Welcome!
We will begin shortly…

Virtual Meeting Schedule	
6:00 – 6:10	Welcome
6:10 – 6:45	Presentation
6:45 – 7:00	Presentation Q & A (General)
7:00 – 7:45	Zoom Breakout Rooms
7:45 – 8:00	Come Back Together/Wrap-Up

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Willow Creek Watershed Study Public Information Meeting No. 3

MSA Professional Services with
City of Madison Engineering Division
September 29, 2022

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Meeting Technical Housekeeping

- This meeting will be recorded and posted to the project page.
- All attendees should be muted to keep background noise to a minimum.
- Use the “chat” button for technical issues with meeting to troubleshoot with staff to assist.
- Use the “Q and A” button to type questions about presentation. Questions will be answered live after the presentation.
- Inappropriate questions may be dismissed.
- Use the “raise your hand” button to verbally ask your question. You will be prompted to unmute when it is your turn.

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This meeting is being recorded.

It is a public record subject to disclosure.

By continuing to be in the meeting, you are consenting to being recorded and consenting to this record being released to public record requestors.

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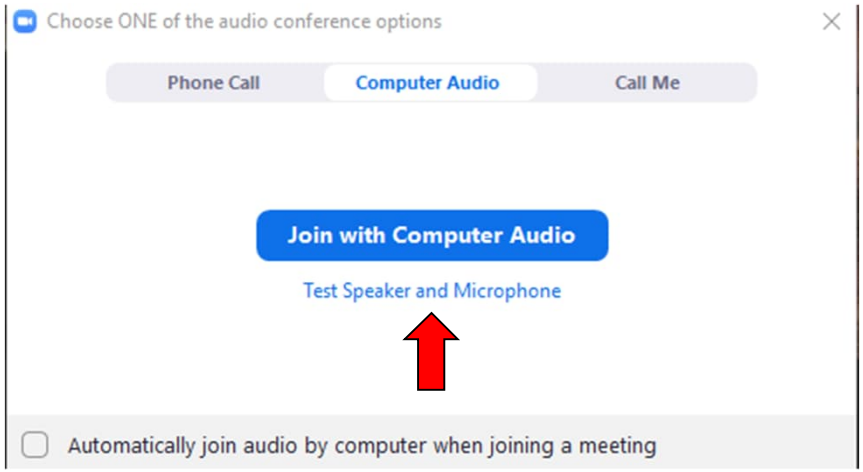
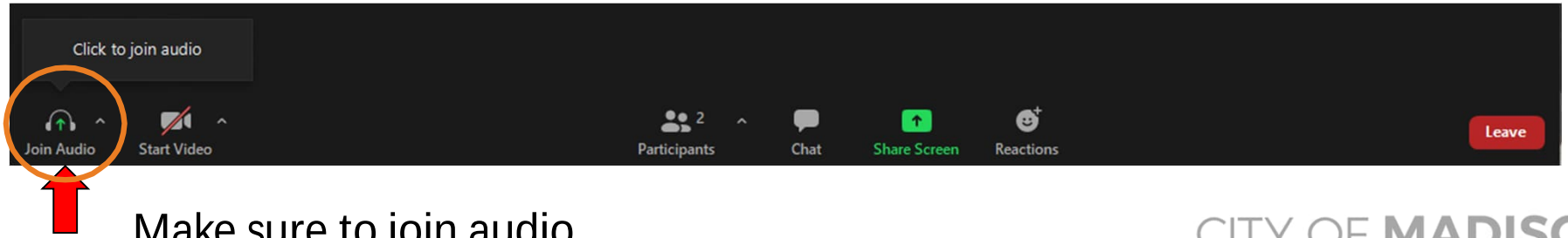
How to Participate





Make sure to join audio

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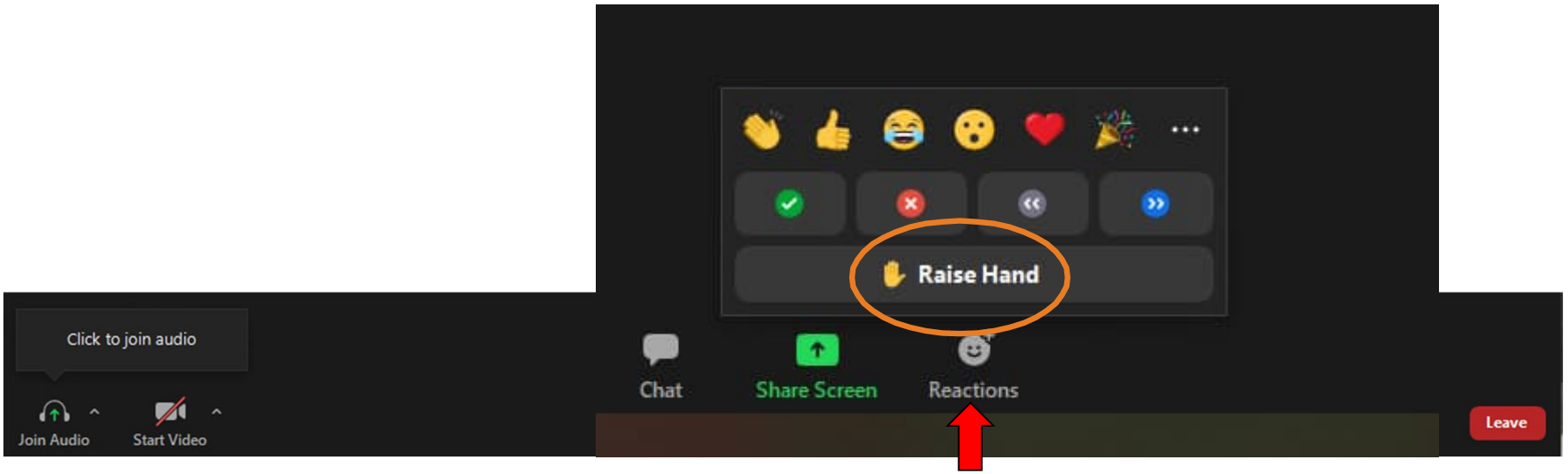
Raise your hand to be unmuted
for comments or ask additional questions.



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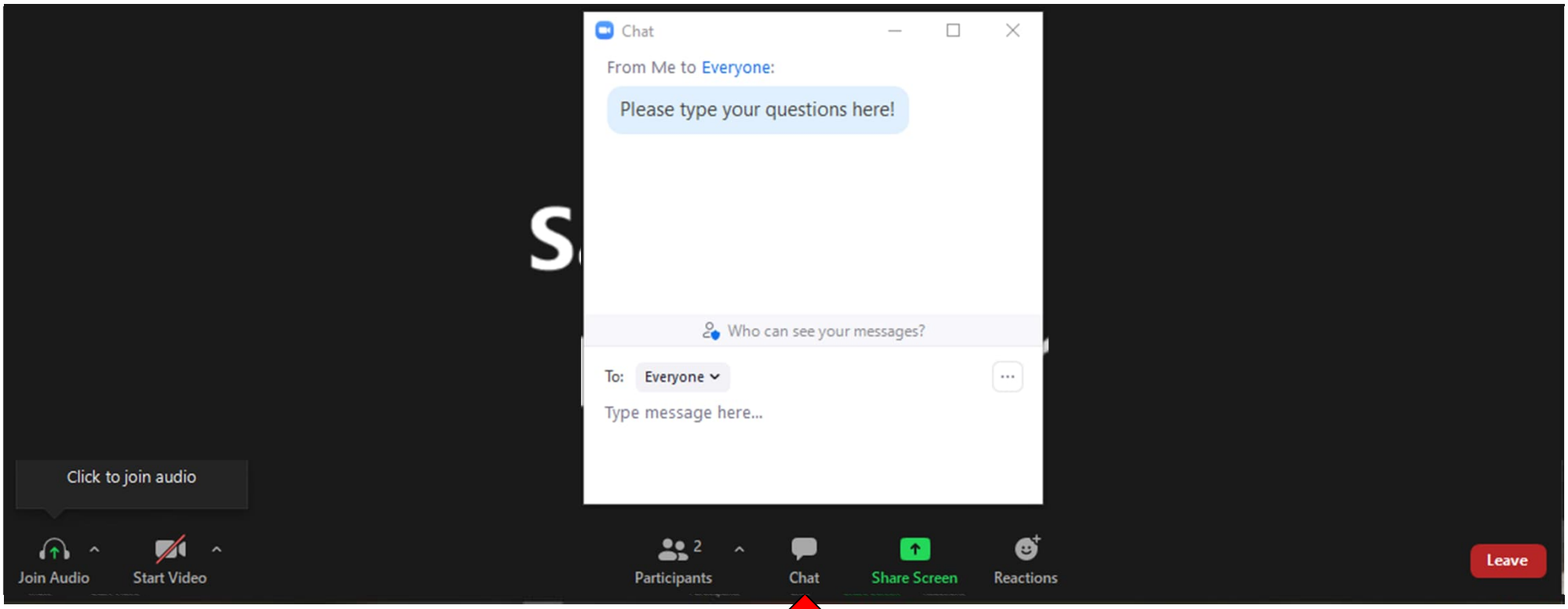

Use chat if you have technical issues or a question for the panelists.

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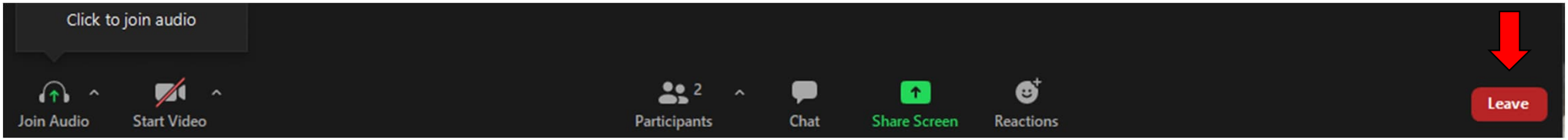
How to Participate

When you are ready to leave the meeting

To leave the meeting click here



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Evening Overview

- Welcome (Caroline Burger, City of Madison)
- Presentation (Eric Thompson, MSA Professional Services)
- Q&A (facilitated by Caroline Burger, City of Madison)
  - Submit questions through Zoom “Chat”
    - *To find the Zoom Chat Box, hover over the edge of your screen. A toolbar will appear, and you can click on “Chat”*
  - Questions answered at the end of the Presentation
- Wrap Up (Caroline Burger, City of Madison)
- Breakout Groups (MSA and City of Madison staff)
  - We will separate into breakout groups if needed based on the Q&A

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Presentation Outline

1. Definitions of commonly used terms
2. Study location
3. Watershed study schedule
4. Flood mitigation targets
5. Inundation mapping
6. Proposed solutions development process
7. Proposed solutions
   a. Standalone projects
   b. Local storm sewer
8. Implementation and cost
9. Why aren't all flood targets met?
10. Next steps

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Definitions of commonly used terms

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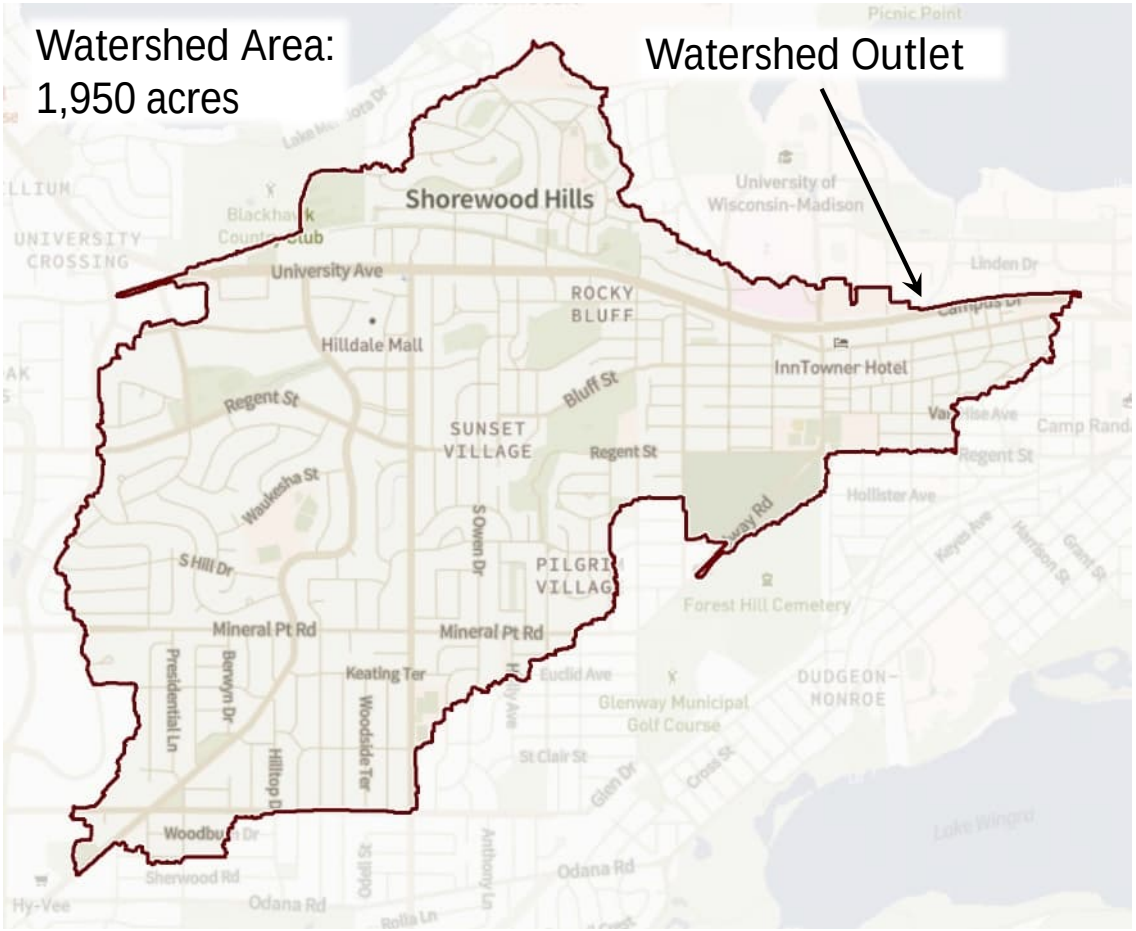
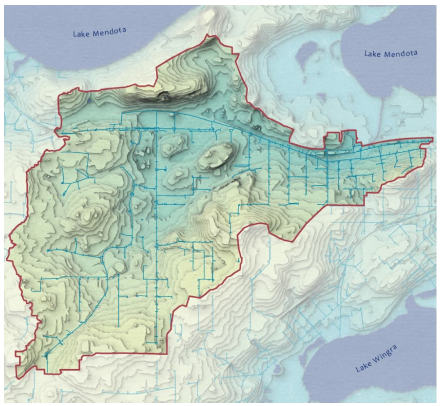
- Model: computer software that is used to evaluate the stormwater conveyance system
- Local Sewer Projects: storm sewer that is reconstructed with another already-scheduled project – typically street reconstruction
- Stand-alone Projects: Flood mitigation projects that will be constructed on their own – not tied to another already-scheduled project

Project Location



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

This is the Willow Creek watershed in the City of Madison.



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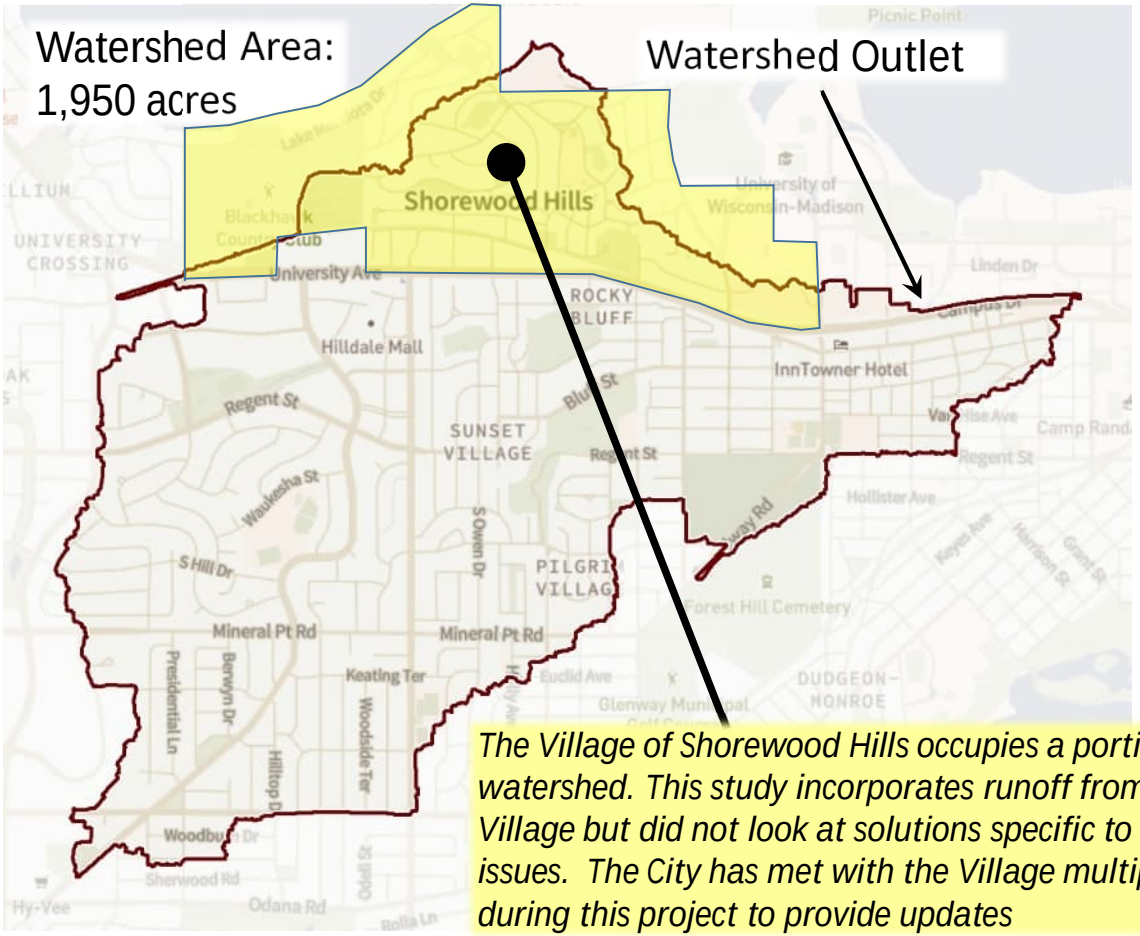
Project Location



The Village of Shorewood Hills occupies a portion of watershed. This study incorporates runoff from the Village but did not look at solutions specific to Village issues. The City has met with the Village multiple times during this project to provide updates

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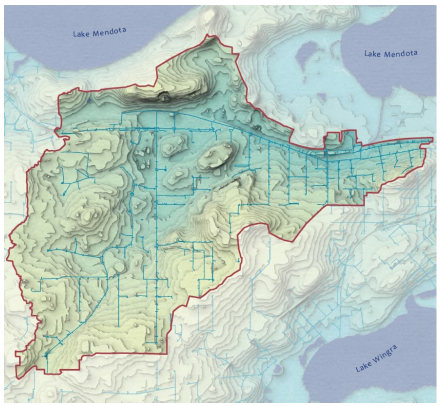

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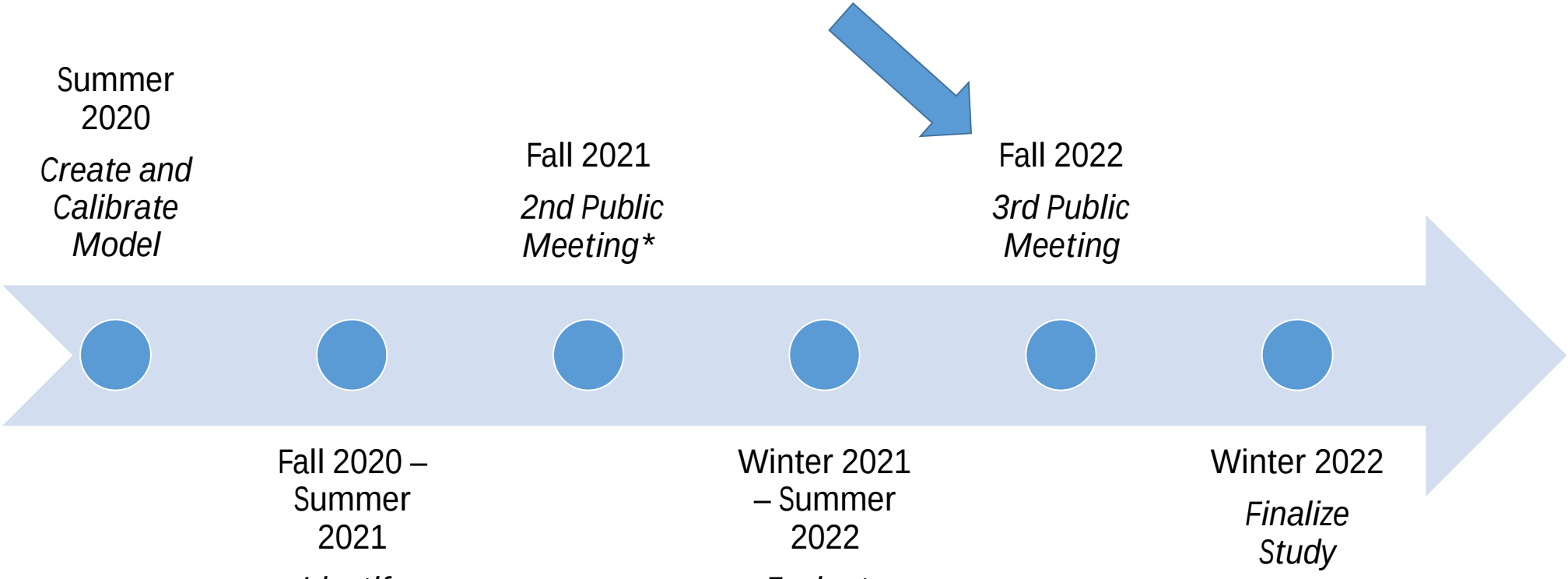
Schedule



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*Presentations from PIM1 and PIM 2 can be found on the Watershed Study Website

Flood Mitigation Targets

- 0.2% Chance Event (8.81” rain/24 hours)
  - Safe conveyance of overflow

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  - No greenway crossing overflow
    - *stormwater does not come out of greenway and flow over the road*

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- 4% Chance Event (5.01” rain/24 hours)
  - 0.5’ at Centerline of Road (roads passable for emergency vehicles)
- 10% Chance Event (4.09” rain/24 hours)
  - No surcharging of storm sewer onto roadway (storm sewer pipes are sized to carry storm)

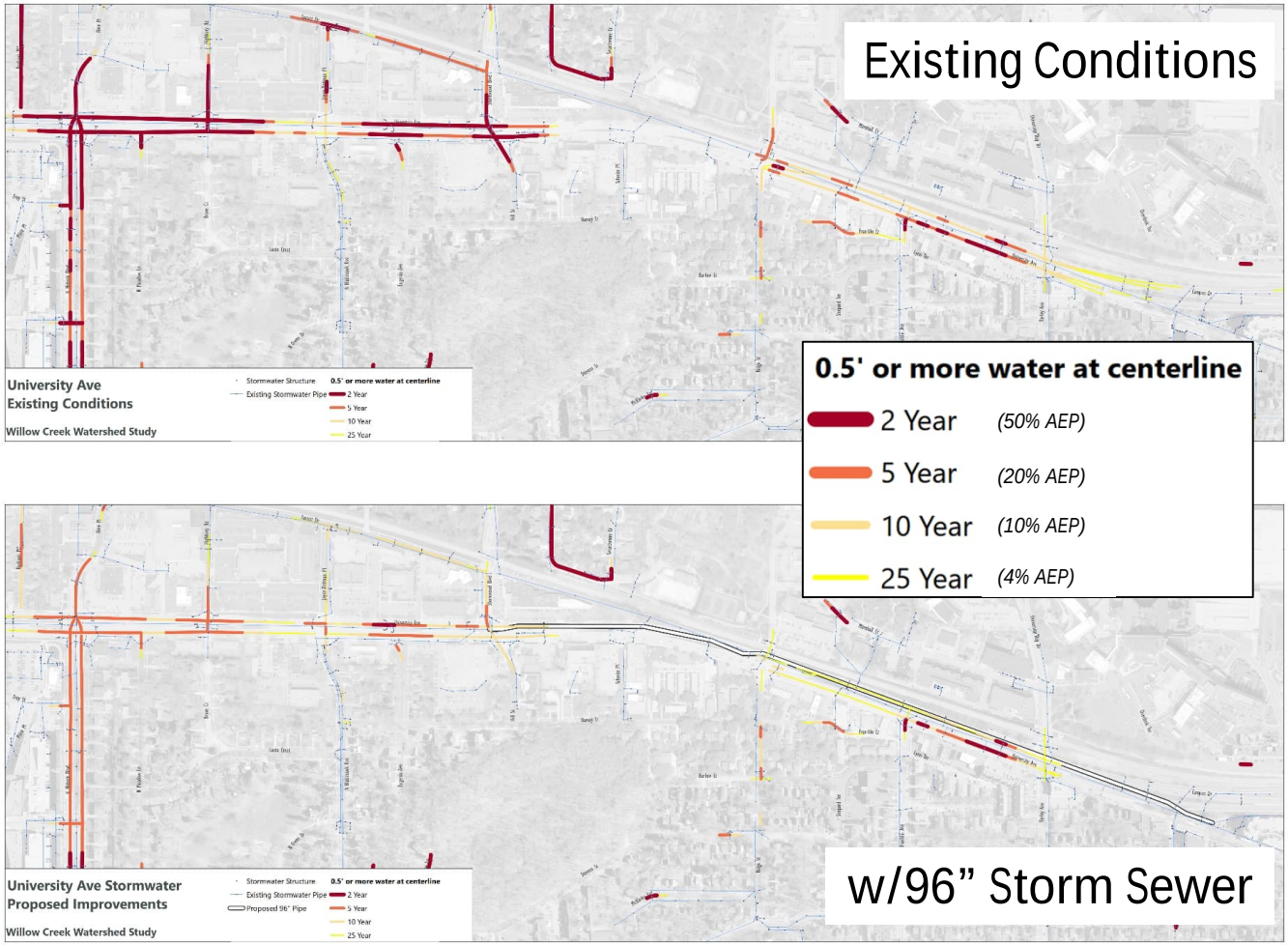
Flood Mitigation Targets

- Not all targets are met for all areas of the watershed
  - Problems are complex – mitigating factors discussed later in the presentation
  - For the Willow Creek watershed targets were adjusted based on downstream system limitations

PIM #2 discussed development and calibration of the existing conditions modeling.

One of the first activities the existing conditions model was used for was to evaluate the installation of the 96” relief storm sewer currently being installed with the reconstruction of University Avenue.

The flood reduction benefits achieved by this improvement represent the maximum feasible for this corridor and forced a re-evaluation of flood reduction targets for Willow Creek.



System capacity improved from < 2-yr to ~5-yr service level

Flood Reduction Benefits from 96" Storm Sewer Under University Avenue

10% Chance Event

No surcharging of storm sewer onto roadway

Target Adjusted

20% Chance Event

No surcharging of storm sewer onto roadway

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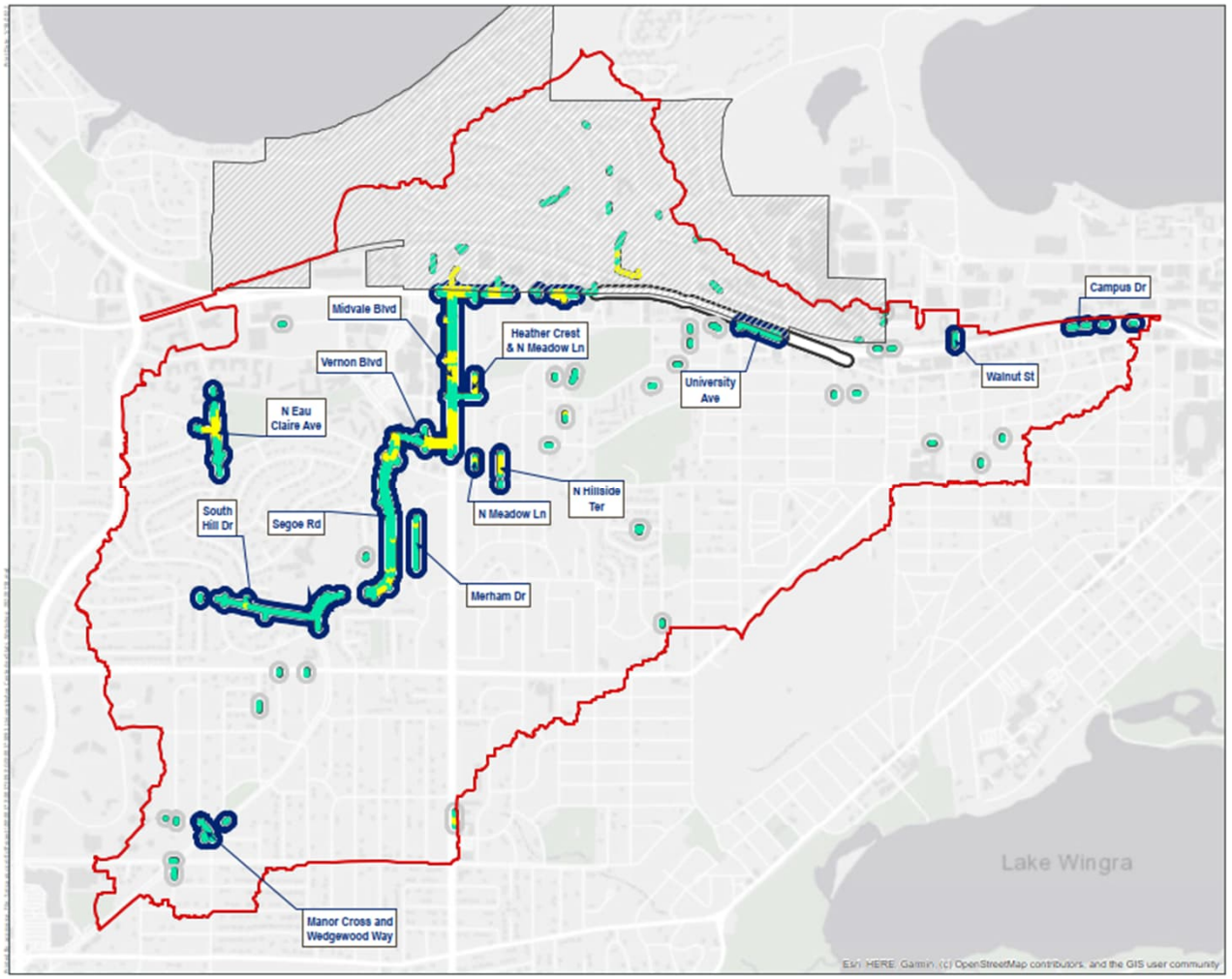
Storm Sewer Systems < 20% AEP Service Level



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INUNDATION MAPPING DISCLAIMER

THE INTENT OF THE INUNDATION MAPS ARE TO ASSIST INDIVIDUALS IN QUICKLY FINDING GENERAL FLOOD RISK INFORMATION FOR THE INCORPORATED AND UNINCORPORATED AREAS OF THE CITY OF MADISON. INUNDATION MAPS DO NOT NECESSARILY IDENTIFY ALL AREAS SUBJECT TO FLOODING. THE CITY OF MADISON PROVIDES THE MAPS AS AN ADVISORY TOOL FOR FLOOD HAZARD AWARENESS. INDIVIDUALS SHOULD NOT USE INUNDATION MAPS AS THEIR PRIMARY RESOURCE FOR MAKING OFFICIAL FLOOD RISK DETERMINATIONS FOR INSURANCE, LENDING, OR OTHER RELATED PURPOSES. THIS IS NOT AN OFFICIAL FLOOD MAP.

THE CITY OF MADISON ASSUMES NO LIABILITY FOR ANY ERRORS, OMISSIONS, INACCURACIES, COMPLETENESS OR USEFULNESS OF THE INFORMATION PROVIDED REGARDLESS OF THE CAUSE OR FOR ANY DECISION MADE, ACTION TAKEN, OR ACTION NOT TAKEN BY THE USER IN RELIANCE UPON ANY OF THE MAPS OR INFORMATION PROVIDED.

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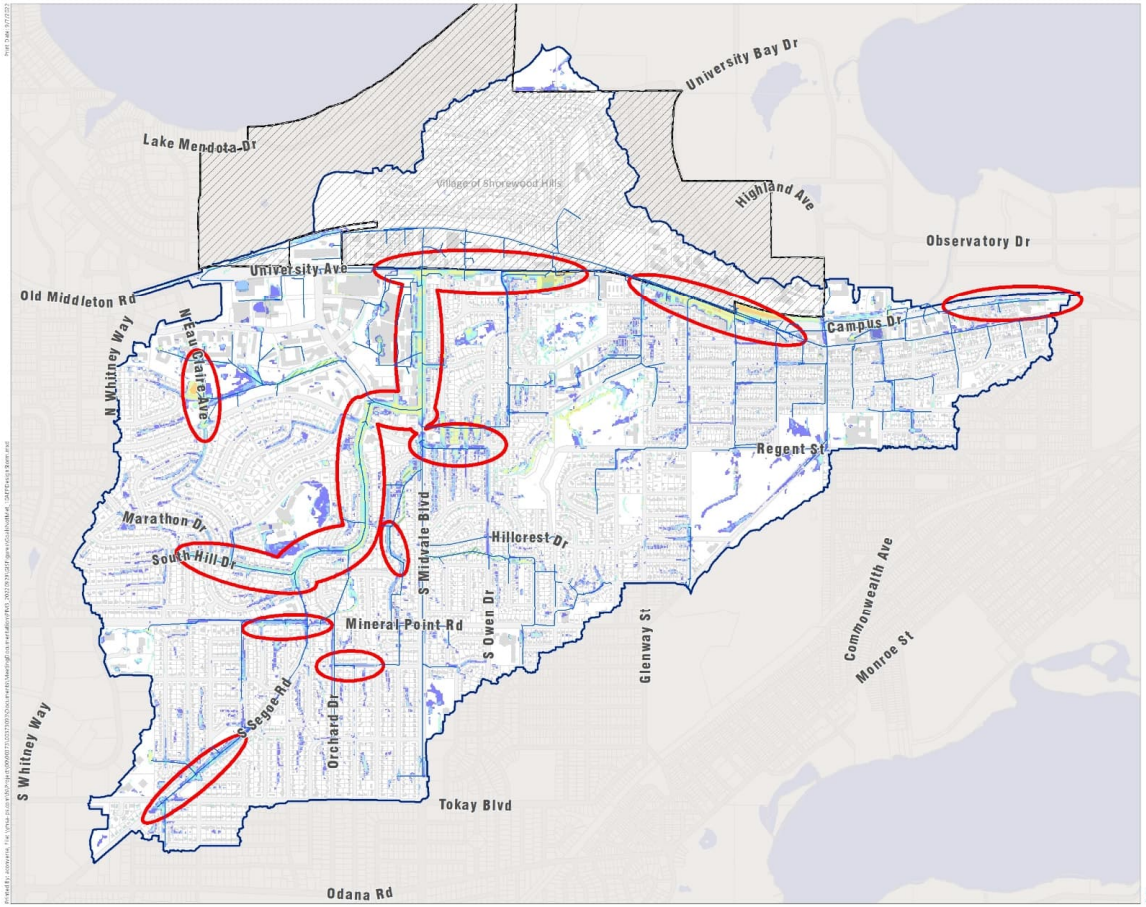
10% Chance Existing Inundation Mapping



Existing Conditions

10% Chance Event

Willow Creek Watershed Study

City of Madison
Dane County, WI

- Watershed Study Area
- Shorewood Hills
- Modeled Link
- Goals Not Met
- Greenway

10% Annual Exceedance Probability Storm

Maximum Water Depth (ft)

- 0.01 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- 1 - 3
- 3 - 6

Data Sources:
Parcels: Dane County
Watershed Boundaries: MSA
Stormwater System: City of Madison

MSA

0 550 1,100 Feet

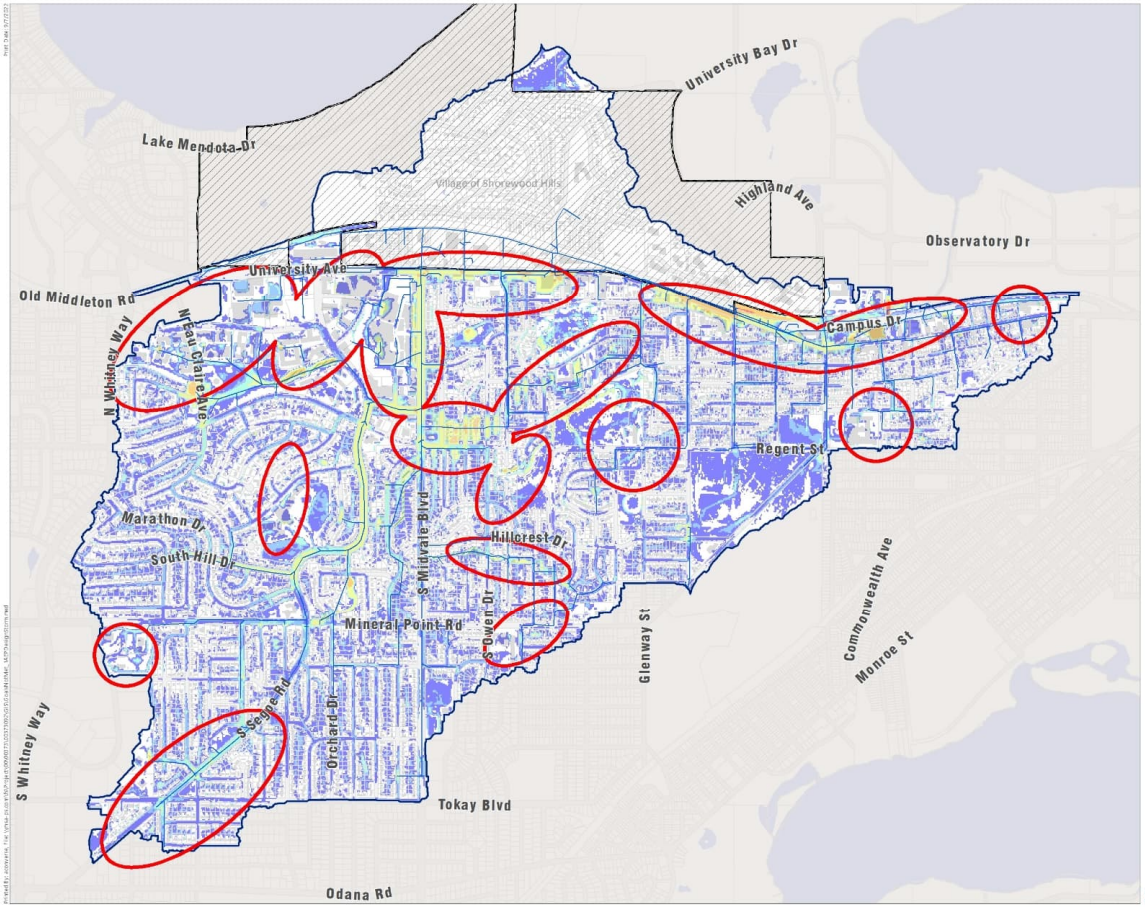
17.3 miles out of 104.2 miles of curb do not meet the 10% target

<u>20% AEP Event</u>

15.2 miles
do not meet target

Target <u>≤</u> 0.25' of water at curb line

1% Chance Existing Inundation Mapping



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MSA

0 550 1,100 Feet

353 out of 5,040 structures do not meet 1% chance target

Proposed Solutions Process

- Iterative process
  - Brainstormed solutions
  - Analyzed ideas and provided results
  - Some solutions not found to be viable for various reasons
  - Several meetings to develop the “suite of solutions”

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Proposed Solution Alternative Matrix

Model Scenario Name	Existing	Prop-A	Prop-B	Prop-C	Prop-D	Prop-E	Prop-F	Prop-Ga	Prop-Gb	Prop-H
University Ave 96" Storm Sewer. N Blackhawk Ave SS connection. Midvale/University Box Wall Removed.	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
University Bay Dr 72" relief sewer.	N	N	Y	N	Y	Y	Y	Y	Y	Y
5-Year Level of Service SS Upsizing (Midvale Blvd, Vernon Blvd, Segoe Rd, S Hill Dr, N Eau Claire Ave, Regent St, Owens Dr, Meadow Ln)	N	N	N	Y	Y	Y	Y	Y	Y	Y
Storage Basins proposed at Robin Park, Merlham Dr, and the Hillcrest Cunette.	N	N	N	N	N	Y	N	N	N	N
Storage Basins proposed at Rennebohm Park/Karen Arms, Wholefoods, and low lying residential area north of Regent St.	N	N	N	N	N	Y	Y	Y	Y	N
12' Diameter Deep Tunnel to lake Mendota.	N	N	N	N	N	N	N	Y	N	Y
9' Diameter Deep Tunnel to Lake Mendota.	N	N	N	N	N	N	N	N	Y	N

ADISON

Proposed Solutions Process

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- Met with City Agencies for feedback on:
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  - Additional solutions
  - Places for cooperation/win-win solution

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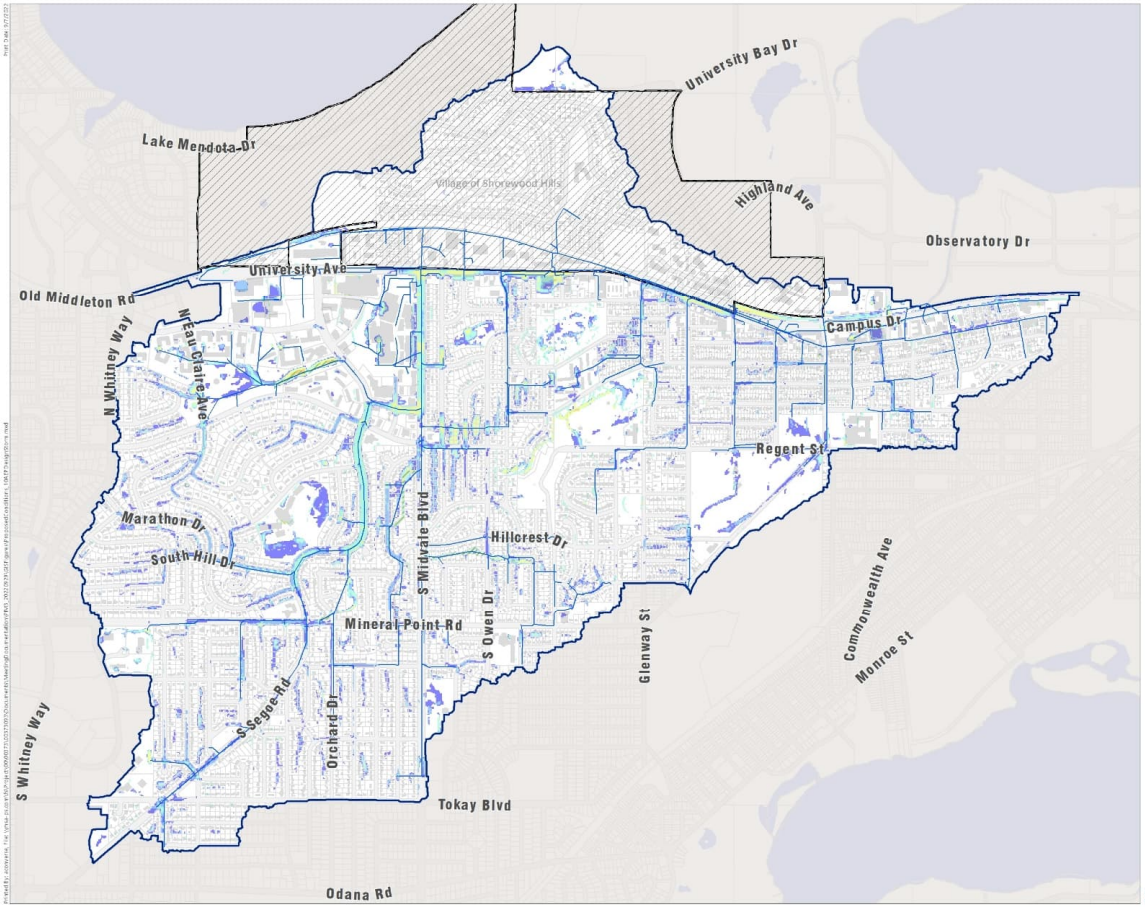
- Revised solutions based on agency feedback
- Meeting with public this evening

10% Chance Proposed Inundation Mapping



Proposed Conditions

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Stormwater System: City of Madison

MSA

0 550 1,100 Feet

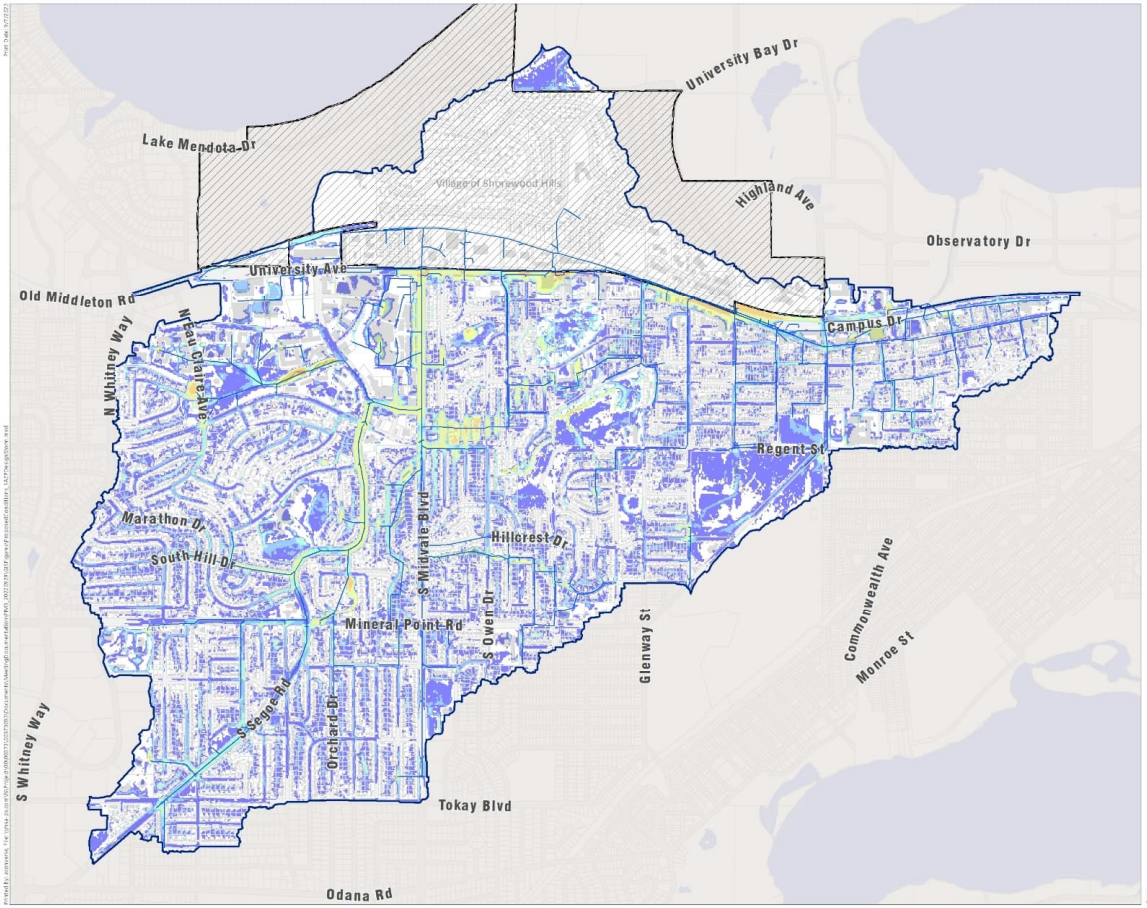
1.9 additional miles of curbline will meet 10% target

20% AEP Event

2.6 additional miles will meet target

Target ≤ 0.25' of water at curb line

1% Chance Proposed Inundation Mapping



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Watershed Boundaries: MSA
Stormwater System: City of Madison

MSA

0 550 1,100 Feet

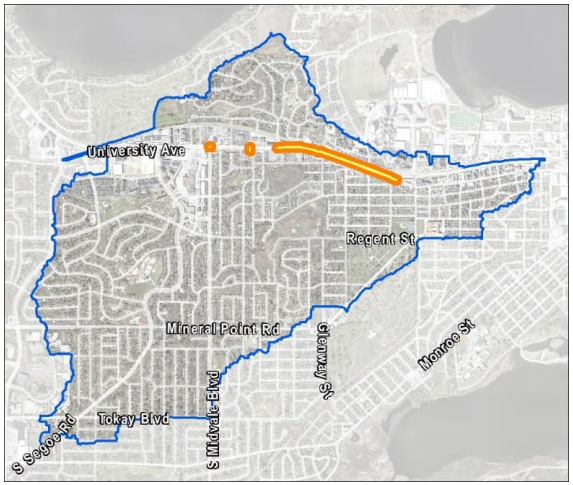
N

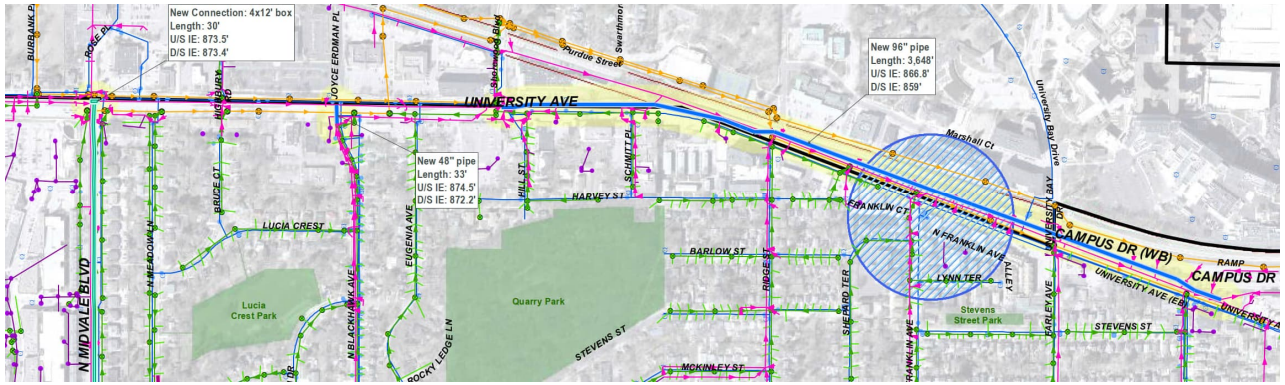
31 additional structures will meet 1% chance storm target

Proposed Solutions

1. University Ave Storm Sewer
2. N Midvale Blvd Storm Sewer
3. South Hill Dr, Segoe Rd and Vernon Blvd Storm Sewer
4. Regent St & Owen Dr Storm Sewer
5. N Eau Claire Ave, Regent St and Rennebohm Park Storm Sewer
6. S Segoe Rd Storm System Improvements

1. University Ave Storm System Improvements





- Goal: Reduce flooding during 10%, 4%, and 1% events
- New 96” pipe along University Ave (Shorewood Blvd → east of Grand Ave)
- Reconnecting the box at Midvale Blvd and University Ave
- New Connection at N Blackhawk Ave and University
- Reduces street ponding for more frequent events
- Under construction now (Summer 2022)

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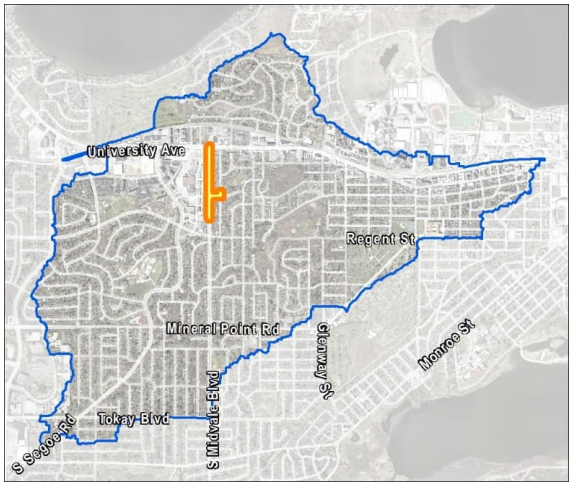
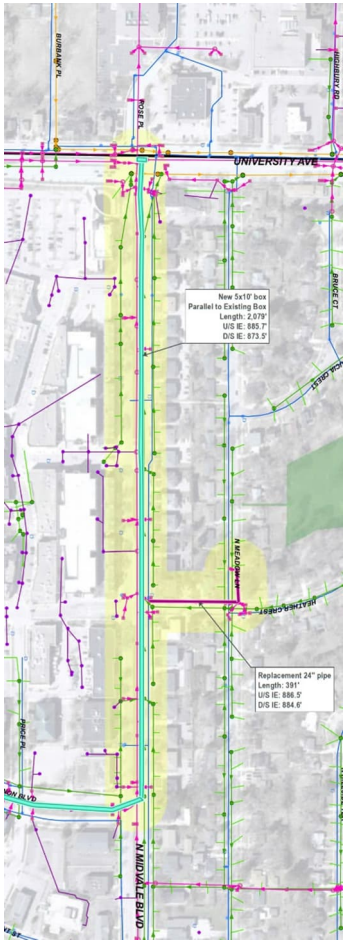
2. N Midvale Blvd Parallel Storm System Improvements





- Goal: Reduce flooding during 10%, 4%, and 1% events
- Install a second, parallel 5’ x 10’ box culvert under Midvale Blvd
- Upsize 2-pipes on Heather Crest and N Meadow Ln to met 20% event capacity
- 5 less buildings/structures impacted by 1% event
- Est. Cost: $16.8M

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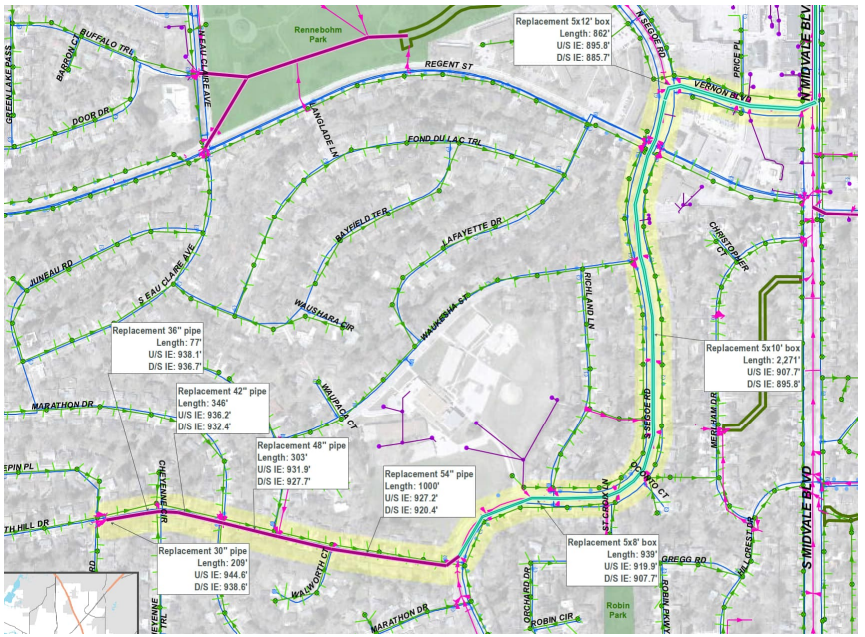
3. South Hill Dr, Segoe Rd and Vernon Blvd Storm System Improvements



- Goal: Reduce flooding during 10%, 4%, and 1% events
- Install larger pipes to serve the 20% design event (limited capacity downstream)
- Starts with a 30” pipe, increasing to a 54” pipe when the South Hill intersects with Segoe Rd.
- 0.4 miles of curbline no longer inundated for the 10% event
- 0.25 miles of centerline now passable for the 4% event
- Est. Cost: $20.9M

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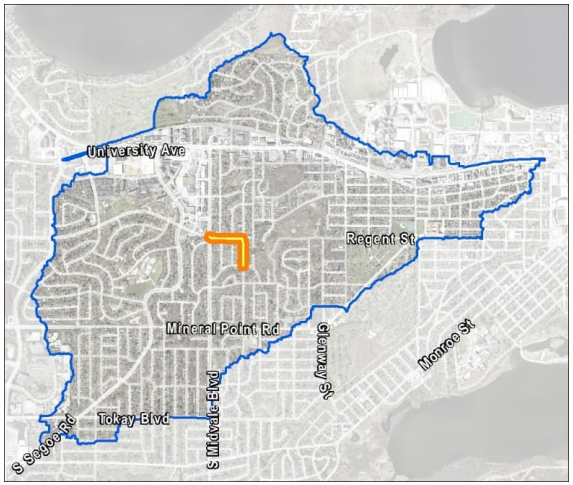
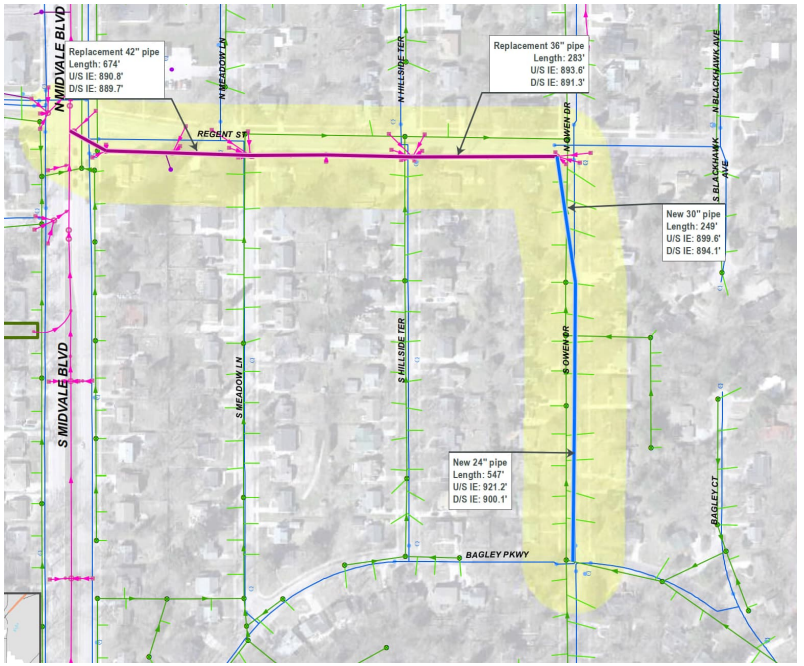
4. Regent St and Owen Dr Storm System Improvements





- Goal: Reduce flooding during 10%, 4%, and 1% events
- Install larger pipes to serve the 20% design event (limited capacity downstream)
- On Owen St, start with a 24” pipe, increasing to a 30” pipe before the intersection with Regent St
- On Regent St, start with 36” transitioning to a 42” pipe before the connection at Midvale Blvd
- 7 buildings/structures no longer impacted by 1% event
- Est. Cost: $1.9M

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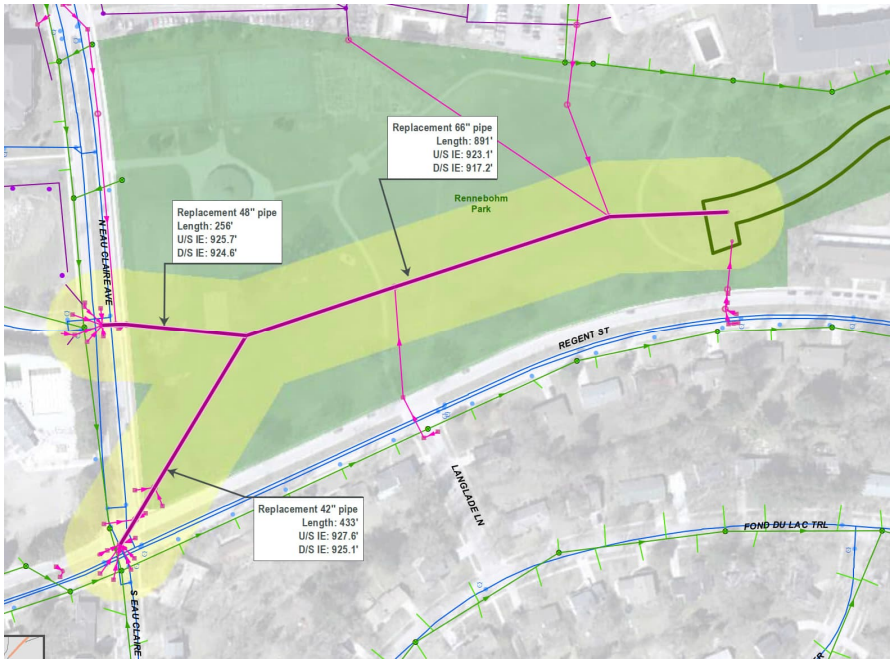
5. N Eau Claire Ave, Regent St and Rennebohm Park Storm System Improvements



- Goal: Reduce flooding during 10%, 4%, and 1% events
- Install larger pipes to serve the 20% design event (limited capacity downstream)
- At the N Eau Claire Ave and Buffalo Trl intersection, increased to a 48” pipe
- At the N Eau Claire Ave and Regent St intersection, increased to a 42” pipe
- Pipe underneath Rennebohm park increased to 66” pipe
- 0.3 miles of curbline no longer inundated for 10% event.
- One less structure impacted by 1% event
- Est. Cost: $1.1M

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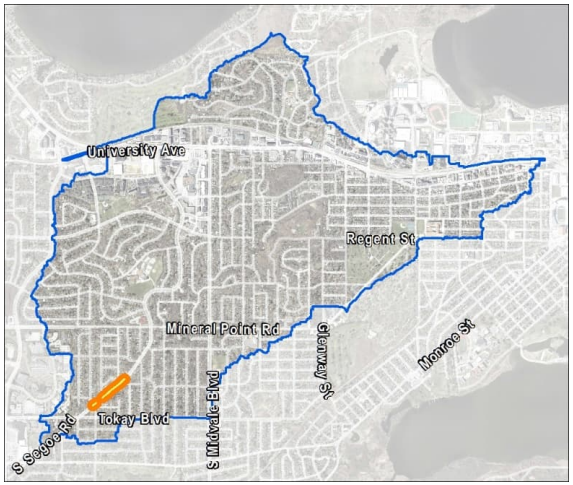
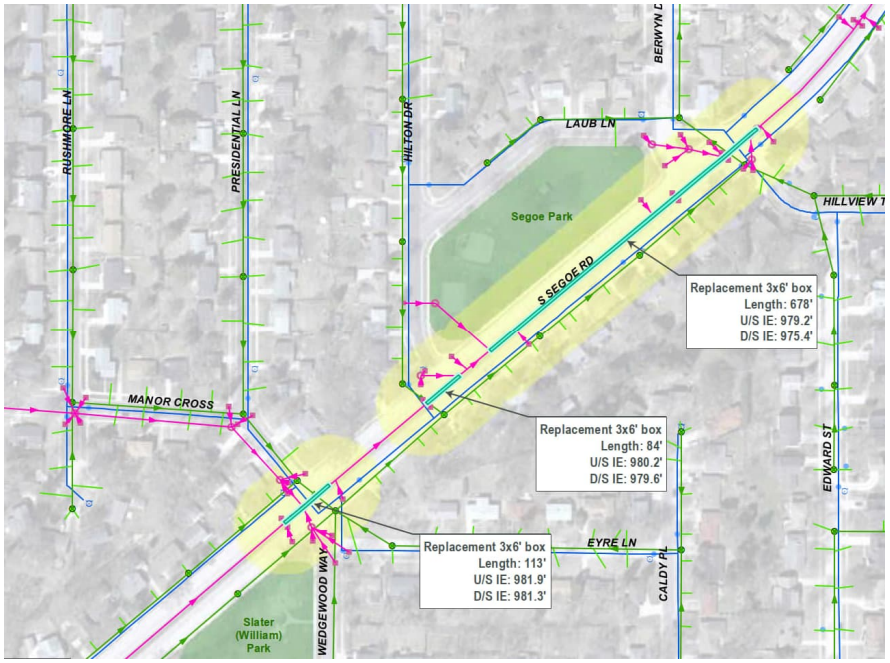
6. S Segoe Rd Storm System Improvements





- Goal: Reduce flooding during 10%, 4%, and 1% events
- Replace all smaller pipes with a 3’ x 6’ box culvert
- 0.5 miles of curbline no longer inundated for 10% event.
- 0.25 miles of centerline now passable for the 4% event
- Est. Cost: $3.9M

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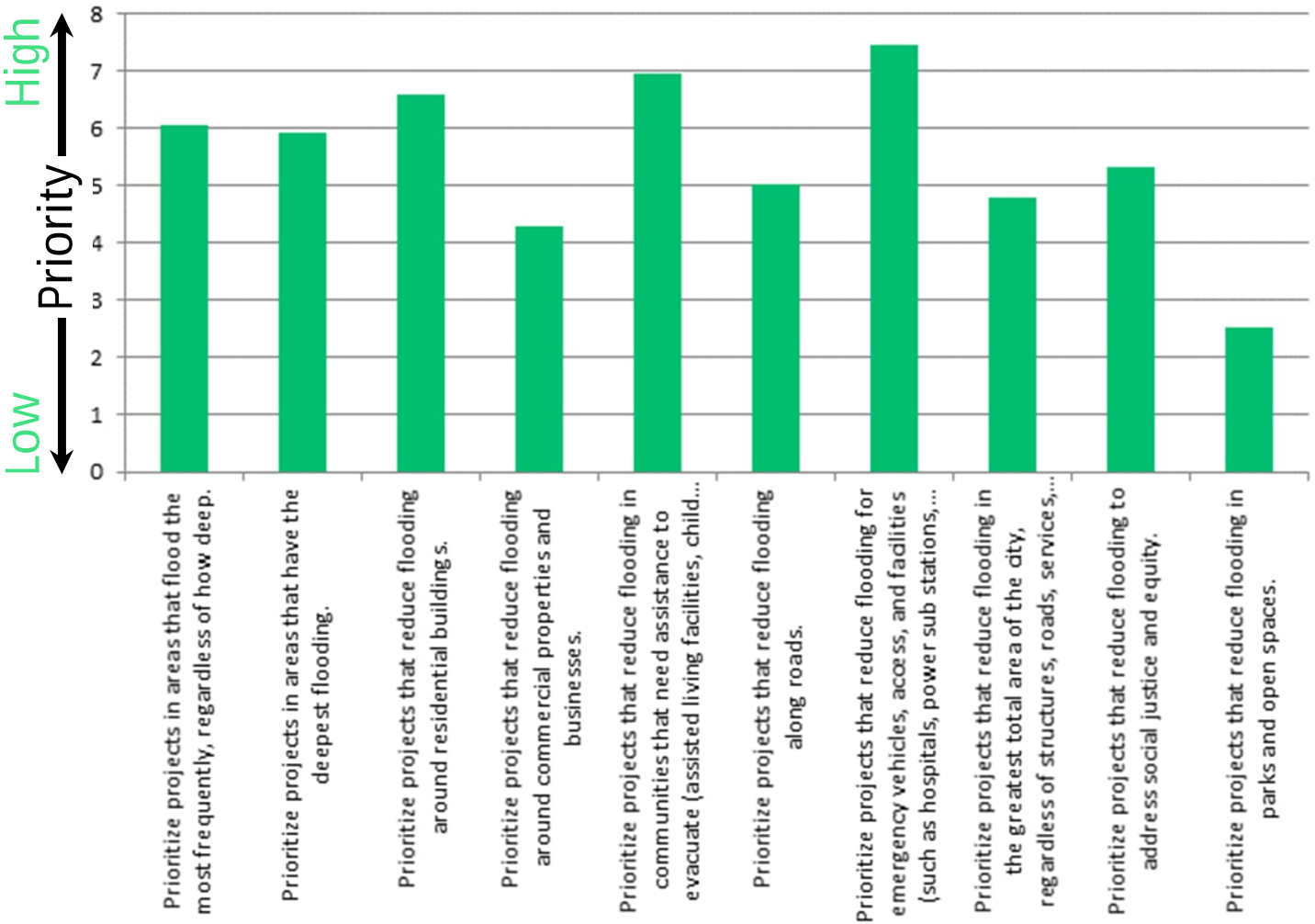
- See survey to provide input on how solutions are prioritized

Current Prioritization Survey Results



If you haven't, please take the survey.

A link can be found on the Willow Creek Project Webpage

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Why Aren’t All Targets Met for the Watershed?

- Space constraints
- Conflict with other major utilities *(drinking water wells, large gas mains, etc.)*
- Property ownership
- Cost impacts
- Adverse downstream impacts
- Neighborhood resistance

Next Steps

- Finalize draft report
- Post draft final report for 30-day public comment
- Finalize report
- Finalize prioritization process
- Budget for projects
- Once included in budget, start design and separate project-specific outreach

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Budgeting Considerations

- Not all projects are yet identified throughout the City
  - Currently identified approximately 65 projects in 7 watersheds totaling $250,000,000 (22 watersheds will be studied citywide)

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- Most projects take 1 ½ – 2 years to design & permit before they can be constructed

Contact Information & Resources

- Project Manager: Caroline Burger, cburger@cityofmadison.com
- Public Information Officer: Hannah Mohelnitzky, hmohelnitzky@cityofmadison.com
- Project Webpage: https://www.cityofmadison.com/engineering/projects/willow-creek-watershed-study
  - Sign-up for project email updates on the website
  - Report flooding, past or current on the Report Flooding form
  - Learn ways to protect your property from flooding with on-site fixes
- New Flooding Website: www.cityofmadison.com/flooding
- Everyday Engineering Podcast
- Facebook – City of Madison Engineering
- Twitter – @MadisonEngr
- Provide your feedback! https://www.cityofmadison.com/news/survey-open-city-engineering-works-to-prioritize-flood-projects

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Zoom Breakout Rooms

- Join a Zoom Breakout Room Session
  - Window will pop up where you can select which group you'd like to join
  - If a window doesn't pop up, look for a button on the bottom that says "Breakout Rooms." Click the button and room options will appear.

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