



# Dunn's Marsh Watershed Study Public Information Meeting No. 2

by City of Madison Engineering Division  
September 30, 2020

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# Evening Overview

- ▶ Welcome (Caroline Burger, City of Madison)
- ▶ Presentation (Aaron Volkening, Stantec)
- ▶ Q&A (facilitated by Caroline Burger, City of Madison)
  - Submit questions through Zoom Q&A
    - *To find the Zoom Q&A Box, hover over the edge of your screen. A toolbar will appear and you can click on “Q&A”*
  - Questions answered at the end of the Presentation
- ▶ Wrap Up (Caroline Burger, City of Madison)
- ▶ Breakout to Focus Groups (City of Madison staff)
  - A link for the Focus Groups will be posted in the Zoom Group Chat box.

# Presentation Overview

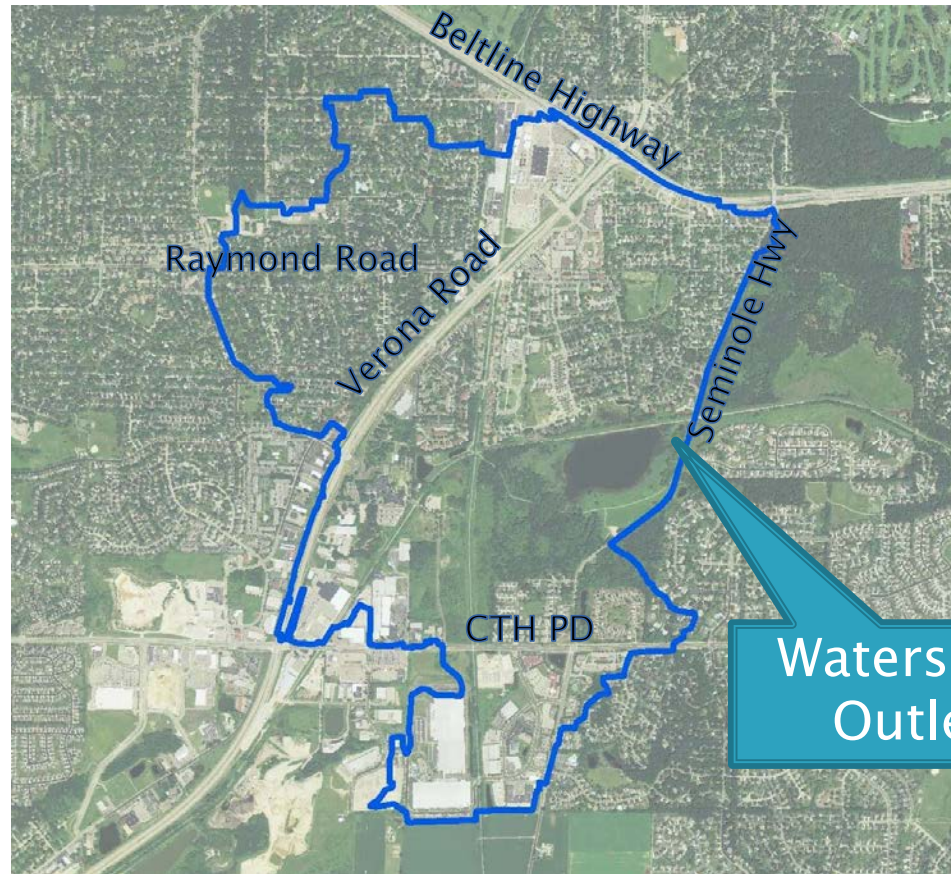
- ▶ Definitions of commonly used terms
- ▶ Project location
- ▶ Watershed characteristics
- ▶ Progress to date
- ▶ Tonight's meeting
  - Present Progress to date
  - Receive feedback from participants
  - Will not present proposed solutions
- ▶ Next steps
- ▶ Watershed study limitations



# Definitions of commonly used terms

- ▶ **Stormwater:** rainwater produced from a rain event
- ▶ **Stormwater runoff:** the portion of the rainwater that does not soak into the ground
- ▶ **Stormwater inlets:** grates in the ground that take in stormwater runoff; connected to the stormwater conveyance system
- ▶ **Detention ponds:** ponds designed to hold stormwater runoff to improve water quality and/or help prevent flooding
- ▶ **Subcatchments:** smaller sub-areas of a watershed
- ▶ **Level loggers:** monitoring equipment used to measure the level in a pond, channel, storm sewer, etc
- ▶ **Rain gauges:** monitoring equipment used to measure the depth of rain that fall in a rain event
- ▶ **Model:** computer software that is used to evaluate the stormwater conveyance system

# Project Location



A watershed is an area of land that drains to a single location.

This is the Dunn's Marsh watershed.

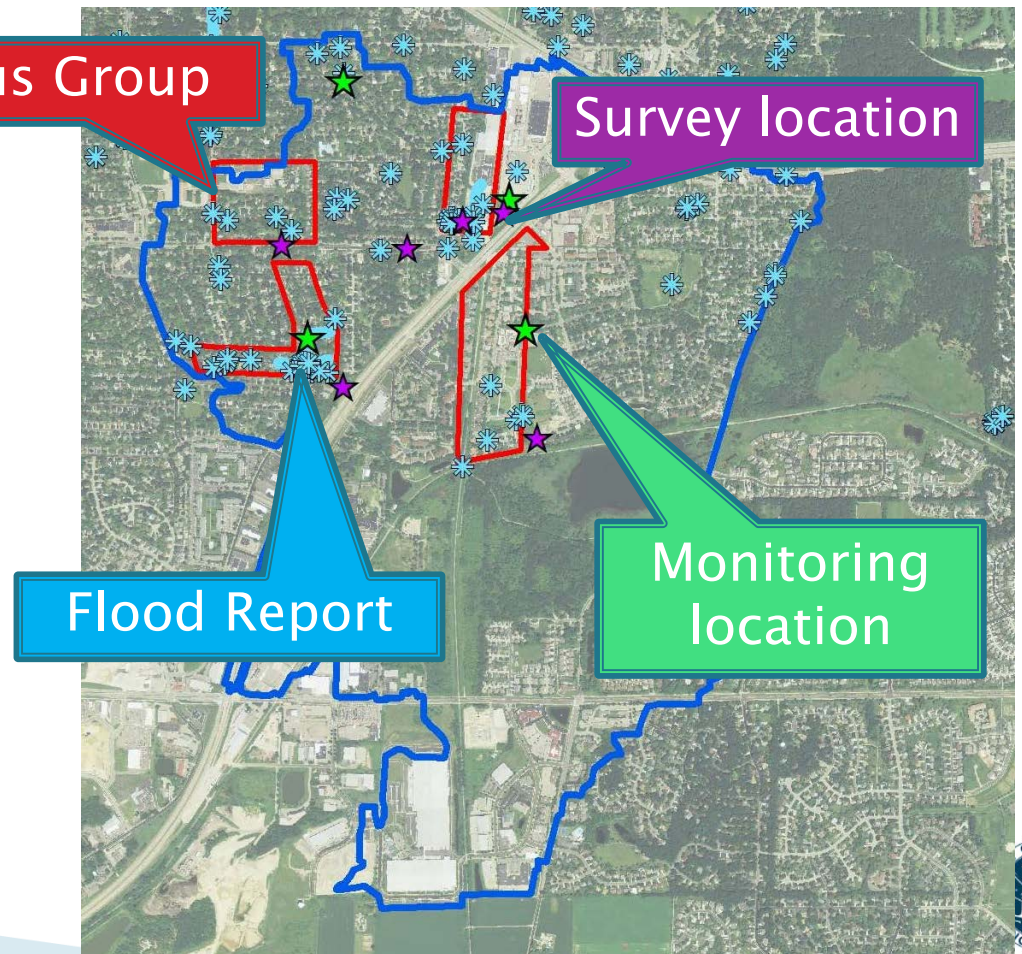
Watershed  
Outlet

# Watershed Characteristics

Item	Quantity
Watershed Area (acres)	1,358
Number of Subcatchments (#)	122
Public Stormwater Inlets and Access Structures in Watershed (#)	2,450
Total storm sewer pipes in Watershed (#)	1,940 segments; 26.2 miles
Storm sewer pipes in Model (#; length)	270 segments; 7.1 miles
Open channels in Model (#; length)	56 segments; 2.7 miles
Detention Ponds in Model (#)	13

# Progress To Date

- Data collection
  - Ground/storm sewer survey
  - Monitoring – rain depth, pond and storm sewer water levels, storm sewer flow
  - Flood reports
  - Focus groups – flooding experiences





# Progress To Date

- Public Information
  - Public Input Meeting #1 – October 22, 2019
  - Focus Groups – 5 Focus Groups in July 2020
  - Project website creation and updates –  
<http://www.cityofmadison.com/DunnsMarshWatershed>



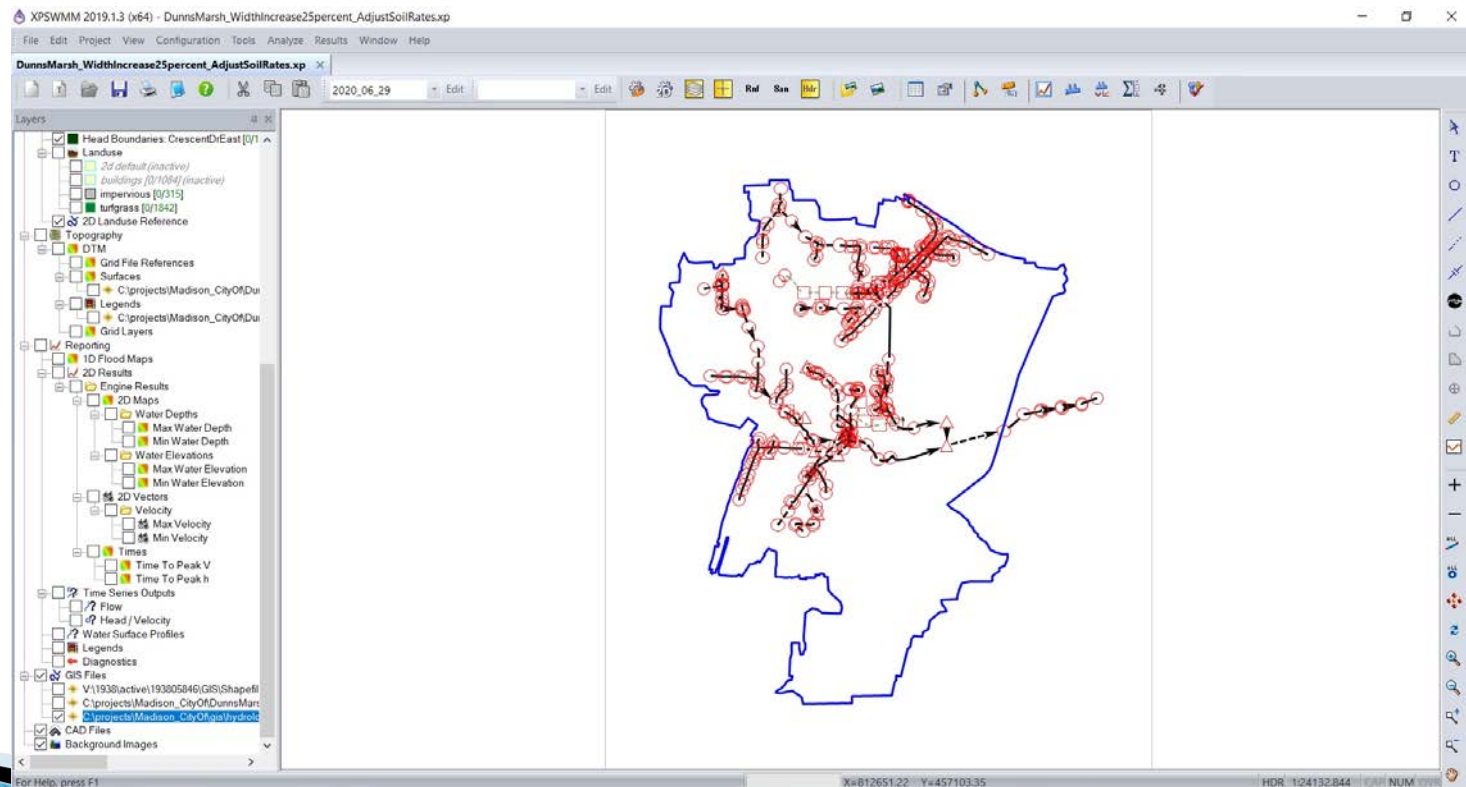
# Progress To Date

- Media – television, radio, Facebook, Twitter, Podcast
  - Coverage about Watershed studies as a whole on Channels 3, 27, 15, State Journal, Cap Times
  - Flooding awareness, education posts, photos and videos from focus groups on social media
  - Two podcast episodes on Everyday Engineering: Historic Flooding, Watershed studies



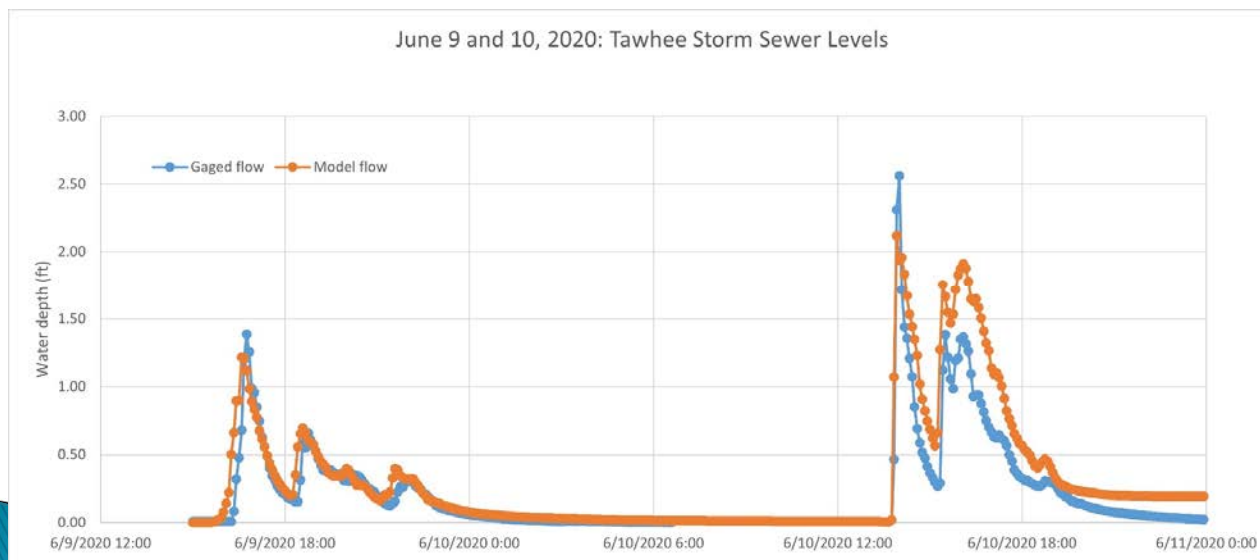
# Progress To Date

## ► Existing Conditions Model Construction



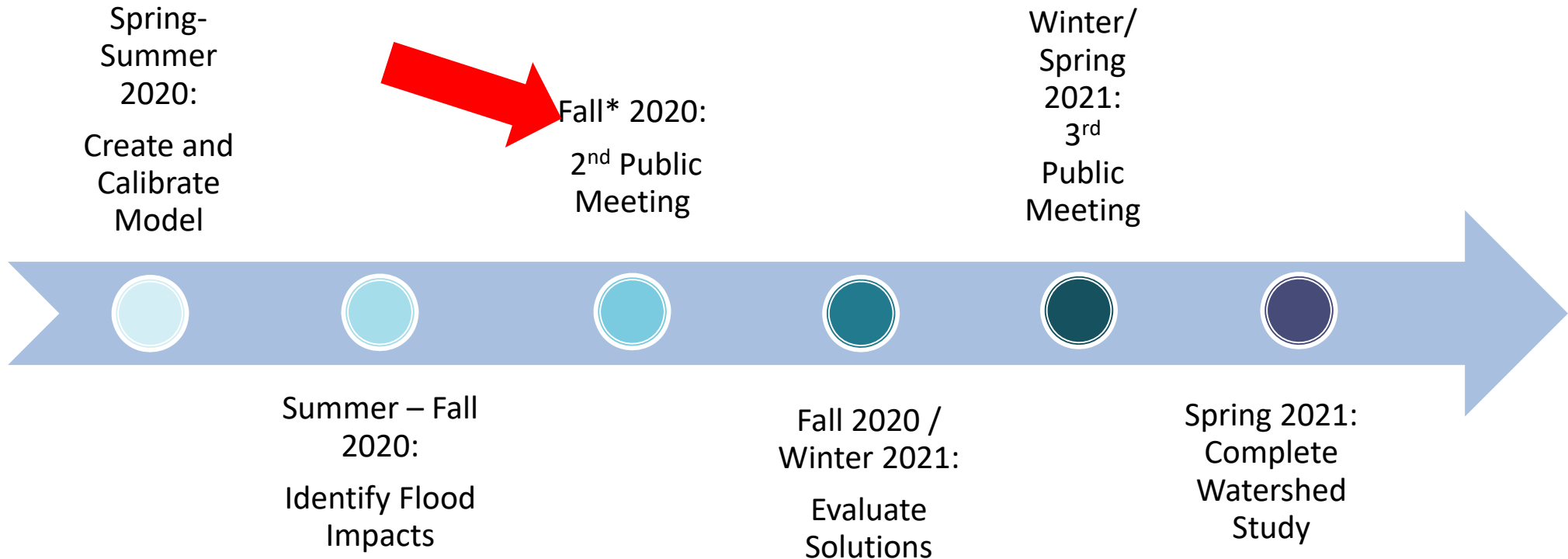
# Progress To Date

- ▶ Existing Conditions Model Calibration
  - City-installed monitoring equipment
  - Recorded highwater marks from August 2018 event



Calibration is comparing the model results to the monitored results and making changes so the model matches more closely

# Where we are in study process



\*Schedule delayed due to COVID-19

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# Tonight's Meeting

- ▶ Show our progress to date
- ▶ Review maps in Focus Groups (Zoom Breakout Rooms) following presentation Q&A

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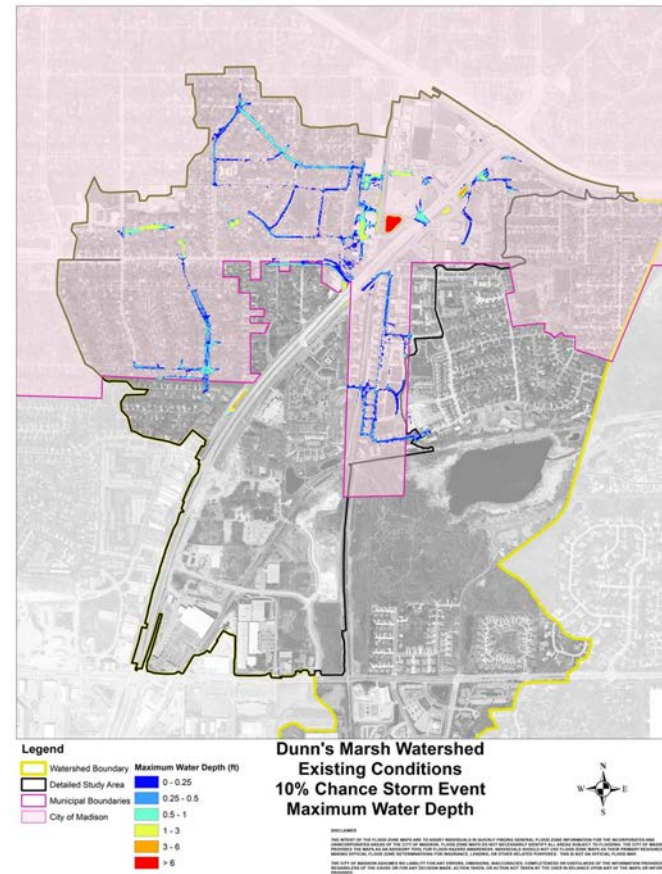
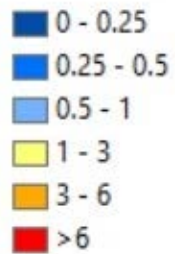


# Draft Flood Inundation Mapping

- ▶ The following slide shows the map from a model simulation of a rain event that has a 10% chance of happening each year
- ▶ The 10% chance storm can be:
  - 1.5 inches in 30 minutes
  - 1.7 inches in 1 hour
  - 3.1 inches in 12 hours
  - 4.1 inches in 24 hours
- ▶ A storm like this occurred in October 2019

# Dunn's Marsh Watershed (Detailed Study Area) 10% Chance Storm Event Maximum Water Depth

Maximum Water Depth (ft)





# Next Steps

- Evaluate Proposed Solutions
  - Green Infrastructure
  - Grey Infrastructure
  - Combination
- PIM #3
- Final Report
- Begin Implementing Solutions



# Watershed Study Limitations

- ▶ Utilizing computer models for analysis (computer models have inherent limitations, require assumptions, and are for one specific set of circumstances)
- ▶ Retrofitting infrastructure takes a lot of time and money
- ▶ Not all problems can be solved
- ▶ Repairs are not always easy, popular, or inexpensive
- ▶ Best engineering solution may not be the one chosen
- ▶ Property owners will need to create solutions too
- ▶ Solutions will need broad community cooperation
- ▶ Groundwater problems not easily addressed by infrastructure



# Contact Information & Resources

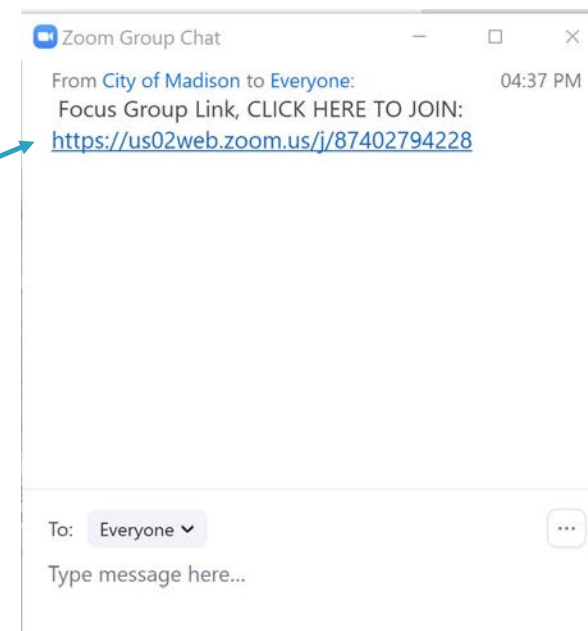
- Project Manager: Caroline Burger, [cburger@cityofmadison.com](mailto:cburger@cityofmadison.com)
- Public Information Officer: Hannah Mohelnitzky, [hmohelnitzky@cityofmadison.com](mailto:hmohelnitzky@cityofmadison.com)
  
- Project Webpage:
  - <https://www.cityofmadison.com/engineering/projects/dunns-marsh-watershed-study>
  - StoryMap can be found on the Webpage – *Must use Google or Firefox for browser, Explorer not supported*
  - Sign-up for project email updates on the website
  - Report flooding, past or current on the Report Flooding form
- New Flooding Website: [www.cityofmadison.com/flooding](http://www.cityofmadison.com/flooding)
- Everyday Engineering Podcast
- Facebook – City of Madison Engineering
- Twitter – @MadisonEngr



# Focus Groups – Zoom Breakout Rooms

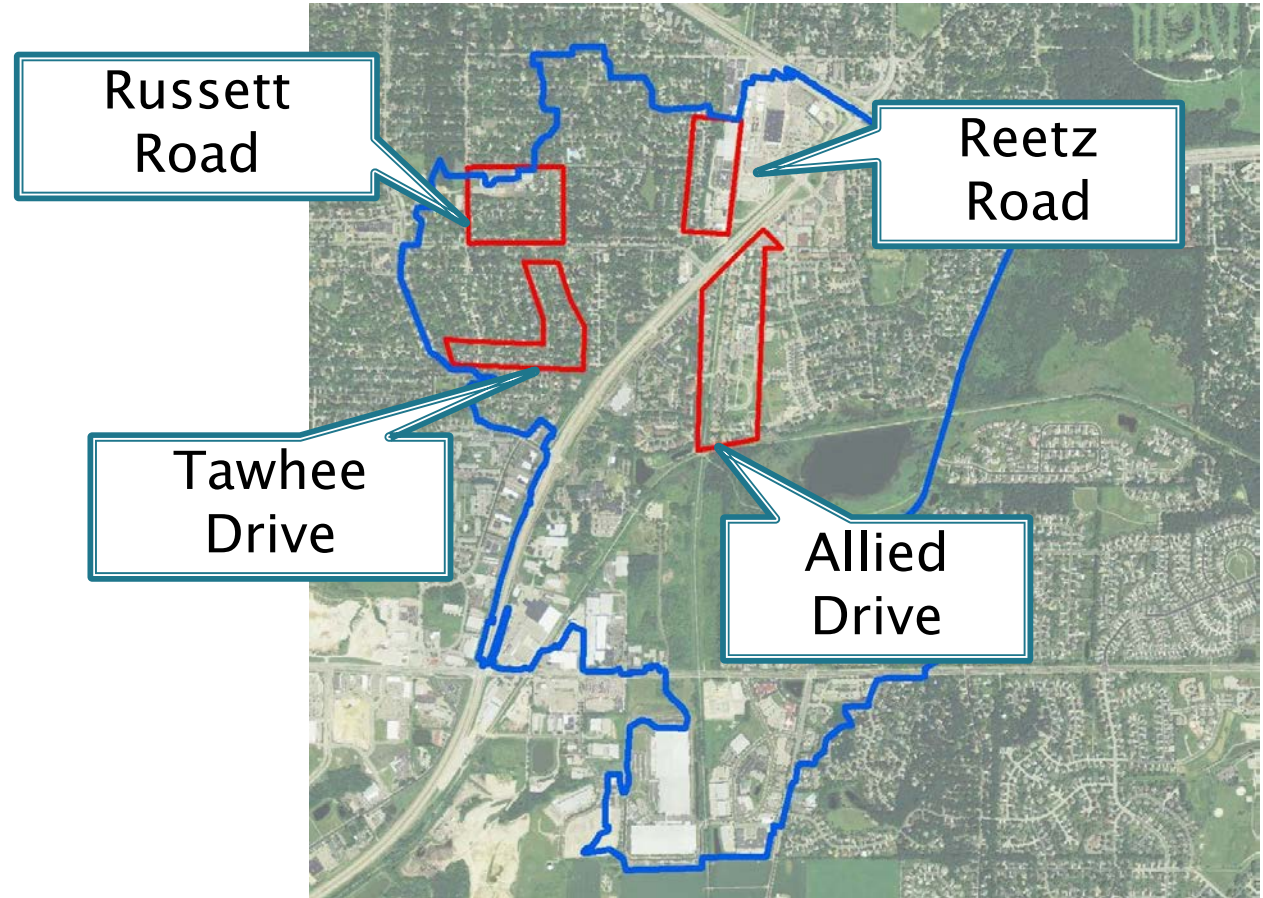
## ▶ Join the Zoom Breakout Room Session

- Open the Zoom Chat box (if not already open)
- Click on Link provided in the Zoom Group Chat box
- A message will pop-up that says “Do you want to leave this meeting?”
- Click “Yes”
- Join Meeting
- City staff will meet you in the new virtual meeting room



# Small Groups / Focus Groups

1. Allied Drive
2. Reetz Road
3. Tawhee Drive
4. Russett Road



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