ATX FLOOD SAFETY

Guadalupe Street Flood Risk Reduction Project (5789.075)

City of Austin Watershed Protection Department
June 5, 2023

WATERSHED PROTECTION

FREESE AND NICHOLS

ATX FLOOD SAFETY

Staff

- Hanh Thai – Engineer C
- Stephanie Lott – Public Information Specialist Senior

Purpose

To communicate the importance of detention basins at Adams Hemphill Neighborhood Park and how they work to mitigate impacts to downstream area.

WATERSHED PROTECTION

Why did we start Guadalupe Street Flood Risk Reduction Project?

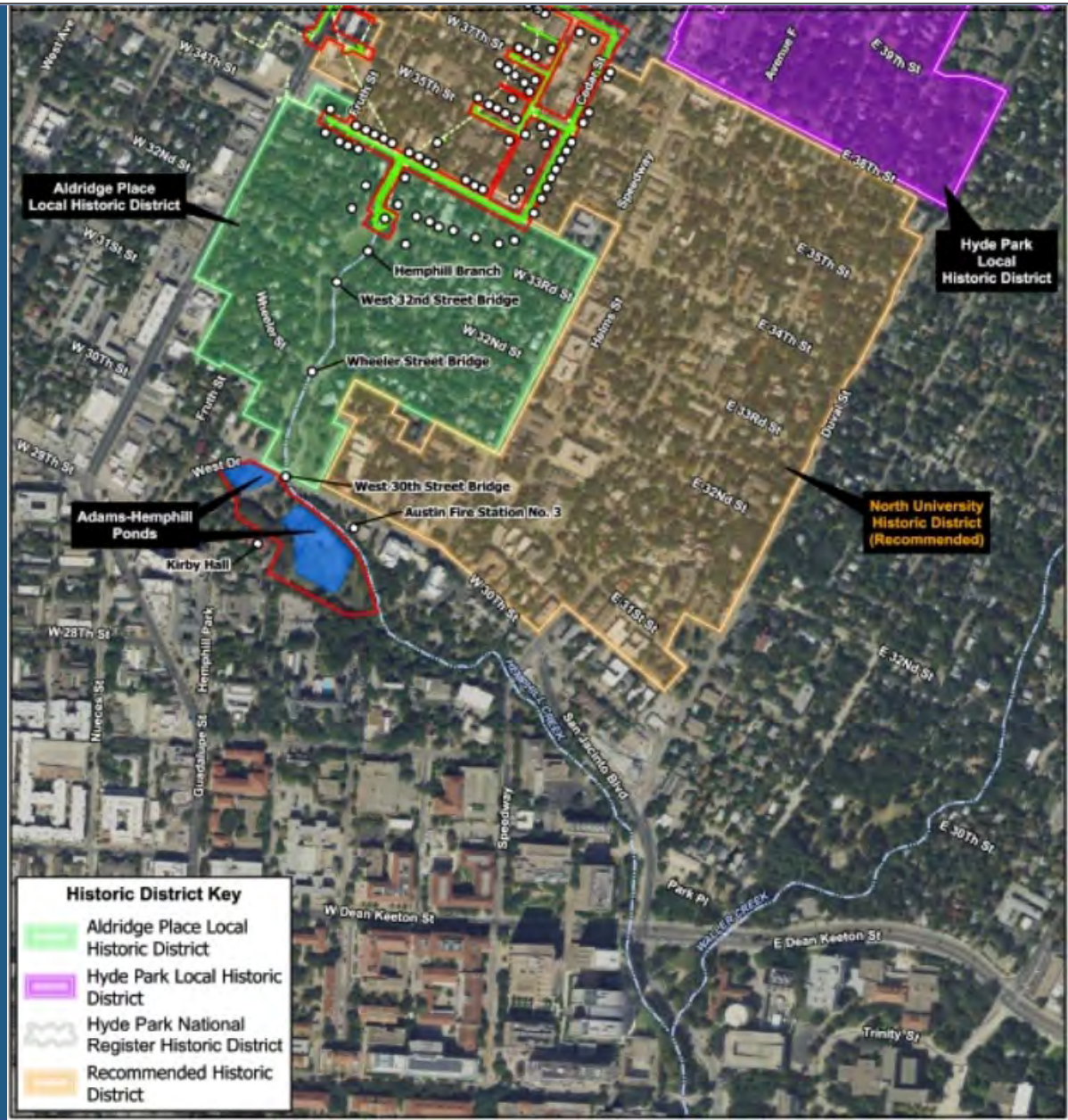
Existing Drainage System

- Main storm system built in 1928
- Generally follows Avenue A to Hemphill Branch at W. 33rd St
- Pipe size varies from 42 inch in diameter to a 9 x 5.5 foot box culvert
- Central Park Pond designed in 1993
- Triangle Pond designed in 2004

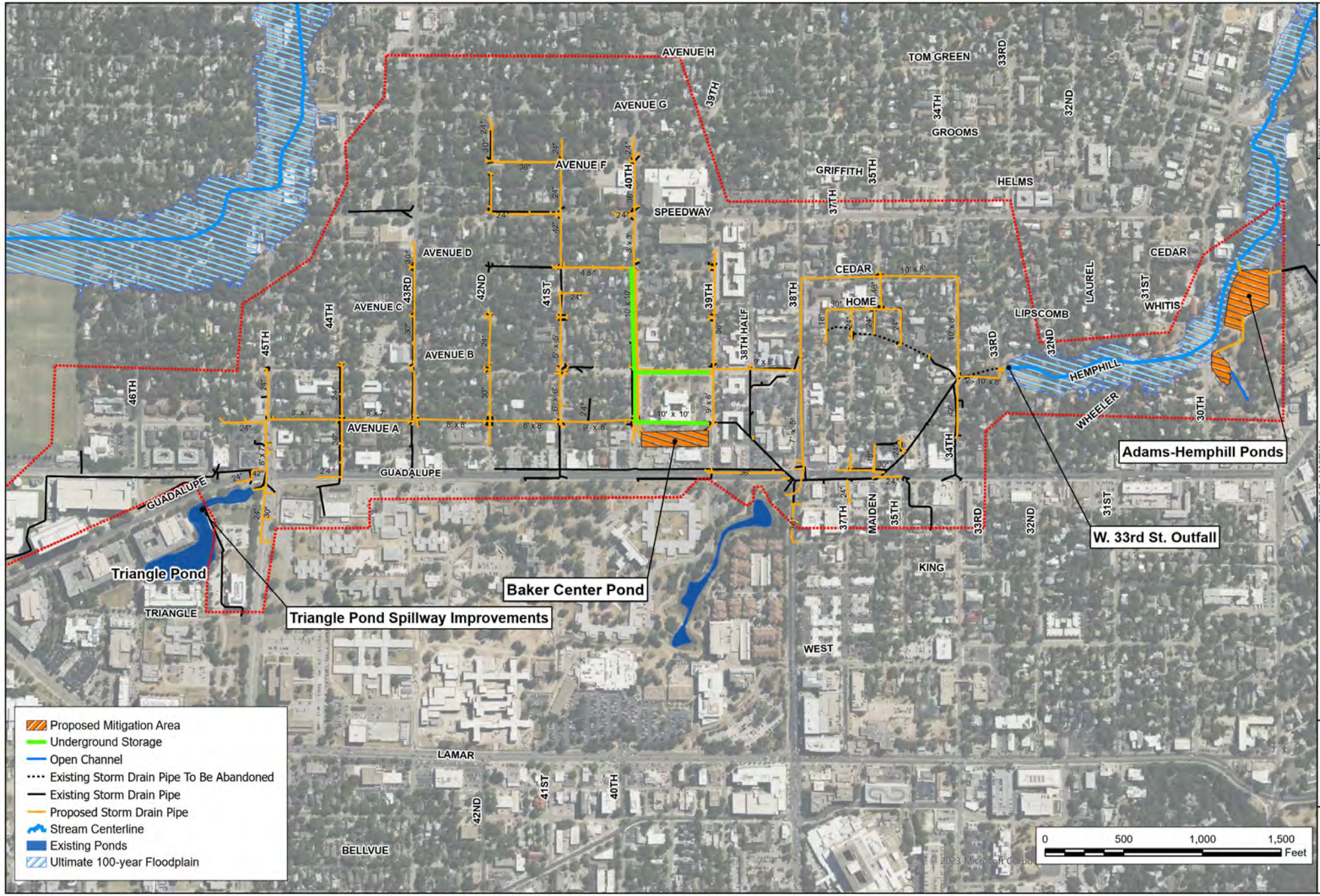
Site Constraints

- Historic neighborhoods
- Historic outfall and downstream crossings
- Creek crossings critical to city grid
- Built out watershed
- Parkland

The dots on the map indicate historic structures..



Why do we need the detention basins at Adams Hemphill Neighborhood Park?



CITY OF AUSTIN
GUADALUPE STREET
FLOOD RISK REDUCTION

PROJECT MAP

FREESE AND NICHOLS, INC.
10431 MORADO CIRCLE
SUITE 300
AUSTIN, TEXAS 78759
PHONE: 512-617-3100
FAX: 512-617-3101

FIGURE
1

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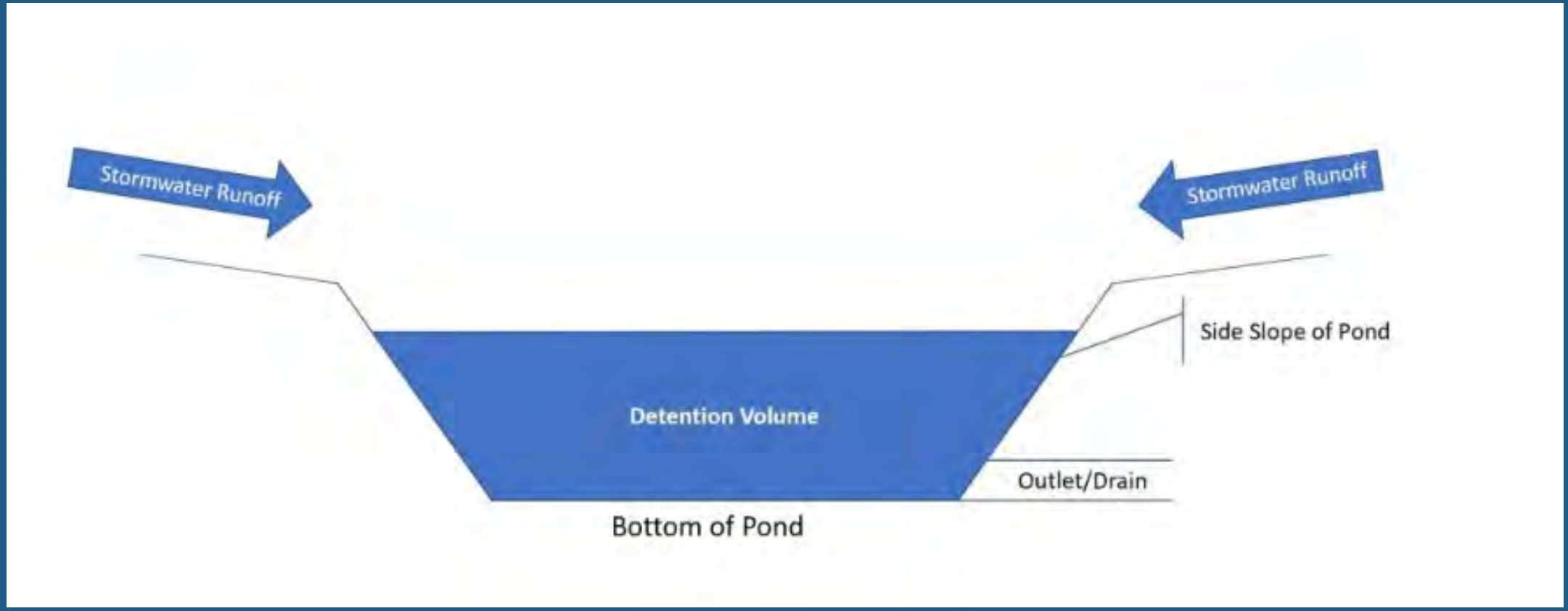
Are there alternative locations?

- No feasible alternatives have been identified
- Numerous variations of detention basins, channel modifications and culvert improvements have been evaluated
- Buyouts of several homes between 33rd and 34th Streets was ruled out
- Open space at the Austin Presbyterian Seminary is too small
- Parking lot of the Scottish Rite Dormitory is too small

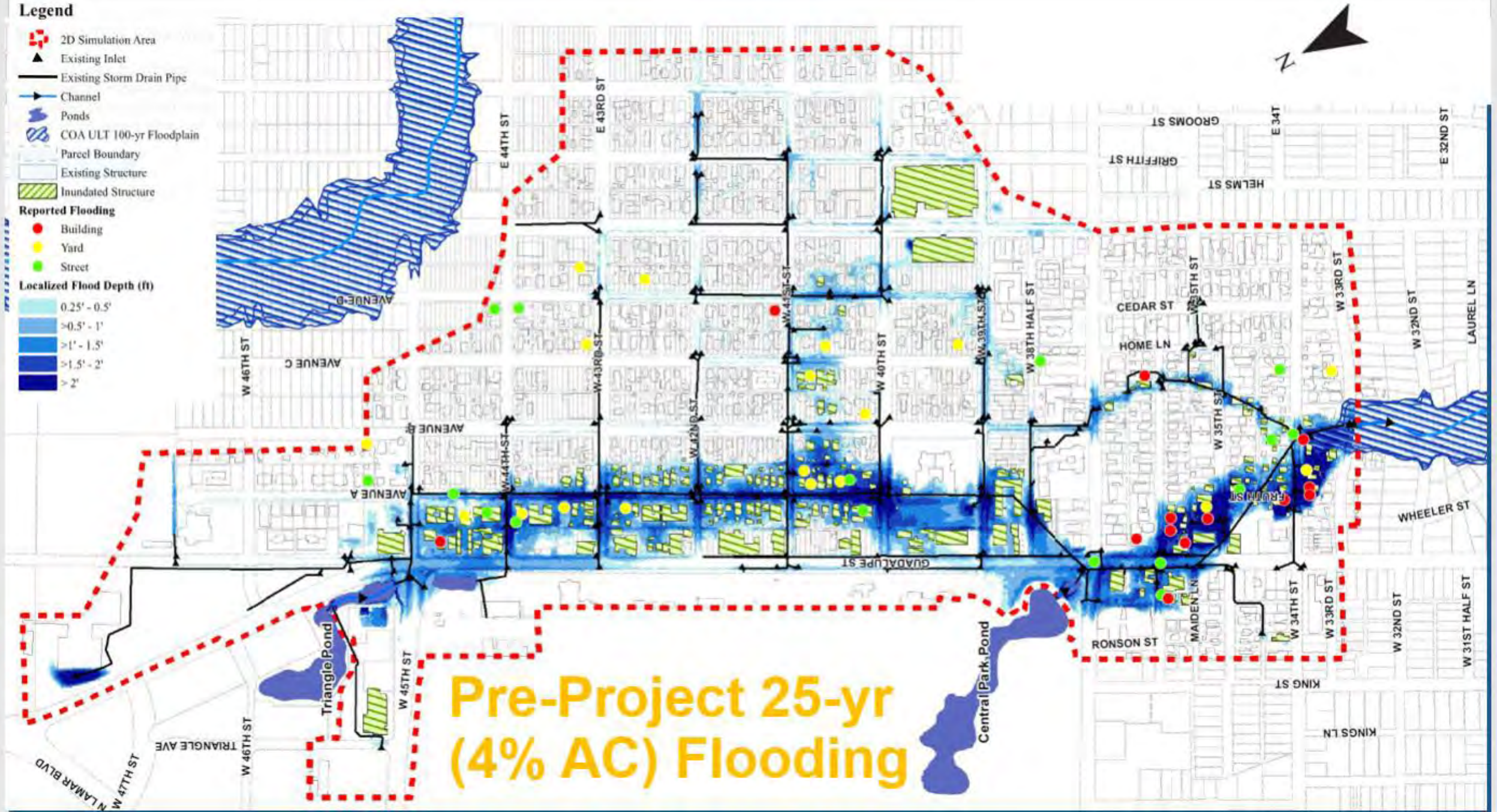
Stormwater Pond – Dry Detention Basin

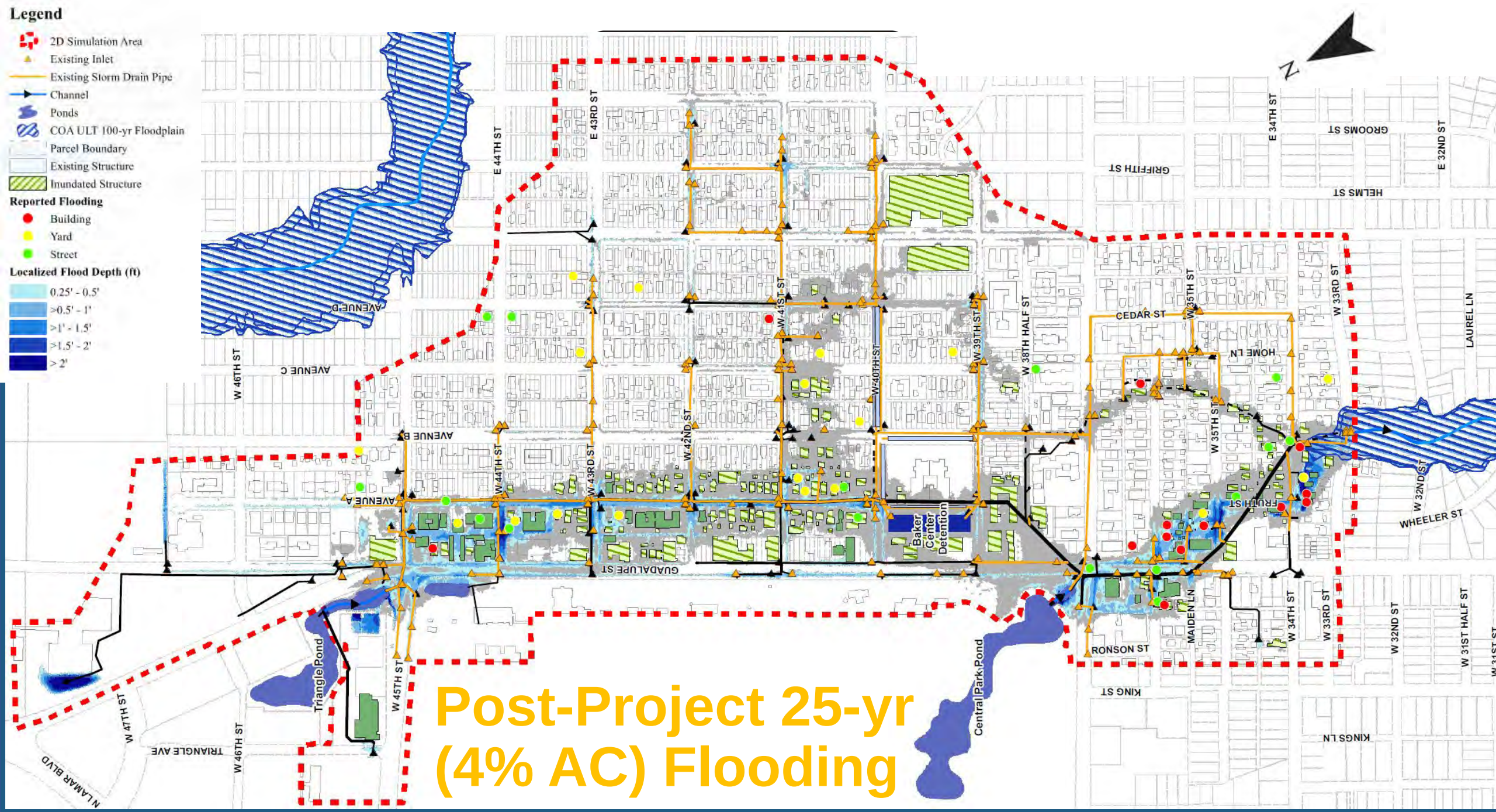


Detention Basins Will Be Mostly Dry

- Designed to hold water for up to 24 hours after it rains
- Larger basin will be an open grassy field
- It may include an area with other plants for improved water quality
- Smaller basin will be fenced off, with plantings at the bottom

Photo credit: The Multi-use Athletic Field and Intermittent Storm Water Detention Pond by TD&H engineering in City of Great Falls, Montana


Legend
2D Simulation Area
Existing Inlet
Existing Storm Drain Pipe
Channel
Ponds
COA ULT 100-yr Floodplain
Parcel Boundary
Existing Structure
Inundated Structure
Reported Flooding
Building
Yard
Street
Localized Flood Depth (ft)
0.25' - 0.5'
>0.5' - 1'
>1' - 1.5'
>1.5' - 2'
> 2'
N
E 44TH ST
E 43RD ST
E 34T
E 32ND ST
GROOMS ST
GRIFFITH ST
HELMS ST
AVENUE D
AVENUE C
AVENUE B
AVENUE A
W 46TH ST
W 45TH ST
W 47TH ST
W 43RD ST
W 42ND ST
W 41ST ST
W 40TH ST
W 39TH ST
W 38TH HALF ST
W 35TH ST
W 33RD ST
W 32ND ST
W 34TH ST
W 31ST HALF ST
CEDAR ST
HOME LN
LAUREL LN
WHEELER ST
GUADALUPE ST
RONSON ST
KING ST
KINGS LN
MAIDEN LN
TRIANGLE AVE
N LAMAR BLVD
Triangle Pond
Central Park Pond
Pre-Project 25-yr
(4% AC) Flooding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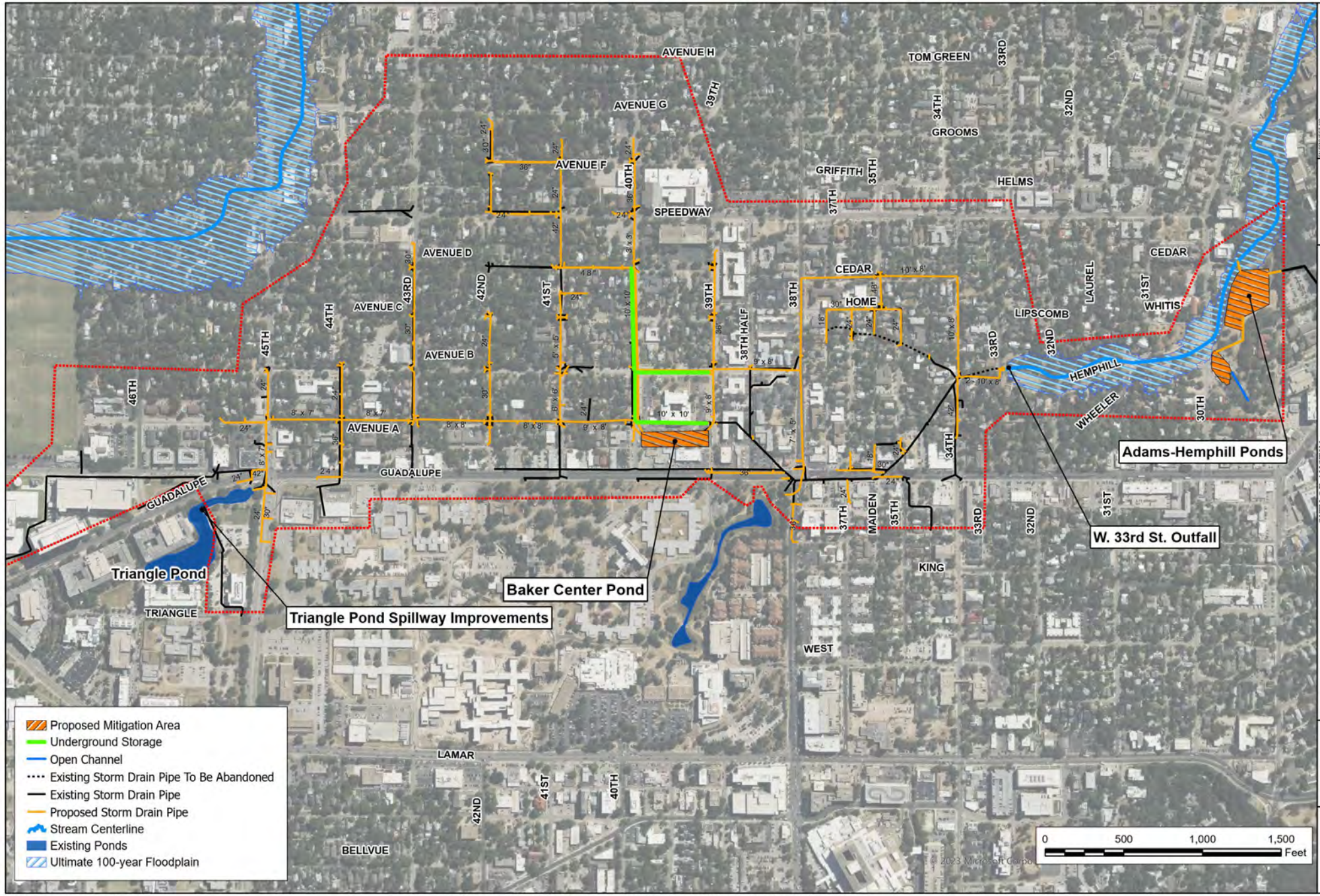
W 33RD ST
W 32ND ST
CEDAR ST
HOME LN
LAUREL LN
FOURTH ST
WHEELER ST
GUADALUPE ST
Baker Center Detention
Triangle Pond
Central Park Pond
W 45TH ST
W 47TH ST
W 46TH ST
TRIANGLE AVE
N LAMAR BLVD
RONSON ST
MAIDEN LN
W 34TH ST
W 33RD ST
W 32ND ST
W 31ST HALF ST
KING ST
KINGS LN
Post-Project 25-yr
(4% AC) Flooding



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City of Austin Drainage Policy

Stormwater runoff peak flow rates for the two (2), ten (10), 25 and 100-year frequency storms shall not cause increased inundation of any building or roadway surface or create any additional adverse flooding impacts.

Previous Communications and Outreach

Guadalupe St. Flood Risk Reduction Project

- Public Meetings – 2017 and 2018
- NUNA Meetings – 2021

Adams Hemphill Neighborhood Park

- Initial Survey and Open House – 2022
- Advisory Committee Meetings – 2023

Next Steps

- Community input on two draft concept plans
- Parks and Recreation Director approves final concept plan
- Parks Board will vote on whether to recommend use of park land for drainage should proceed
- City Council will decide on whether to proceed with using park land for drainage
- If not approved, there will be no project to reduce flood risk between 45th St. and 33rd St.

Questions?

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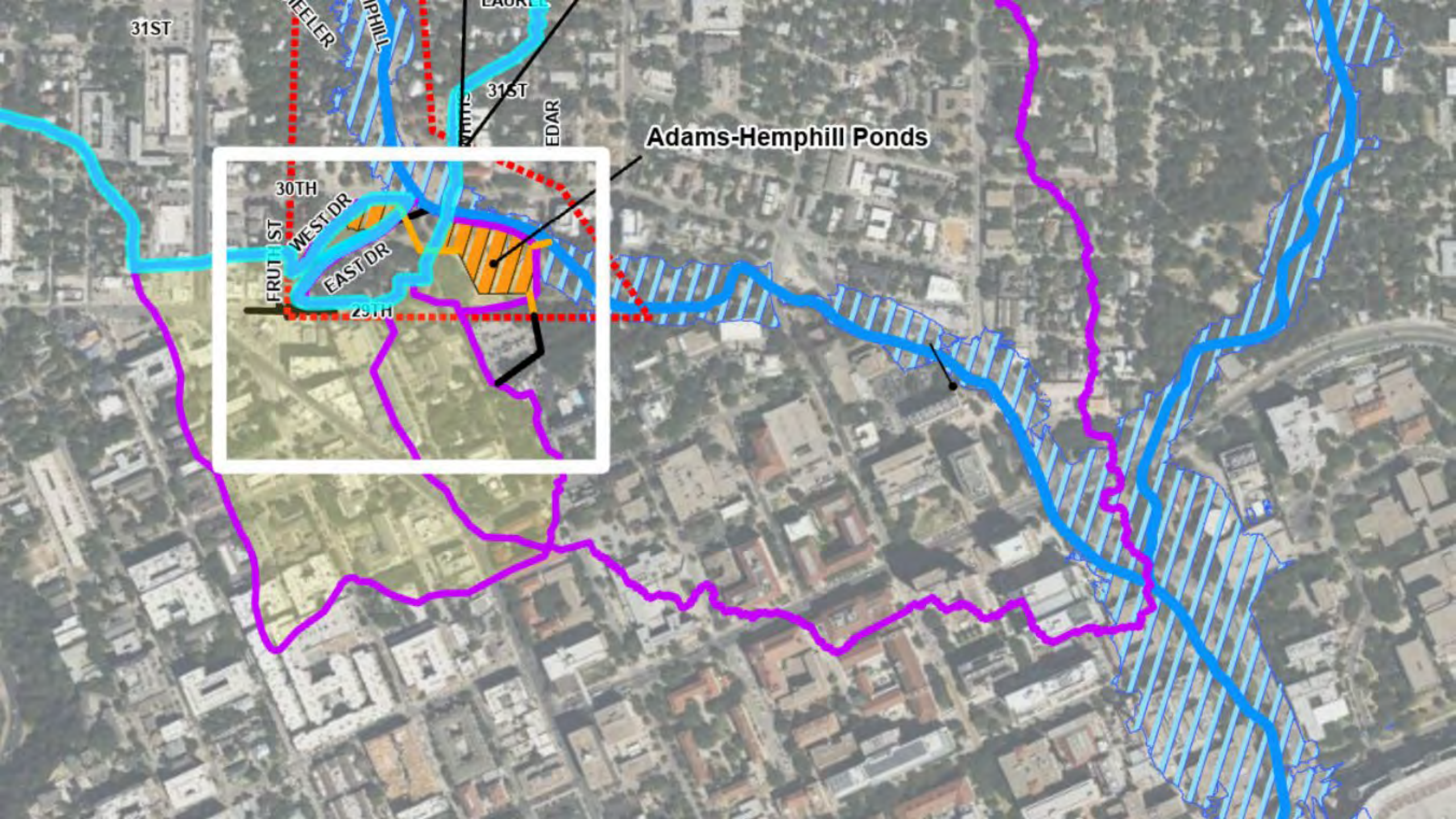
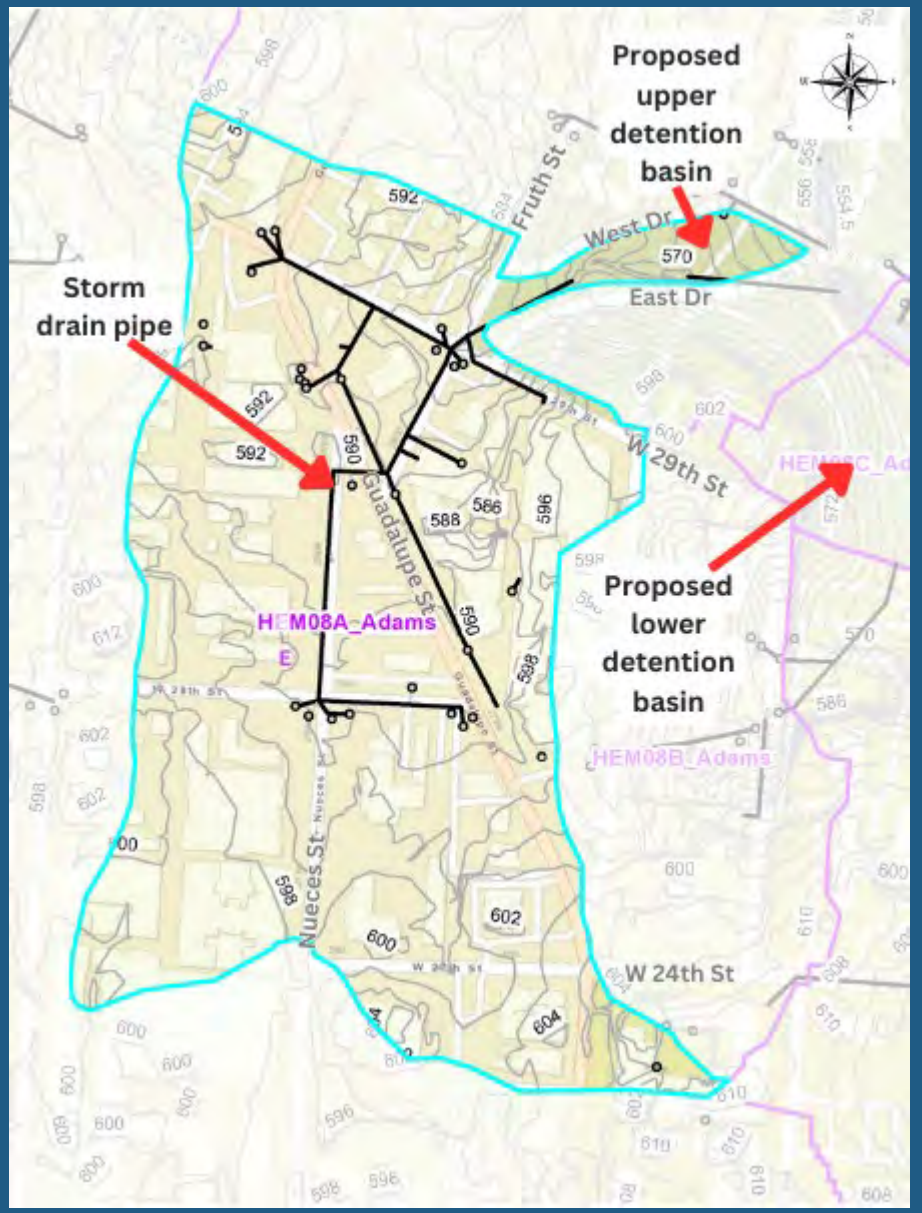
Cell: 512-502-2982

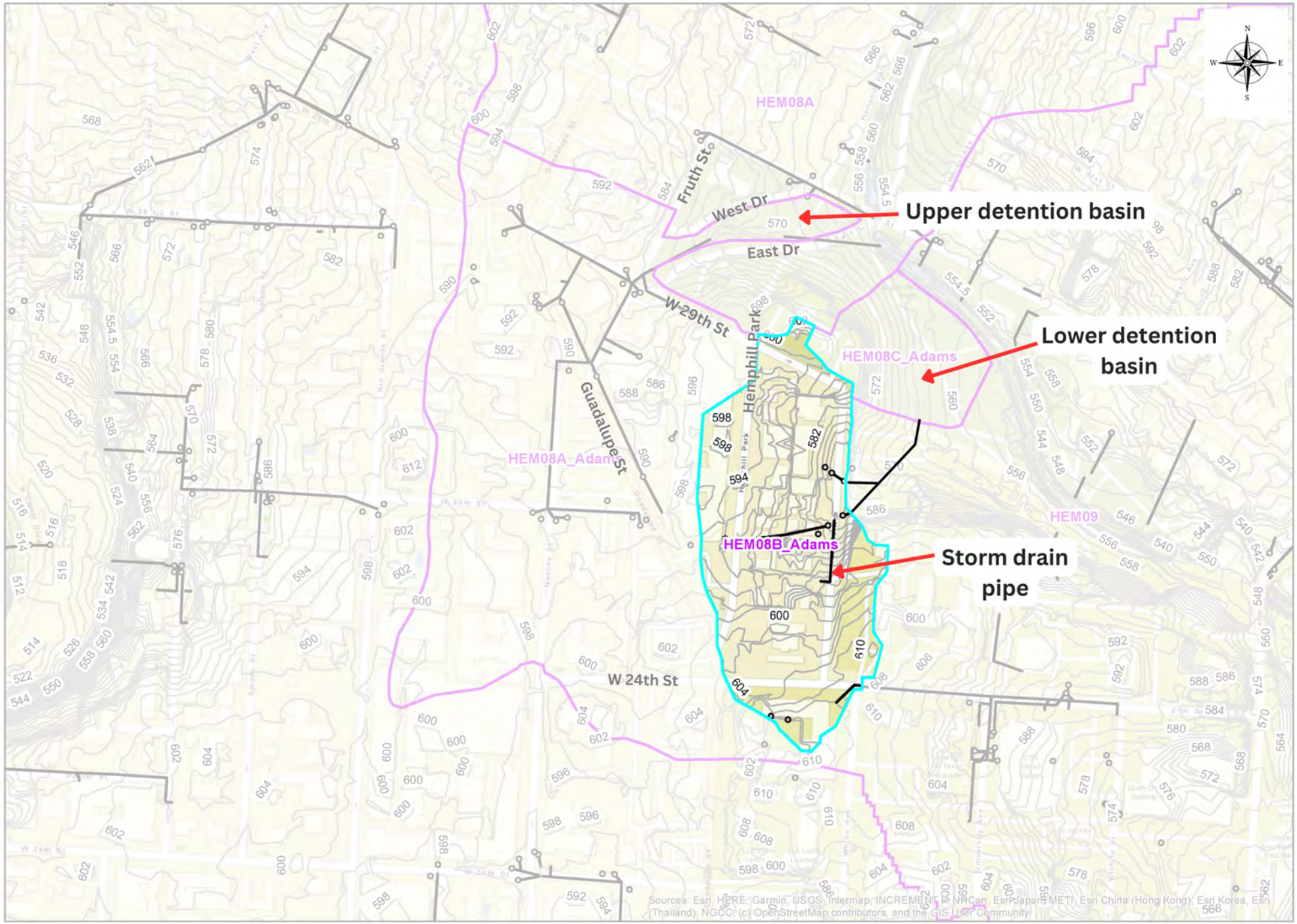

31ST
31ST
Adams-Hemphill Ponds
30TH
WEST DR
EAST DR
29TH

Drainage Areas

- Area draining to proposed upper detention basin
- Next slide shows area draining to proposed lower detention basin



This slide and next slide have been added since the presentation was originally given.


HEM08A
Fruth St
West Dr
East Dr
Upper detention basin
W-29th St
Hemphill Park
Lower detention basin
HEM08C_Adams
Guadalupe St
HEM08A_Adams
HEM08B_Adams
Storm drain pipe
HEM09
W 24th St
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community