

ADVENTURES IN MASTER PLANNING

Shea Thomas, PE
Project Manager



A framed quote on a starry night sky background. The quote is written in white cursive on a dark blue background. The frame is a simple white border. The background of the entire slide is a dark blue night sky filled with numerous small white stars. A bright star is visible near the bottom center of the frame.

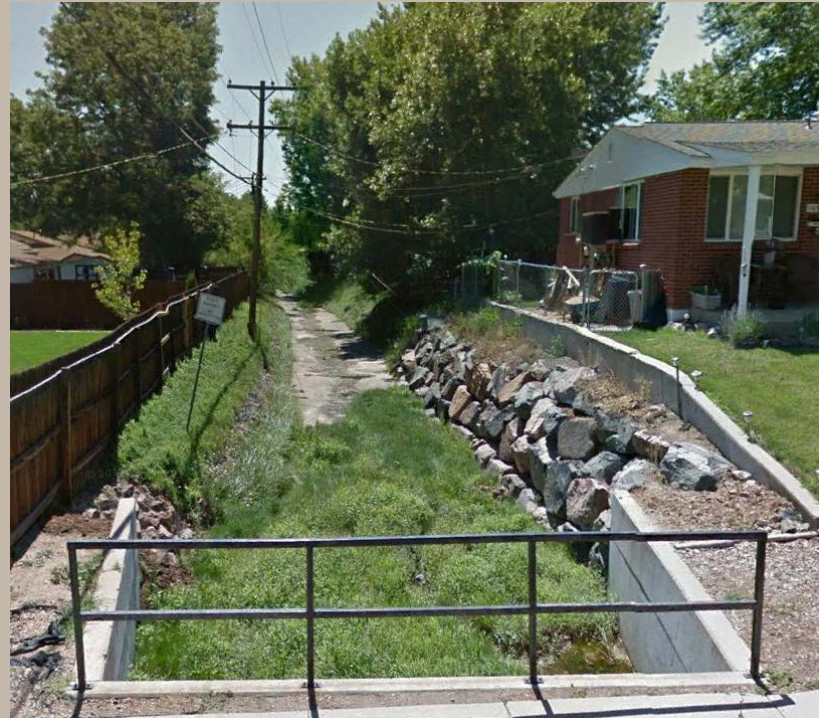
A goal
without a plan
is just a wish.

-Antoine de Saint-Exupery

Preservation



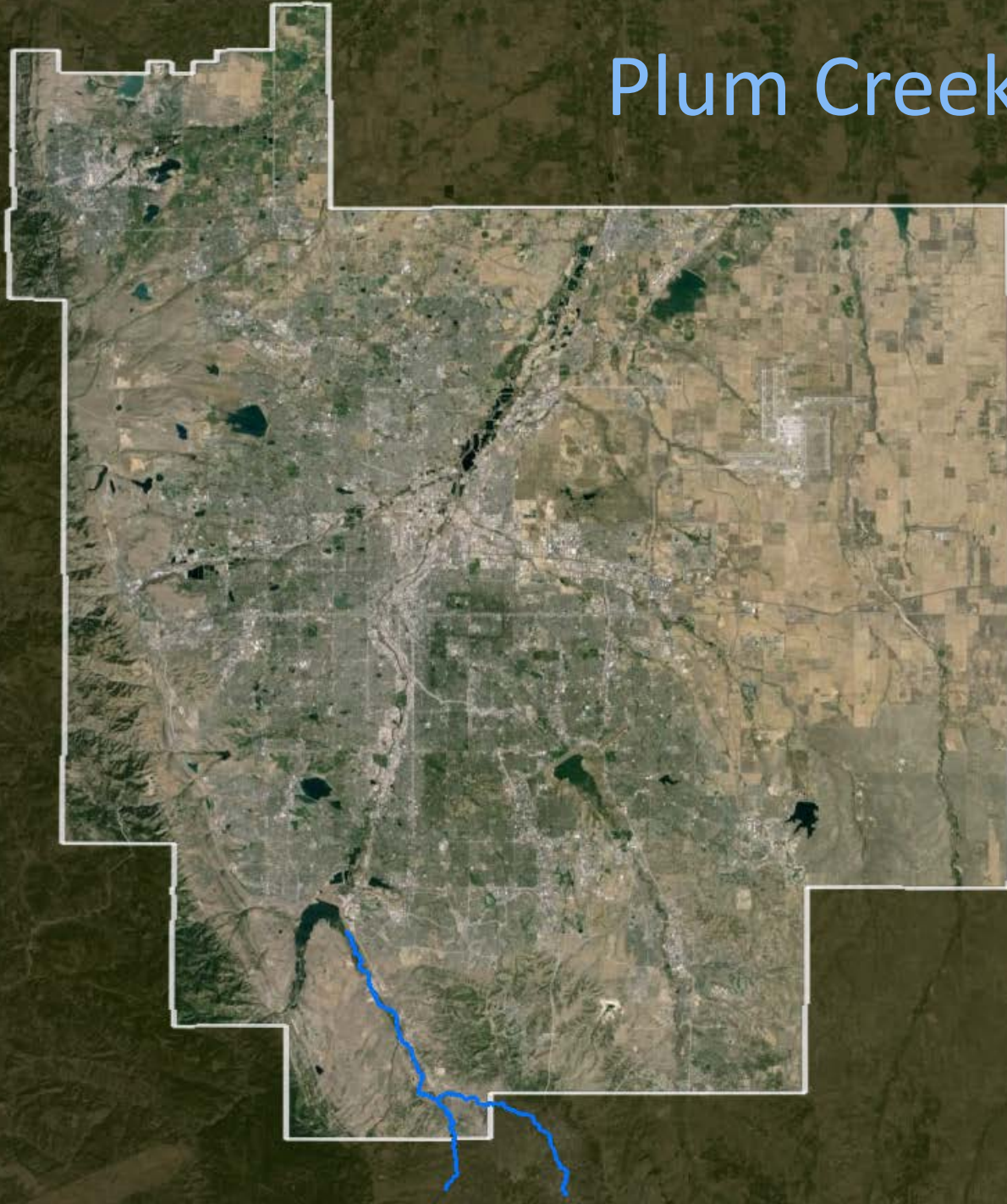
Mitigation



Douglas County: Duke of Hazards



Plum Creek



Chatfield Reservoir

Parker

85

Louviers

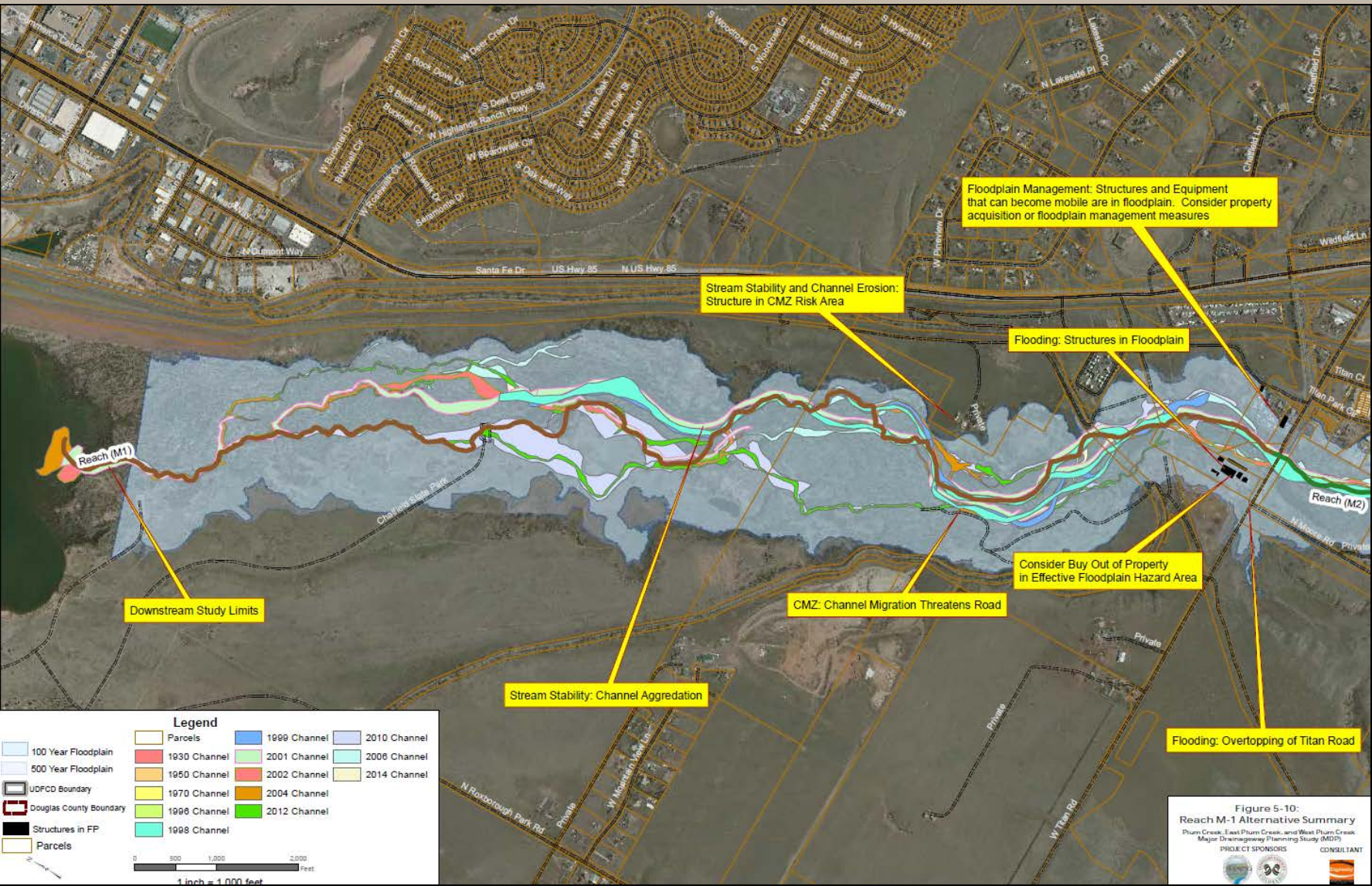
Castle Pines

Sedalia

UDFCD Boundary

Castle Rock



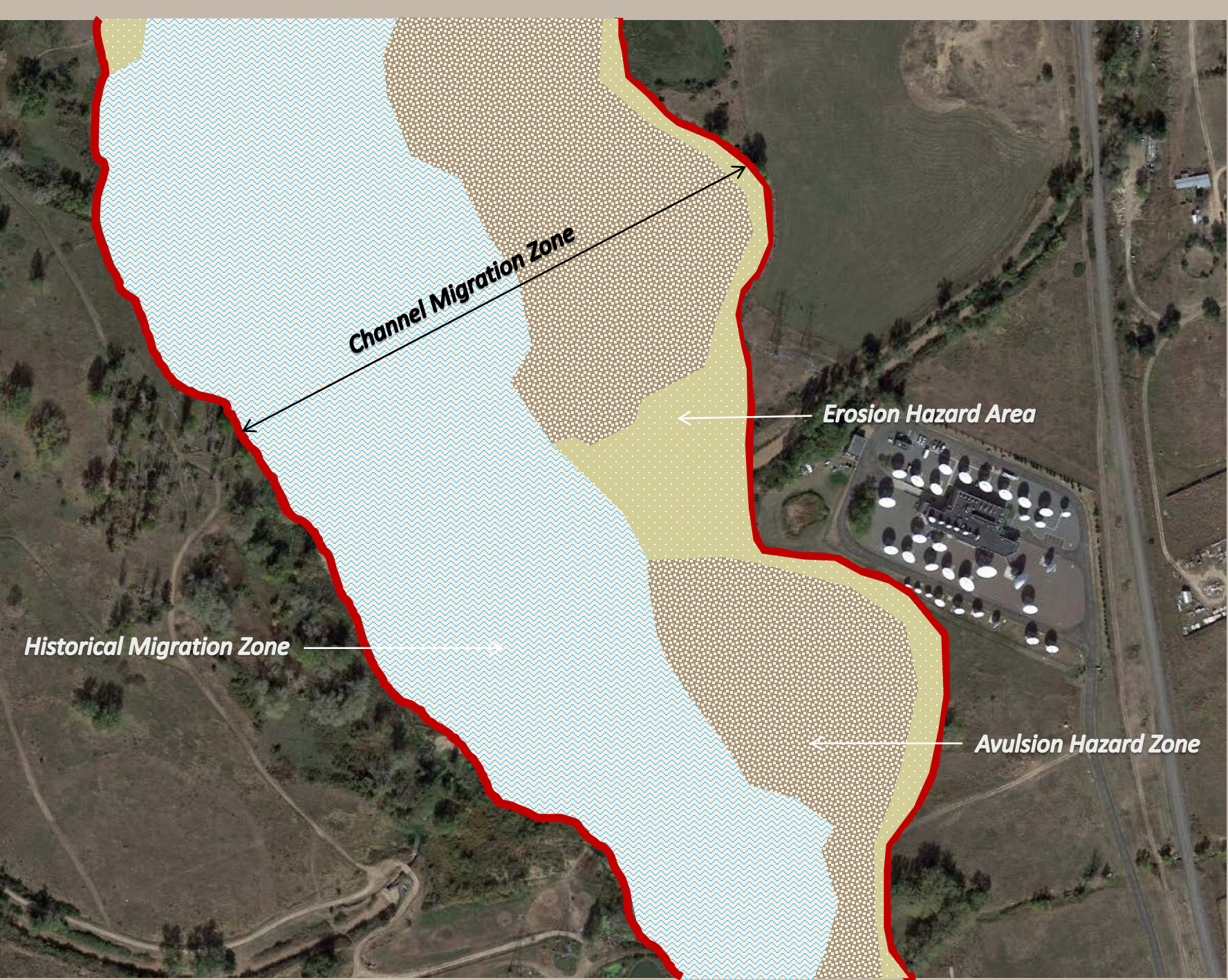


Legend

100 Year Floodplain	Parcels	1999 Channel	2010 Channel
500 Year Floodplain	1930 Channel	2001 Channel	2006 Channel
UDFCD Boundary	1950 Channel	2002 Channel	2014 Channel
Douglas County Boundary	1970 Channel	2004 Channel	
Structures in FP	1998 Channel	2012 Channel	
Parcels	1998 Channel		

0 500 1,000 2,000 Feet
1 inch = 1,000 feet

Figure 5-10:
Reach M-1 Alternative Summary
Plum Creek, East Plum Creek, and West Plum Creek
Major Drainage Planning Study (MDPS)
PROJECT SPONSORS CONSULTANT

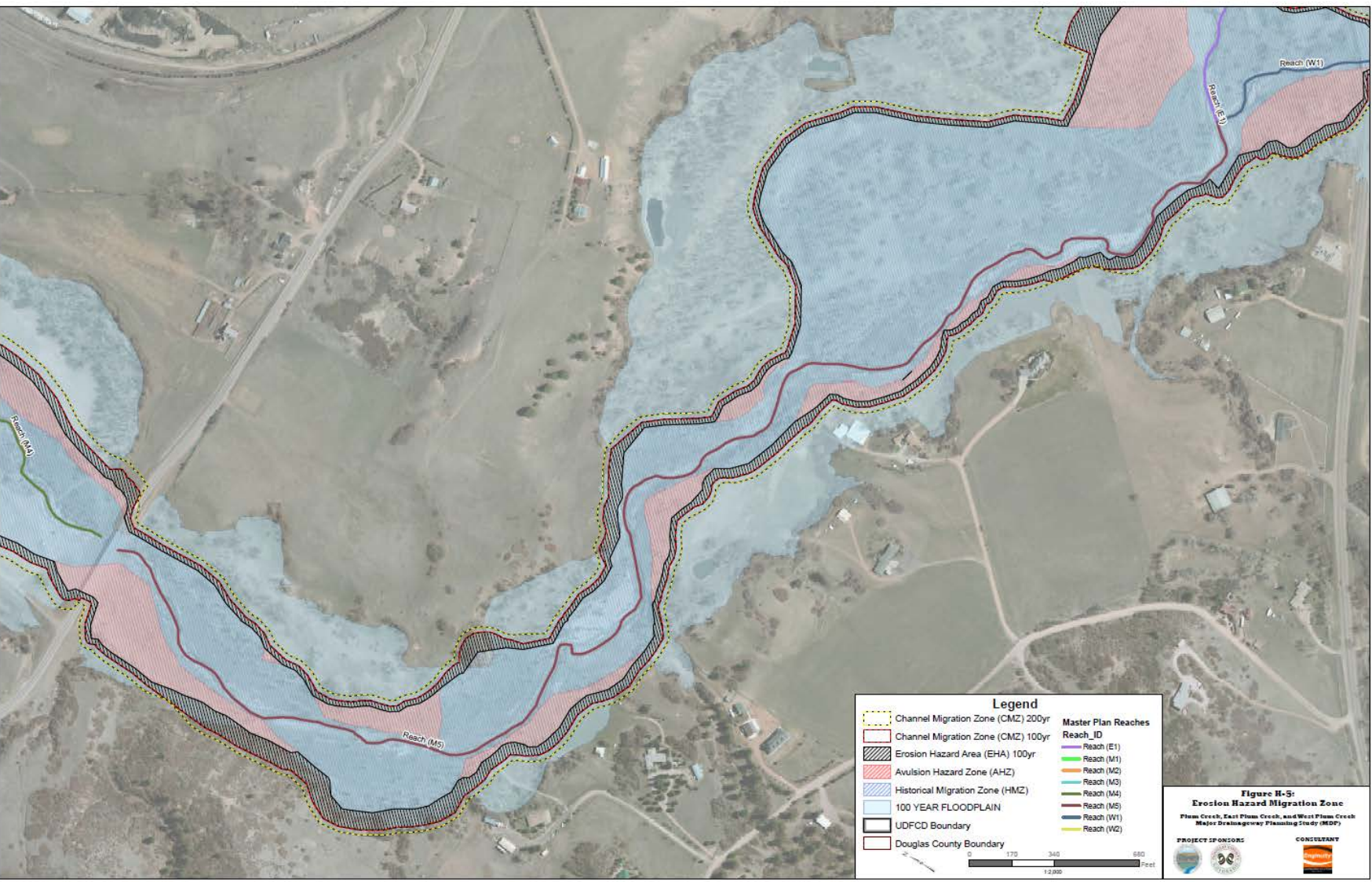


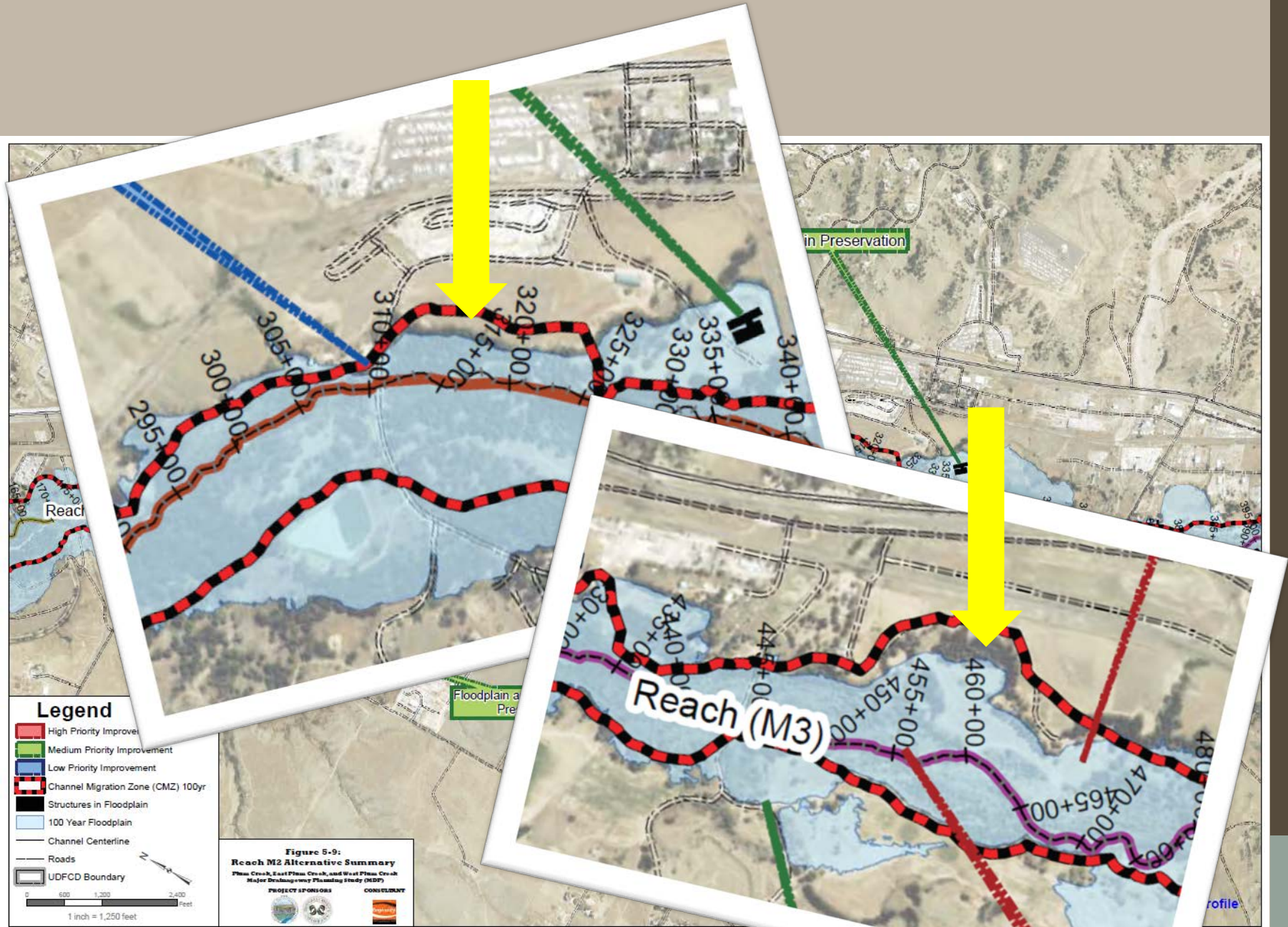
Channel Migration Zone

Erosion Hazard Area

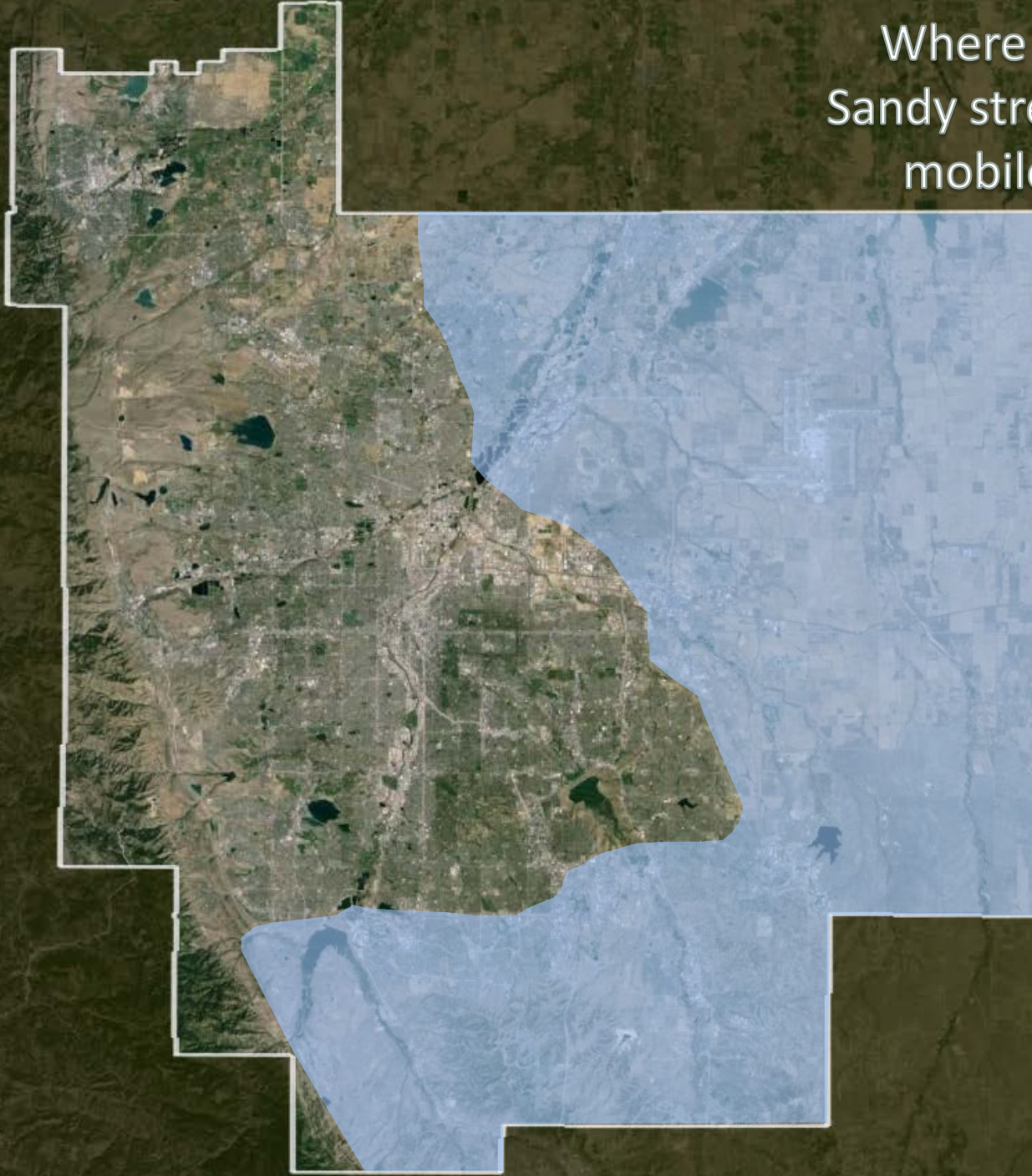
Avulsion Hazard Zone

Historical Migration Zone





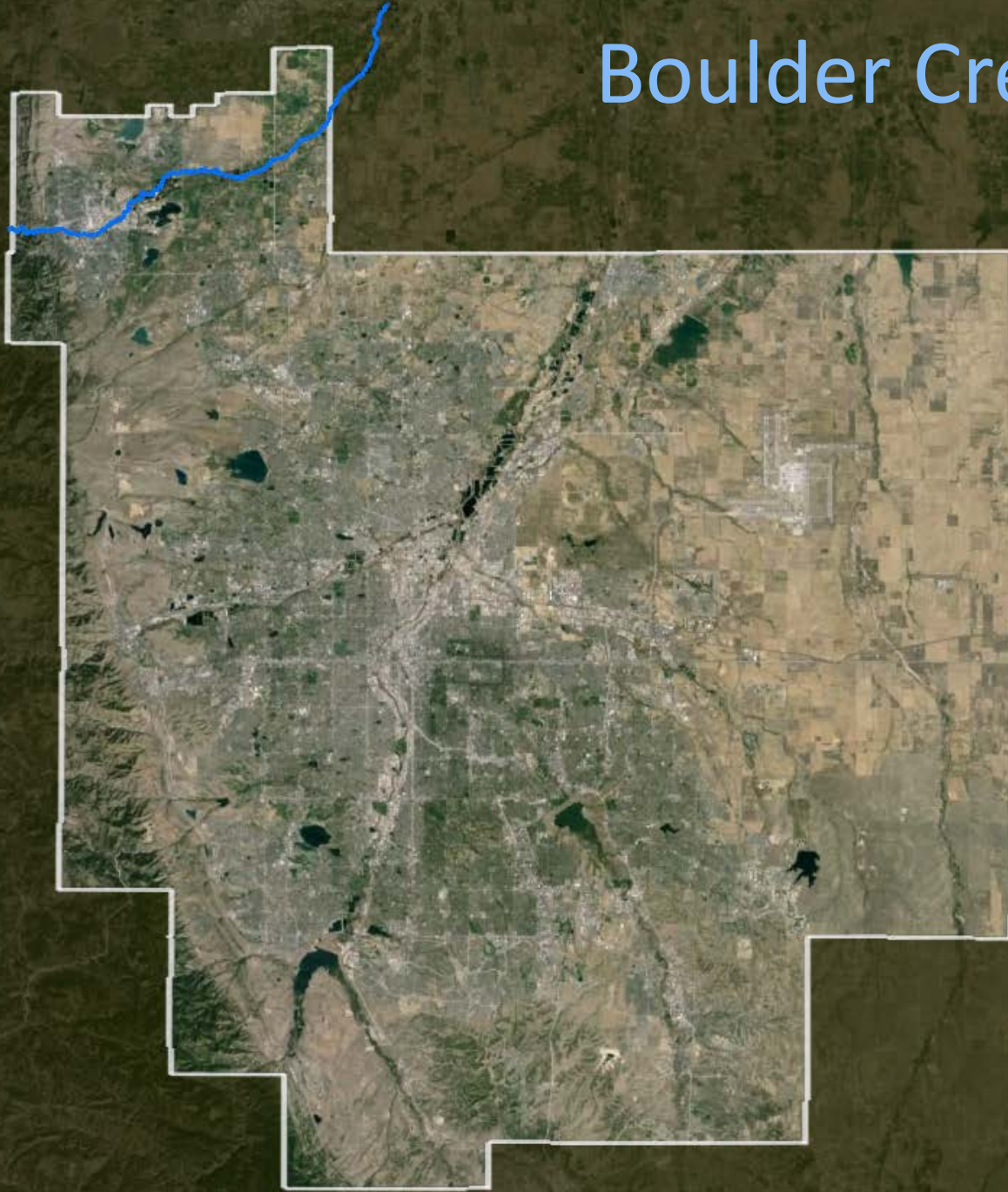
Where it applies:
Sandy streams with
mobile low flow
channels

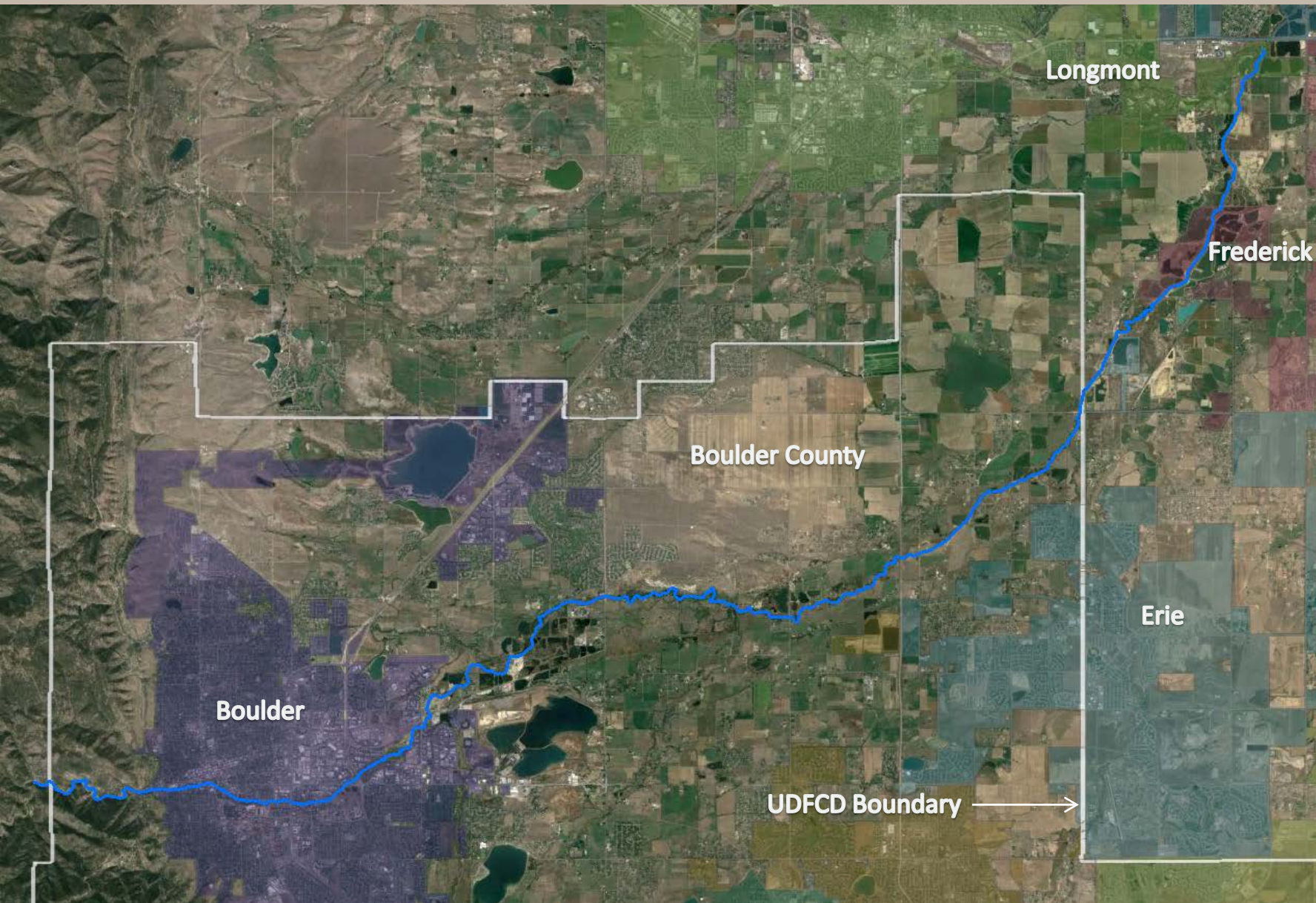


Boulder County: Back to the Future



Boulder Creek





Longmont

Frederick

Boulder County

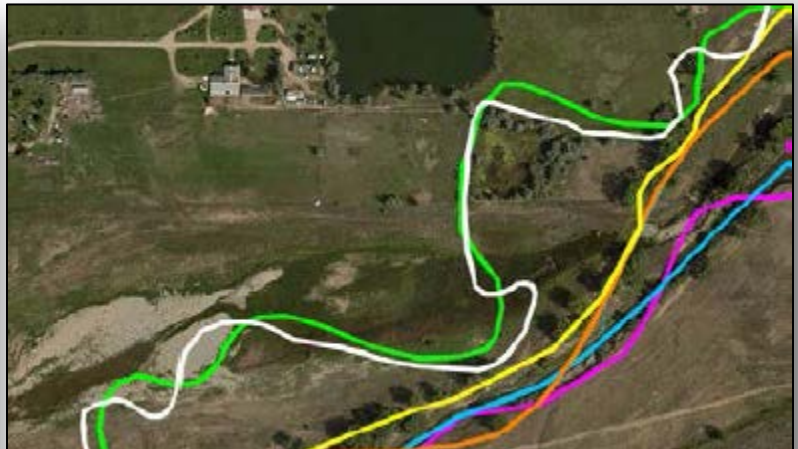
Boulder

Erie

UDFCD Boundary →







Year	Historic Length (ft)	Valley Length (ft)	Sinuosity
1937	25,250	17,060	1.480
1949	23,620	17,060	1.385
1955	21,630	17,060	1.268
1963	20,735	17,060	1.215
1969	20,360	17,060	1.193
2015	18,156	17,060	1.064

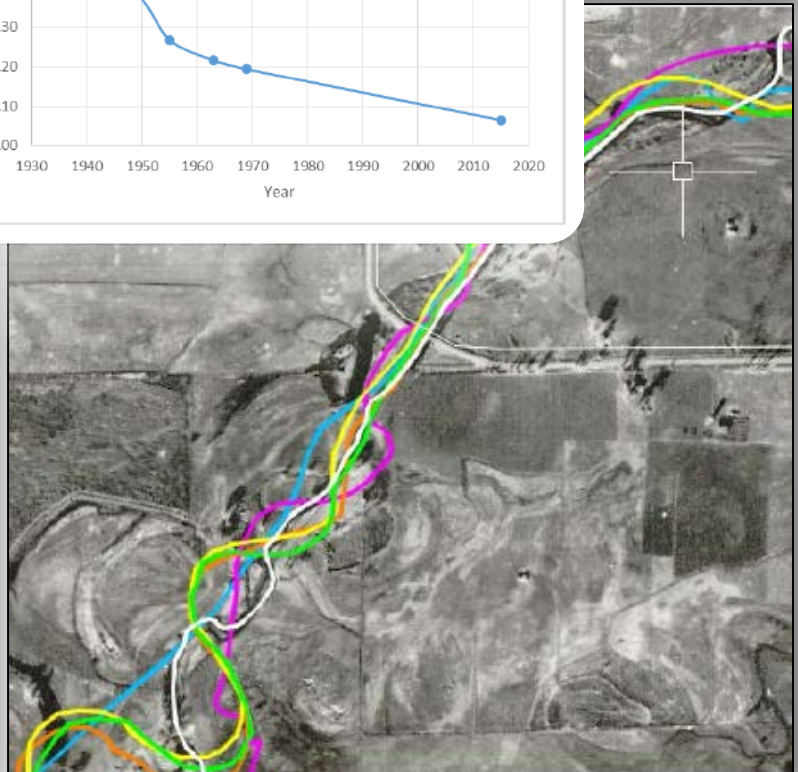
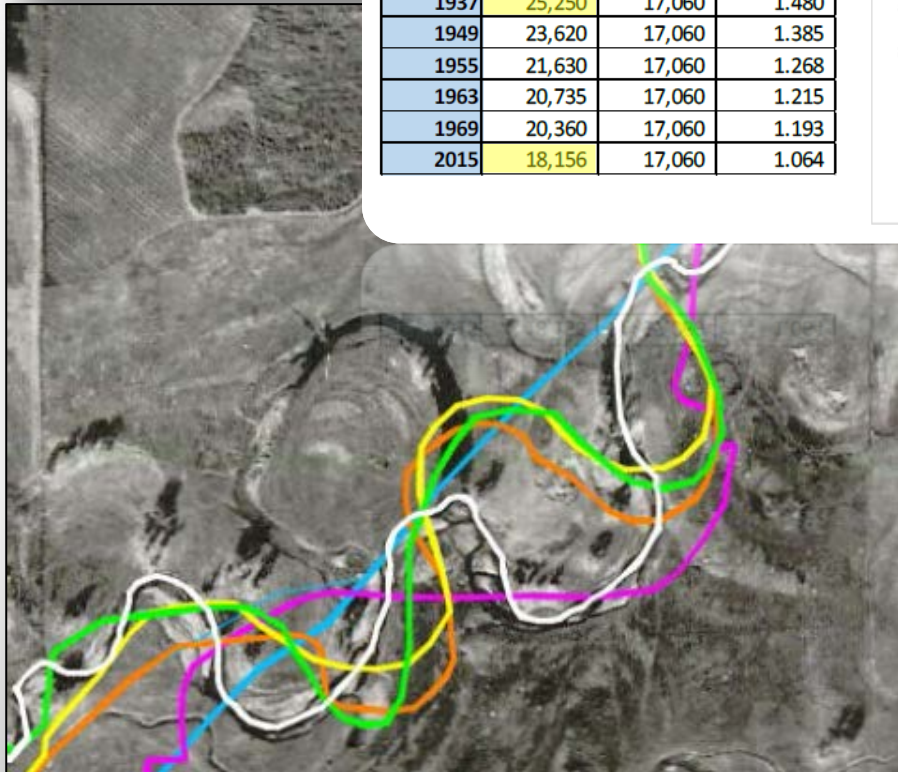
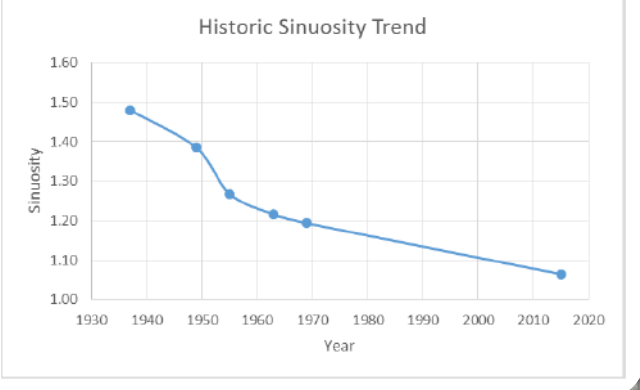
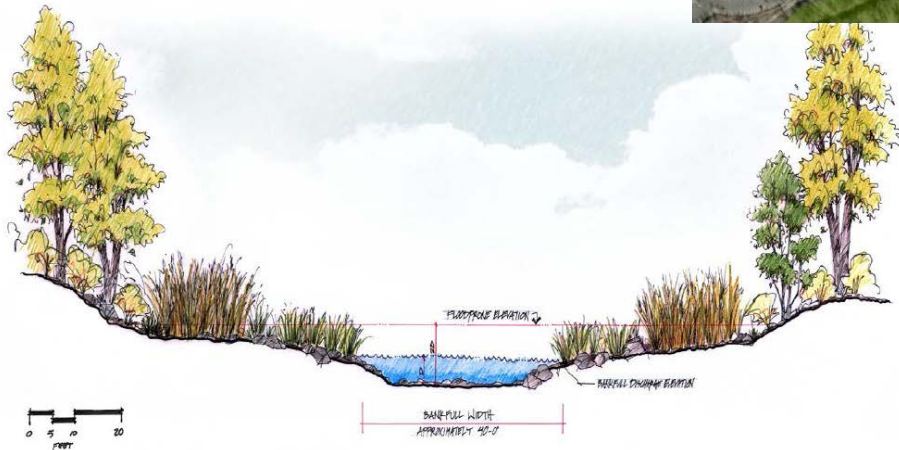
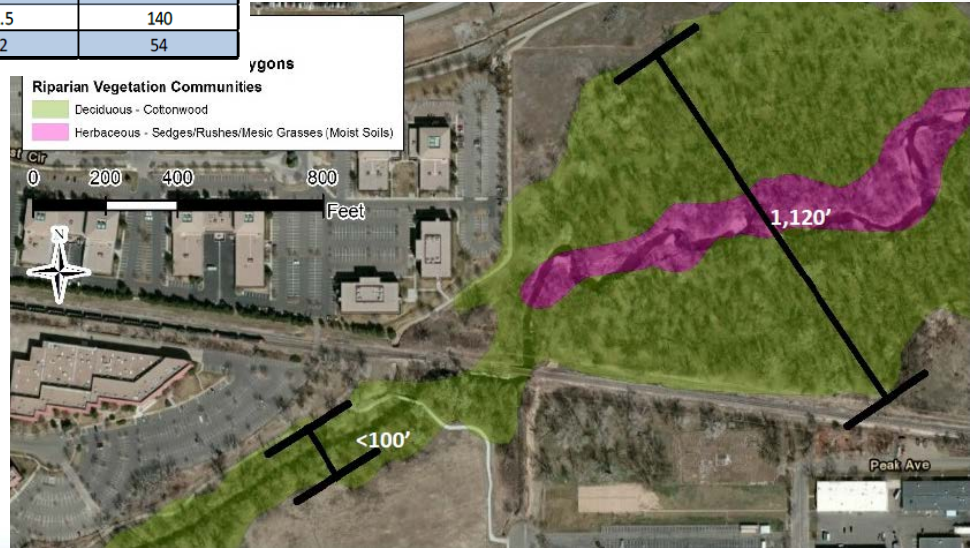


Table 11-2: Recommended Geometries for Primary Stream Types

Reach	Assumed Sinuosity	Slope (%)	Bankfull Width (ft)	Bankfull Depth (ft)	Width at 2x Bankfull Depth (ft)
1	1.6	0.20%	40	3	140
2	1.6	0.19%	40	3	140
3	1.6	0.29%	40	3	140
4	1.6	0.22%	40	3	140
5	1.6	0.24%	40	3	140
6	1.6	0.36%	40	3	140
7	1.6	0.30%	40	3	140
8	1.6	0.46%	40	3	140
9	1.4	0.81%	40	2.5	140
10	1.3	2.60%	30	2	54





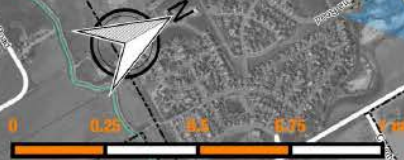
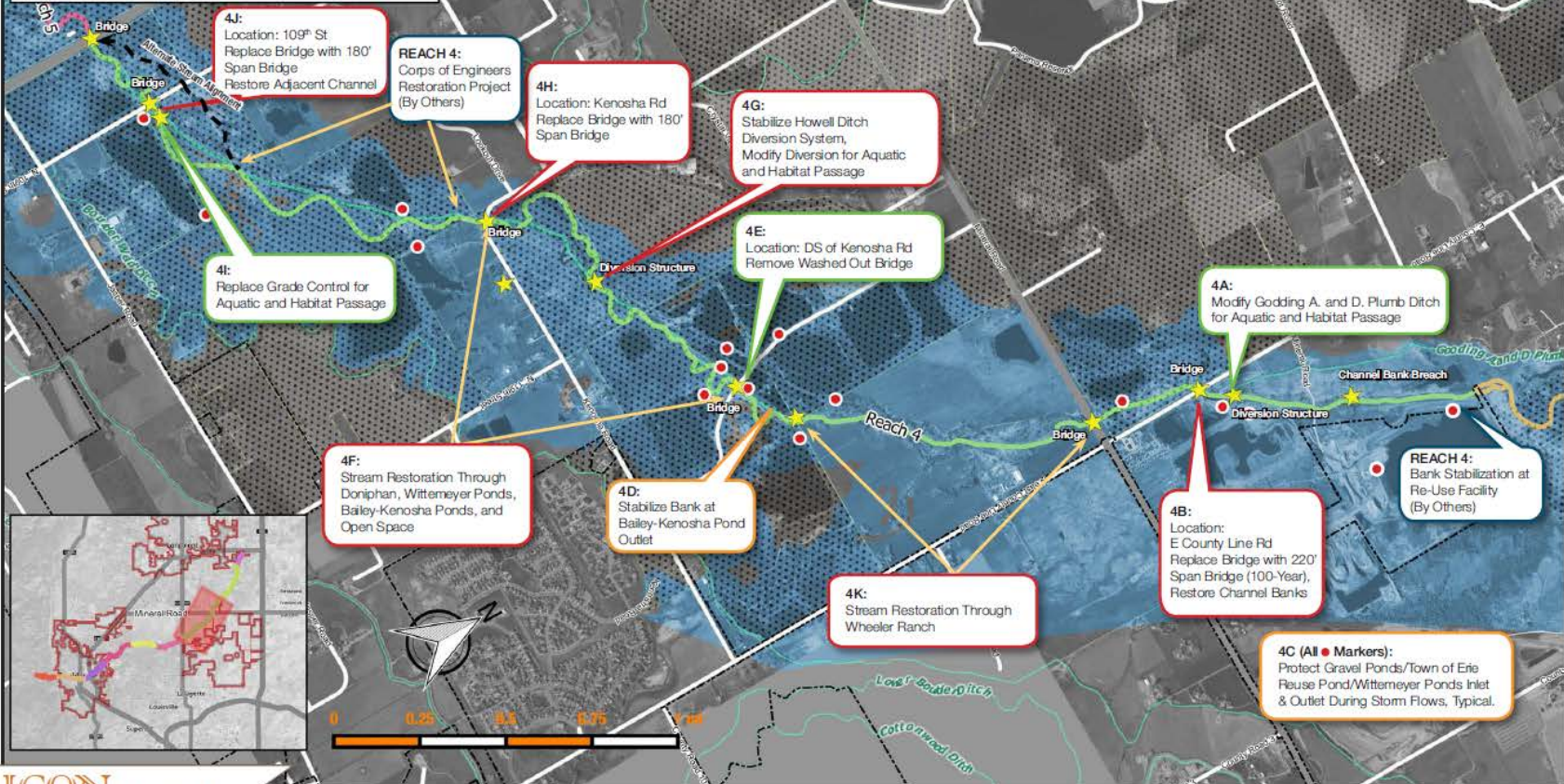
Legend

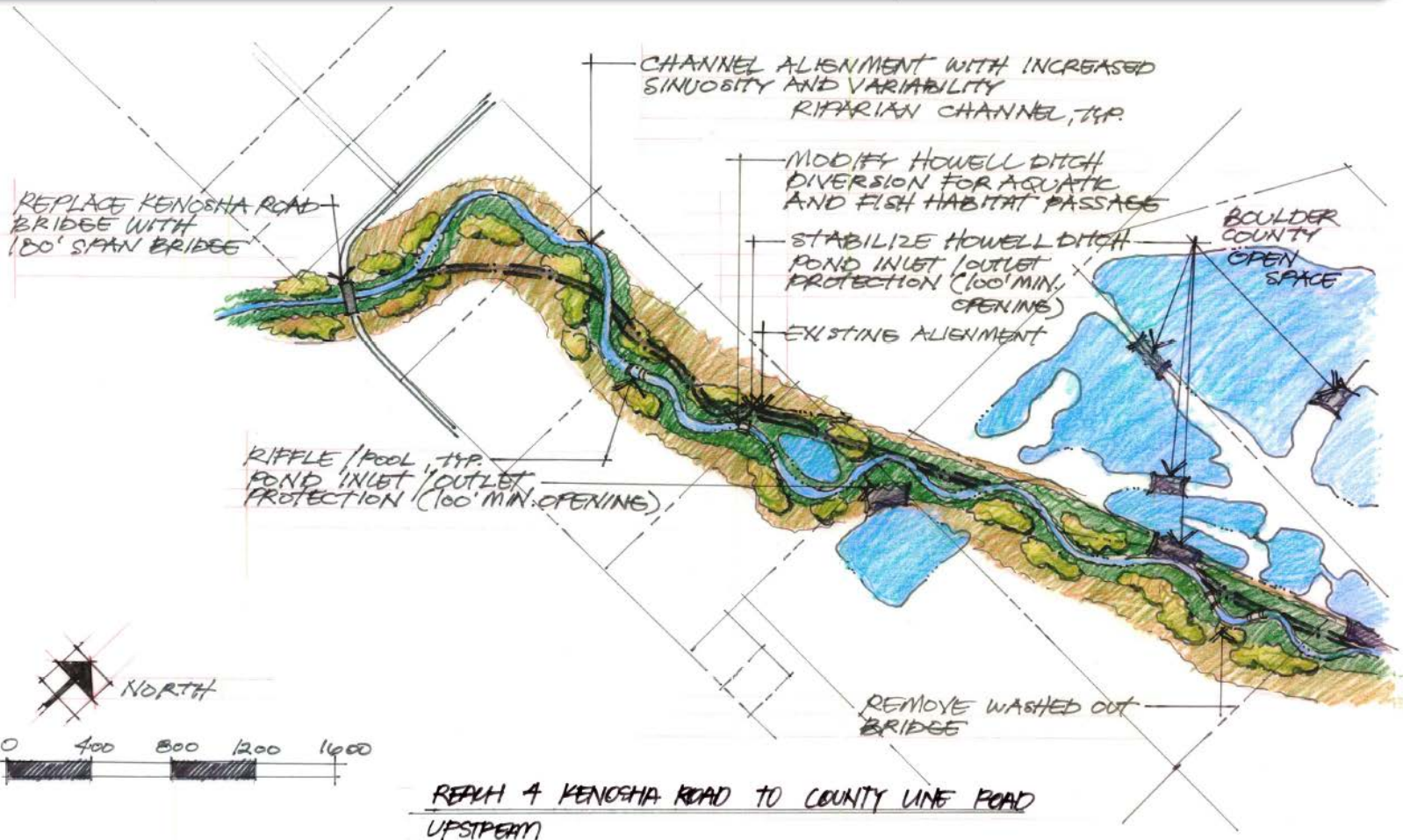
- ★ Hydraulic Feature
- Existing Stream Alignment
- 100-Year Floodplain
- Alternate Centerline
- Open Space
- Reach 3
- Reach 4

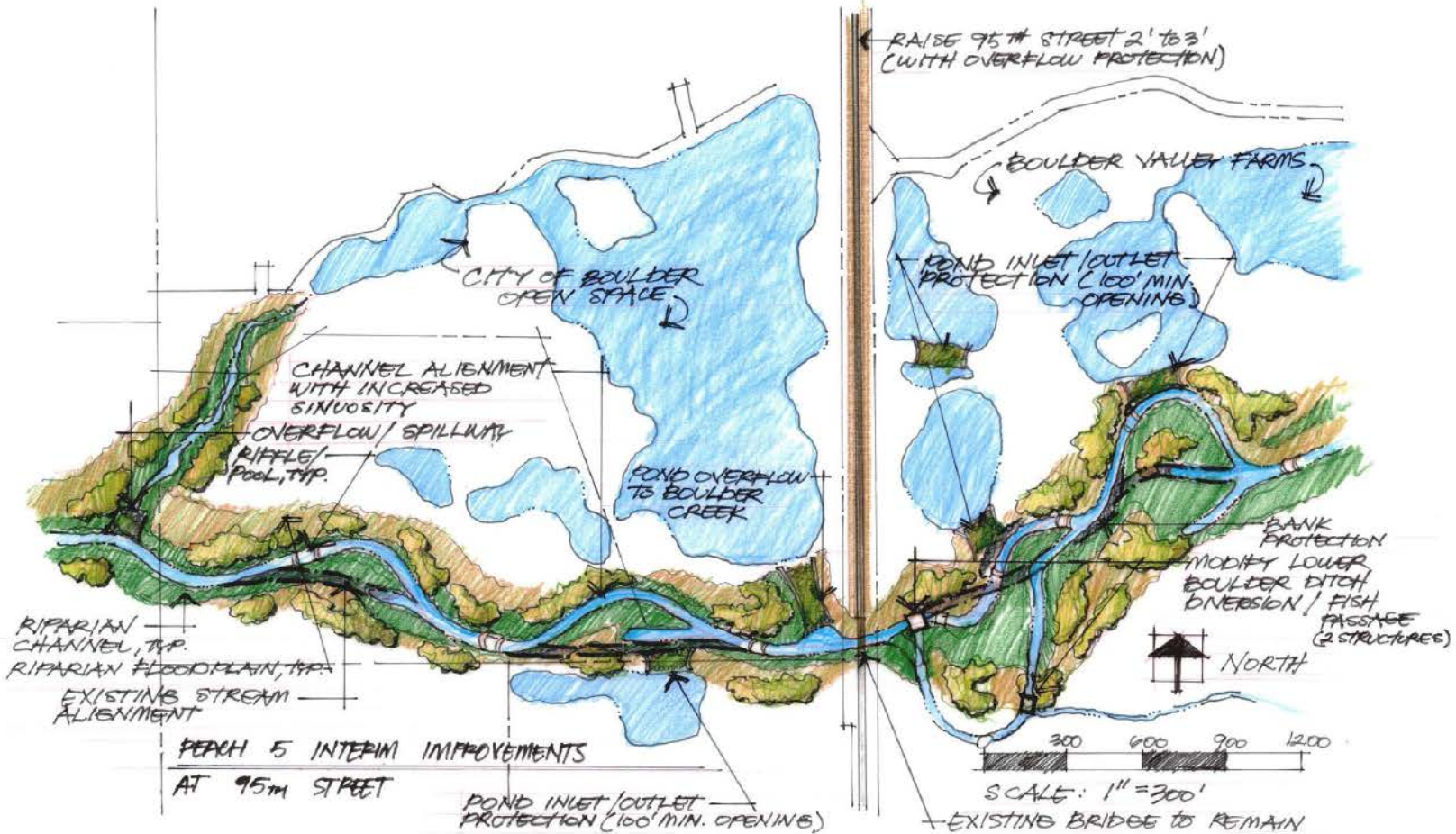
High Priority

Medium Priority

Low Priority



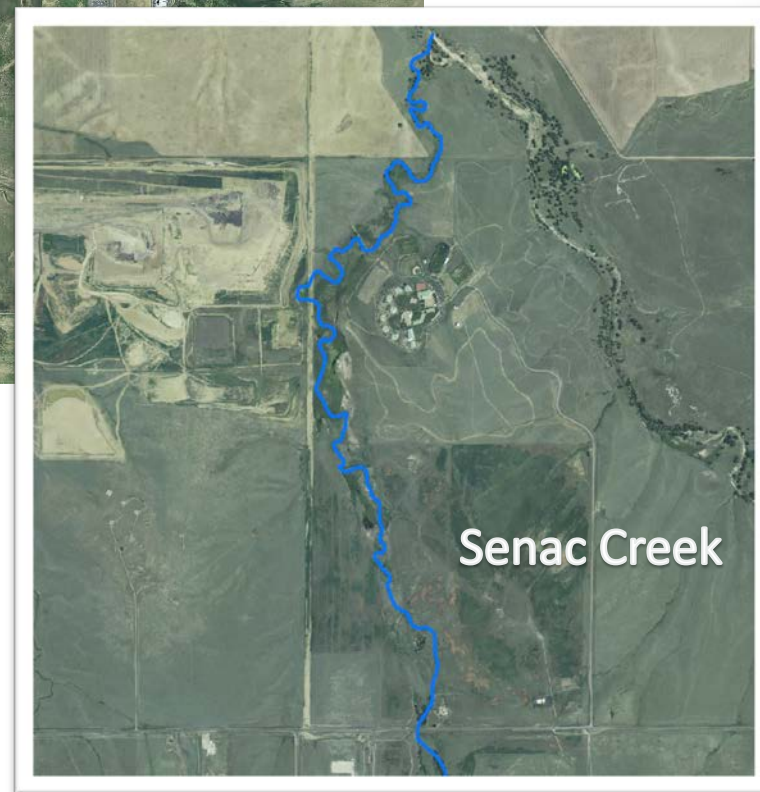






First Creek

**Where it applies:
Straight segments in open
corridors**

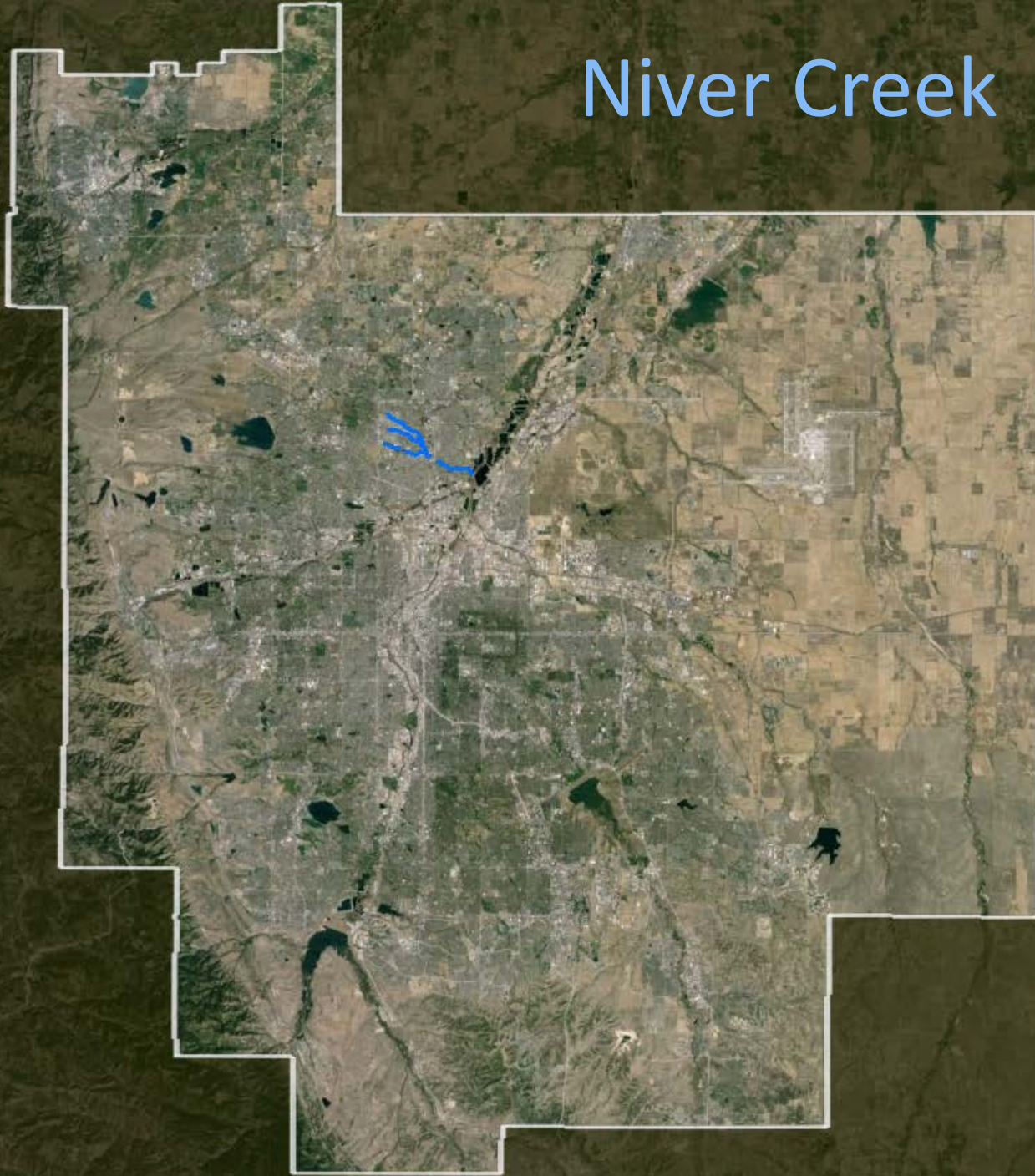


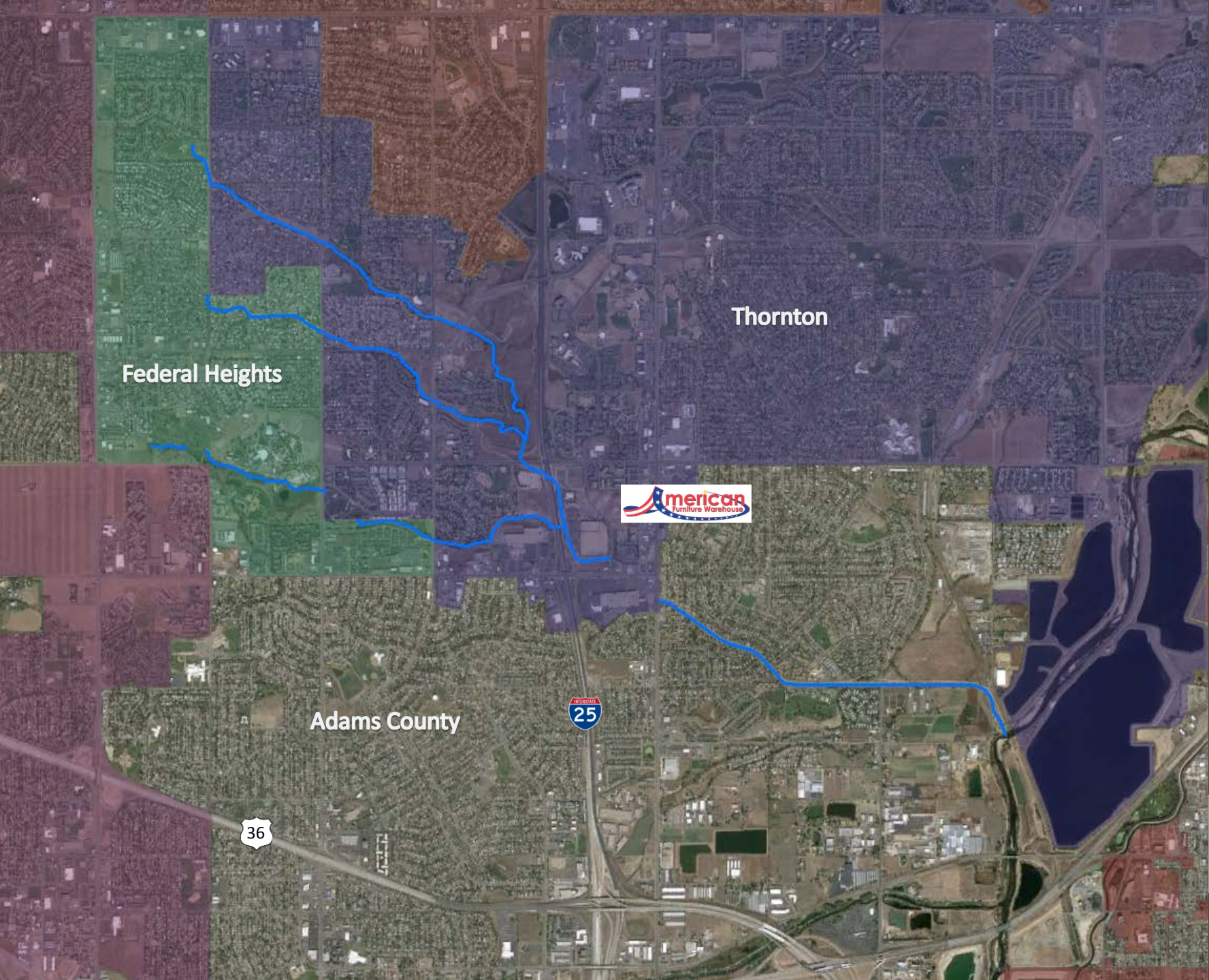
Senac Creek

Federal Heights/Thornton: Predicting the Future



Niver Creek





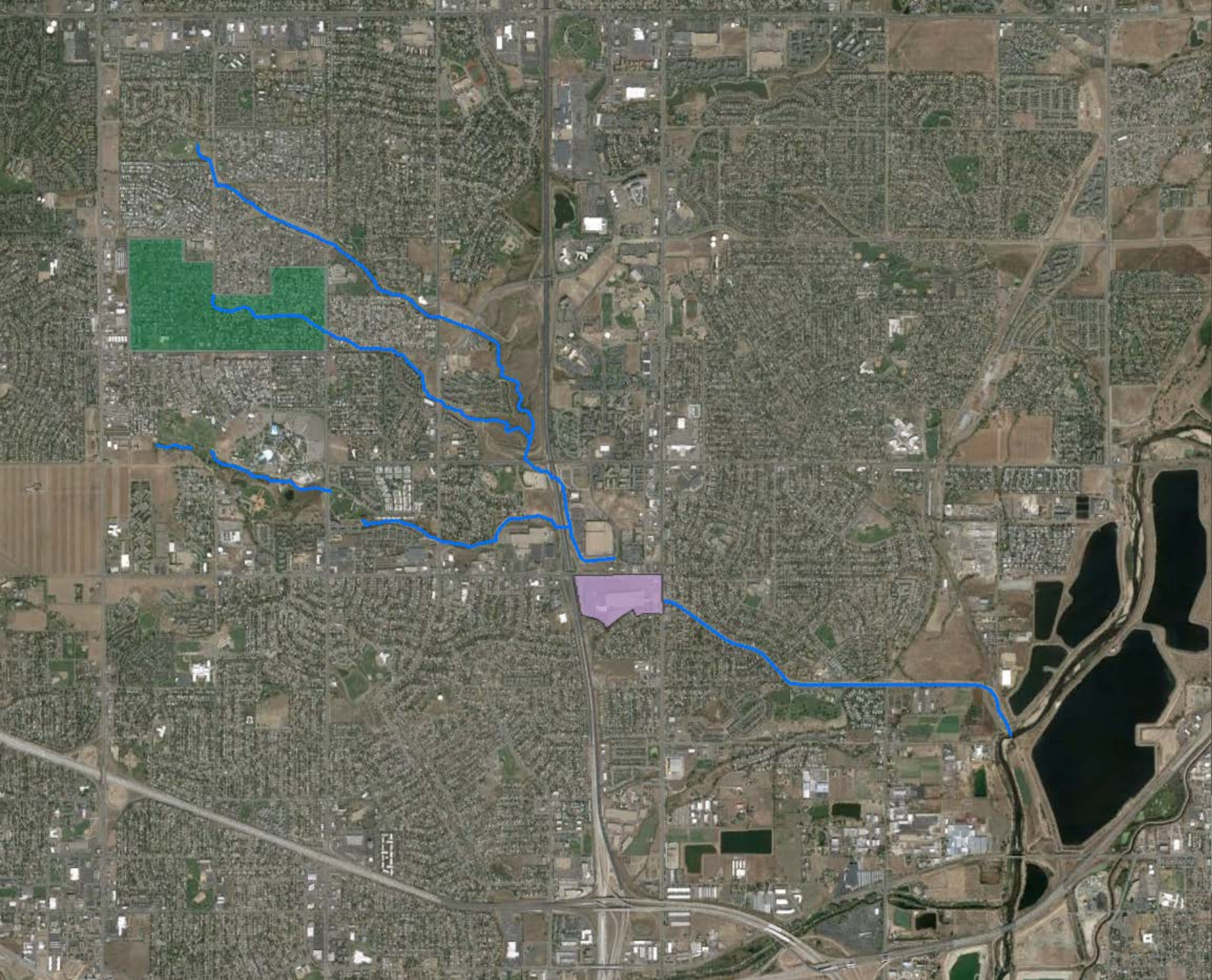
Federal Heights

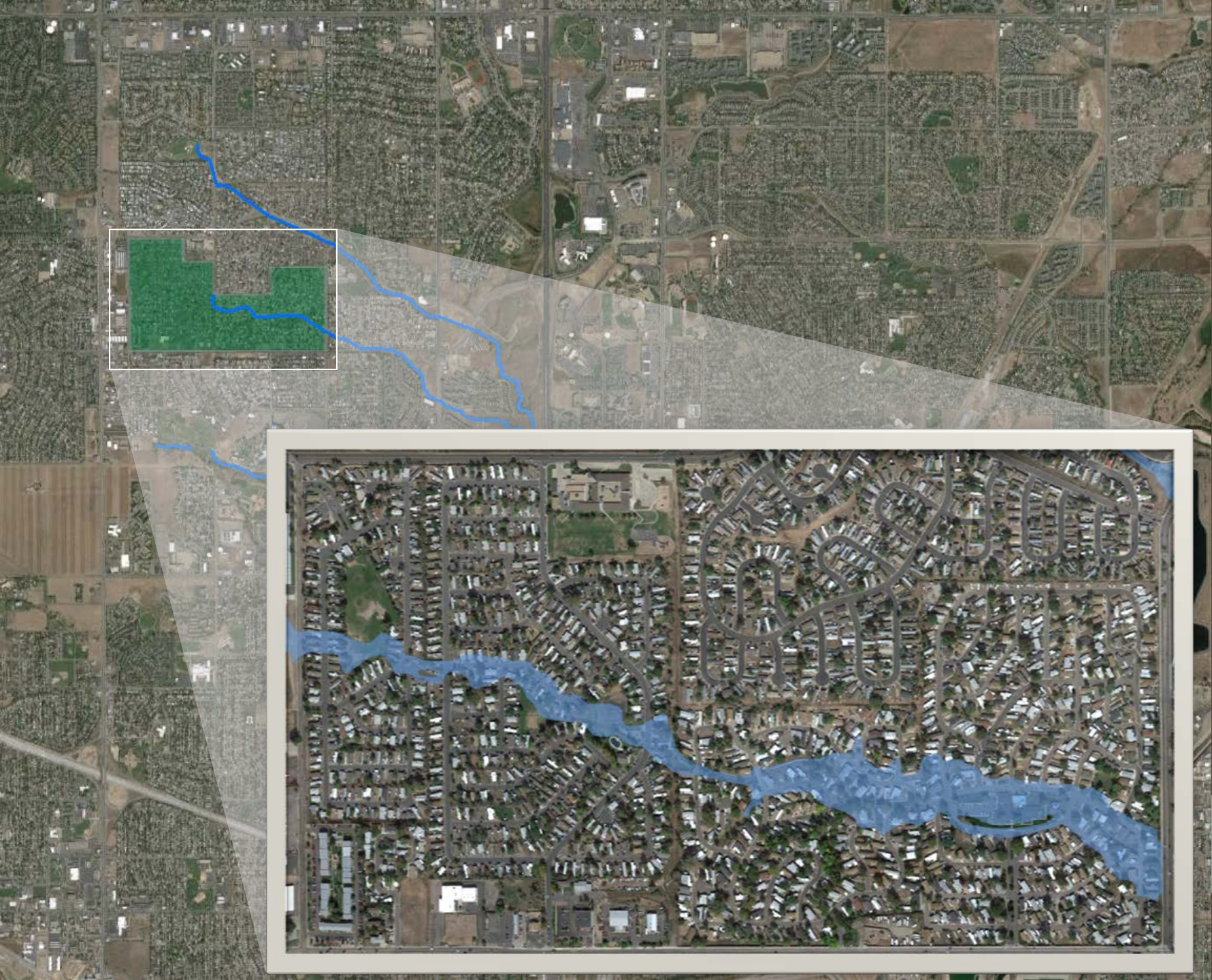
Thornton



Adams County

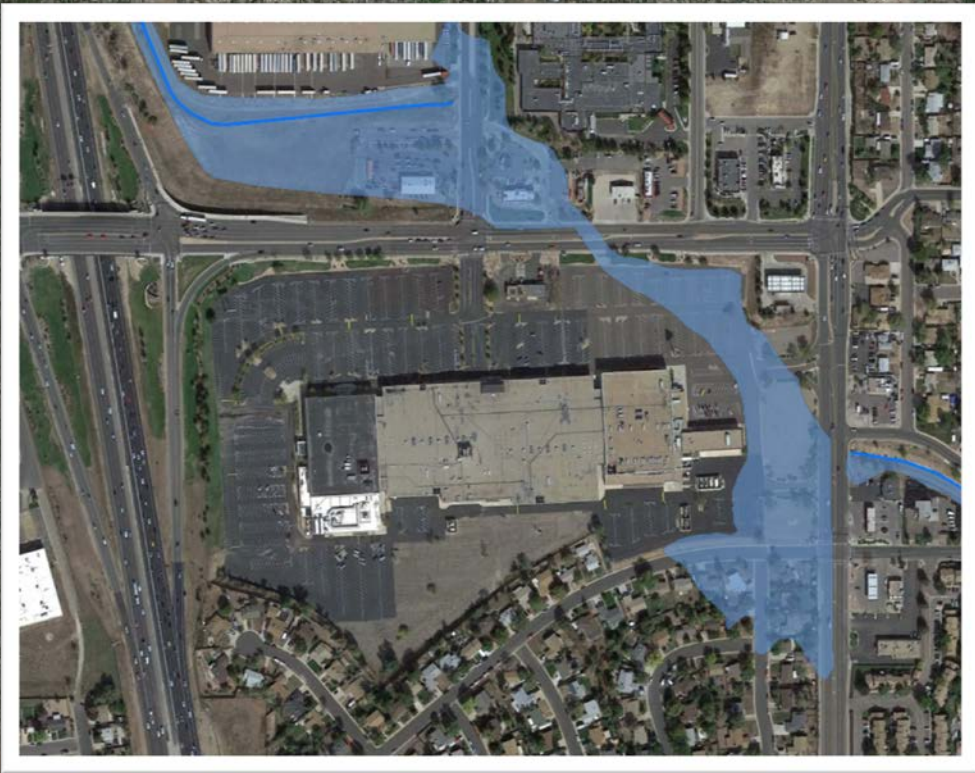








© 2012 Dowry



Interactive Figures (Select from list below)
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[Alternative 3](#)
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Click to turn aerial **ON** or **OFF**

Links to Sub-alternative Figures

[Trib M Sub-alternative A](#) [NVTC Sub-alternative A](#)
[Trib M Sub-alternative B](#) [NVTC Sub-alternative B](#)
[Trib M Sub-alternative C](#) [NVTC Sub-alternative C](#)

Legend

- Stream Centerline
- 2015 FHAD Floodplain
- 2015 FHAD Shallow Flooding
- Watershed Boundary
- Municipal Boundary
- Existing Detention Pond
- Channel Improvements
- 42" RCP
- 48" RCP
- 54" RCP
- 60" RCP
- AOI: Potential for Erosion

Layer Control Instructions

The Map Controls above set the visibility of layers automatically for the selected map. Additional layer control is available through the "Layers" Navigation Panel which can be accessed from the View Menu under Navigation Panels. In the Panel, the visibility of layers and layer groups can be changed by clicking the square left of the layer/group. An eye in the square indicates that the layer is on. An empty square indicates that the layer is off. Layer groups can be expanded and reduced by clicking the +/- symbol left of the layer/group.

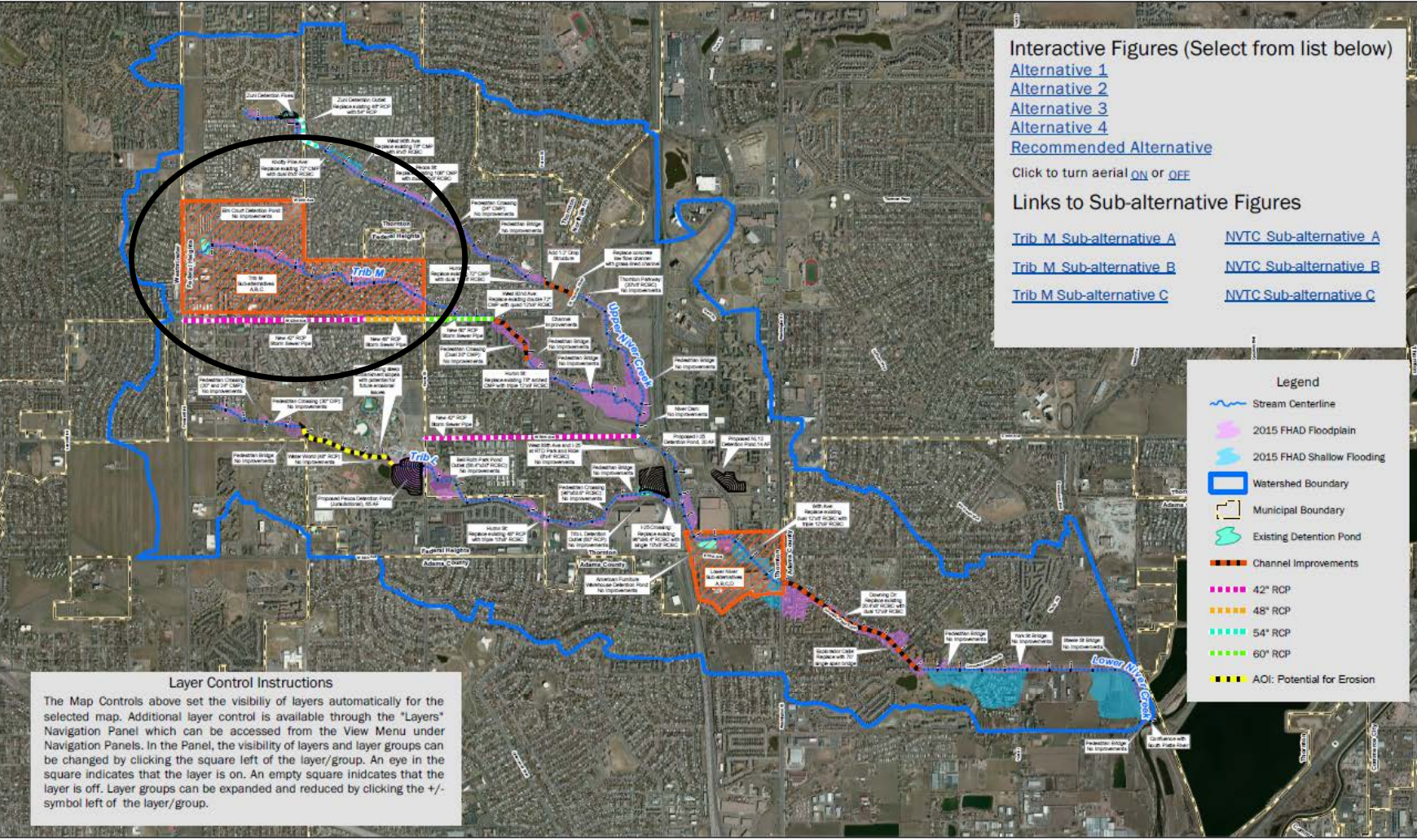
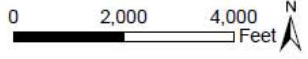


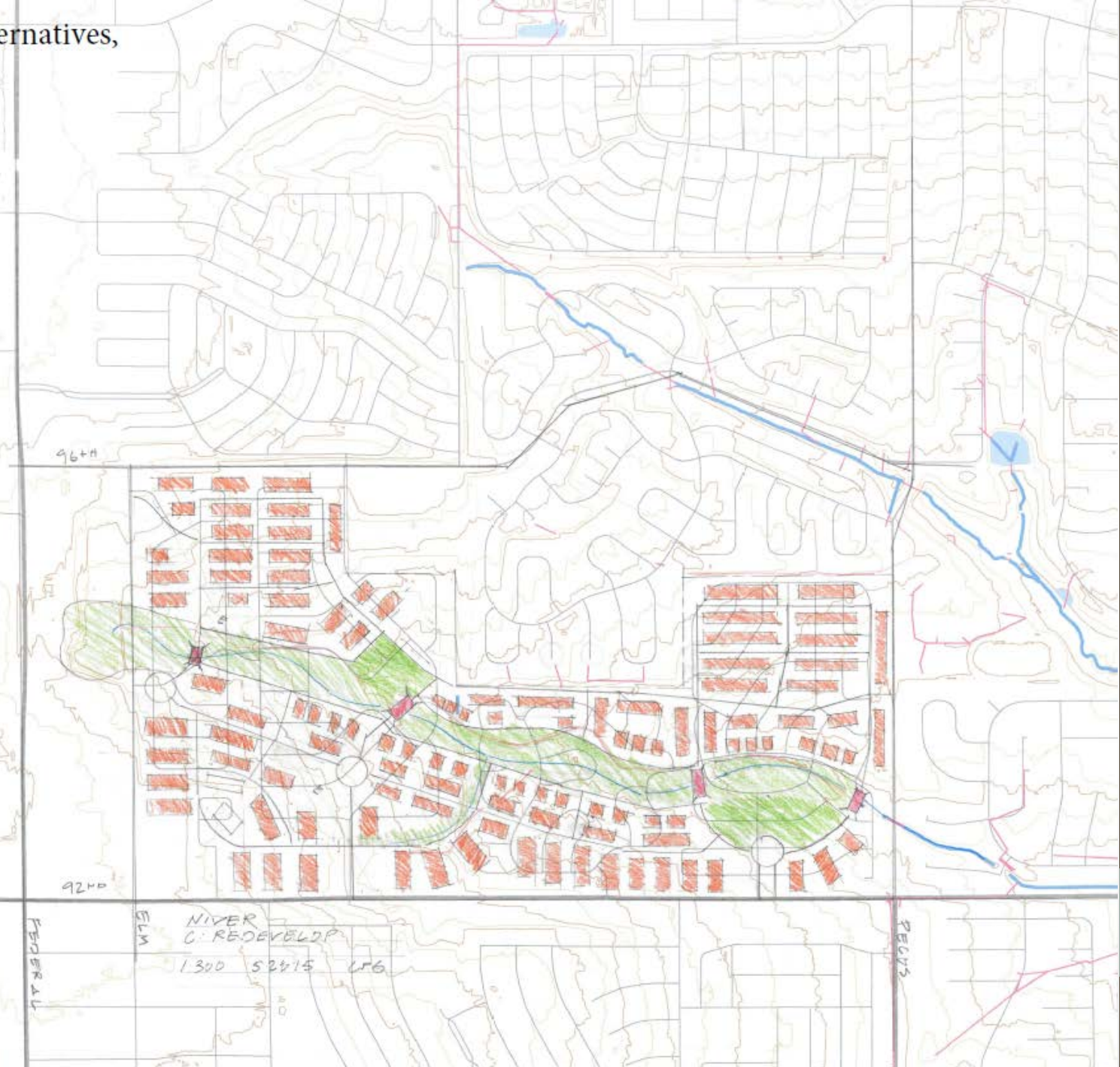
Figure 5-1. Alternatives Map

Urban Drainage and Flood Control District
 Niver Creek MDP and FHAD
 October 2015

Notes:
 1. Projection: NAD 1983 CO State Plane (US Feet)



Trib M Sub-alternatives,
Option C



Interactive Figures (Select from list below)
[Alternative 1](#)
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[Trib M Sub-alternative C](#) [NVTC Sub-alternative C](#)

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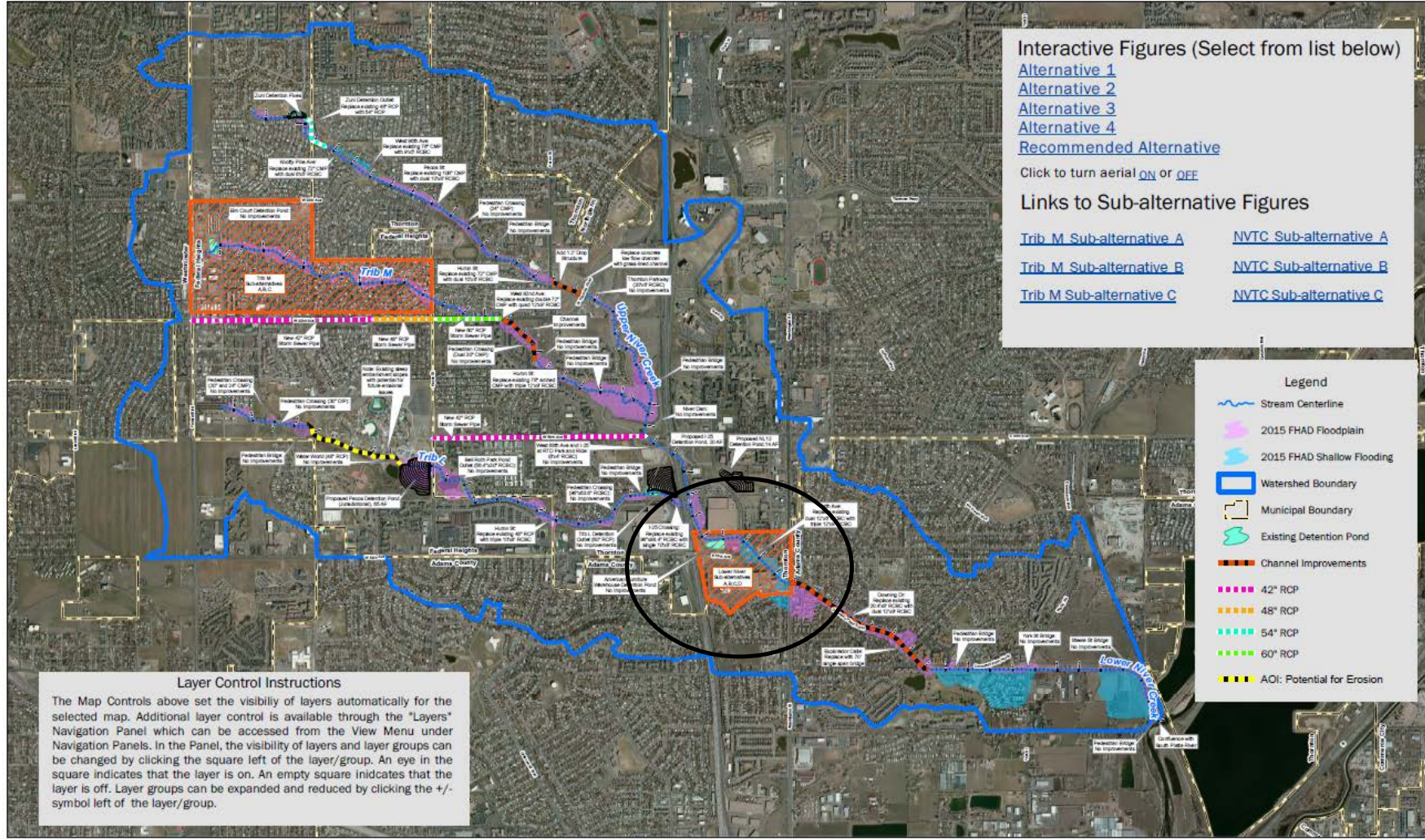
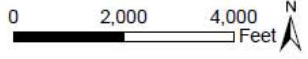


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Urban Drainage and Flood Control District
 Niver Creek MDP and FHAD
 October 2015

Notes:
 1. Projection: NAD 1983 CO State Plane (US Feet)



North Valley
Tech Center
Sub-alternatives,
Option A

NIVER 84TH WASHINGTON
A: OPEN CHANNEL
1:00 5:23:15 CPG

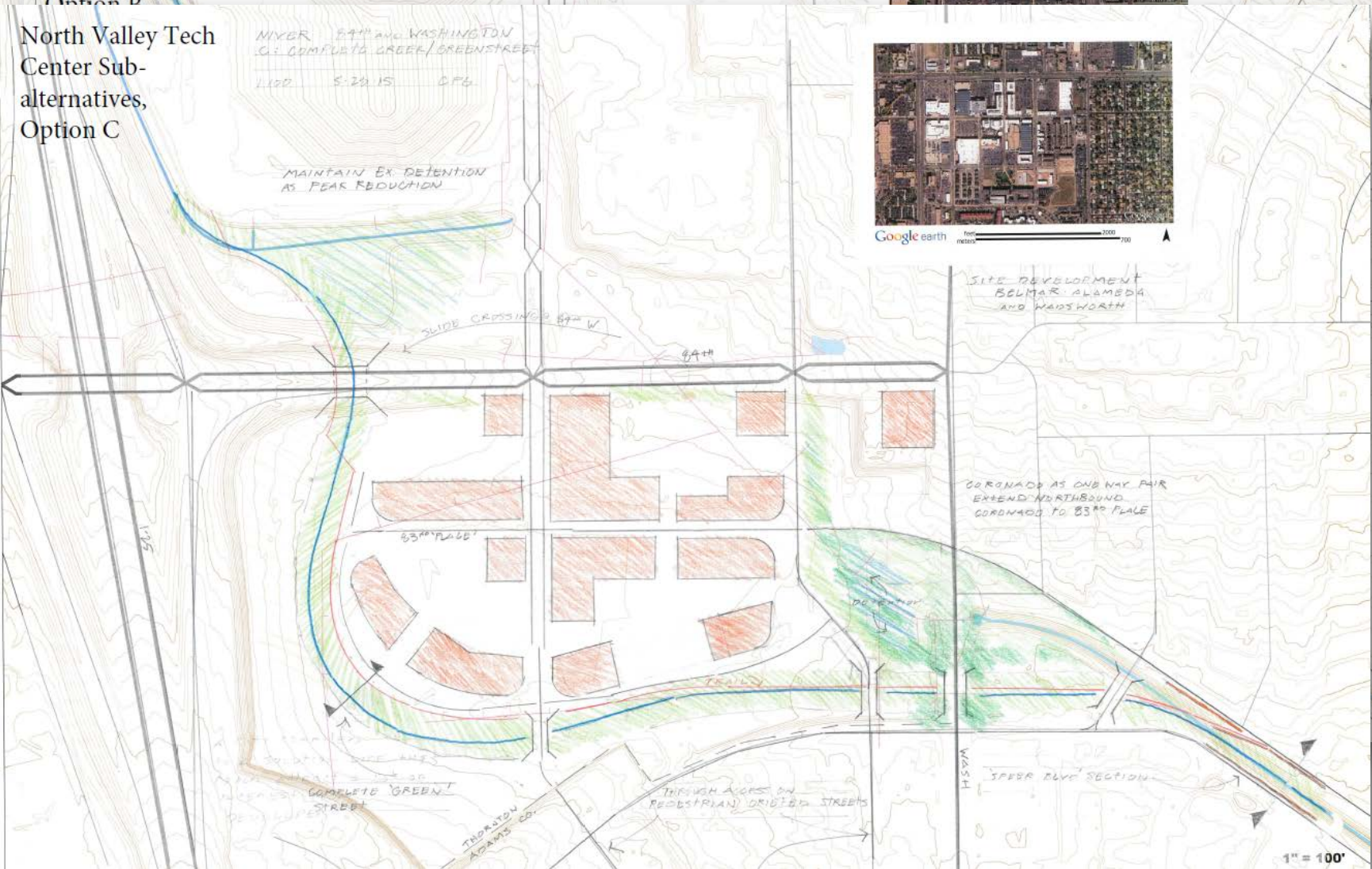


North Valley
Tech Center Sub-
alternatives,
Option B



North Valley Tech
Center Sub-
alternatives,
Option C

NIVER 84TH AND WASHINGTON
C: COMPLETE GREEN/GREEN STREET
1:00 5:23:15 CPG



Where it applies:

Aging developments;

Stream in private property;

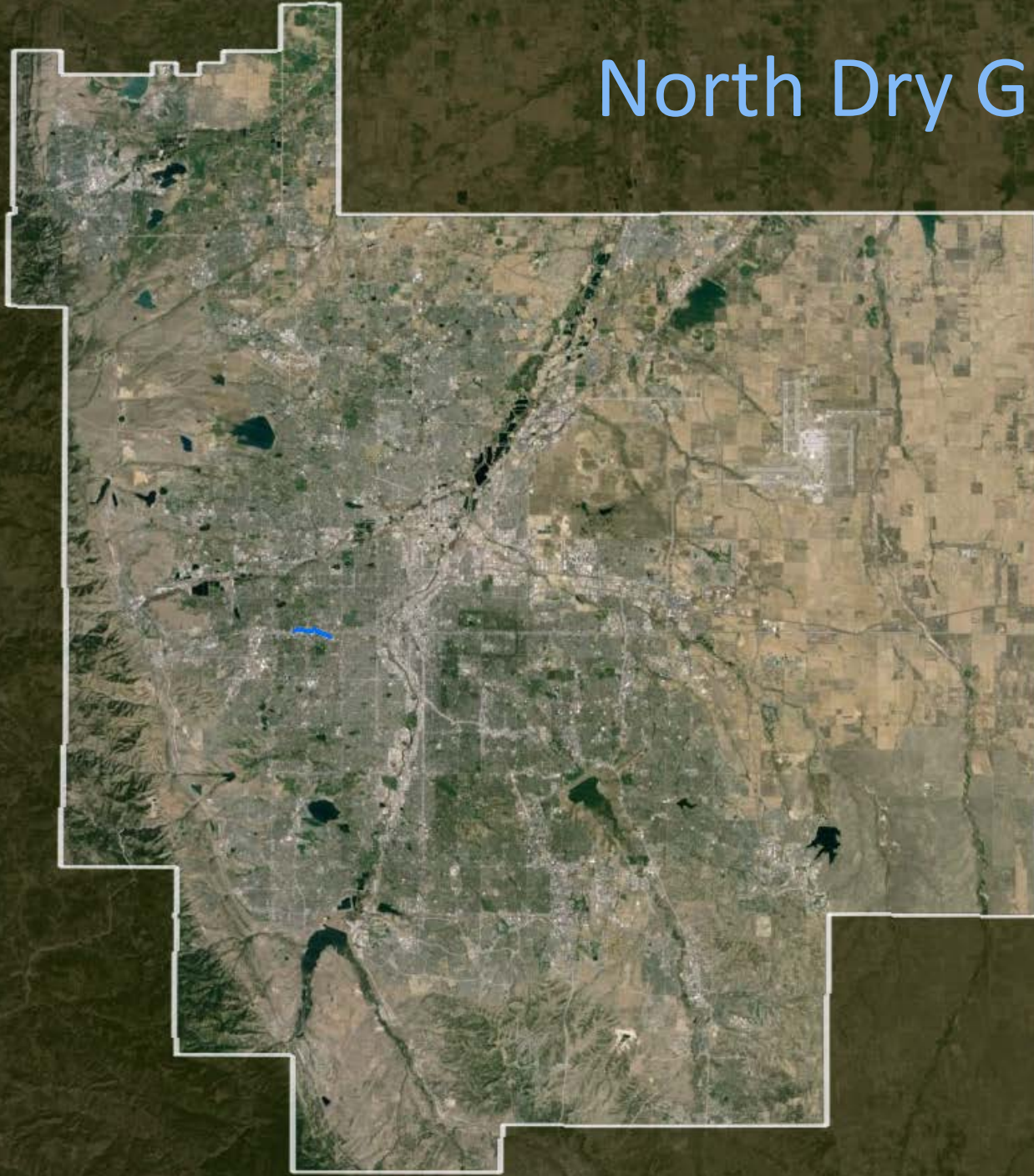
Large parcels with single or few owners



Lakewood: All In



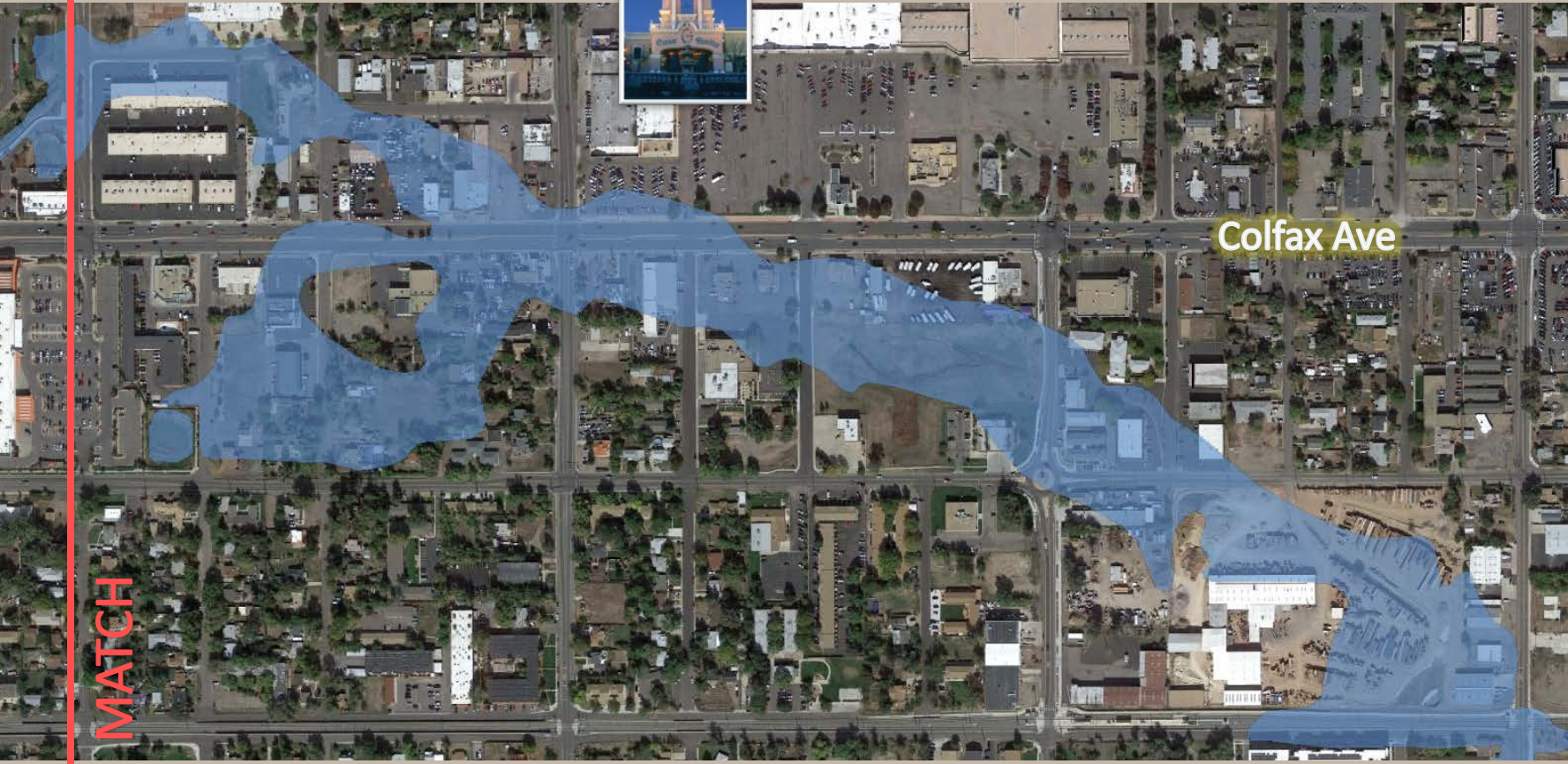
North Dry Gulch





Wadsworth Blvd

Colfax Ave



MATCH

Colfax Ave



Colfax Ave

Wadsworth Blvd

MATCH



Colfax Ave

Benefits of open channels:

Public awareness

Increased safety

Groundwater recharge

Overbank storage

Freeboard

Water quality

Trail connectivity

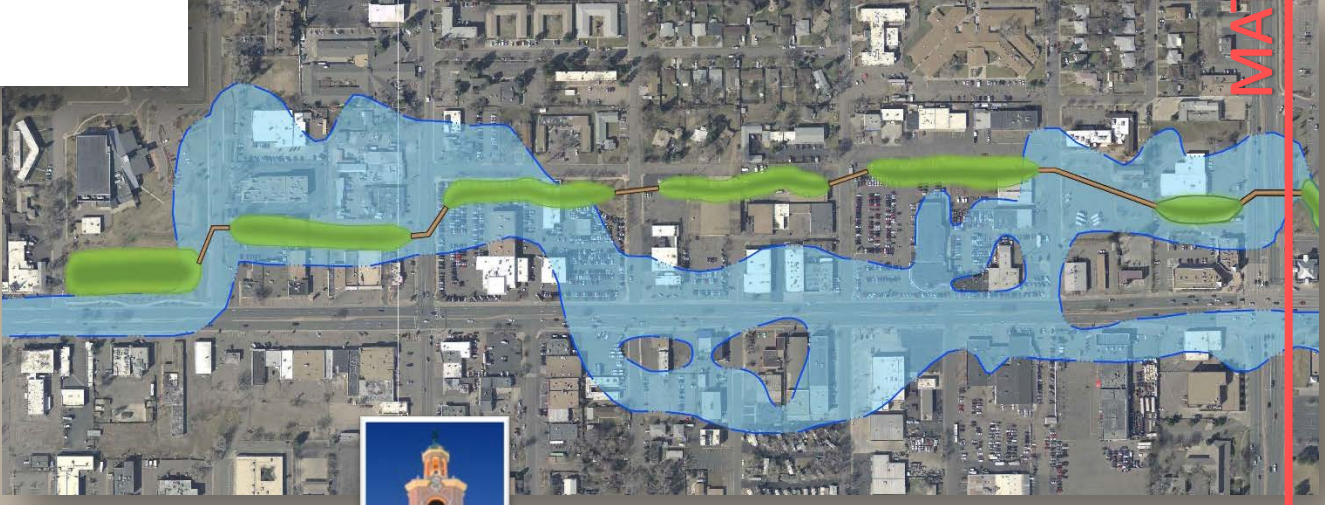
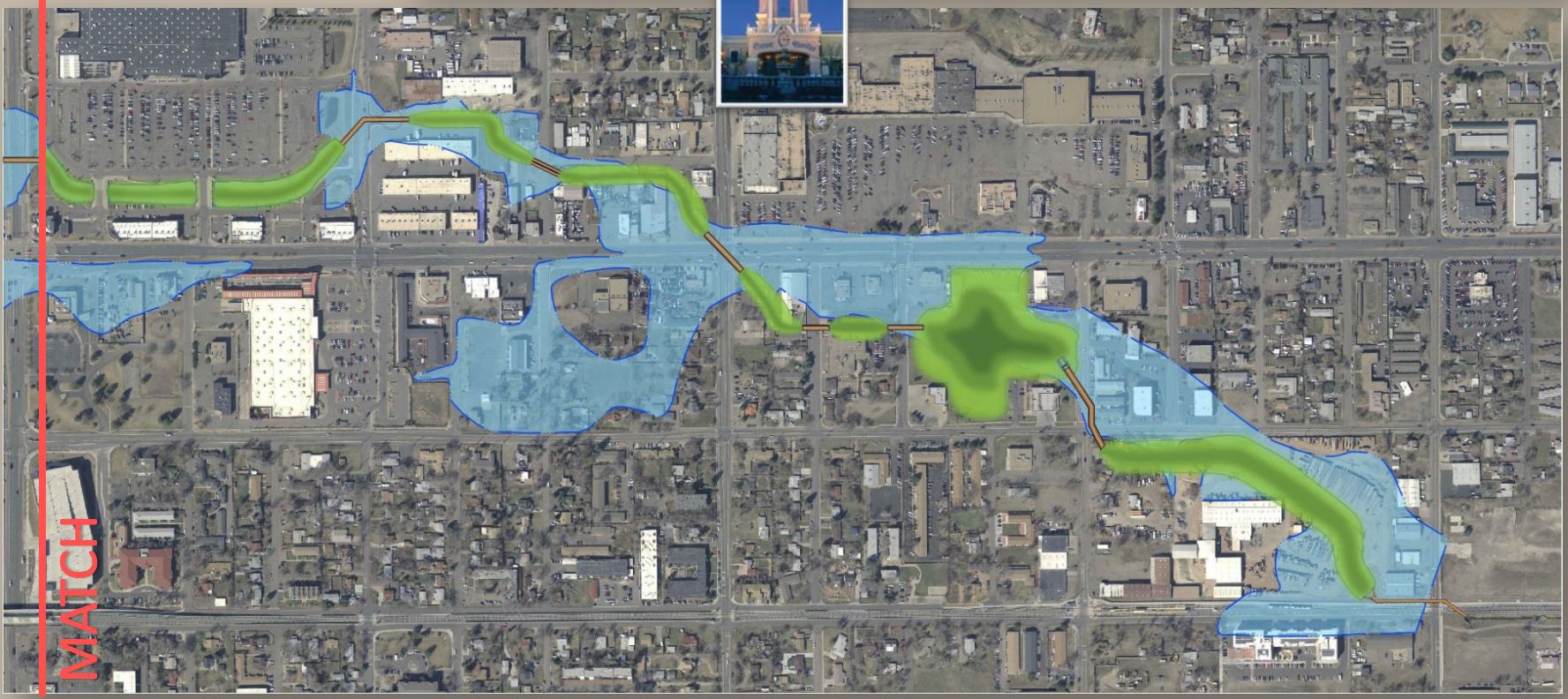
Reduced blockage

Riparian habitat

Educati on

LEGEND

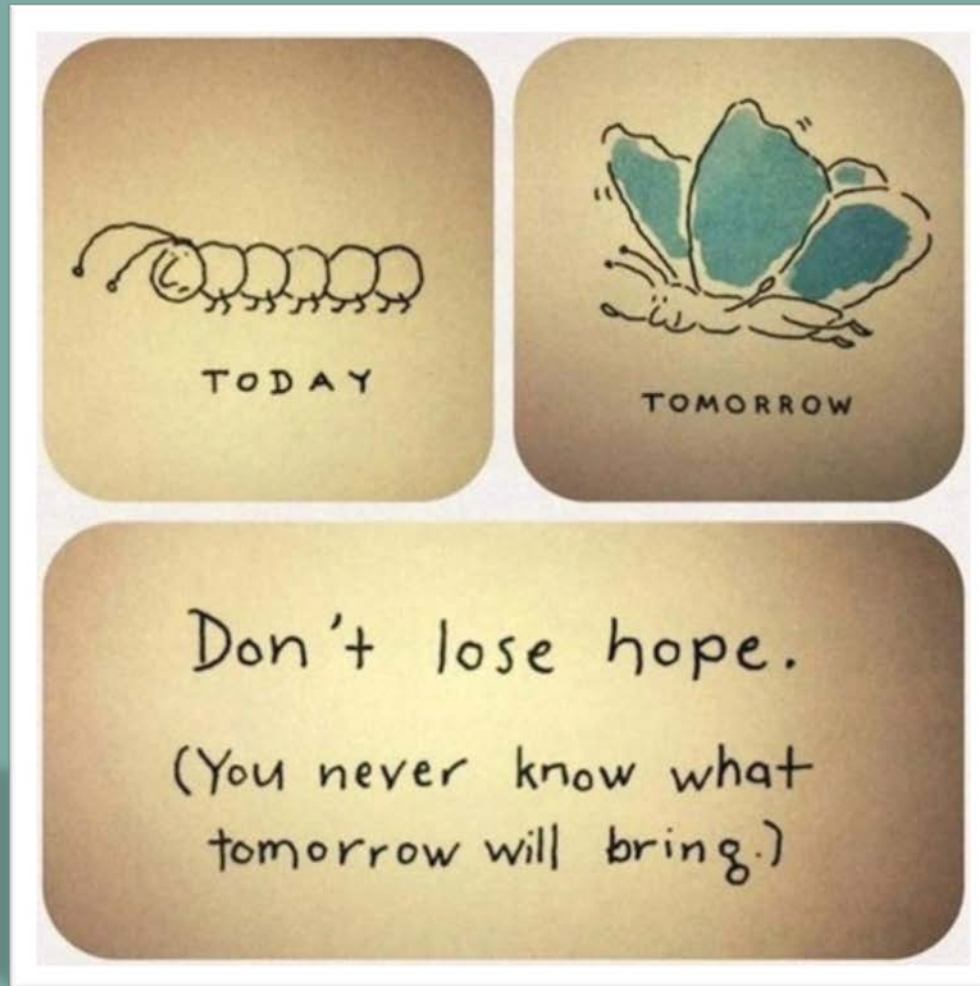
- Multi-Use Greenway Corridor (Proposed Floodplain)
- Culvert
- Existing Floodplain



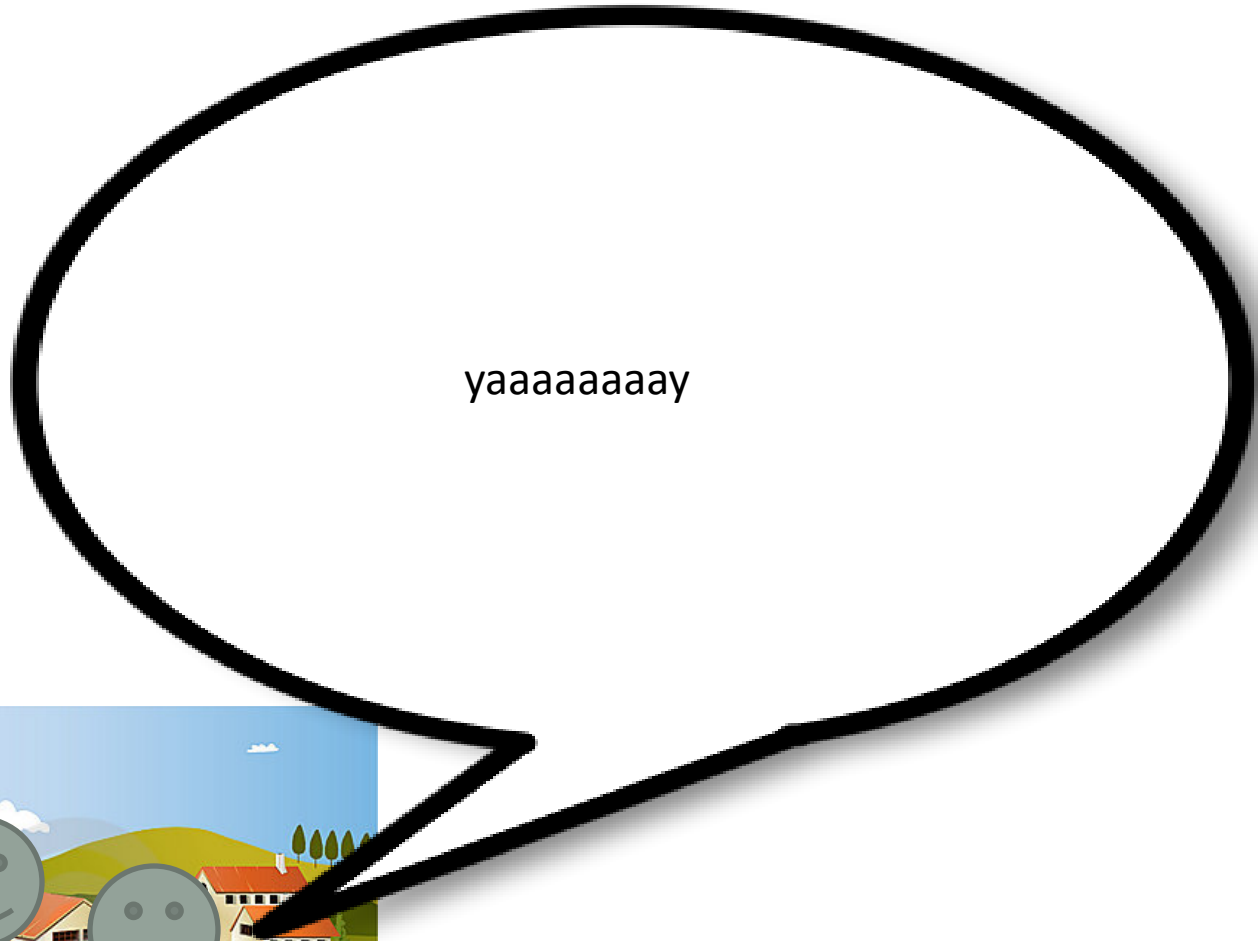


Where it applies:

Anywhere an undersized pipe/culvert has been installed to convey major drainageway flows



Thank you.
Questions?



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