Near Southside

Regional Drainage Plan

February 25, 2016
Stakeholder Steering Committee Meeting #3
Broadway Baptist Church

Fort Worth®

City of Fort Worth Stormwater Management

In Partnership with
Freese and Nichols, Inc.

Meeting Agenda

- Introduction and Background
- Existing Conditions Analysis
- Target Detention Volumes
- Improvement Alternatives
- Development Impacts Analysis
- Conclusions

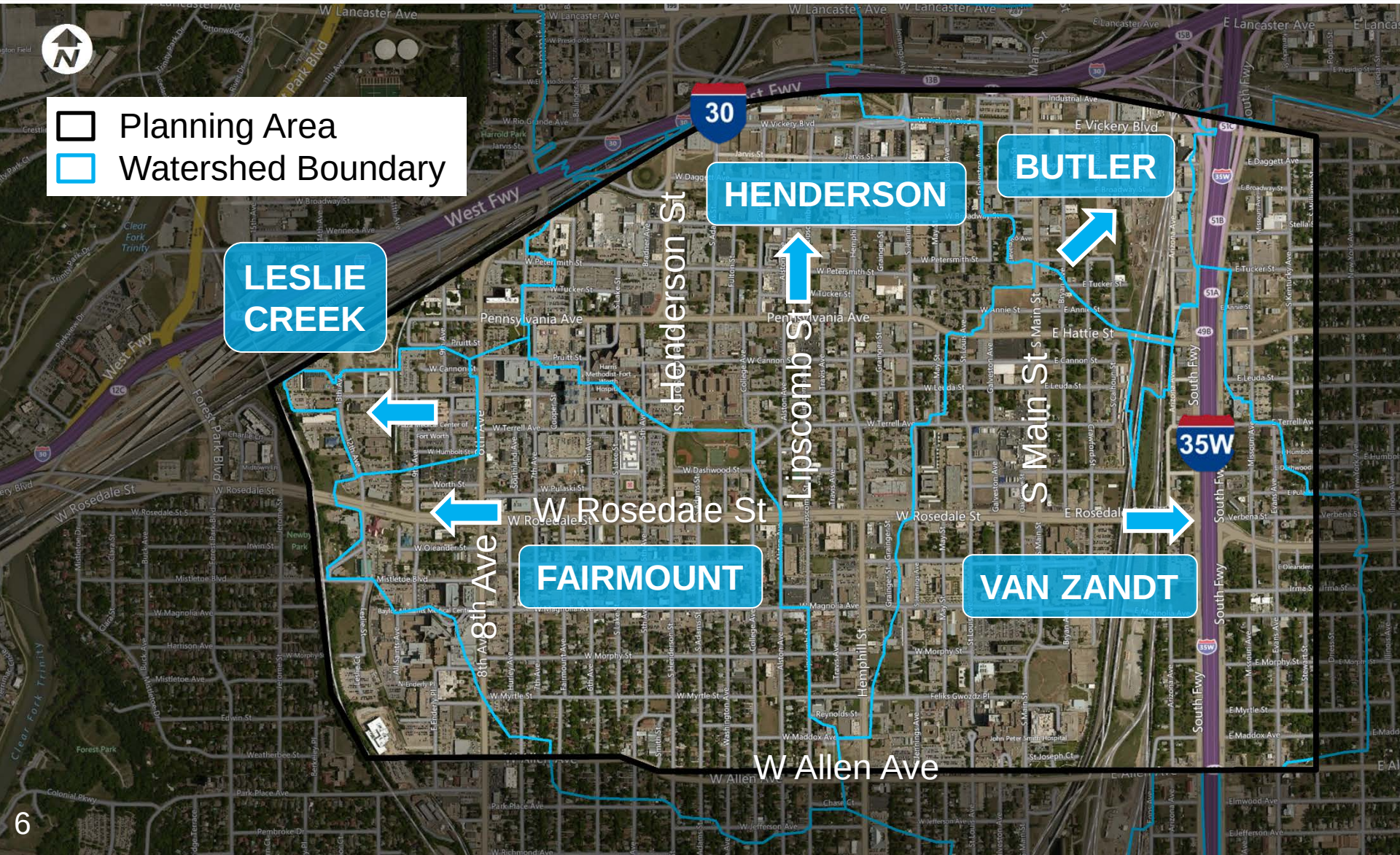
Introduction and Background

Key Points

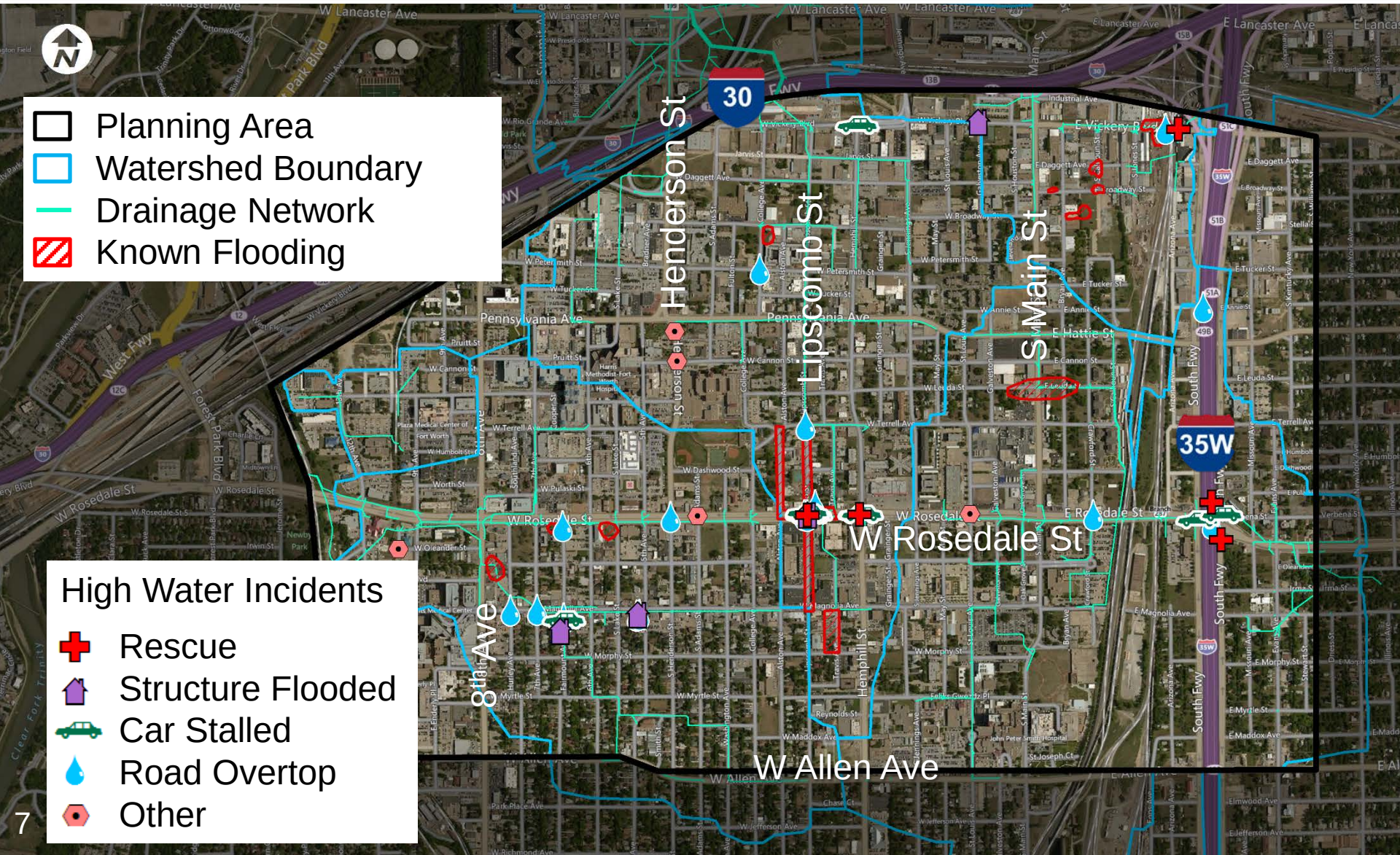
- **Long-range** planning for drainage improvements and redevelopment strategies
- This is a **planning effort**, not project
- The findings **will not solve all flooding problems**; goal is to find alternative solutions that can be implemented with partners
- Your **feedback**, knowledge and input is very important to us

Existing Conditions Analysis

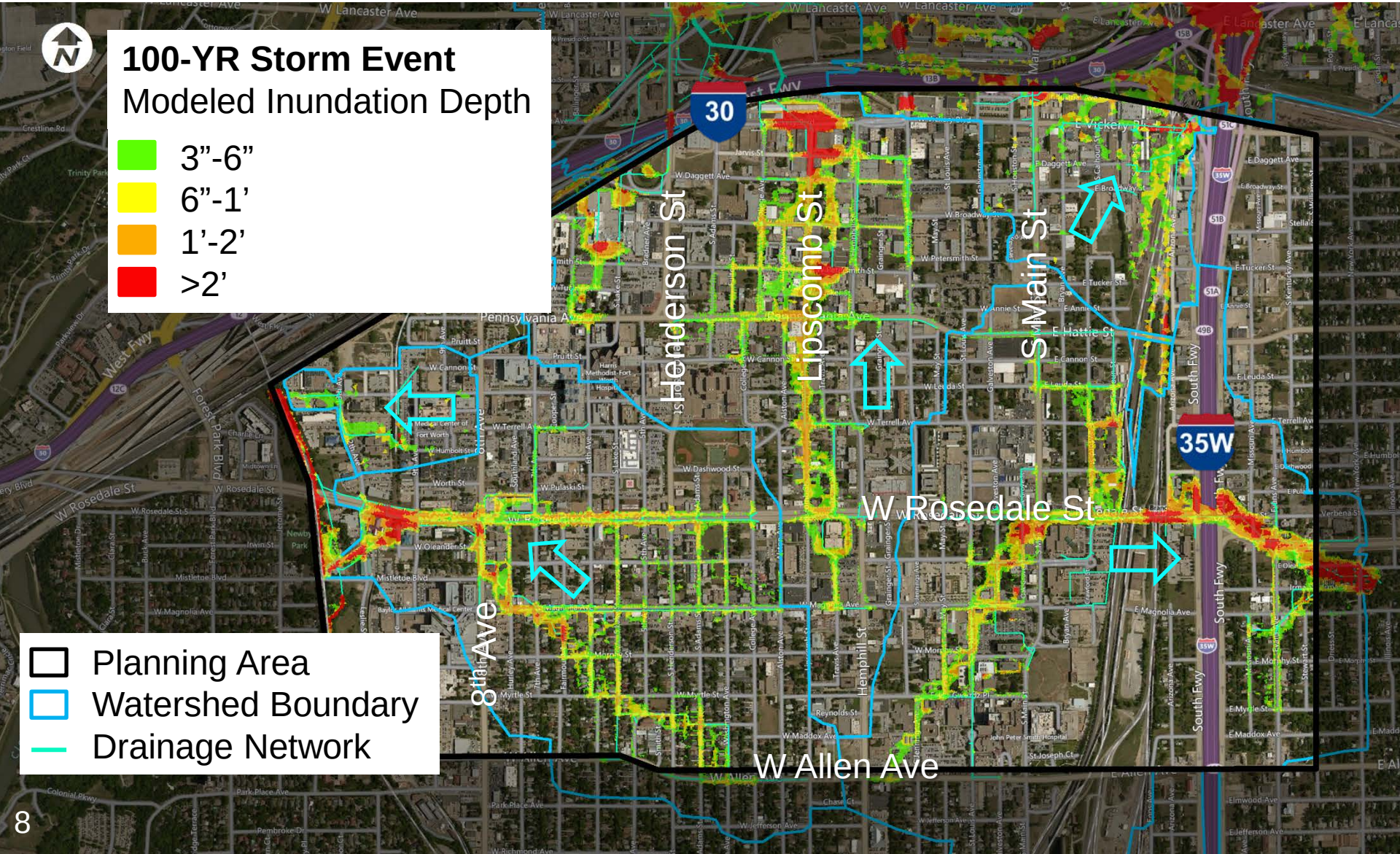
Planning Area



Known Flooding



Flood Hazard



Target Detention Volumes

Objectives

Improve Existing Drainage Conditions

More Efficient Development Process

Potential Solutions

Green Infrastructure

Reduce Runoff

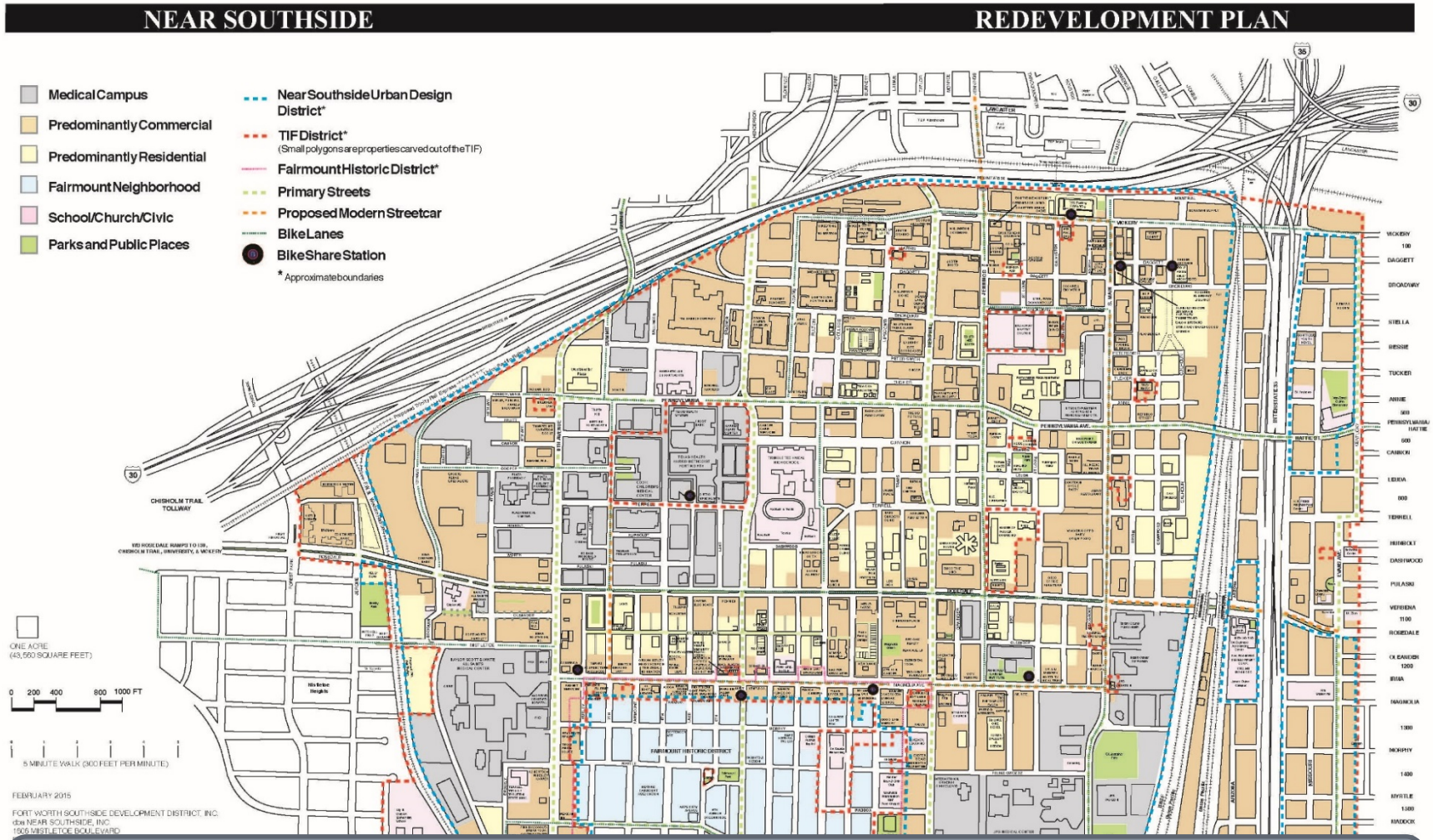
Structural

Convey Runoff

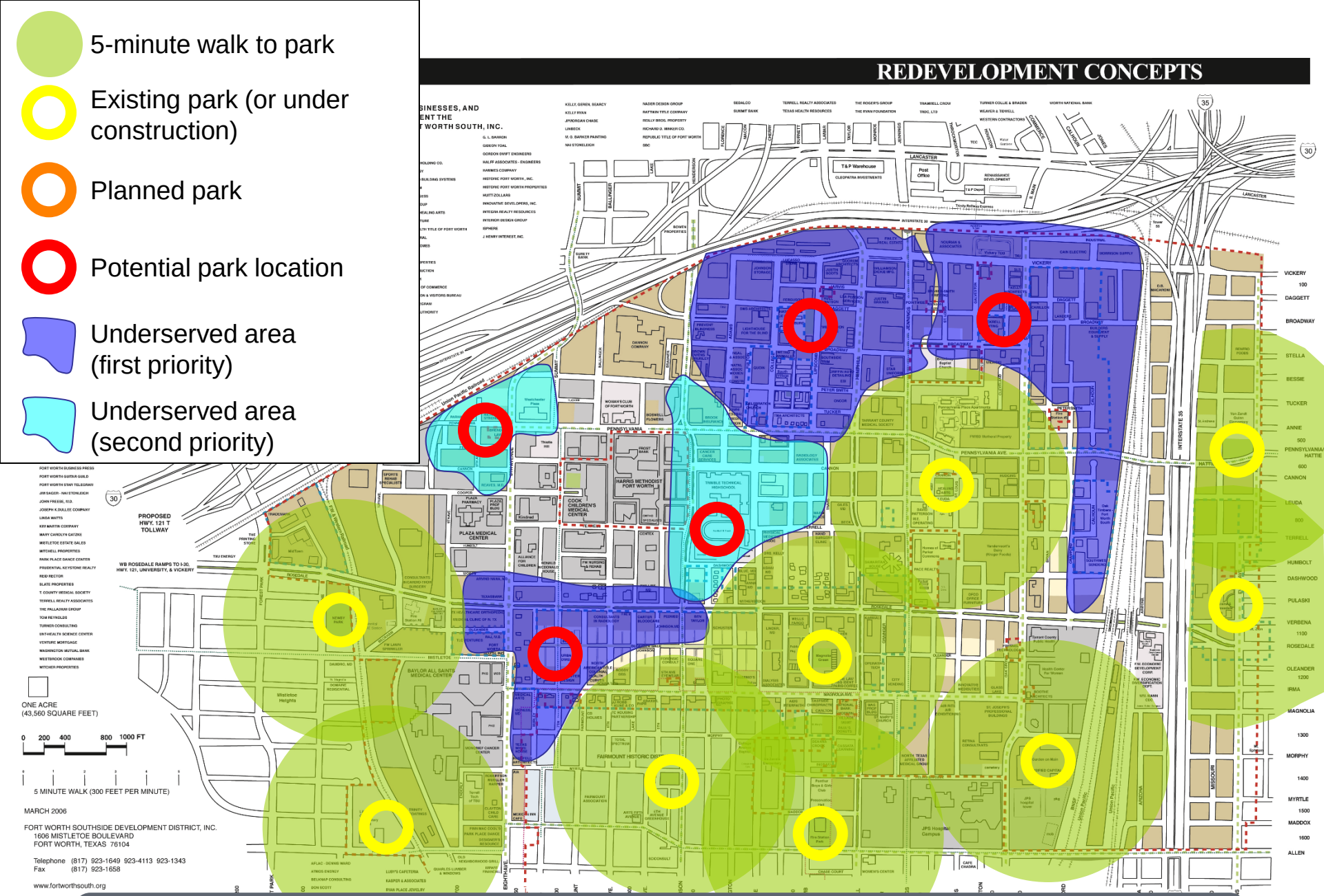
Detention

Store Runoff

Potential Solutions

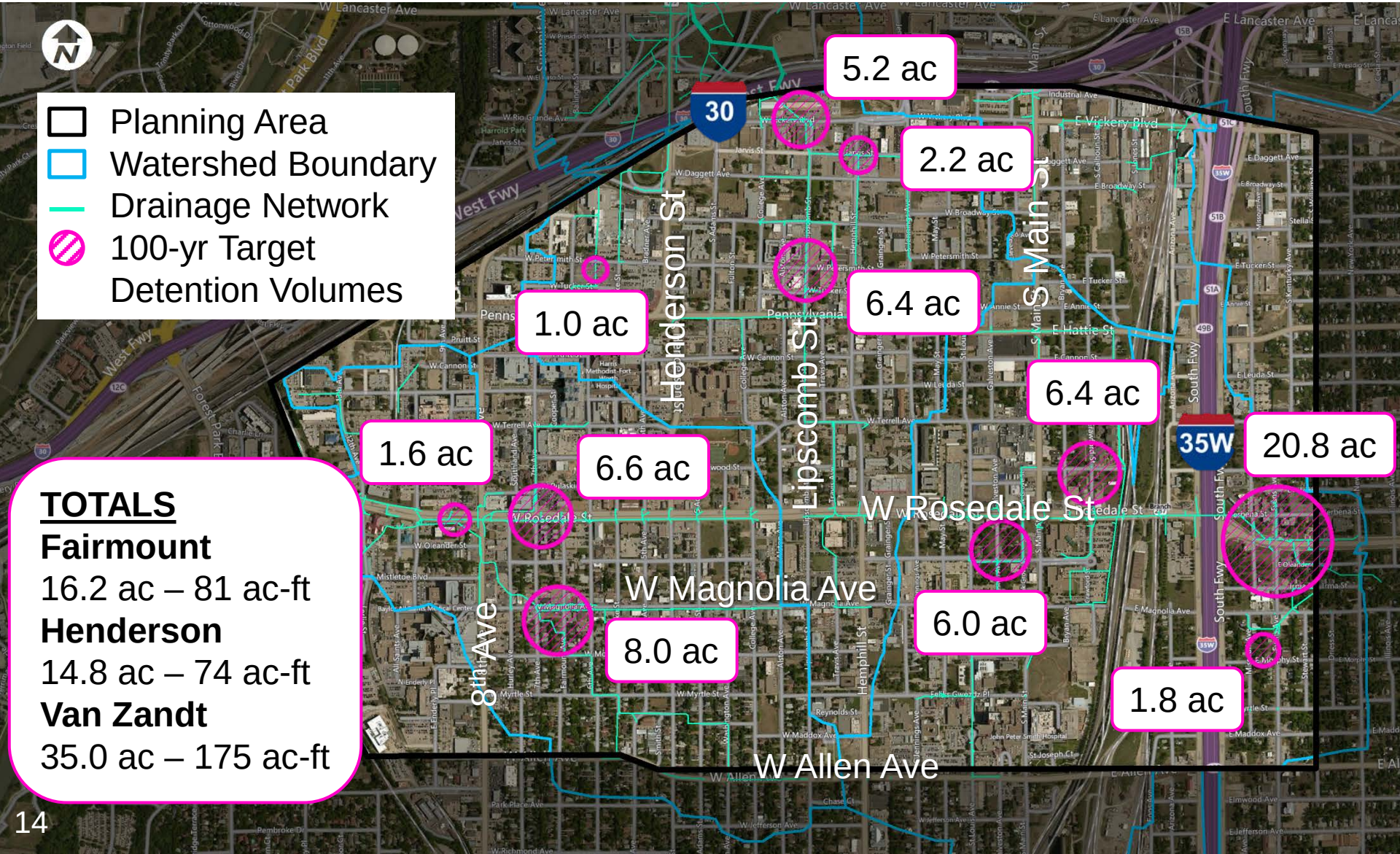


Keeping Redevelopment Plan in Mind



Keeping Parks Plan in Mind

Target Detention Volumes



TOTALS

Fairmount

16.2 ac – 81 ac-ft

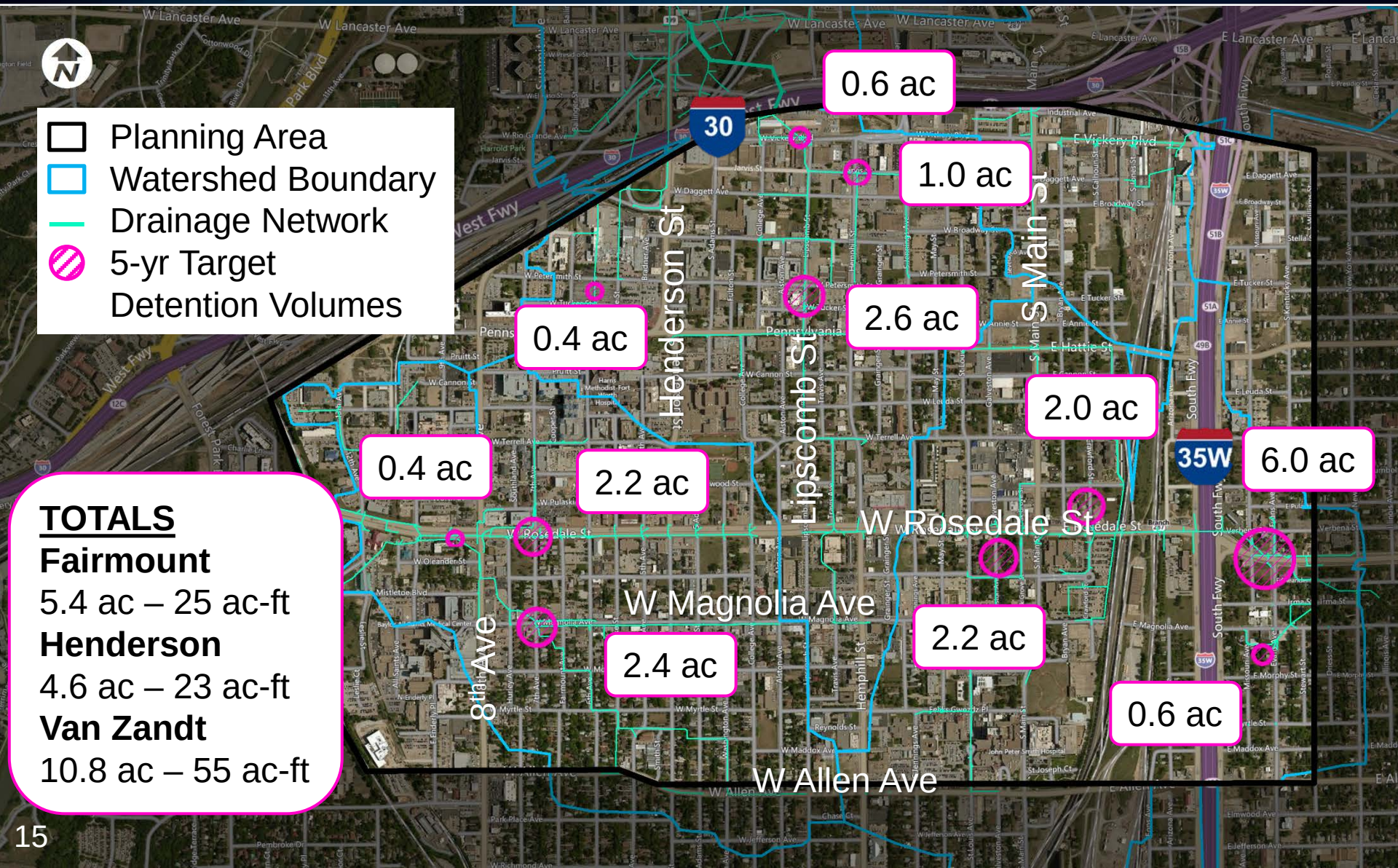
Henderson

14.8 ac – 74 ac-ft

Van Zandt

35.0 ac – 175 ac-ft

Target Detention Volumes



TOTALS

Fairmount

5.4 ac – 25 ac-ft

Henderson

4.6 ac – 23 ac-ft

Van Zandt

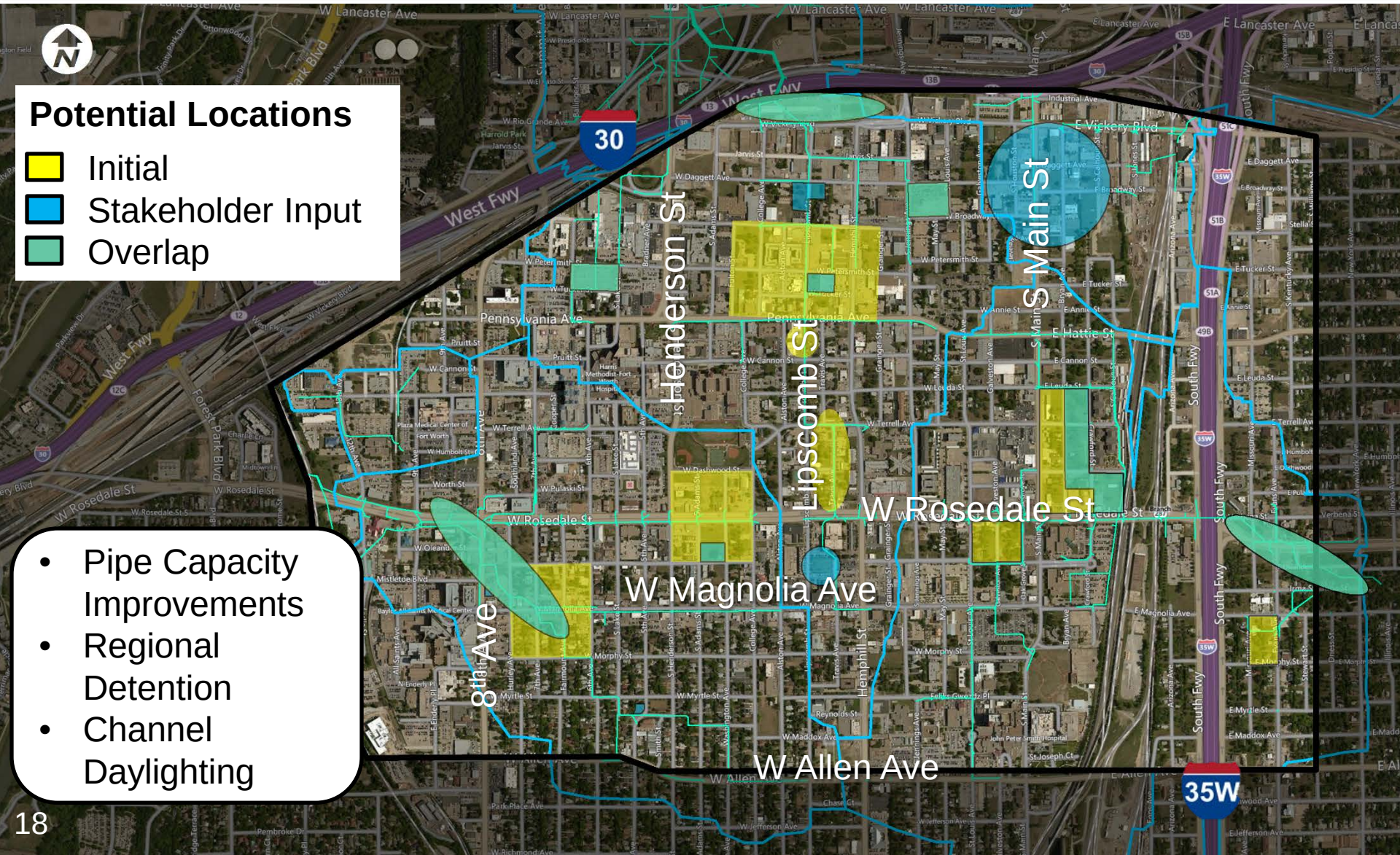
10.8 ac – 55 ac-ft

Improvement Alternatives

Potential Locations

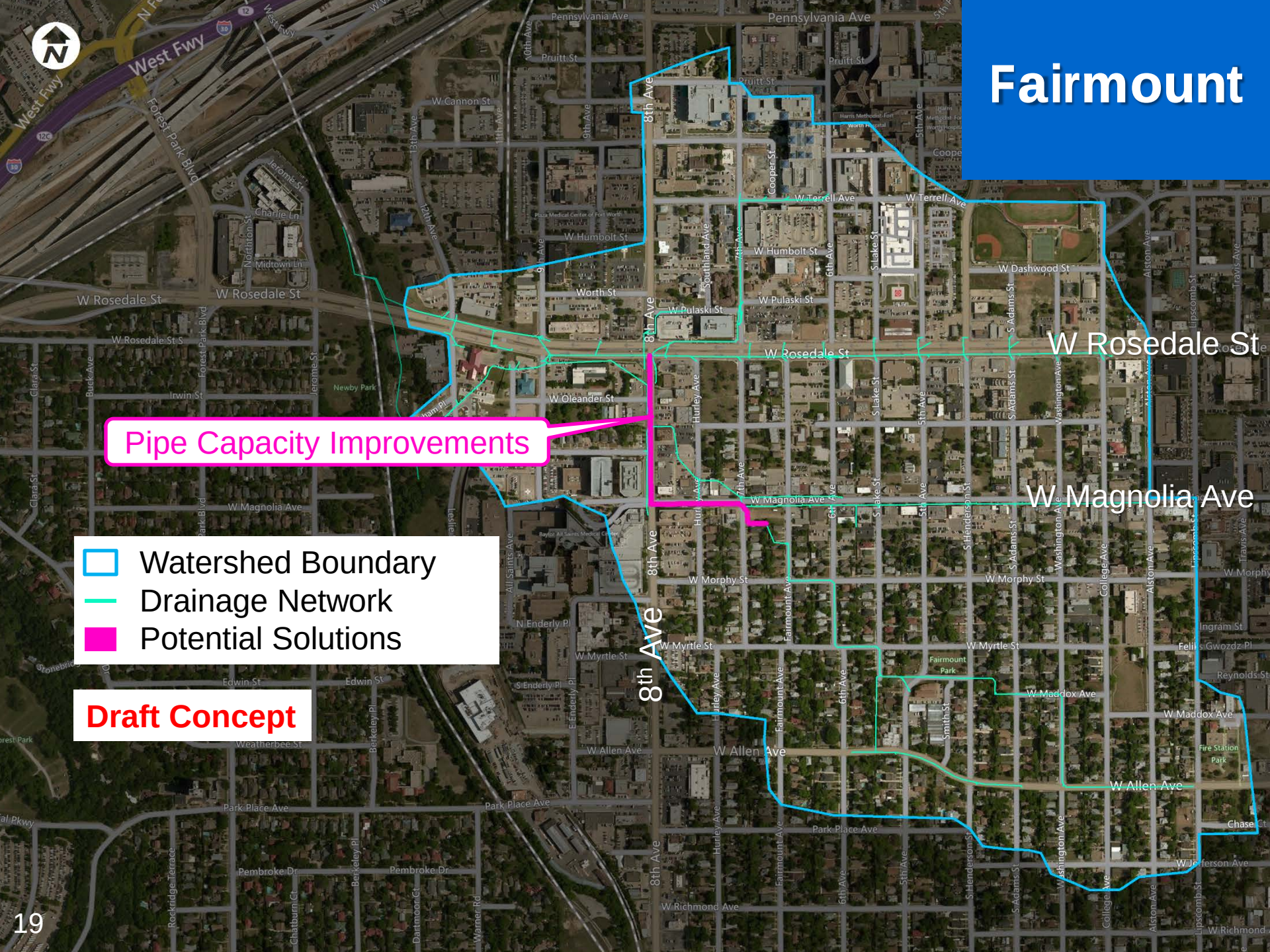
- Criteria for identification of potential locations:
  - Proximity to flood hazard
  - Input from stakeholder meetings
  - Input from Henderson property owner meeting
  - Constrained by current land use (identified relatively vacant properties)
- 18 total locations evaluated
- 4 most beneficial locations discussed today

Potential Locations

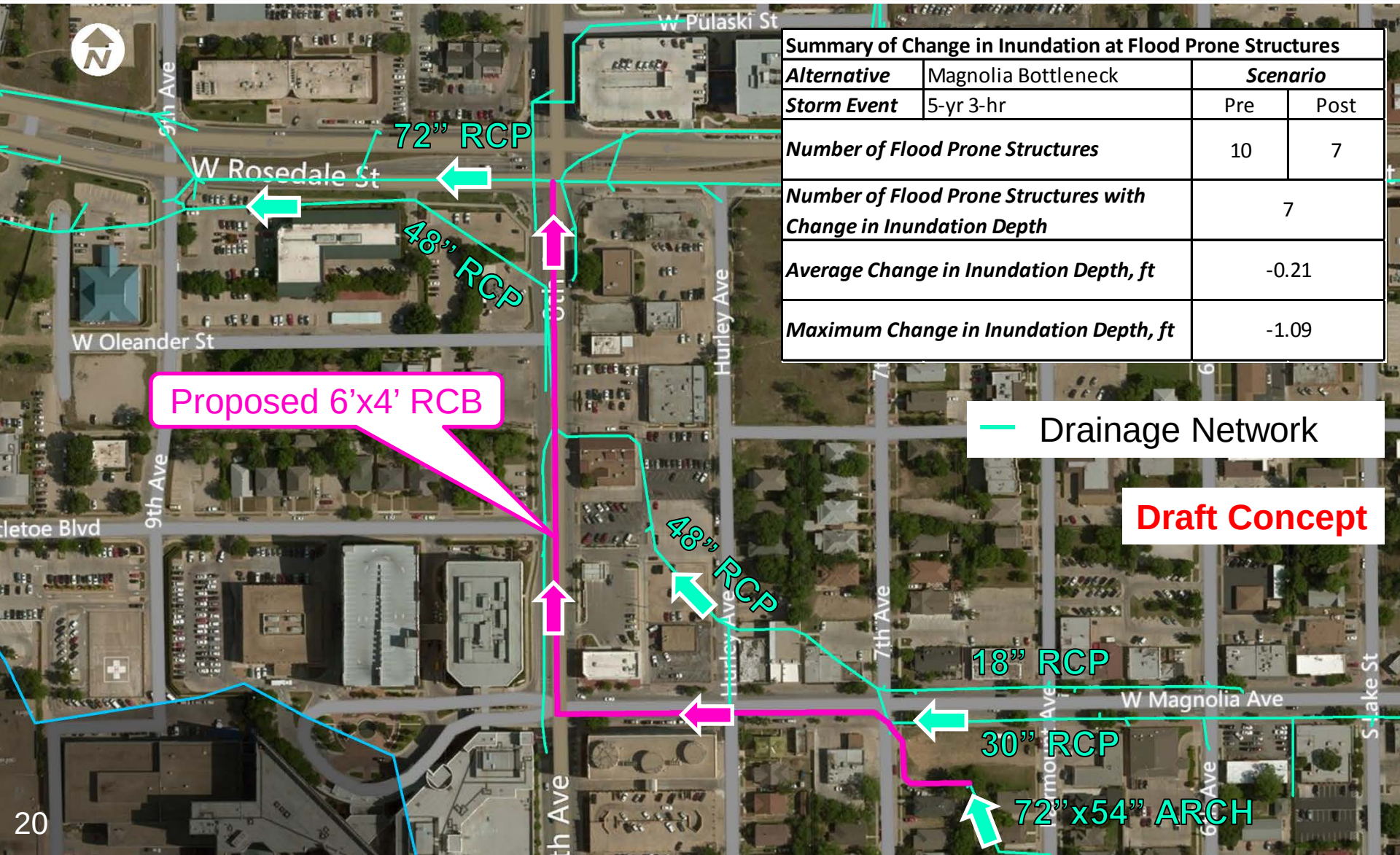


- Pipe Capacity Improvements
- Regional Detention
- Channel Daylighting

Fairmount

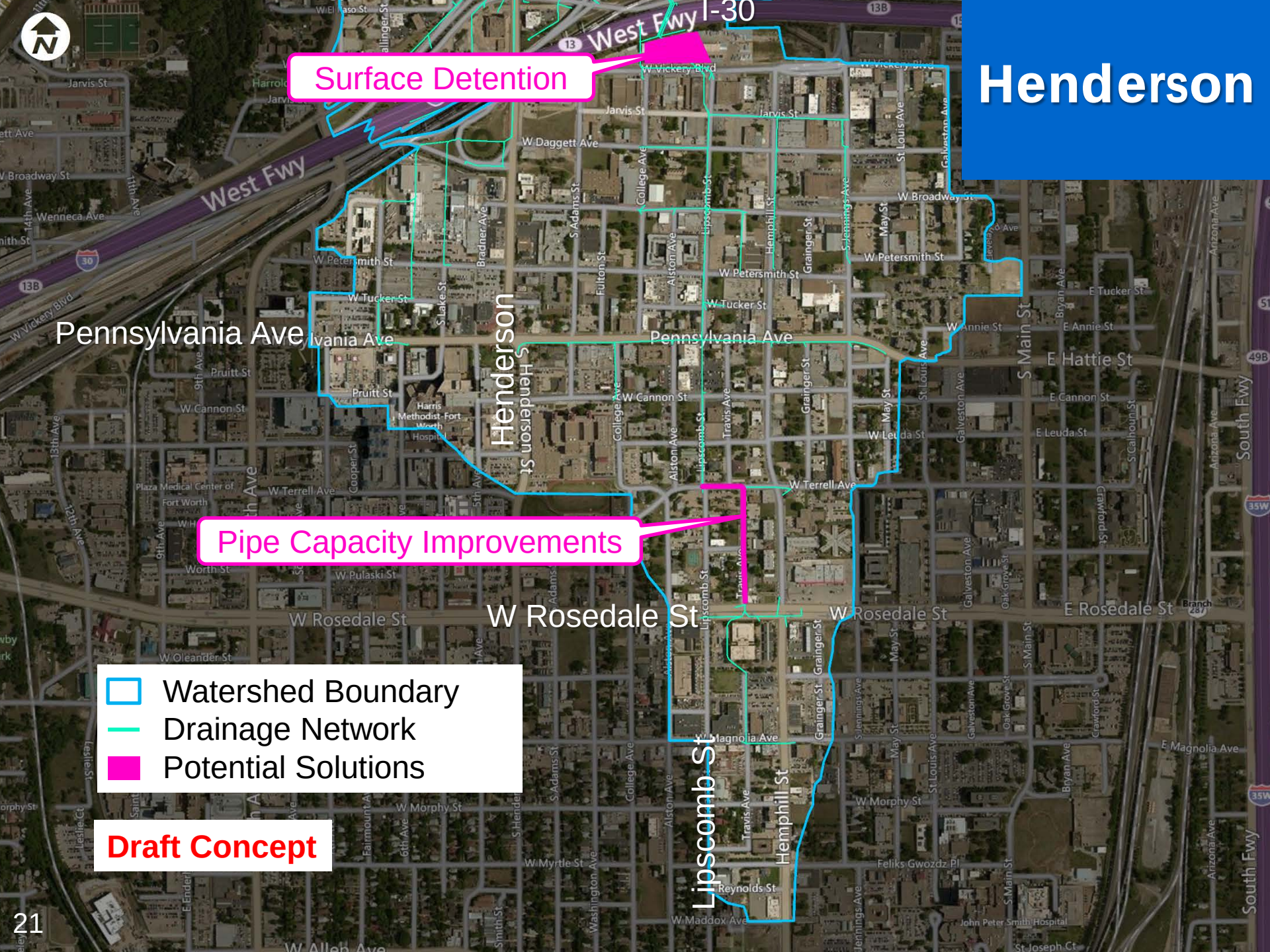

Pipe Capacity Improvements
W Rosedale St
W Magnolia Ave
8th Ave
Watershed Boundary
Drainage Network
Potential Solutions
Draft Concept

Pipe Capacity Improvements
8th and Magnolia



Summary of Change in Inundation at Flood Prone Structures			
Alternative	Magnolia Bottleneck	***Scenario***	
Storm Event	5-yr 3-hr	Pre	Post
Number of Flood Prone Structures		10	7
Number of Flood Prone Structures with Change in Inundation Depth		7	
Average Change in Inundation Depth, ft		-0.21	
Maximum Change in Inundation Depth, ft		-1.09	

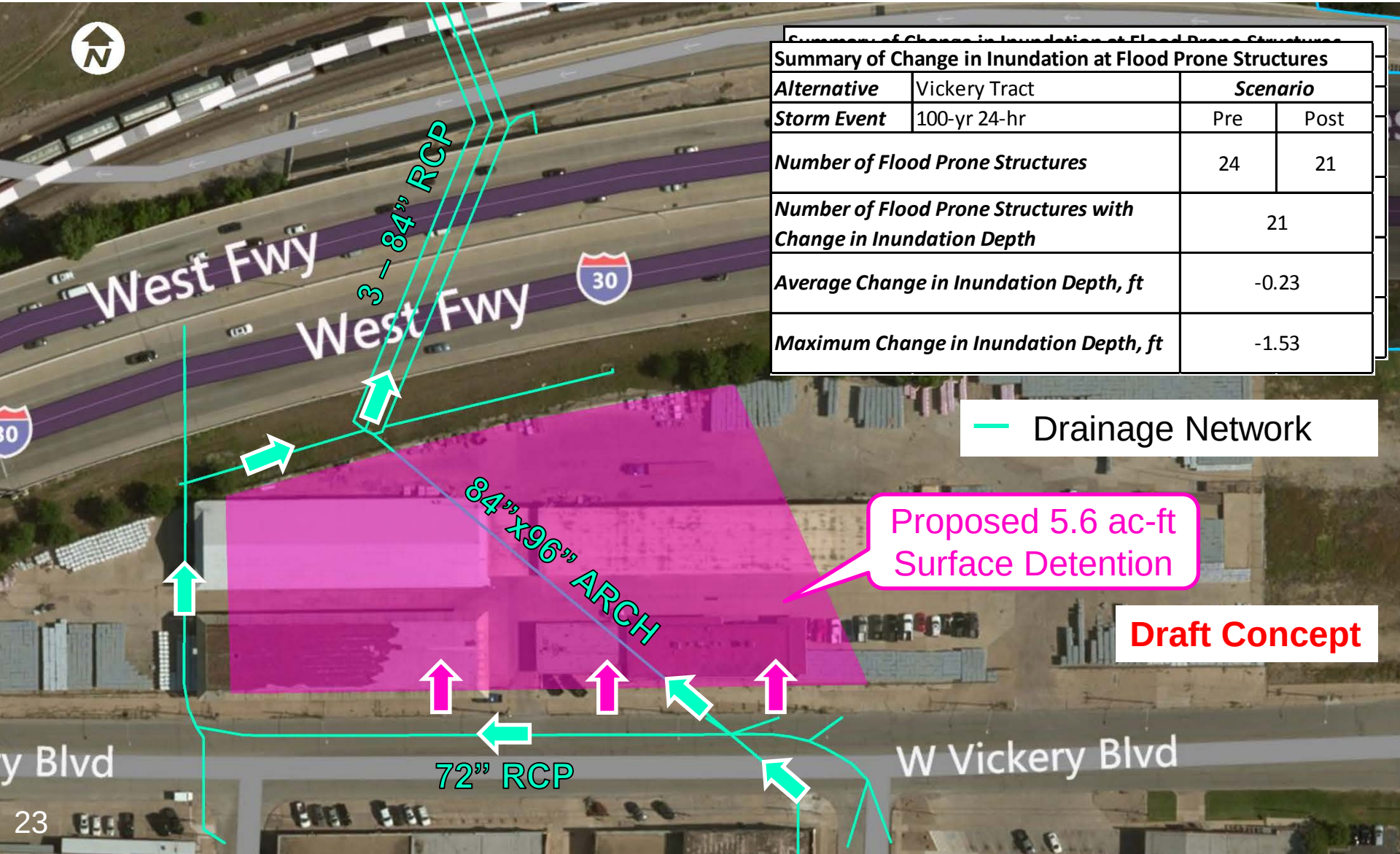
Henderson


Surface Detention
Pipe Capacity Improvements
I-30
West Fwy
Pennsylvania Ave
Henderson
S Henderson St
W Rosedale St
Lipscomb St
Hemphill St
S Main St
E Hattie St
South Fwy
Watershed Boundary
Drainage Network
Potential Solutions
Draft Concept

Pipe Capacity Improvements
Travis and Terrell

Summary of Change in Inundation at Flood Prone Structures			
Alternative	Travis Bottleneck	***Scenario***	
Storm Event	5-yr 3-hr	Pre	Post
Number of Flood Prone Structures		12	12
Number of Flood Prone Structures with Change in Inundation Depth		12	
Average Change in Inundation Depth, ft		0.03	
Maximum Change in Inundation Depth, ft		0.17	

Surface Detention
Vickery at Lipscomb

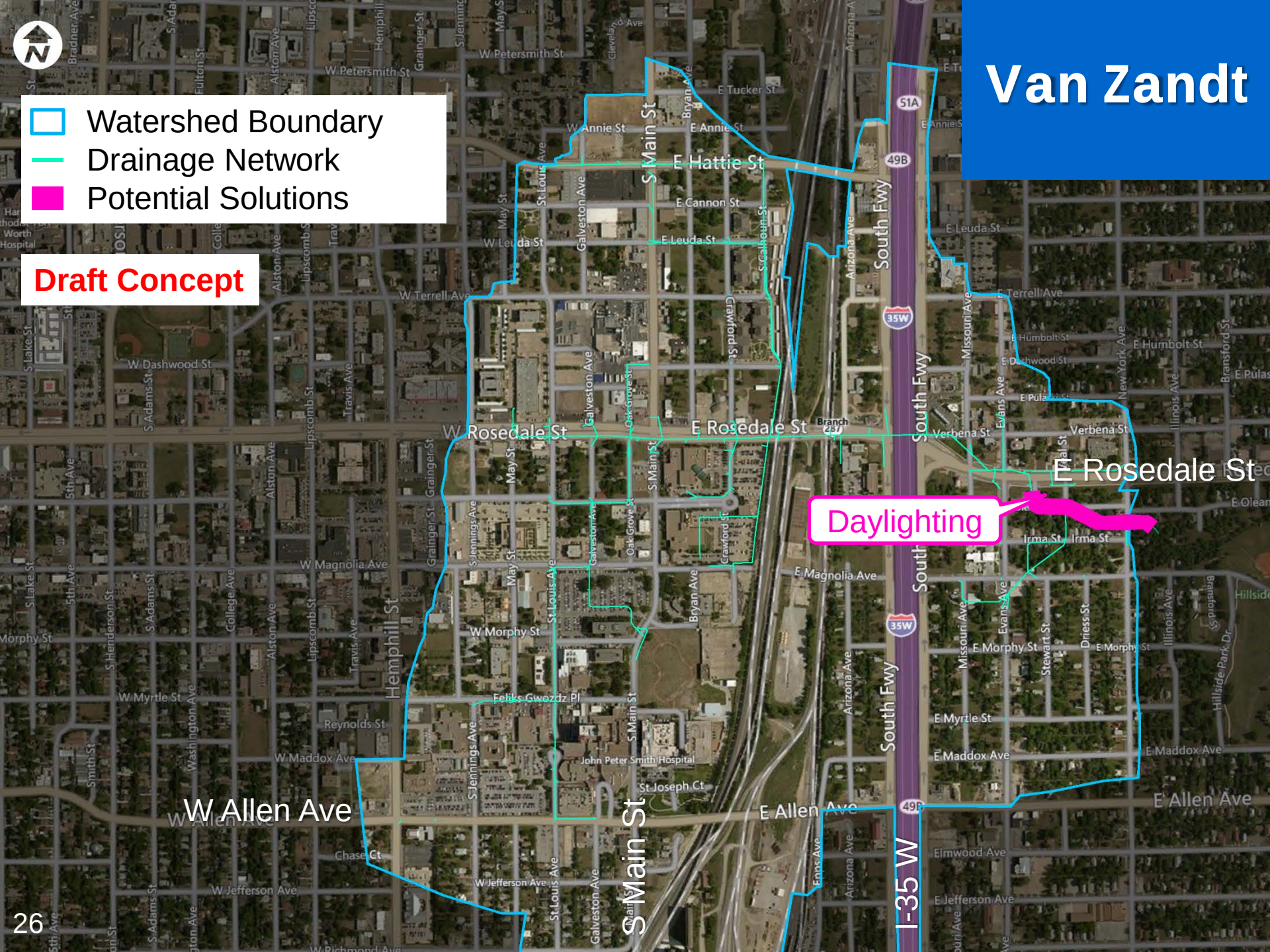


Summary of Change in Inundation at Flood Prone Structures			
Alternative	Vickery Tract	***Scenario***	
Storm Event	100-yr 24-hr	Pre	Post
Number of Flood Prone Structures		24	21
Number of Flood Prone Structures with Change in Inundation Depth		21	
Average Change in Inundation Depth, ft		-0.23	
Maximum Change in Inundation Depth, ft		-1.53	

Multi-Use Stormwater Detention

Multi-Use Stormwater Detention

Van Zandt



Watershed Boundary
Drainage Network
Potential Solutions
Draft Concept
Daylighting
E Rosedale St
W Rosedale St
E Rosedale St
W Allen Ave
E Allen Ave
S Main St
South Fwy
I-35 W
Hemphill St
E Hattie St
W Petersmith St
E Tucker St
W Annie St
E Annie St
E Cannon St
E Leuda St
W Leuda St
W Terrell Ave
E Terrell Ave
W Dashwood St
E Humbolt St
E Dashwood St
E Pulaski St
Verbena St
Irma St
E Magnolia Ave
W Magnolia Ave
W Morphy St
E Morphy St
W Myrtle St
E Myrtle St
Reynolds St
W Maddox Ave
E Maddox Ave
Feliks Gwozdz Pl
John Peter Smith Hospital
St Joseph Ct
Chase Ct
W Jefferson Ave
E Jefferson Ave
Elmwood Ave
W Richmond Ave
Bryan Ave
Galveston Ave
Crawford St
Arizona Ave
Missouri Ave
Evans Ave
Stewart St
Driess St
Illinois Ave
New York Ave
Bransford St
Hillside Park Dr
Grainger St
May St
St Louis Ave
S Jennings Ave
Oak Grove St
Epps Ave
Alston Ave
Lipscomb St
Travis Ave
Washington Ave
College Ave
S Adams St
S Henderson St
Smith St
Fulton St
Bradner Ave
Hartshorne Worth Hospital
51A
49B
35W

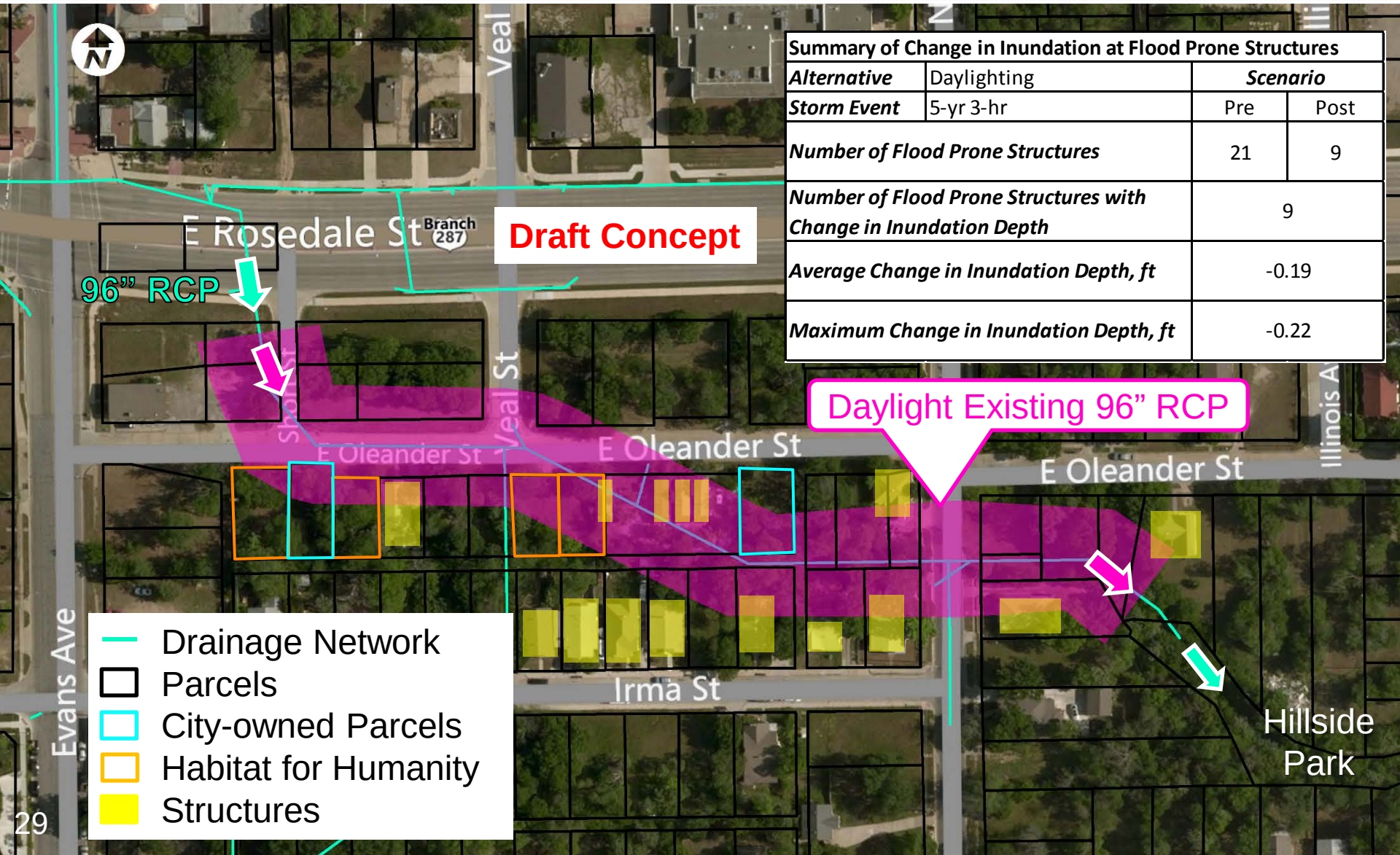
Possible Solutions

Channel Daylighting

Possible Solutions

Channel Daylighting

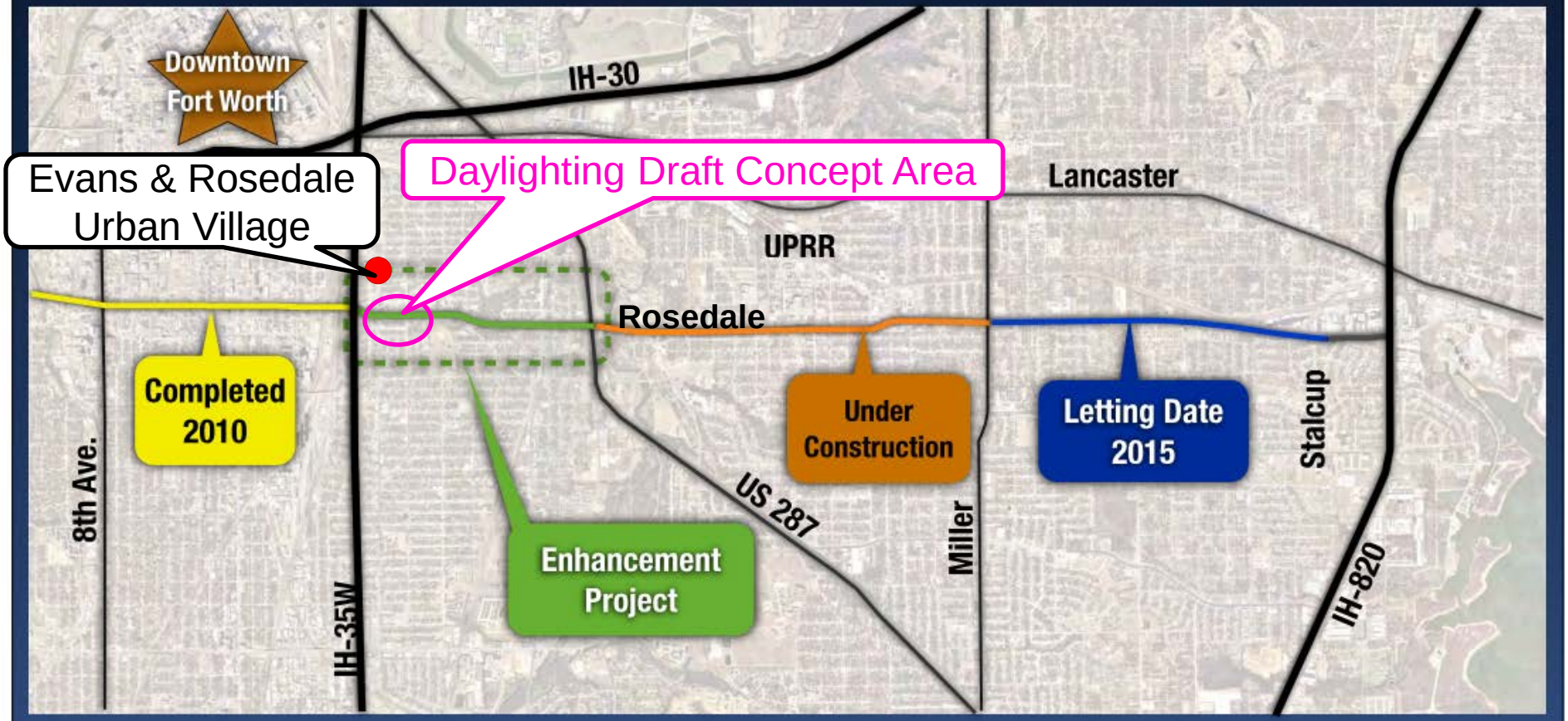
Daylighting



Summary of Change in Inundation at Flood Prone Structures			
Alternative	Daylighting	***Scenario***	
Storm Event	5-yr 3-hr	Pre	Post
Number of Flood Prone Structures		21	9
Number of Flood Prone Structures with Change in Inundation Depth		9	
Average Change in Inundation Depth, ft		-0.19	
Maximum Change in Inundation Depth, ft		-0.22	

Daylighting

Ongoing Rosedale Street Improvements



Feedback

1. Questions about alternatives?
2. Other alternatives to consider?
3. Partnership opportunities?

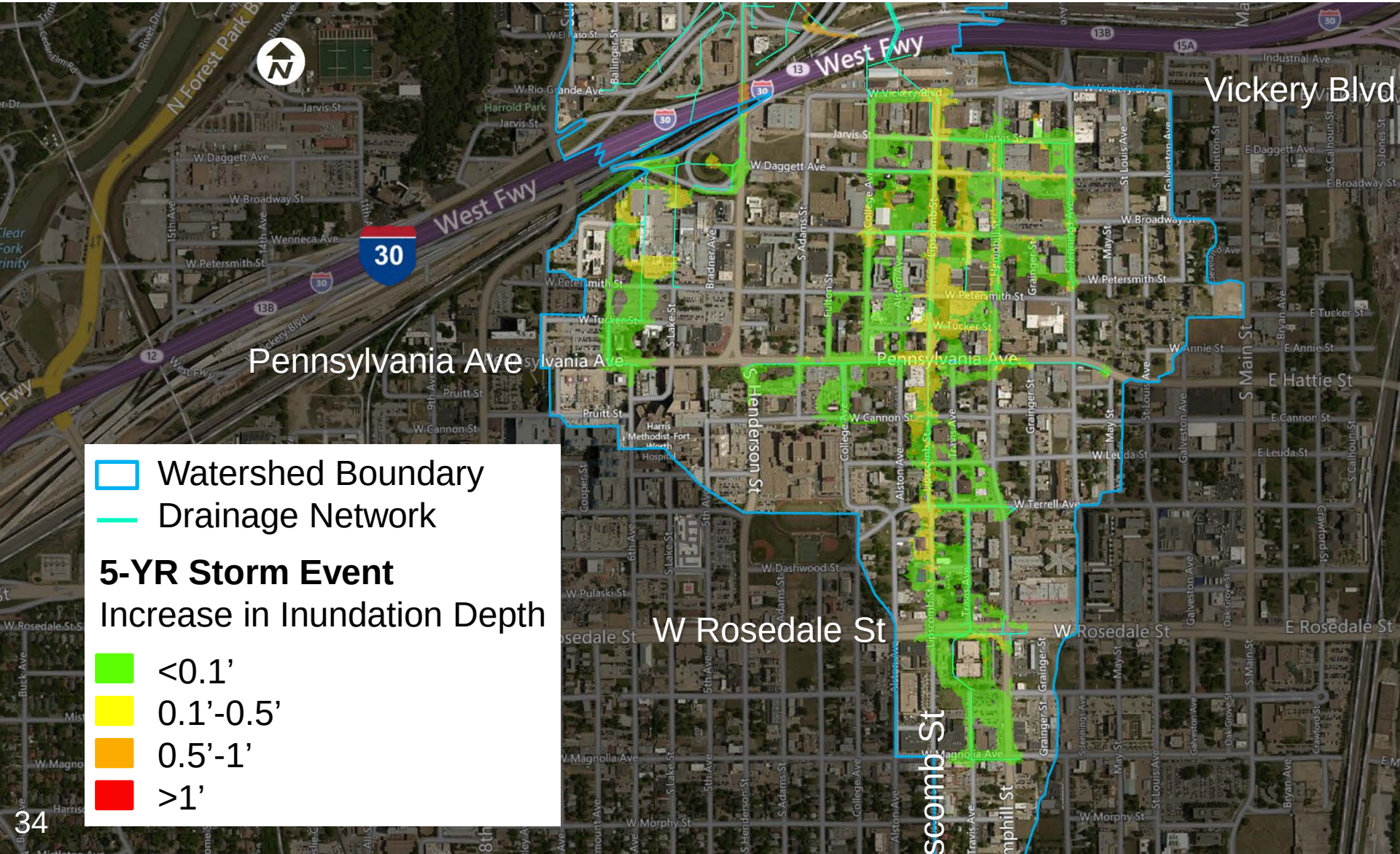
Development Impacts Analysis

Development Impacts

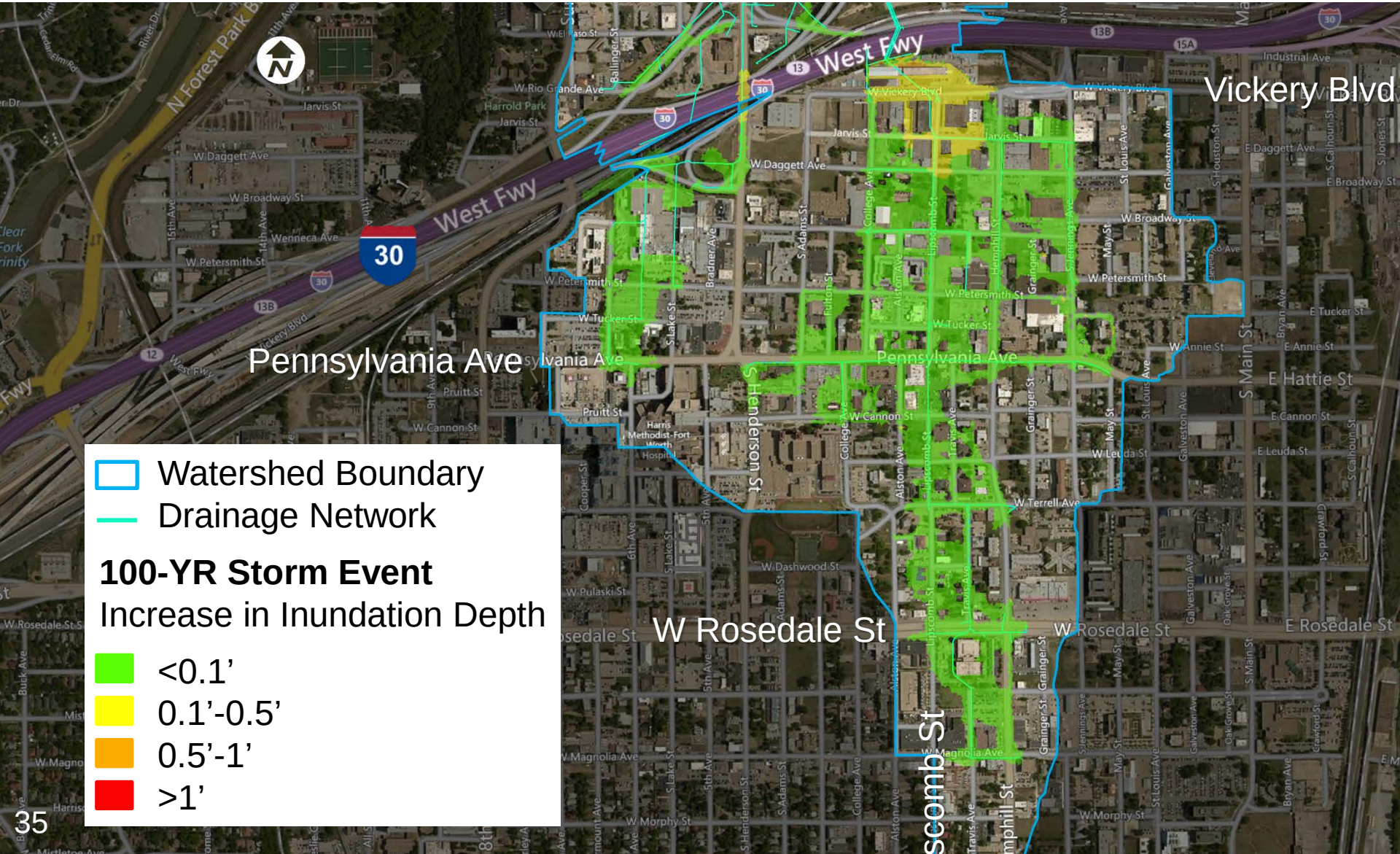
Question:
Since the Near Southside vicinity is highly-developed already, could additional development occur that increases the amount of impervious surface without having significant adverse impacts on surrounding property? If so, could the permitting process be greatly simplified?

Answer:
No. Although the impacts occur in limited locations, the magnitude of the impacts on private property is unacceptable.

Development Impacts
Henderson – 5-year Storm Event



Development Impacts
Henderson – 100-year Storm Event



Development Impacts

Recent updates to the stormwater criteria manual provide a more streamlined review process for infill development:

1. *Grading Permit threshold increased from 0.5 acres to 1.0 acre*
2. *A simplified infill development methodology is available for small sites that meet certain criteria (see iSWM Criteria Manual Section 1.1)*

Conclusions

Conclusions

- To significantly reduce flooding on a wide-scale basis in this area, land use will need to change
- Can’t increase impervious cover without having adverse impacts
- Implementation of potential solutions would depend on:
  - Acceptance of solution by the community
  - Significant financial partnership opportunities
  - Balancing Citywide stormwater needs and priorities
  - Availability of funding
  - More detailed analysis to ensure feasibility

Path Forward

- Tonight is final planned stakeholder meeting
- As a result of this planning effort:
  - Development will be better informed
  - City is well-positioned for partnership opportunities
- PPT from today's meeting will be added to the website

http://fortworthtexas.gov/southsidedrainage/

- Summary of planning effort will be added to website this fall
- How to communicate the flood hazard to the community?

Jennifer Dyke
Jennifer.Dyke@fortworthtexas.gov
817-392-2714

Scott Hubley
skh@freese.com
817-735-7378

FORT WORTH

Fort Worth Stormwater Management

FREESE AND NICHOLS

OCG | PR
OPEN CHANNELS GROUP