



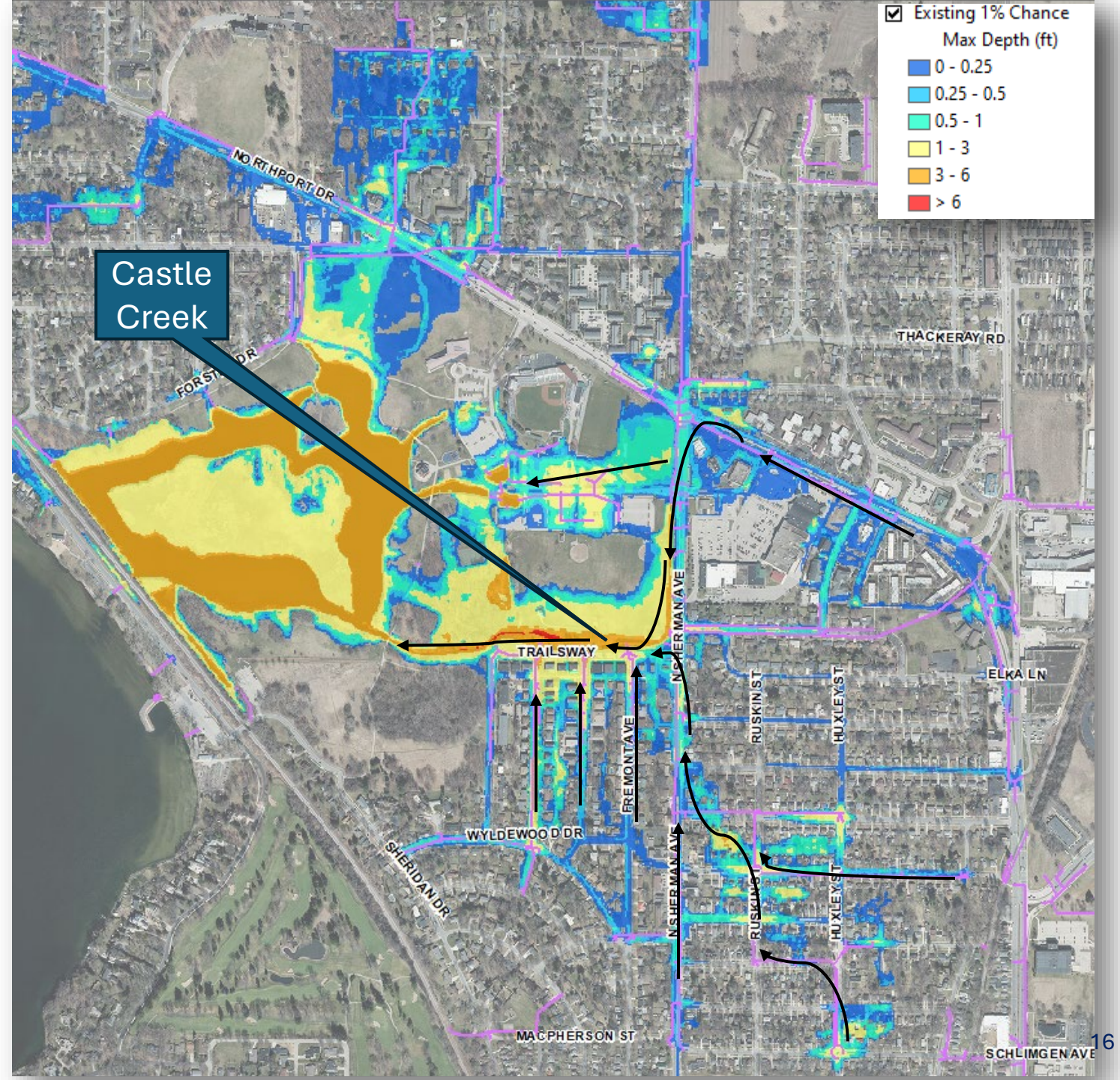
Castle Creek Channel Flood Mitigation and Restoration Project

City of Madison Engineering Division
Board of Park Commissioners Meeting
4/15/26

Warner Park and Castle Creek Drainage Area

Existing Conditions 1% Chance Event (6.66" in 24 hr)

Castle Creek is a significant limitation in the drainage system. Several areas that flood drain out through Castle Creek and Warner Park



Existing 1% Chance

Max Depth (ft)

0 - 0.25

0.25 - 0.5

0.5 - 1

1 - 3

3 - 6

> 6



Brentwood Neighborhood

- Several multi family units flooding in 1% annual chance storm
- Building's parking lots flooded 1-3' deep
- Trailsway, Brentwood Pkwy, Calypso Rd flooding approaching 3' deep
- Flooding >1' deep on N Sherman Ave

Castle Creek Current Conditions



March 2025



March 2025

Castle Creek Current Conditions - Cunette

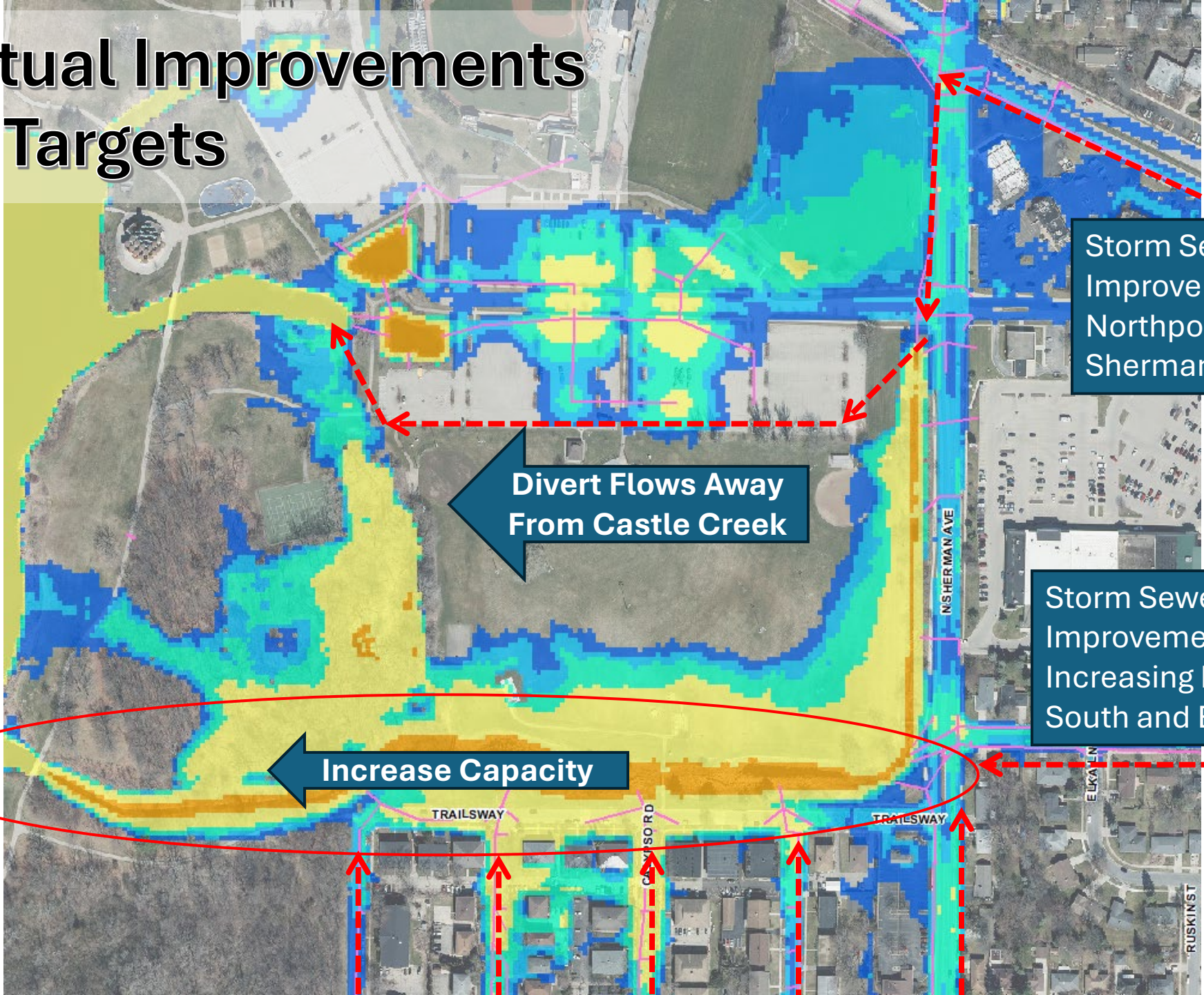


March 2023



March 2025

Conceptual Improvements to Meet Targets



Storm Sewer Improvements on Northport and N Sherman Ave

Divert Flows Away From Castle Creek

Storm Sewer Improvements Increasing Flows from South and East

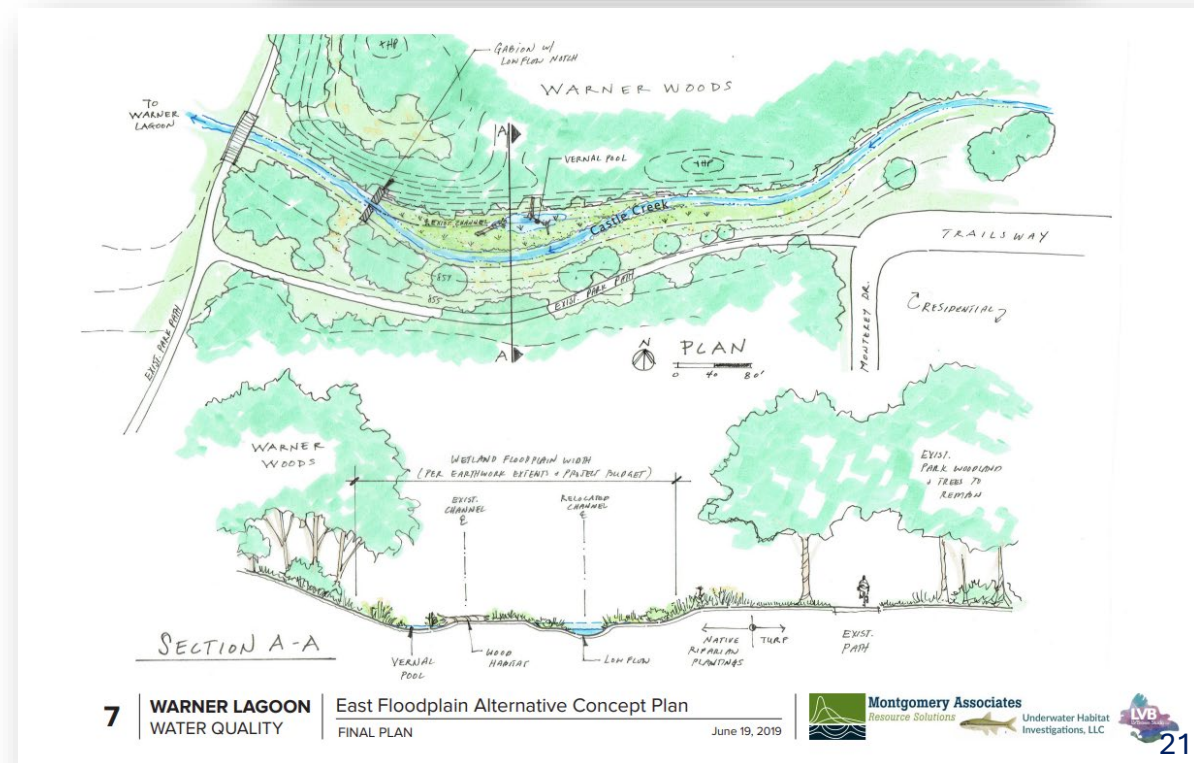
Increase Capacity

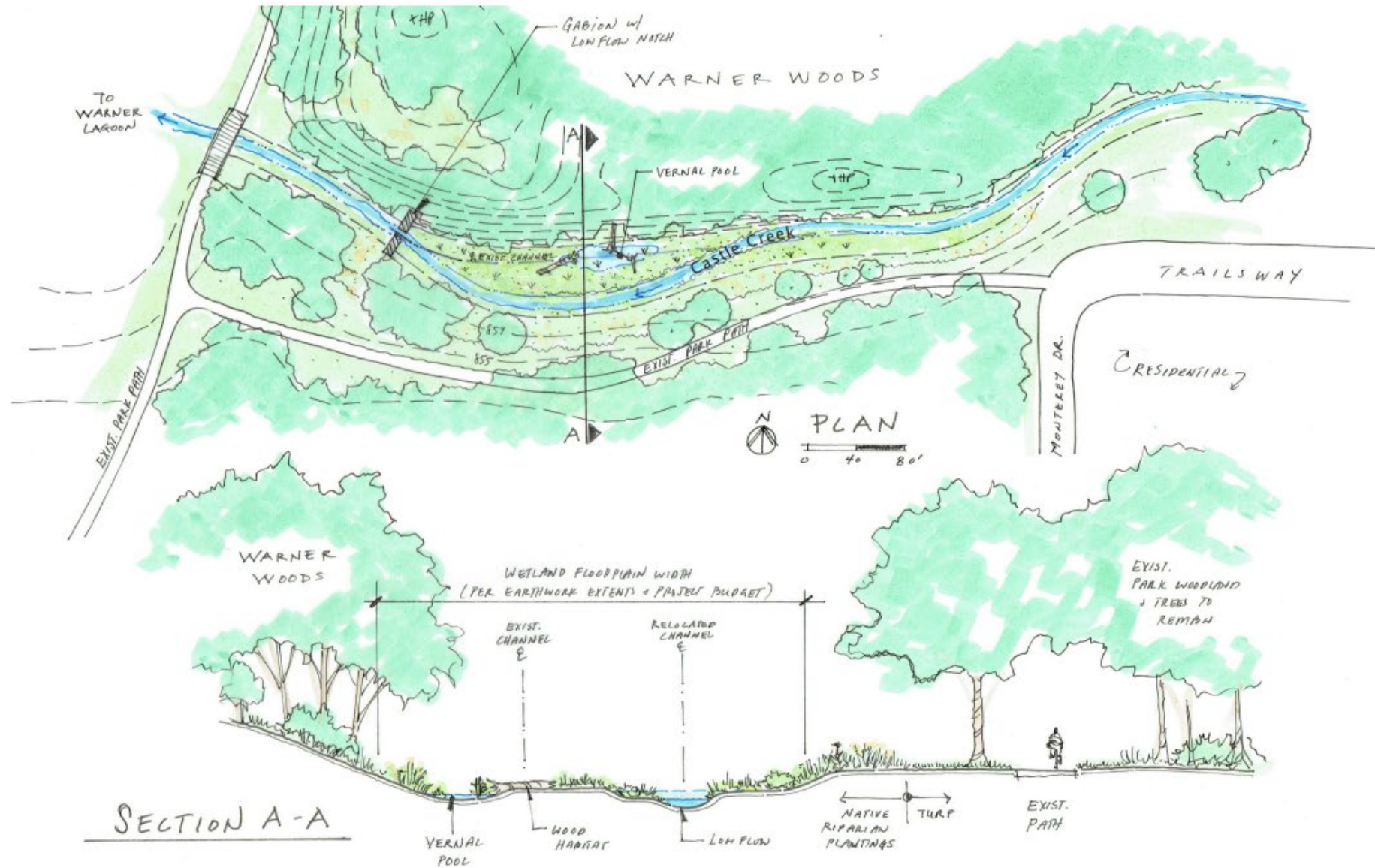
| | |
|-------------------------------------|----------------|
| <input checked="" type="checkbox"/> | 10% Chance |
| | Max Depth (ft) |
| Blue | 0 - 0.25 |
| Light Blue | 0.25 - 0.5 |
| Green | 0.5 - 1 |
| Yellow | 1 - 3 |
| Orange | 3 - 6 |
| Red | > 6 |

Warner Lagoon Water Quality Plan (2016-2021)

- Objectives:
 - Maintain or Improve Recreational Access
 - Improve Water Quality
 - Habitat Maintenance and Improvement
 - Increase Educational Opportunities

- Stakeholders
 - Wild Warner Park
 - Yahara Fishing Club
 - Dane County Conservation League
 - Clean Lakes Alliance
 - Alders from Districts 12 and 18
 - City of Madison Engineering Division
 - City of Madison Parks Division
 - WDNR
 - Individual Residents





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WARNER LAGOON
WATER QUALITY

East Floodplain Alternative Concept Plan

FINAL PLAN

June 19, 2019



Montgomery Associates
Resource Solutions



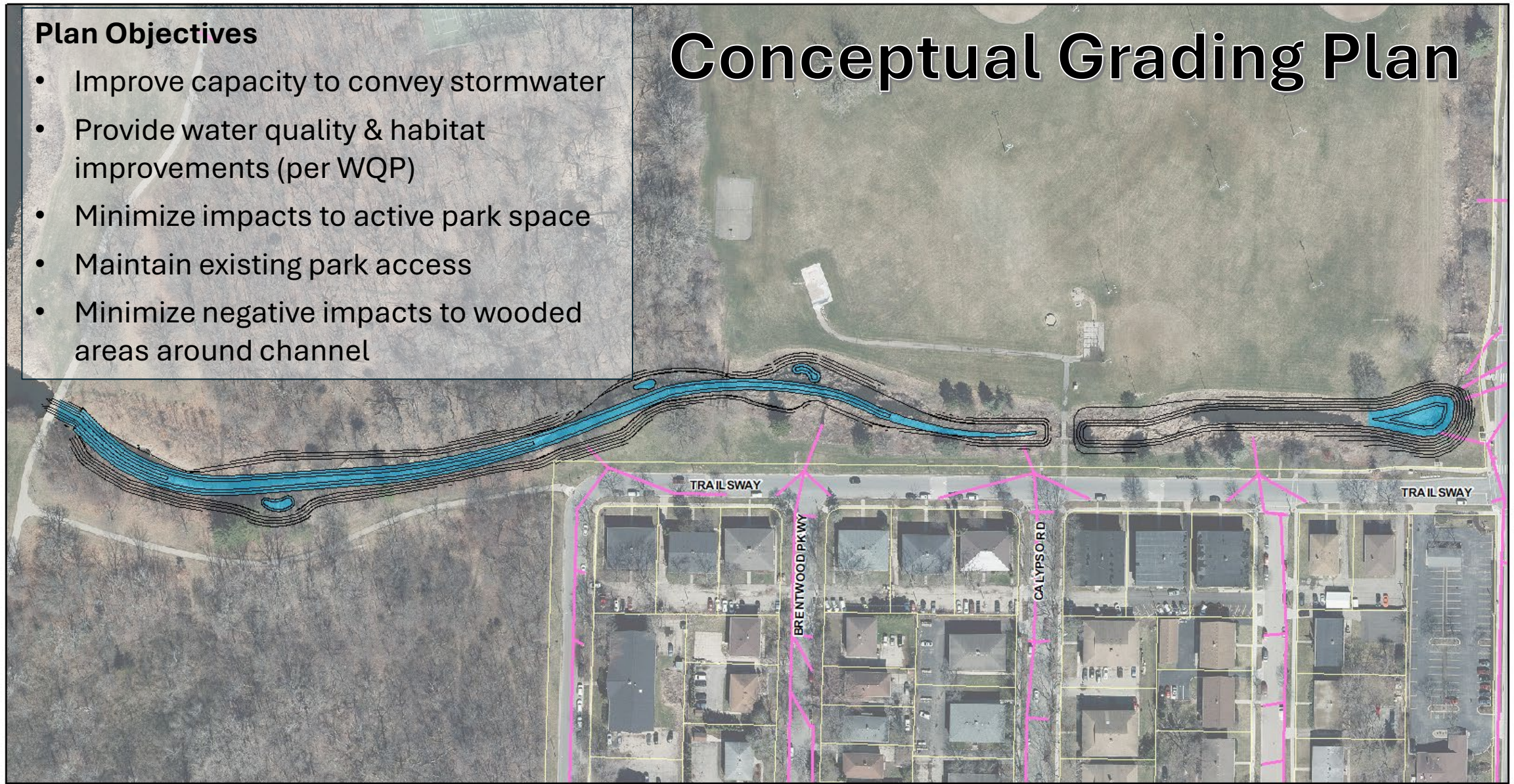
Underwater Habitat
Investigations, LLC



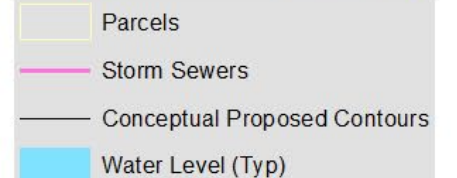
Plan Objectives

- Improve capacity to convey stormwater
- Provide water quality & habitat improvements (per WQP)
- Minimize impacts to active park space
- Maintain existing park access
- Minimize negative impacts to wooded areas around channel

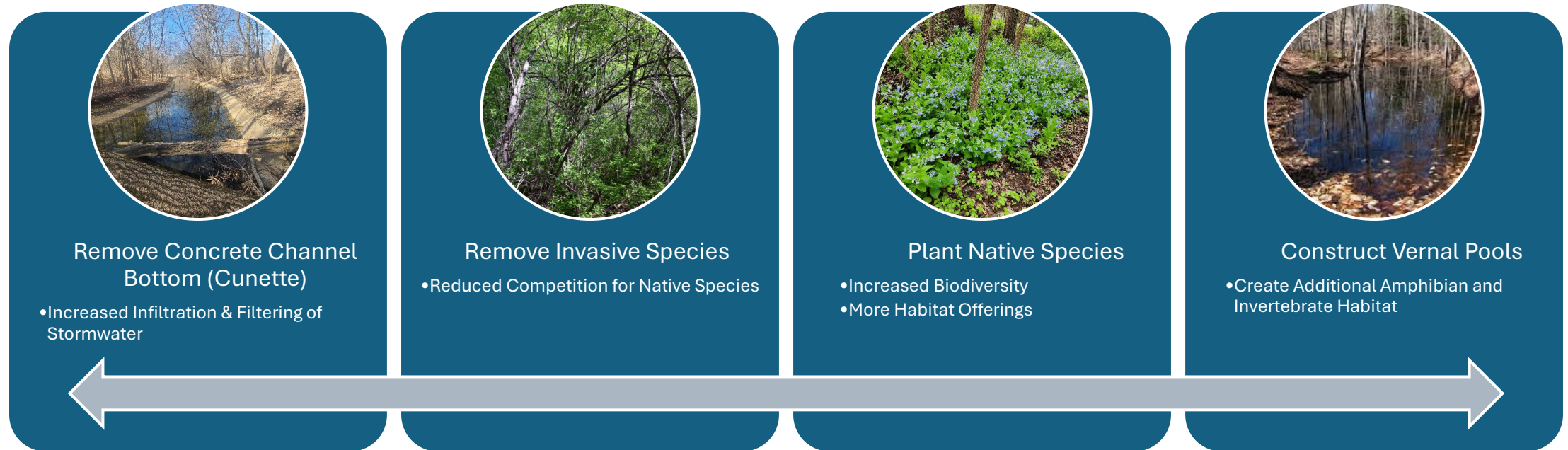
Conceptual Grading Plan



0 75 150 300 Feet



Ecological Benefits & Potential Restoration Approaches

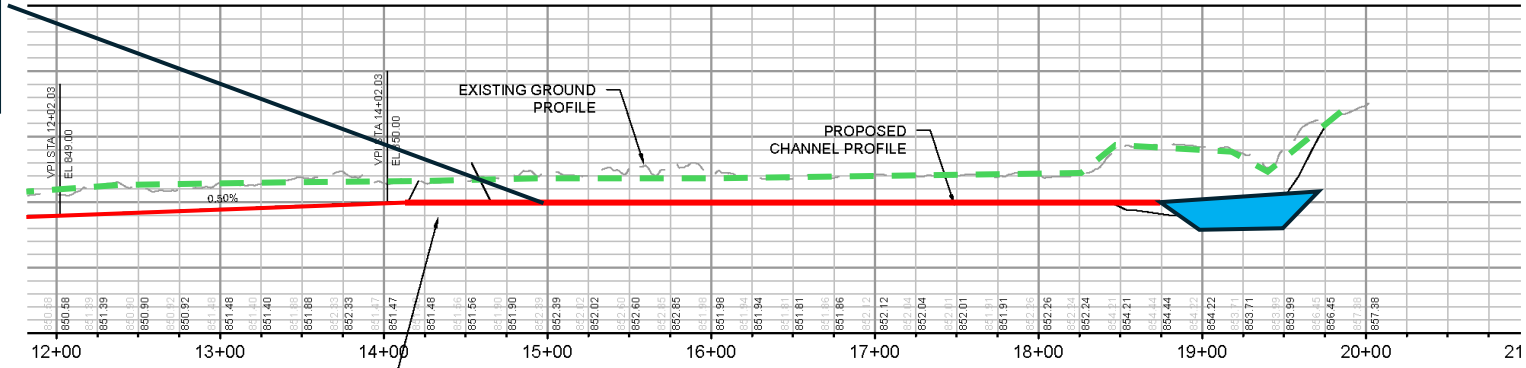


- Build on the Parks Green Team work removing invasives around the channel
- Plant desirable native species appropriate for the given conditions
- Conduct critical ongoing maintenance during native species establishment

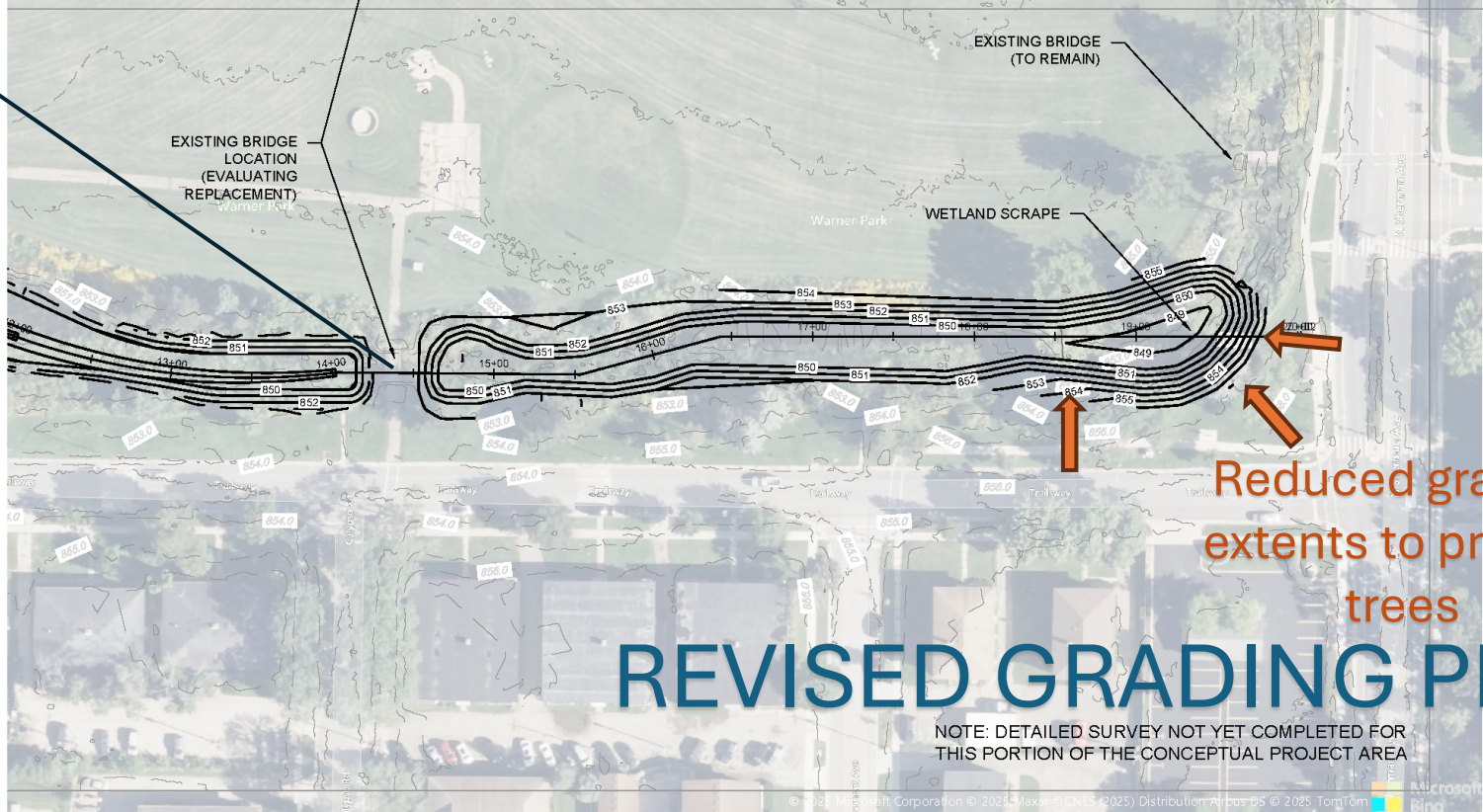
Castle Creek Greenway Improvements

- Supported by Warner Lagoon Water Quality Plan Stakeholders
- Based on feedback, will be programmed in CIP
 - Received \$250,000 WEM Pre-disaster Flood Mitigation grant
 - Public Outreach on design to begin this summer
 - Construction 2027
- Final Design Opportunities
 - Evaluate/Enhance Water Quality Improvements
 - Develop Habitat Restoration Plan
 - Removal invasive species
 - Native species establishment
- Coordination ongoing with Warner SE Recreation Area Improvements project
 - No long term impacts but construction may overlap

Lower and Widen Channel



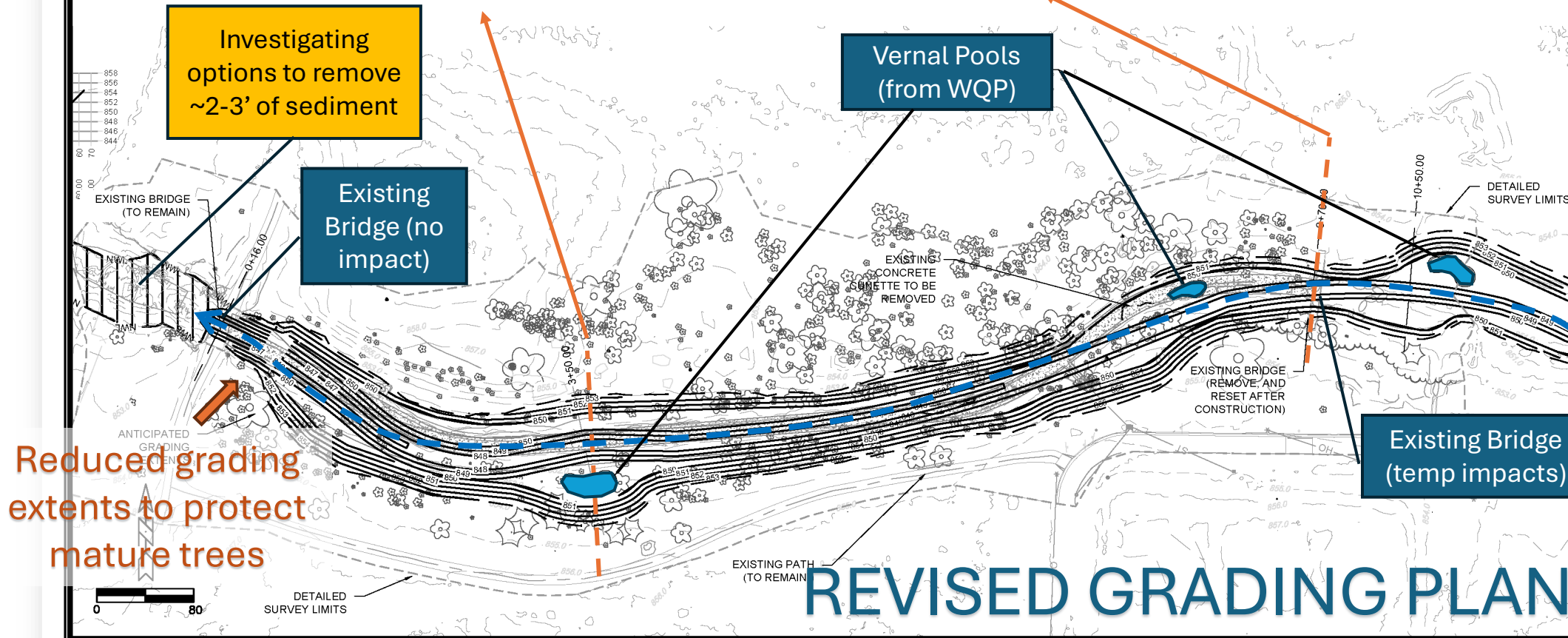
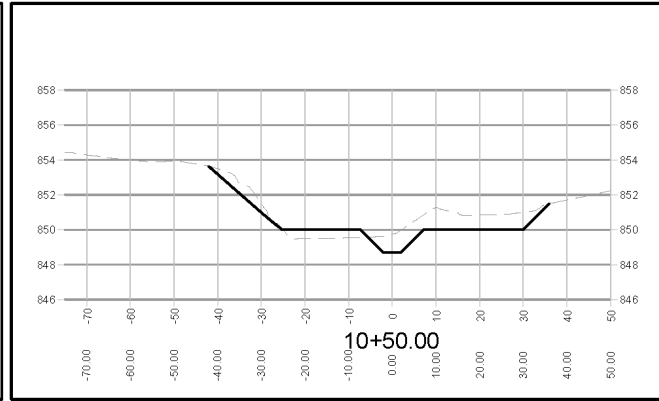
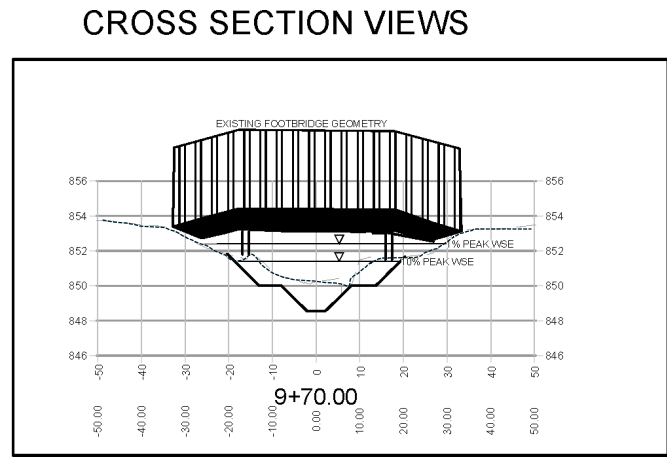
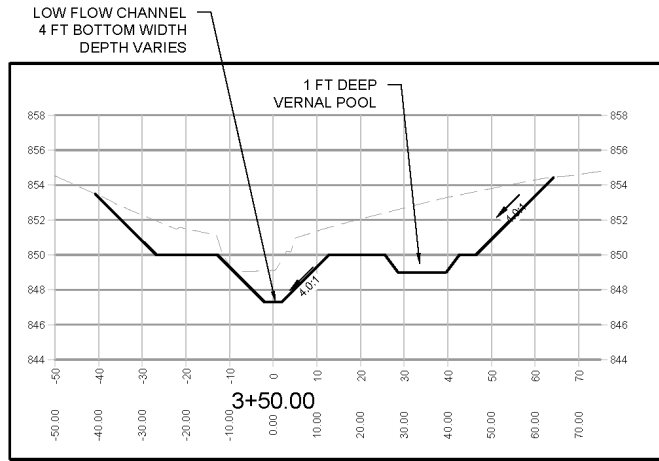
Anticipate reusing existing bridge



REVISED GRADING PLAN

NOTE: DETAILED SURVEY NOT YET COMPLETED FOR THIS PORTION OF THE CONCEPTUAL PROJECT AREA

| | | |
|---|--|-----------|
| CONCEPTUAL GRADING PLAN - FLOOD MITIGATION CHANNEL | | 13863 |
| CASTLE CREEK | | TRAILSWAY |
| MID-LEVEL Progress 13863 (04/13/2025) Castle Creek Grading Design, Inc. | | XXXX |
| CONTRACT NO.: | | 13863 |
| 13863 | | L1 |
| P2 | | |



| | | | |
|--|------------------------|------|--------------|
| 13863 | TRAILSWAY | XXXX | CONTRACT NO: |
| 13863 | GP1 | | |
| MARK | REVISION | DATE | BY |
| DESIGNED BY: JESS | DATE: 07/20/23 8:10 PM | | |
| 13863 | | | |
| CONCEPTUAL GRADING PLAN - FLOOD MITIGATION CHANNEL CASTLE CREEK | | | |
| DESIGN PROJECT: 13863-CAD13863-CastleCreekGradingDesign.tlg | | | |
| | | | |

Breakdown of Improvements

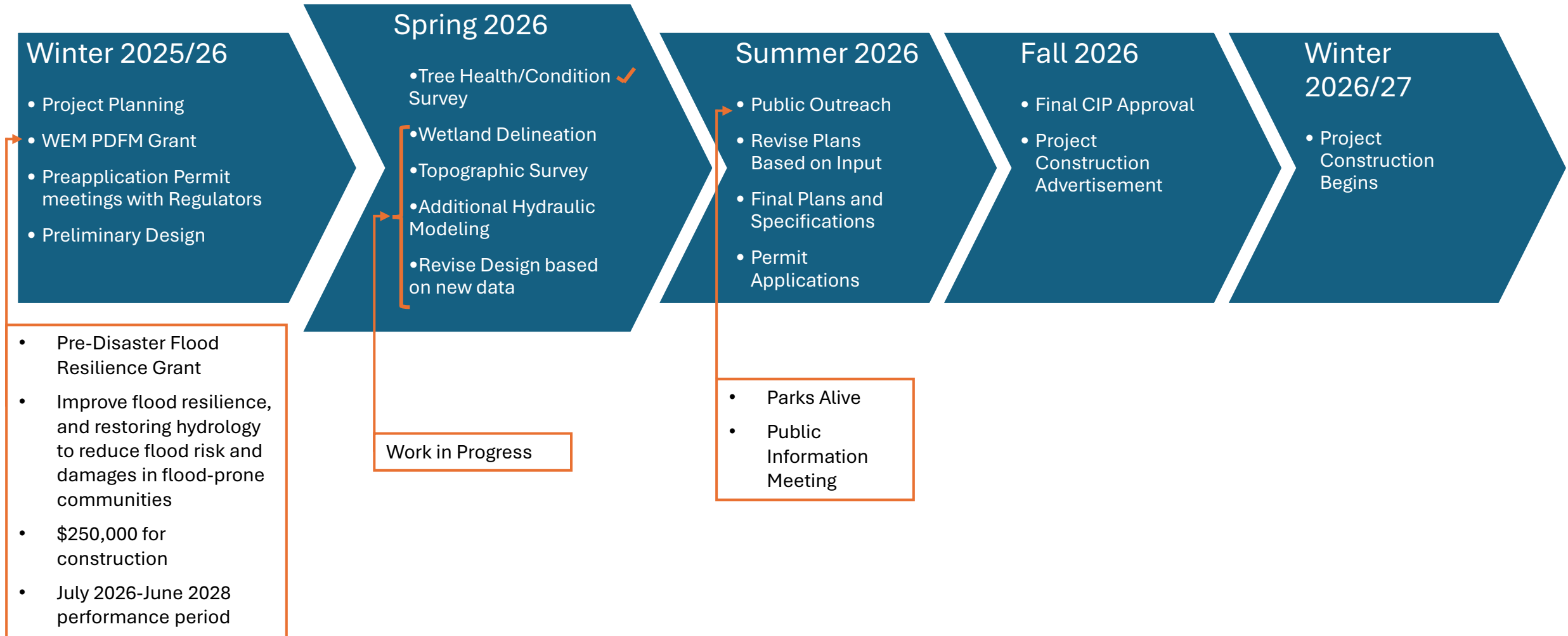
Project Scope

- Remove concrete cunette
- Regrade and lower existing channel
- Ecological restoration
- Investigating removal of Sediment at outlet into Warner Lagoon (request from stakeholder group)
 - Still analyzing options for permitting and sediment disposal

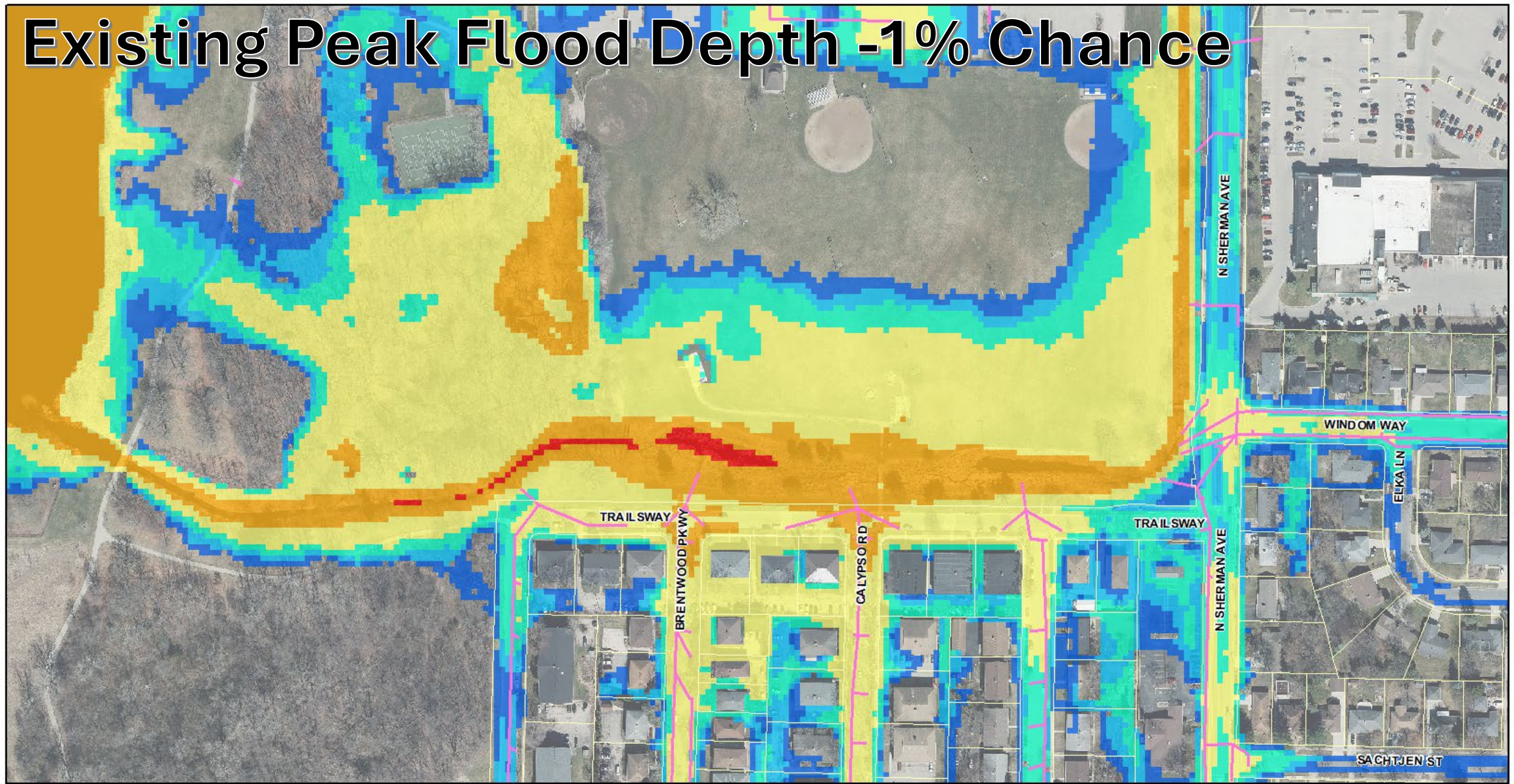
Future Projects

- Diversion storm sewer north of Castle Creek
 - Potential dredging/sediment capture
- Future storm sewer upgrades
 - Will include catch basins to capture sediment close to source

Anticipated Project Timeline



Existing Peak Flood Depth -1% Chance

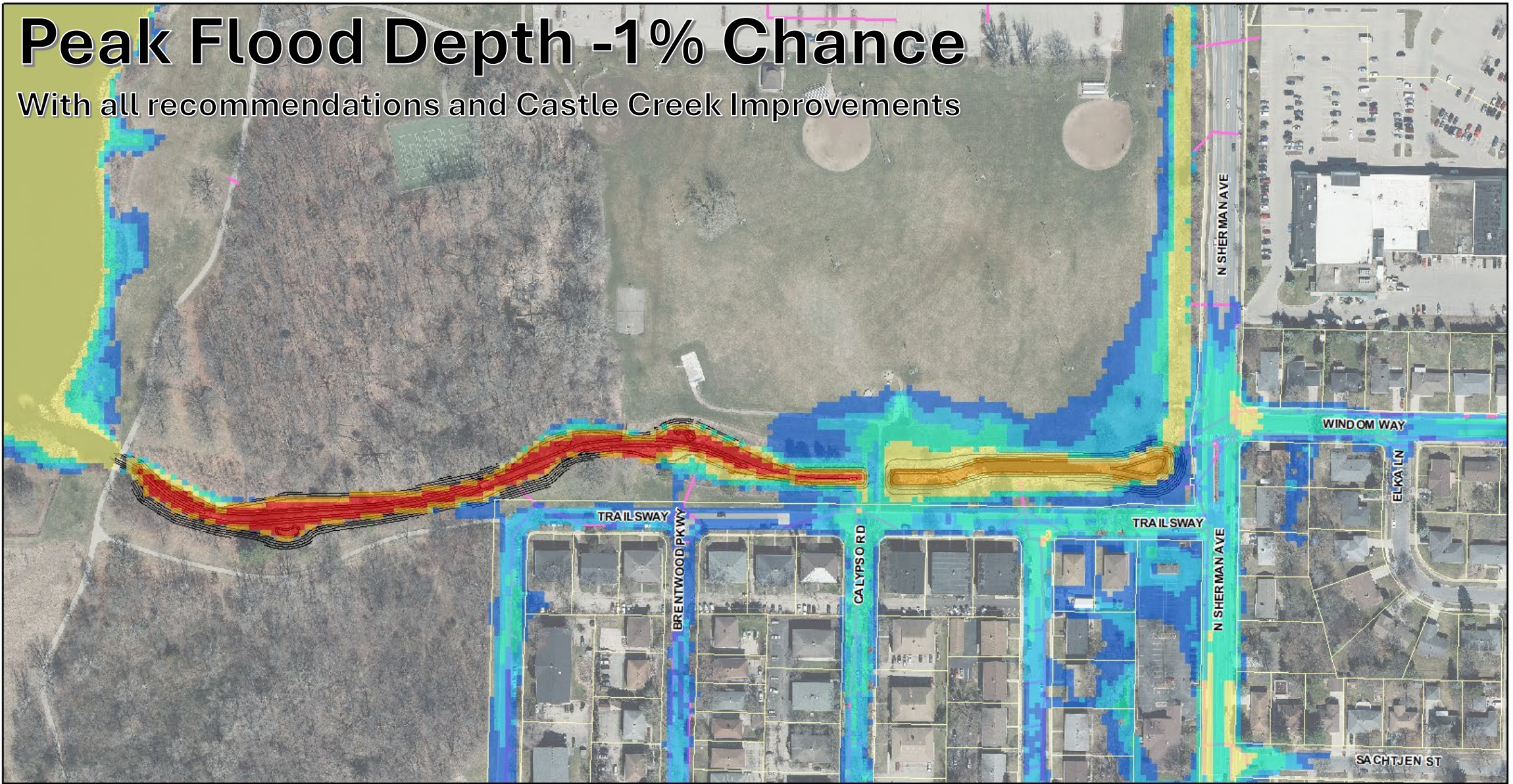


| Existing 1% Chance Max Depth (ft) | |
|-----------------------------------|---------|
| 0 - 0.25 | 0.5 - 1 |
| 0.25 - 0.5 | 1 - 3 |
| 3 - 6 | > 6 |

Parcels (grey outline)
Storm Sewers (pink line)

Peak Flood Depth - 1% Chance

With all recommendations and Castle Creek Improvements



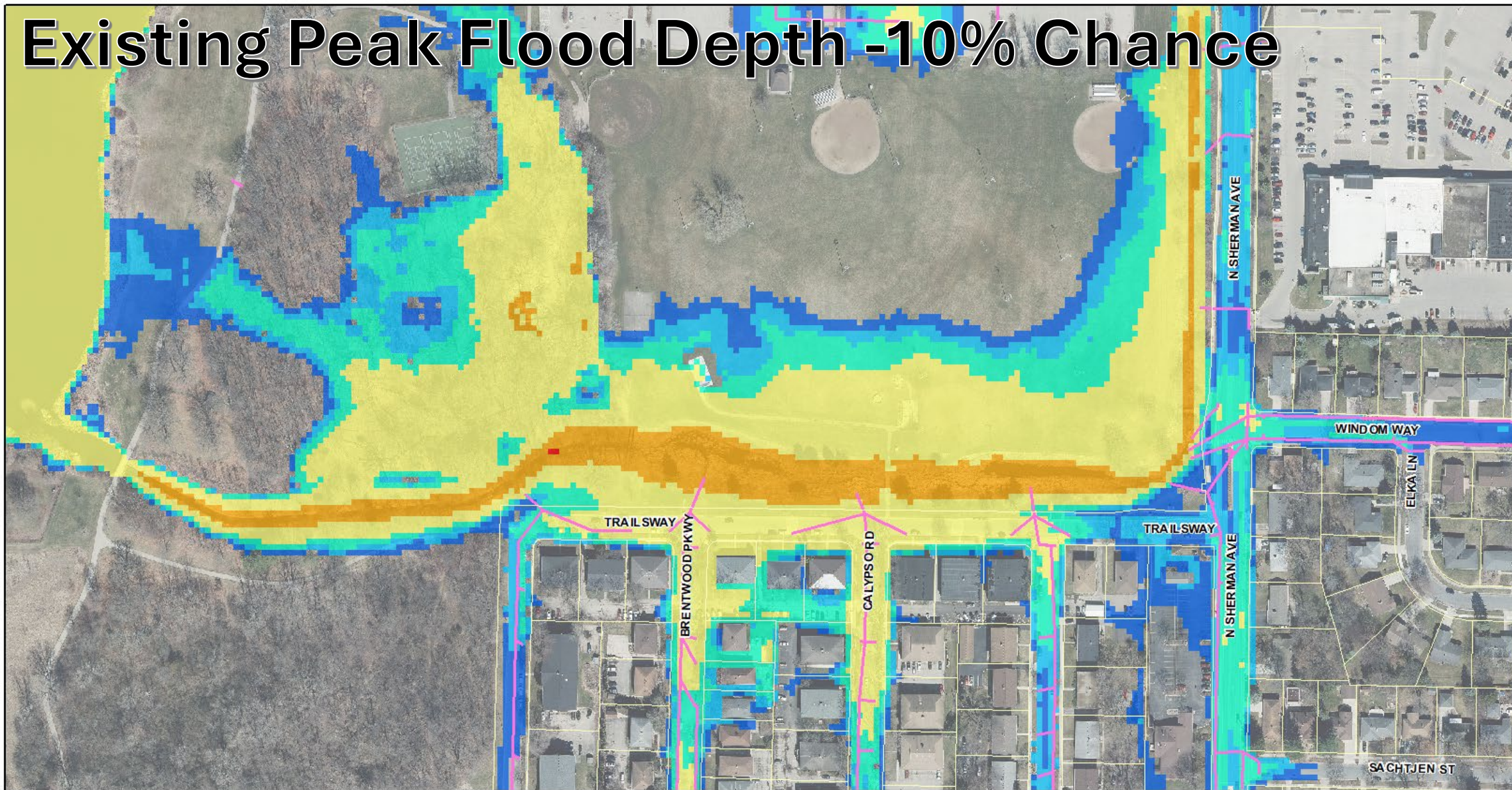
1% Chance Storm - With Castle Creek Project
Max Depth (ft)

| | |
|--|------------|
| | 0 - 0.25 |
| | 0.25 - 0.5 |
| | 0.5 - 1 |
| | 1 - 3 |
| | 3 - 6 |
| | > 6 |

| | |
|--|------------------------------|
| | Parcels |
| | Storm Sewers |
| | Conceptual Proposed Contours |



Existing Peak Flood Depth - 10% Chance



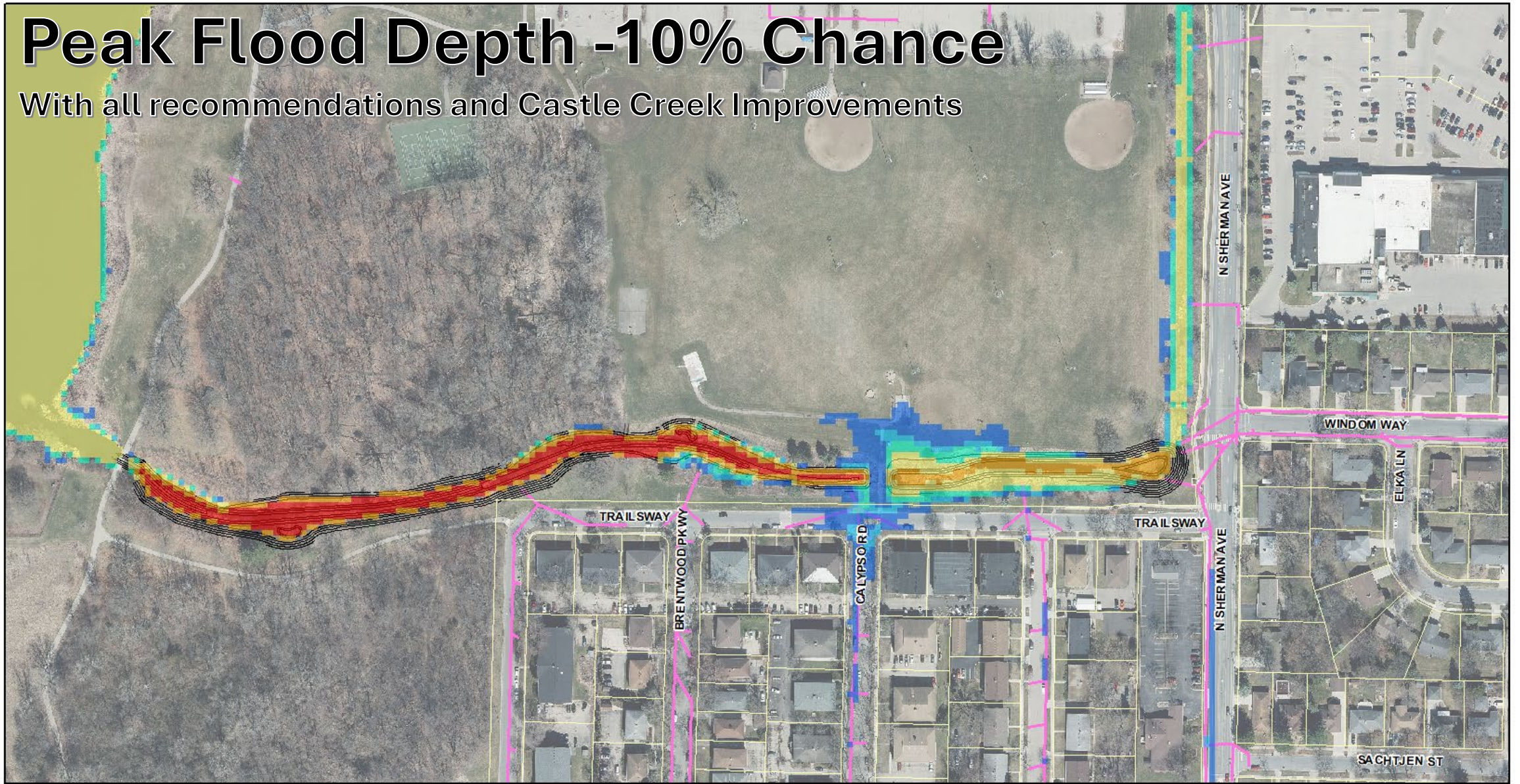
0 100 200 400 Feet



| Existing 10% Chance | | |
|---------------------|---------|--------------|
| 0 - 0.25 | 0.5 - 1 | Parcels |
| 0.25 - 0.5 | 1 - 3 | Storm Sewers |
| 3 - 6 | > 6 | |

Peak Flood Depth -10% Chance

With all recommendations and Castle Creek Improvements



10% Chance Storm - With Castle Creek Project
Max Depth (ft)

- 0 - 0.25
- 0.25 - 0.5

- 0.5 - 1
- 1 - 3
- 3 - 6
- > 6

- Parcels
- Storm Sewers
- Conceptual Proposed Contours

0 100 200 400 Feet



Questions?