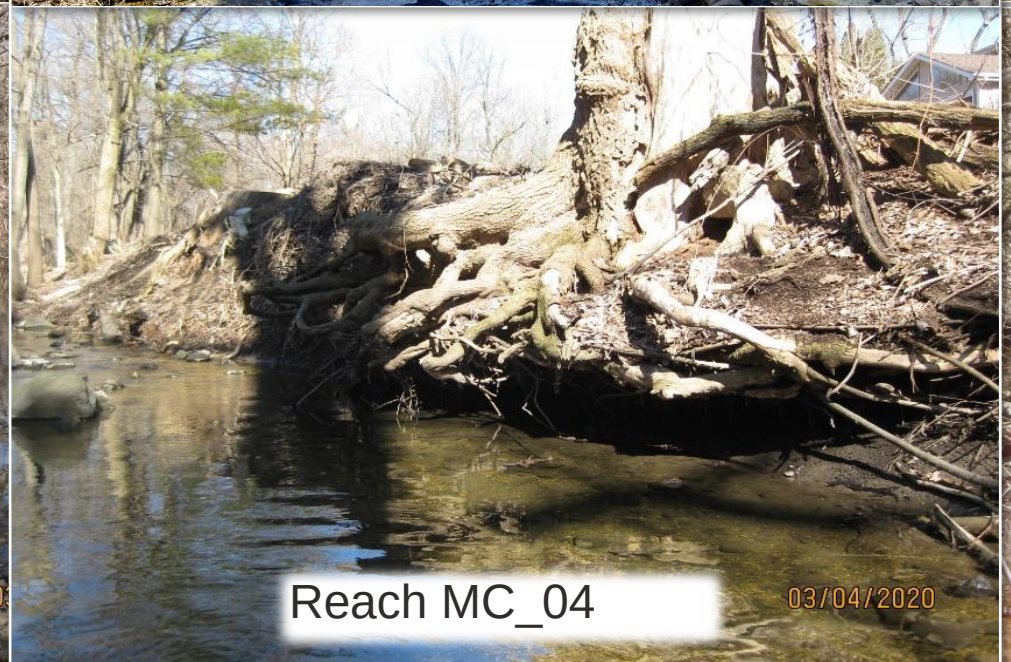
Data Source:
Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

HRGreen

0 500 1,000 2,000
Feet

HRG PLOT: 9:21:19 AM 8/5/2020 BY: lgilber FILE: J:\2019\190701\Design\GIS\MXD\map-MahoneyCreek_Exhibit_BankCondt.mxd

Mahoney Creek Stream Assessment



Mahoney Creek Stream Assessment

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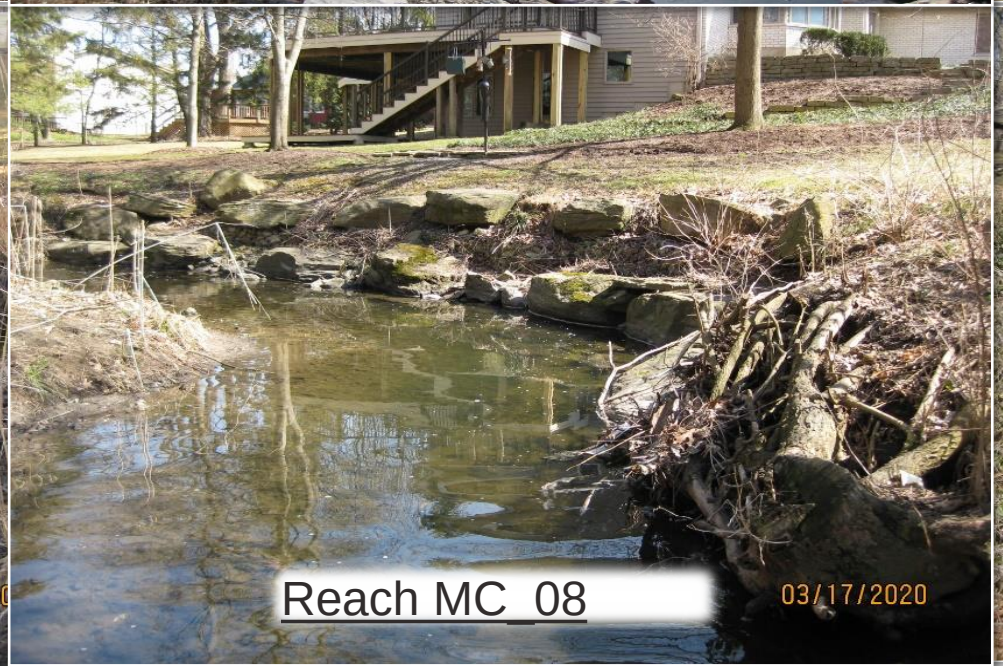


Mahoney Creek Stream Assessment

- Online survey
  - 442 surveys sent out
  - 68 responded
  - 1/3 of the residents who lived on the stream responded
- Zoom public meetings
- Final meeting was in person

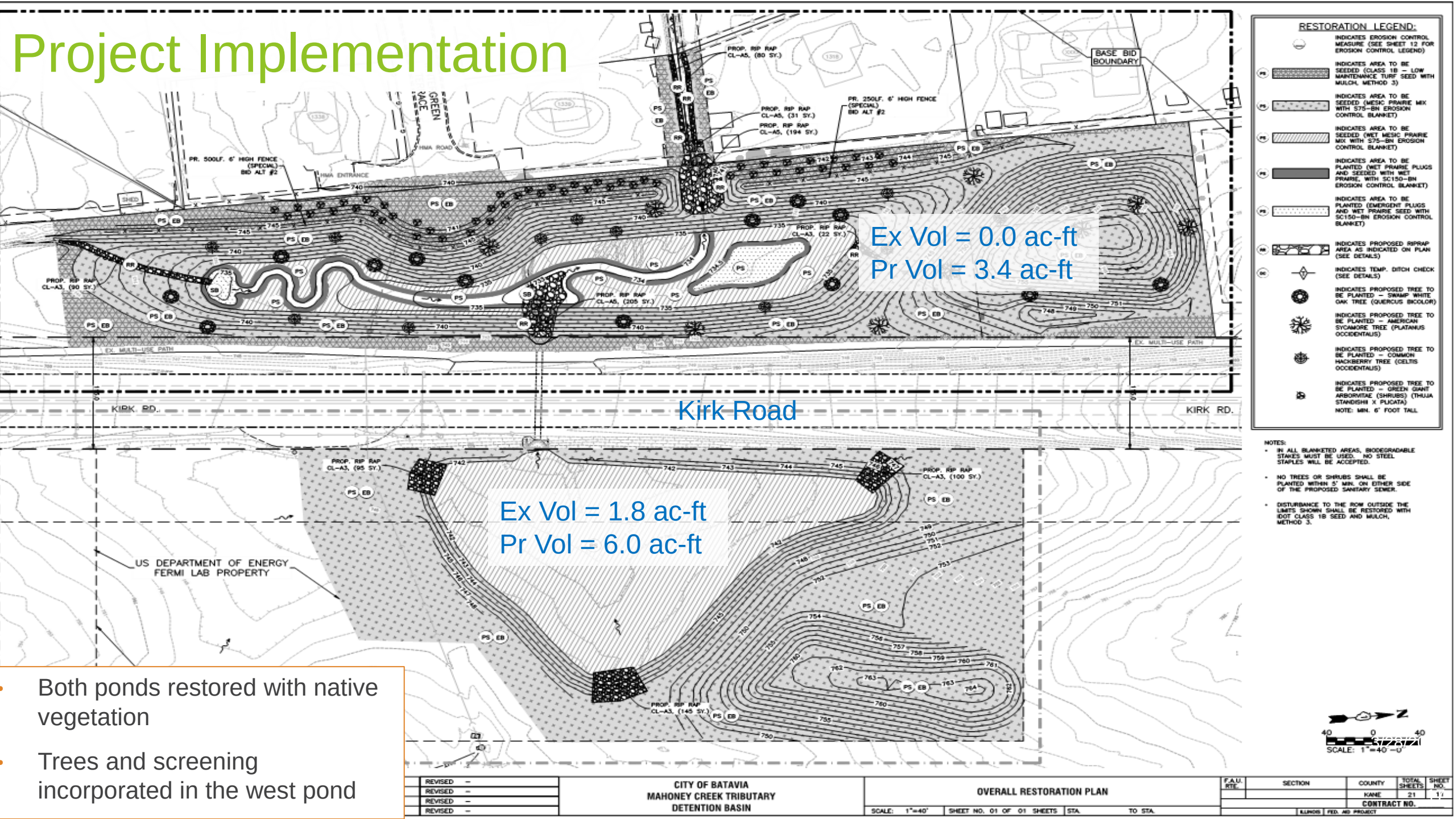
Watershed Based Planning

- Residents were concerned with ecological health
- Having an approved WBP improves odds of grant funding
- IEPA watershed based plan was submitted for review in spring 2022

Project Implementation

- Mahoney Creek Tributary Detention Basins
  - A previous study conceptualized adding detention at the headwaters of the Mahoney Creek Tributary
  - The City had been planning this project, including land acquisition
  - Existing channel was downcutting and the headcut had reached Kirk Road
  - Property had thick honeysuckle and buckthorn brush with mature trees
  - Bank erosion was significant
  - Lots of coordination with Fermi Lab and KDOT
  - Timing was critical due to the Northern Long Eared Bat

Project Implementation



- Both ponds restored with native vegetation
- Trees and screening incorporated in the west pond

Project Implementation

- The project was bid with a base bid and 2 alternatives
- 9 bids were received in total
  - EOPC = $1,193,503
  - Bids ranges from $1,255,218 to a low bid of $815,500
  - City chose to forego Bid Alternative #2
  - V3 Construction Group was awarded the project
- The City's total investment into the Mahoney Creek Tributary
  - Contract amount = $932,879
  - Actual amount = $808,103
- Extensive coordination with the Department of Energy (Fermi Lab) was required to construct Bid Alternative #1

Project Implementation

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Lessons Learned

- Coordinating with a federal agency such as the DOE can take time.
- COVID was a challenge!
- Communication with residents prior to construction is key to community support.
  - Tree removal notifications
  - Many people working from home watching construction closely
  - Future projects the City will use a posted sign with project information
- Educating residents about proper maintenance of stream banks (no mowing, no dumping, etc.) is effective
- Alderman support was critical

Next Steps

- City is planning additional projects along the waterways
- Plan to pursue GIGO and Section 319 grant funding
- Potential bank stabilization projects
- Residential education is on-going

Questions

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