



# City of Hudson Tinkers Creek Watershed Study

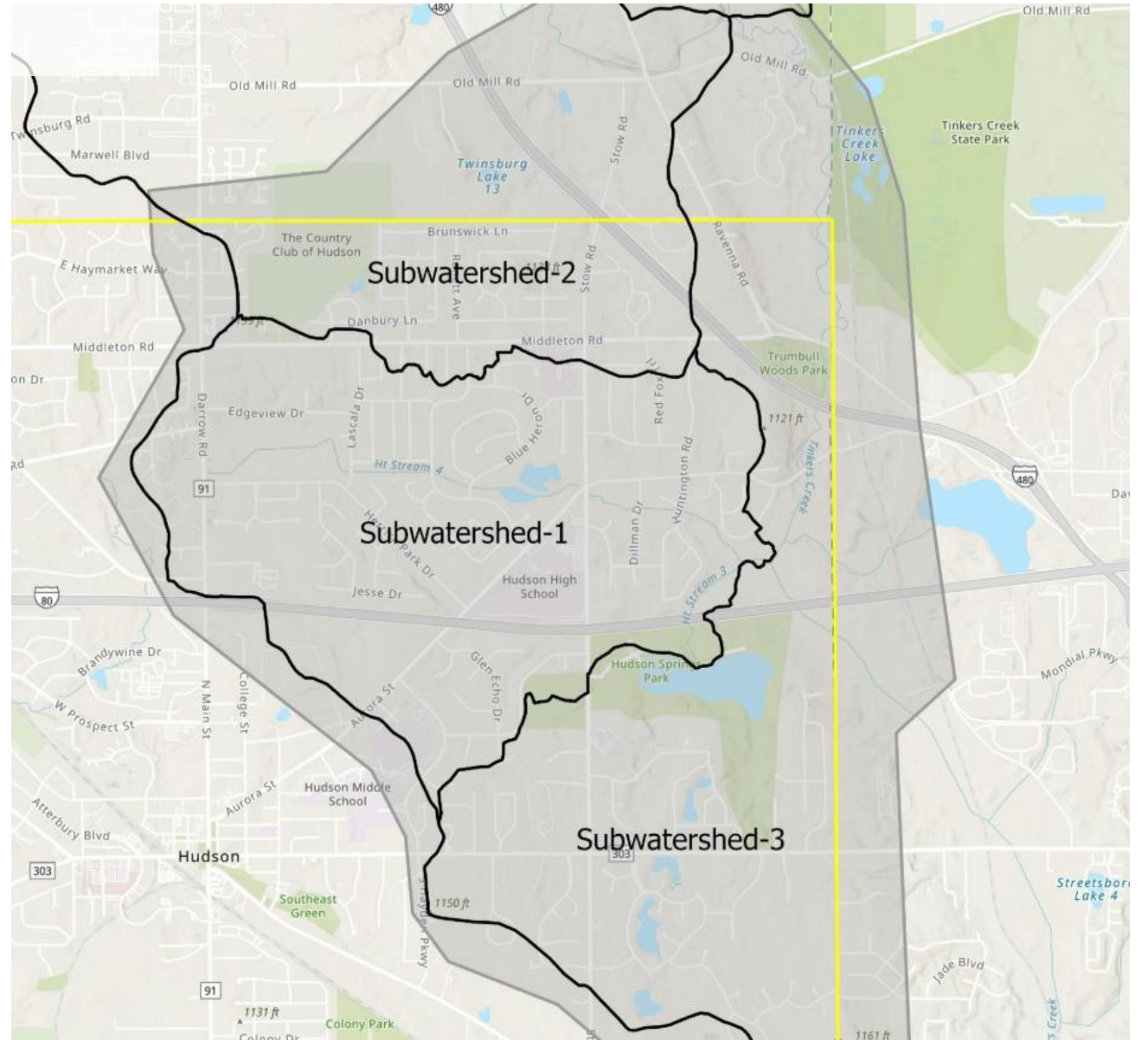
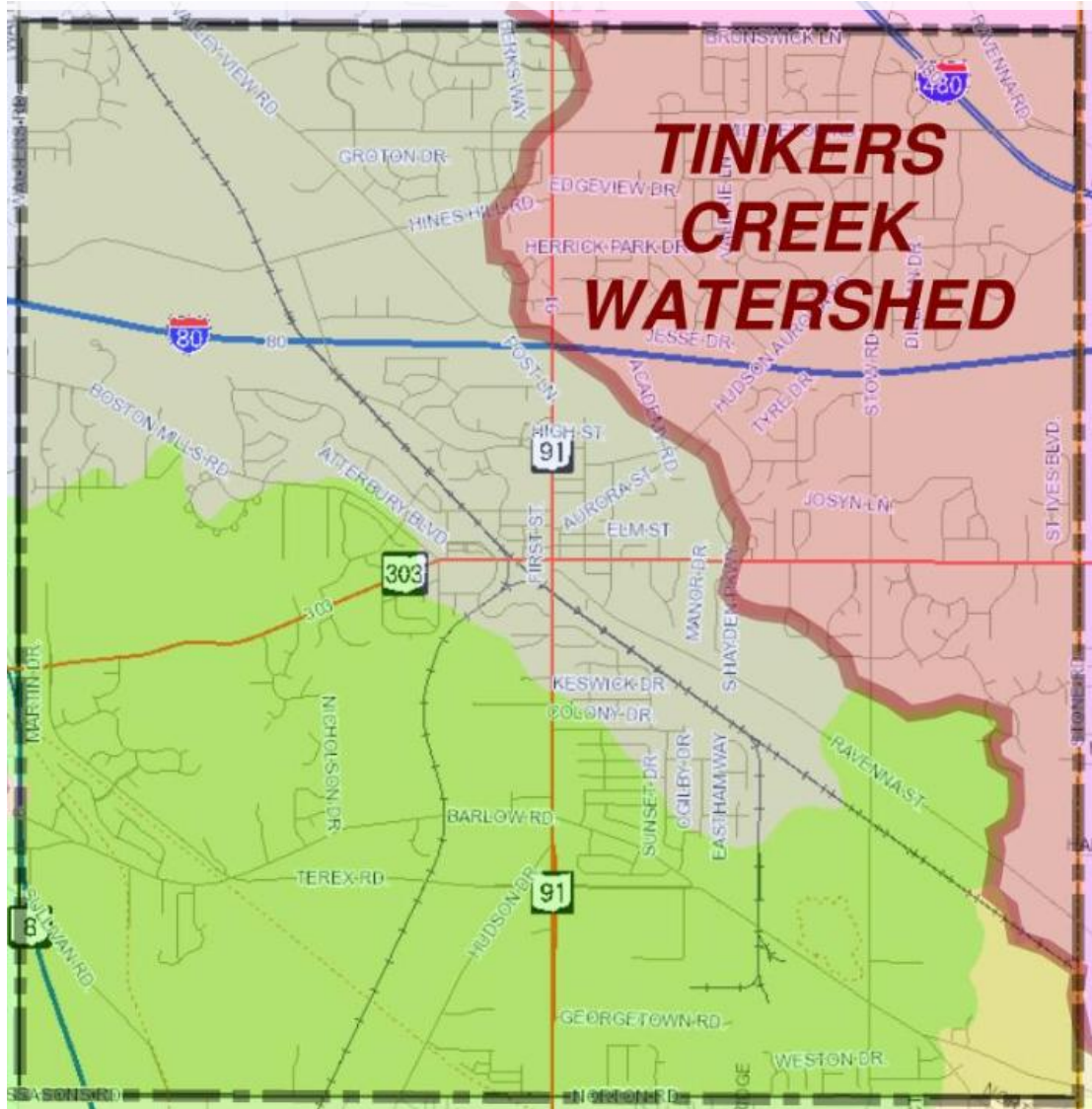
May 26th, 2026



## Agenda

1. Welcome and Presentation Overview
2. Study Background and the August 2024 Flood Event
3. Watershed Modeling and Existing Conditions Analysis
4. Conceptual Infrastructure and Storage Improvements
5. Conveyance and Roadway Crossing Upgrades
6. Resiliency, Green Infrastructure, & Capital Planning
7. Community Questions, Comments, and Next Steps

# Where are we?



# Study Information and Background

- ms consultants performed a preliminary study of the August 8<sup>th</sup>, 2024 flood
- Areas within Tinkers Creek Watershed had the highest concentration of flood damage
- The study developed high level concepts for stormwater and flood management across the watershed.

**6.97 inches**

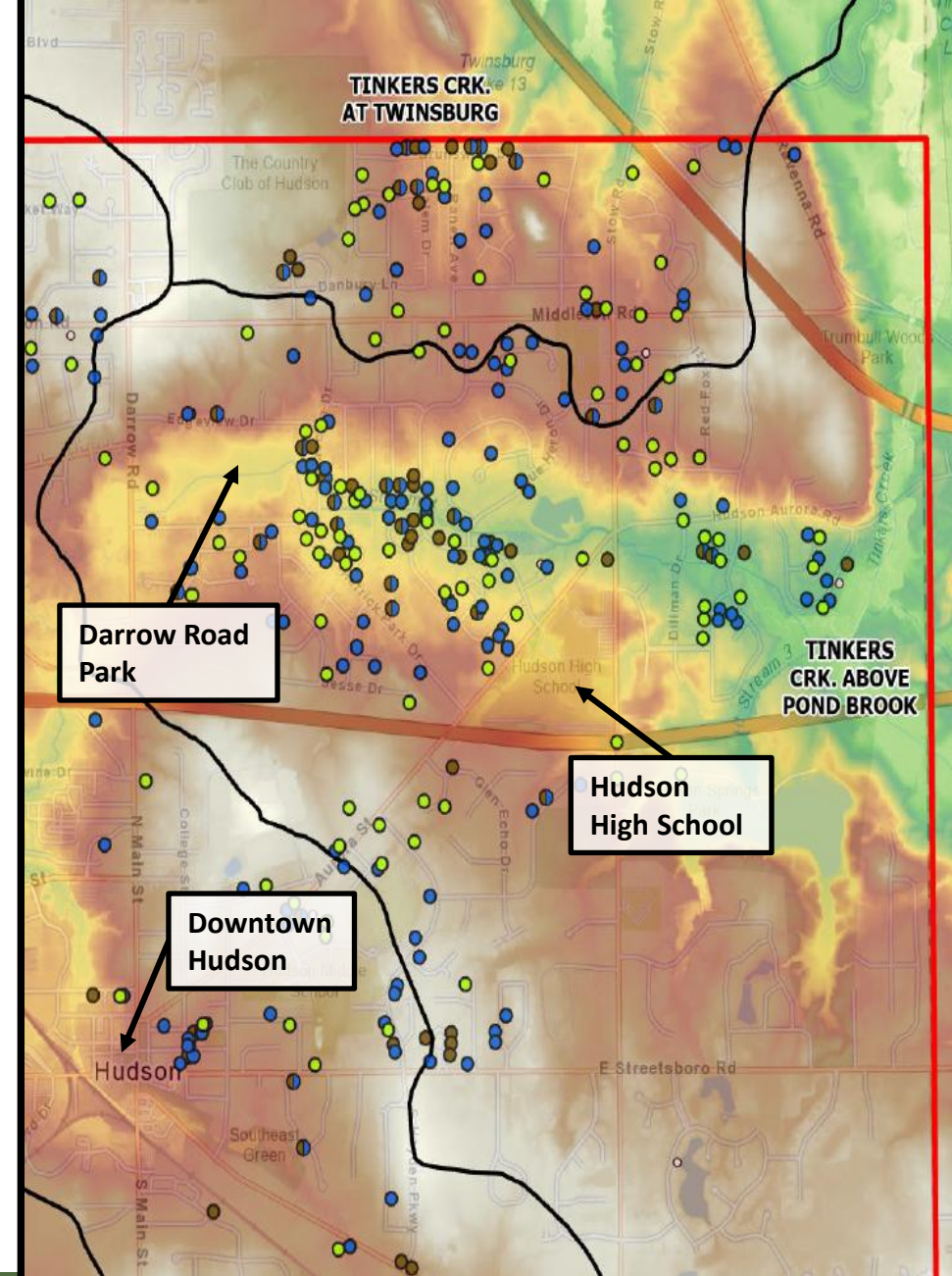
total rainfall [1]

**5.24 inches**

in 2 hours [1]

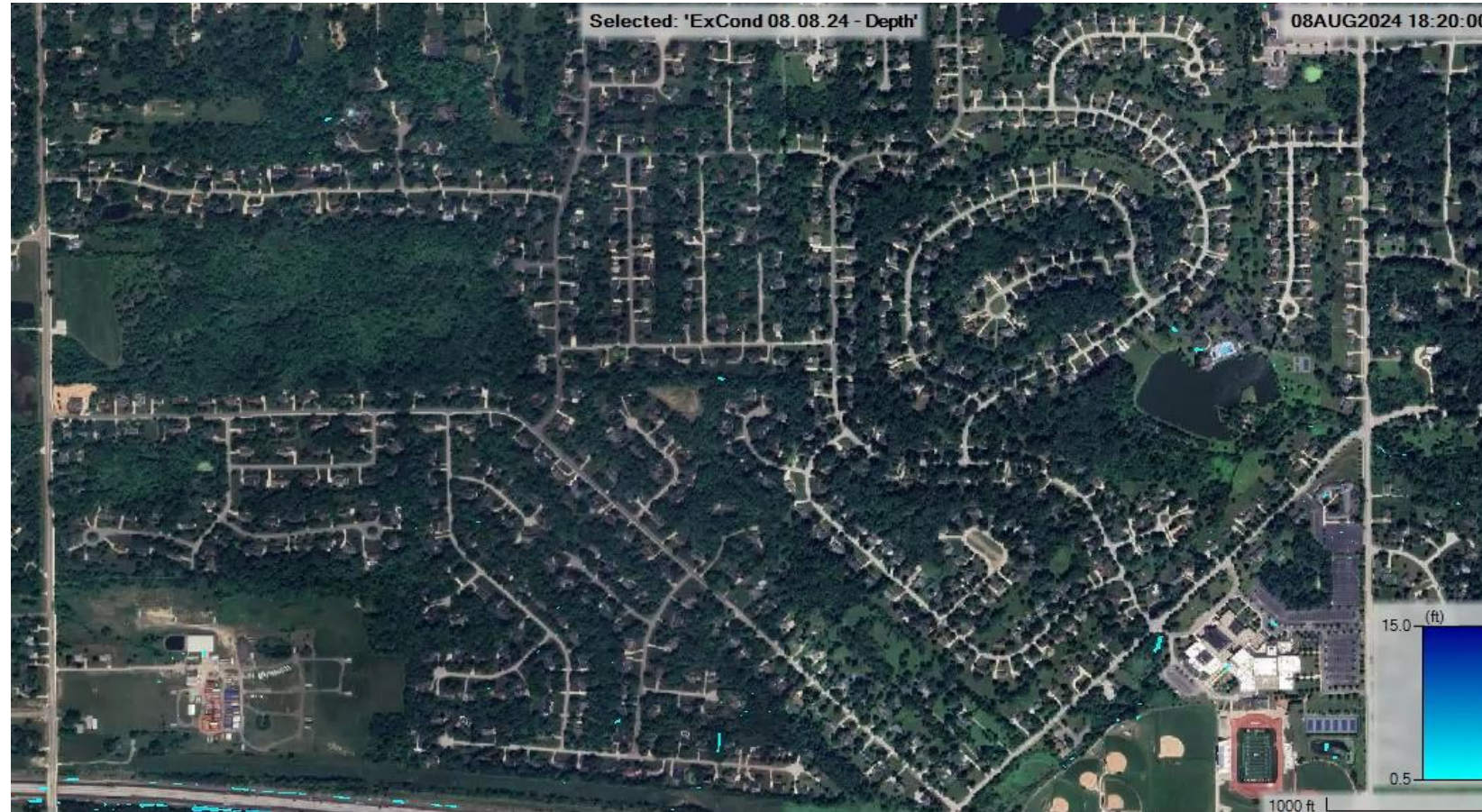
**2000-year**

recurrence event [1]



# What is the Tinkers Creek story? Why is the area flooding?

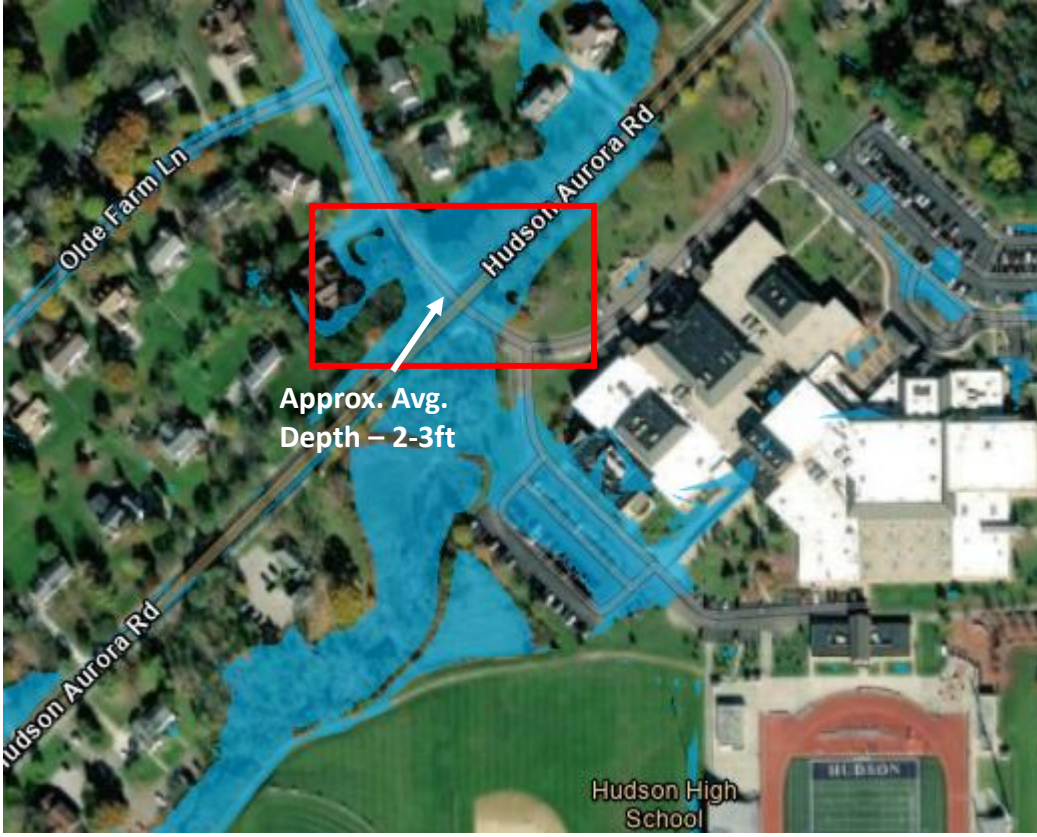
- Prior to the August 8, 2024 event there was very little roadway or structural flooding reported in this watershed
- The residential area was developed along a natural watercourse in a valley with a very flat channel.
- Compared to modern design standards, the area lacks stormwater detention features to slow how fast the rainfall collects and moves through the valley.
- **If modern designs standards were followed the area would need an 8 story deep football field's worth of volume.**



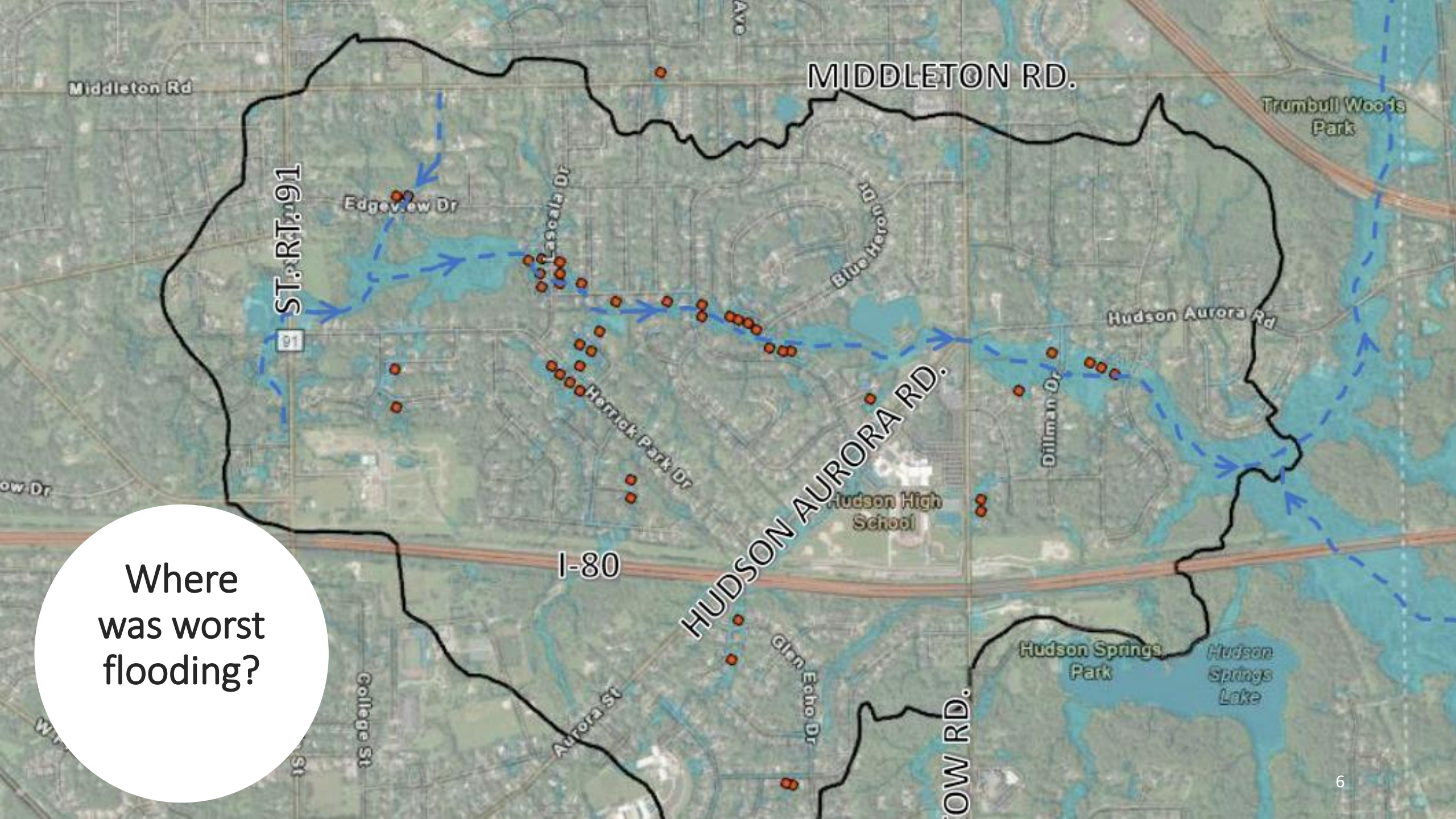
# Comparison of Results (August 2024 Storm)



Intersection of Hudson Park Dr and Hudson Aurora Rd



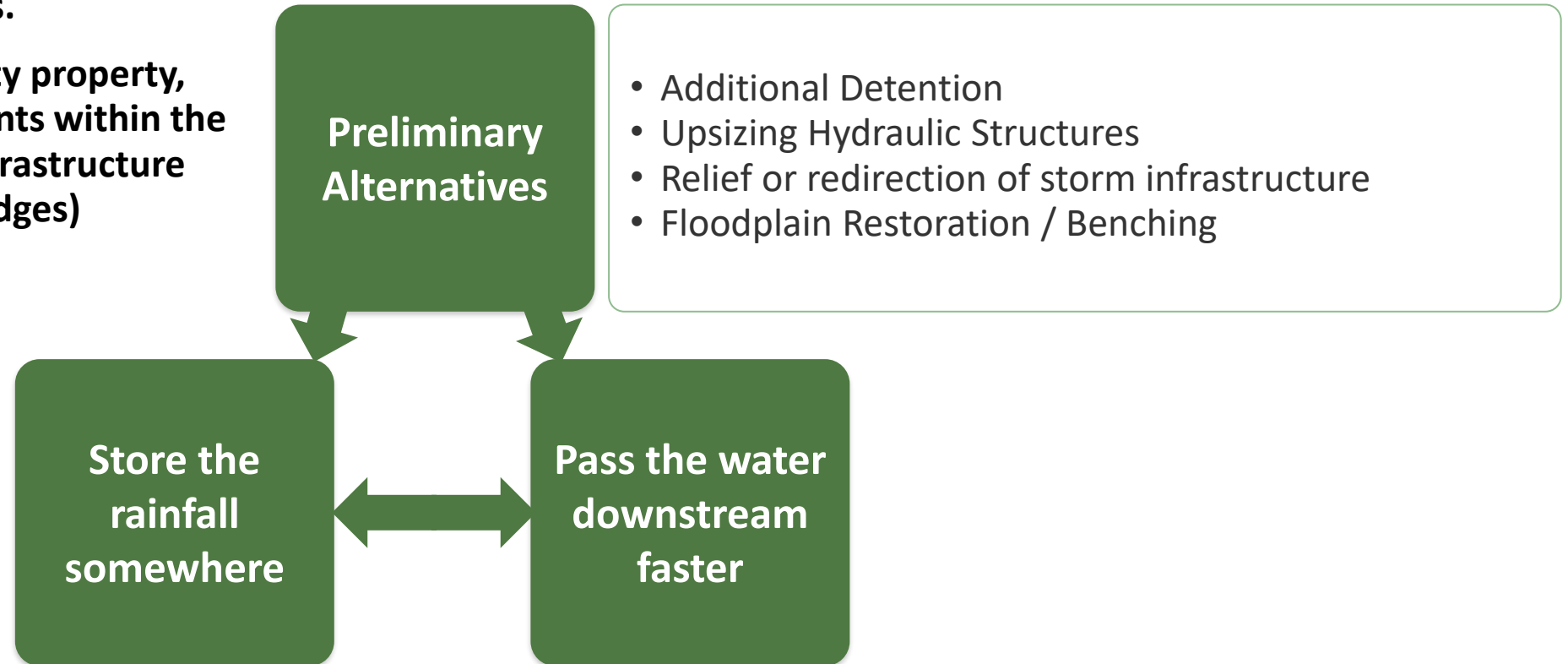
Modeled Flooding



Where was worst flooding?

# Where do we start for solutions?

- Starting with solutions that minimize impacts to residential property, by utilizing City owned Parcels.
- Following storage in the City property, evaluate other improvements within the Right-of-way, like storm infrastructure (stormsewers, culverts, bridges)



# What do we plan for in the future?

- **Upstream Collection:** The study identified practical locations to add new basins that catch rainwater in the upper part of the watershed.
- **Smart Storage:** Computerized controls on existing ponds to more effectively manage how much water they can hold and when its release it.
- **Strategic Rerouting:** The study recommends redirecting water flow from overwhelmed pipes into areas that have more room to handle the volume.
- **Roadway Culvert & Bridge Upgrades:** The study identified bridge and pipe improvements that let water pass through safely without increasing the flood risk for neighbors further downstream.
- **Restoring Natural Flood Areas:** The study recommends clearing out old soil or "fill" from natural floodplains so the land can once again act like a sponge and hold excess water.

## Preliminary Alternatives

- Additional Detention
- Upsizing Hydraulic Structures
- Relief or redirection of storm infrastructure
- Floodplain Restoration / Benching

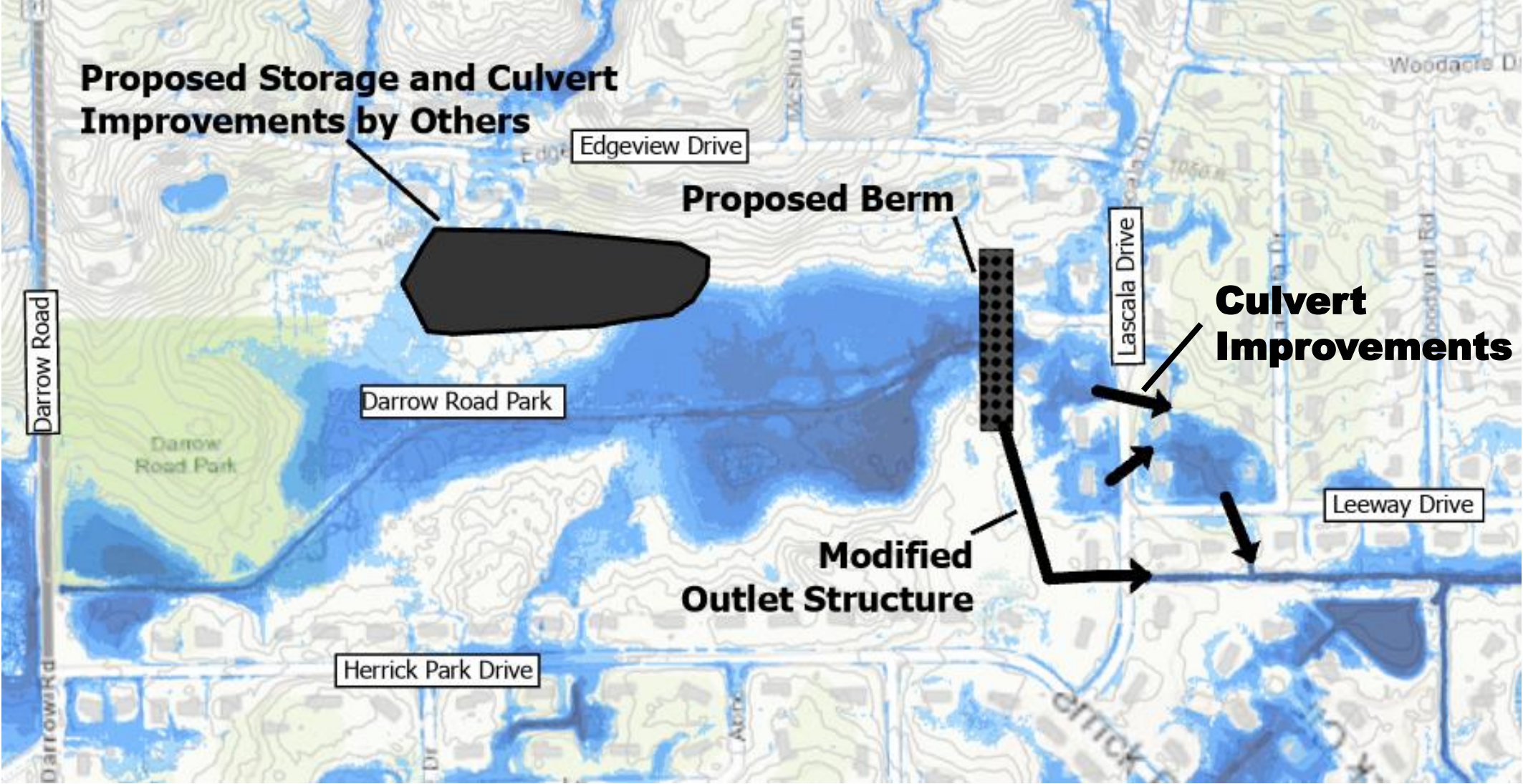
## Maximum Feasible Benefit

- Regional Storage
- Regional Detention Retrofits to Meet Current Drainage Standards
- Large-Scale Diversion Ditches
- Maximum Conveyance Through Roadway Crossings Along Unnamed Tributary

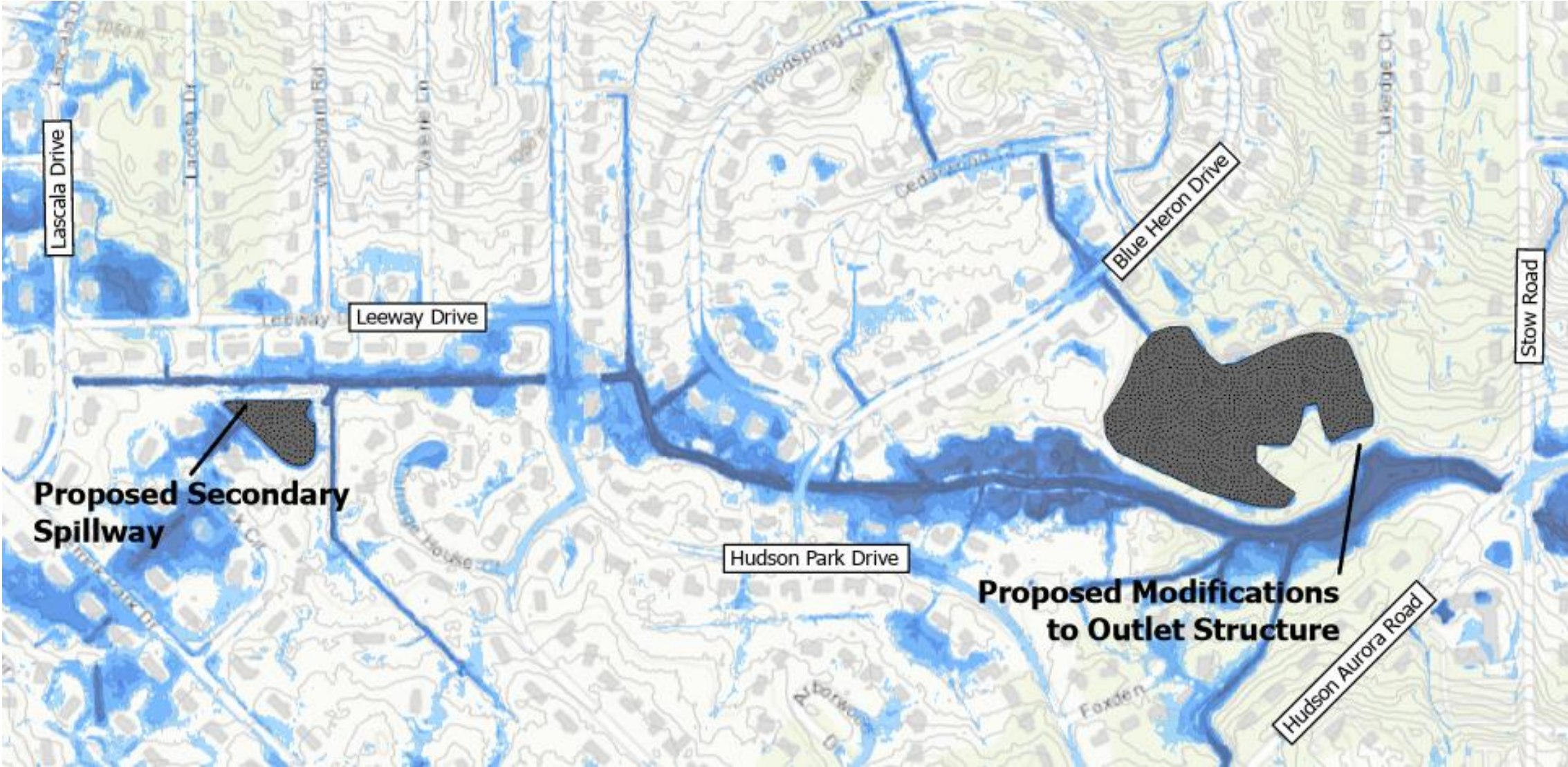
## Conceptual Alternatives

- Maximize Regional Storage
- Retrofit existing stormwater features
- Diversion of Stormsewer to Regional Storage
- Upsizing of Hydraulic Structures Along Unnamed Tributary
- Additional stormsewer diversions

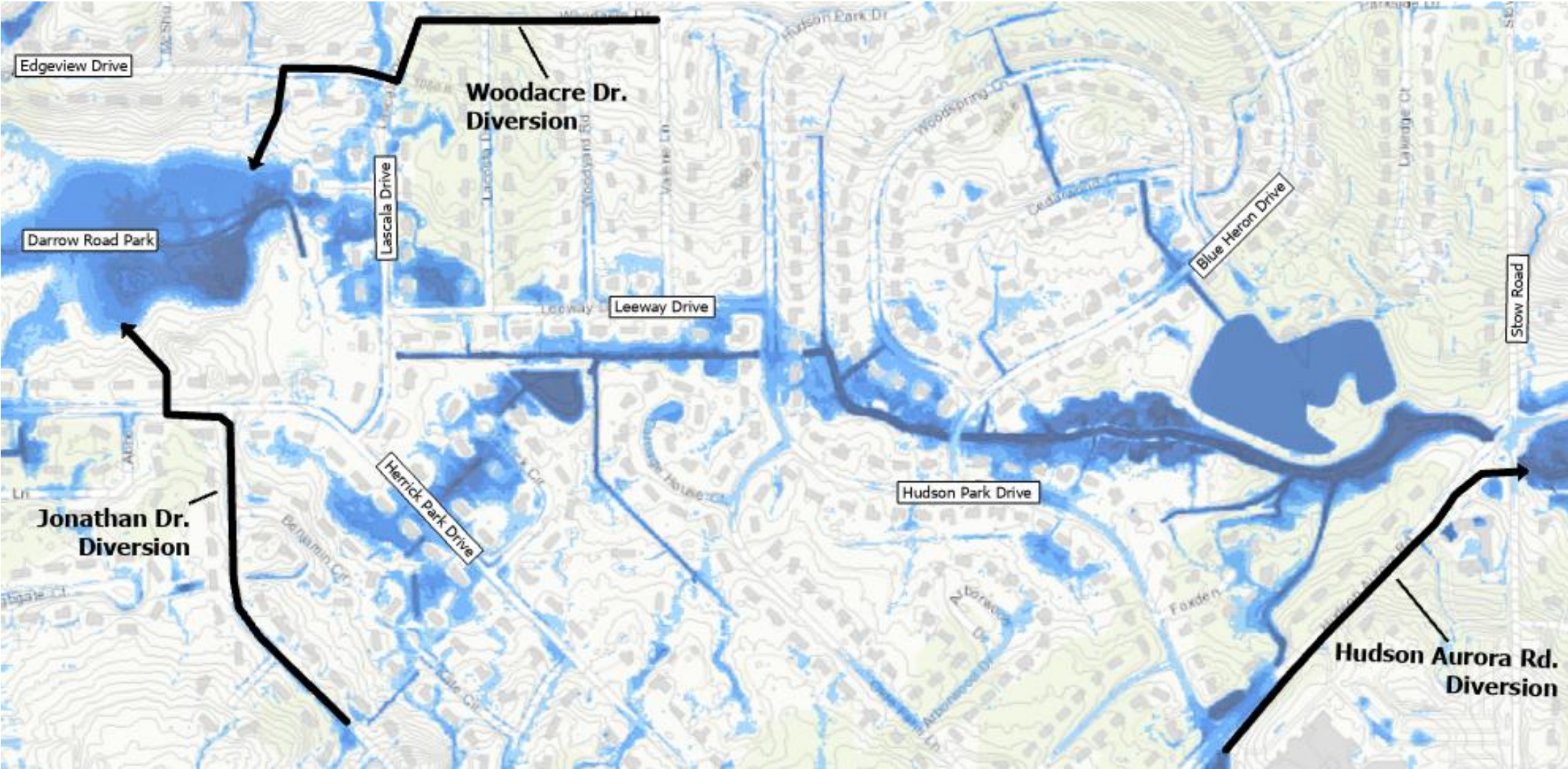
# Storage Improvements – Darrow Road Park



# Storage Improvements – Existing Detention Ponds



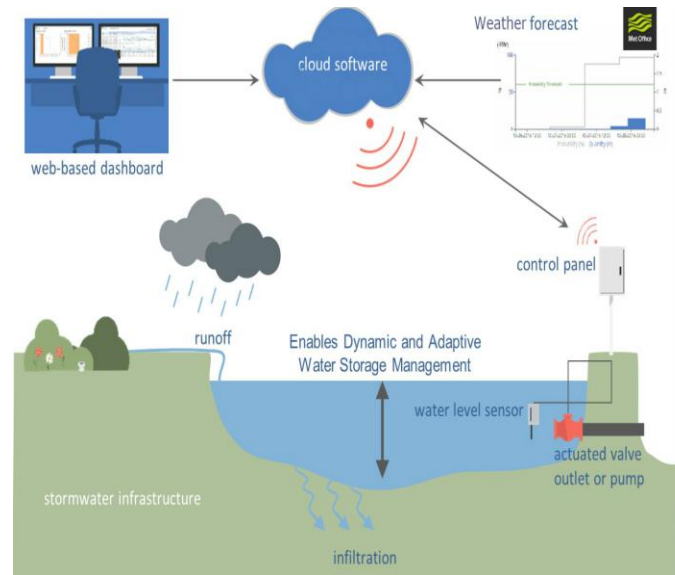
# Conveyance Improvements – Stormsewer Diversions





# How to improve resiliency for these events?

- Incorporating low impact development/green infrastructure practices
- Using Continuous Monitoring and Adaptive Control (CMAC) for Optimizing Stormwater Management
- Identifying/acquiring repetitive loss properties for potential buyouts/acquisitions
- Developing special flood hazard areas and creating a flood overlay district for flood prone areas
- Increasing and maintaining level of service for storm infrastructure
- Developing a flood warning system for flood prone watersheds in the City



# Capital Plan Schedule

## Phase I - 1-5 years

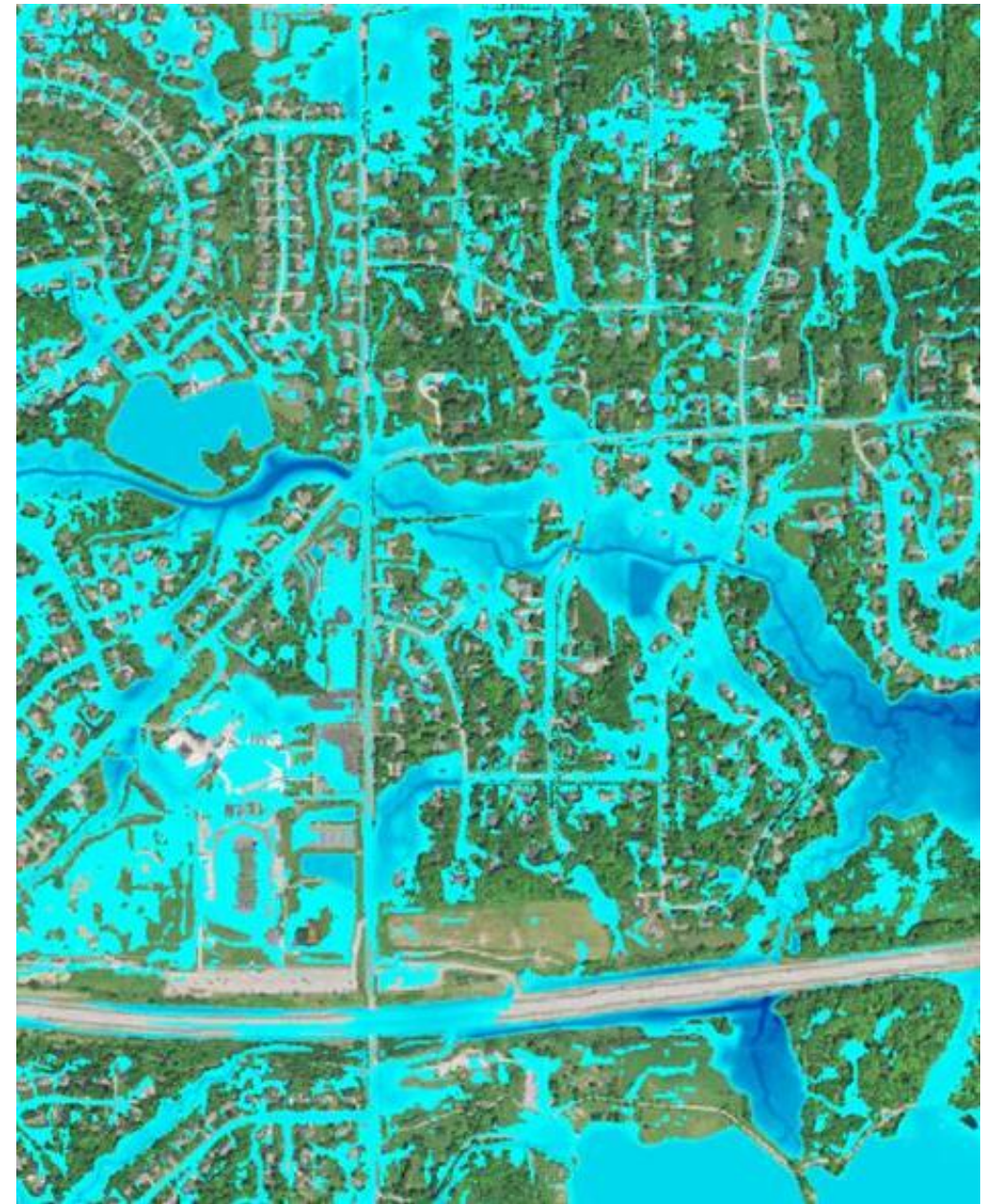
- Darrow Road Park Improvements
- Relief sewers to Darrow Road Park
- Hudson Aurora Road Relief Sewer

## Phase II – 5-10 years

- Hudson Park Estates Pond
- Woods of Western Reserve Pond

## Phase III – 10+ years

- Floodplain Improvements
- Culvert and Roadway Crossing Improvements



# Questions and Comments???

