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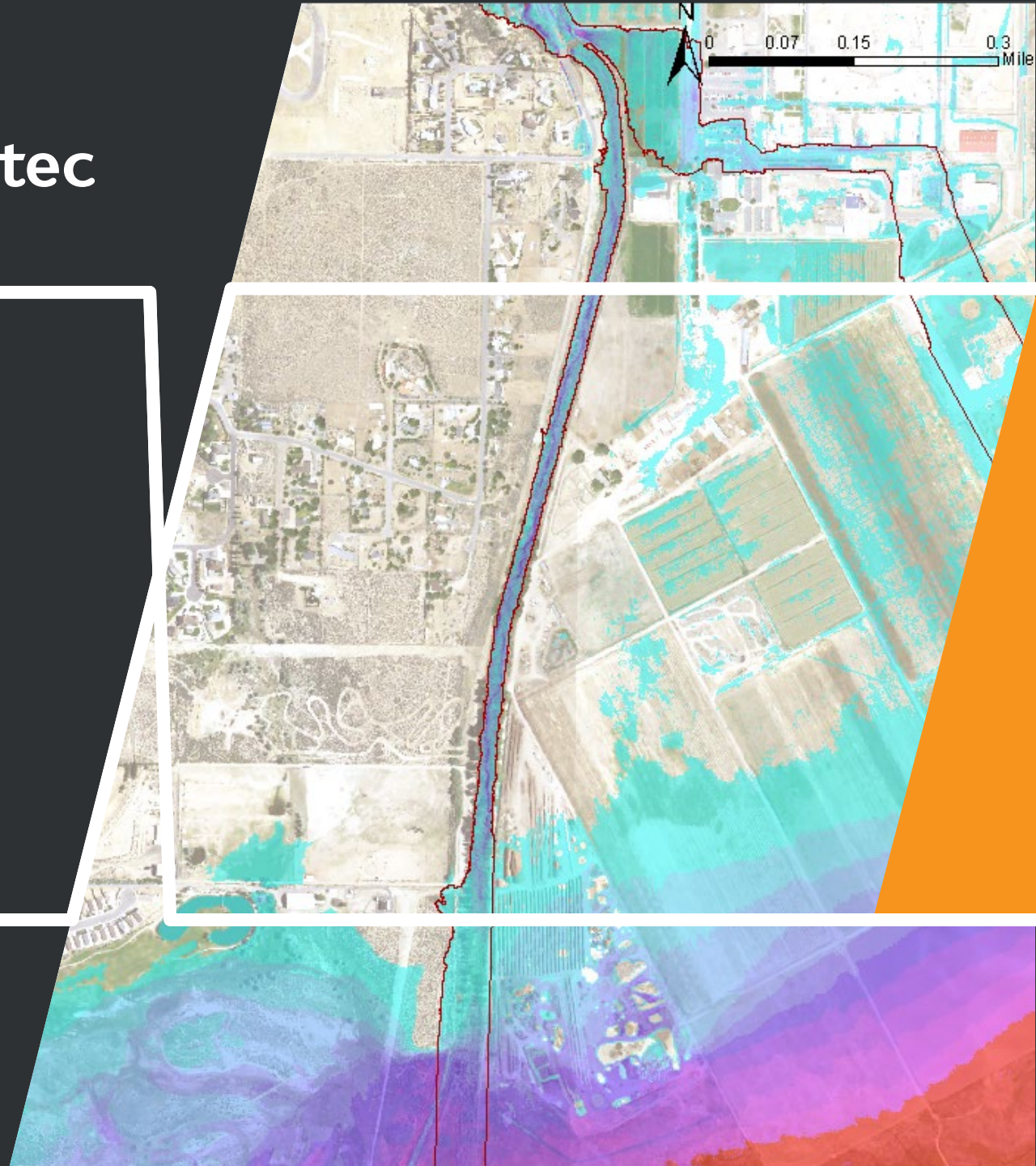


# Clear Creek Restudy and Remap Project

PRESENTERS:

Andrea Jacobsma, PE, CFM

**Together** we will do great things



# Overview

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- Purpose of project
- Methods
- Results
- Questions

# Purpose

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things

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Remap the flood hazards along Clear Creek and Prison Hill drainage to reflect changed physical conditions.

# Methods

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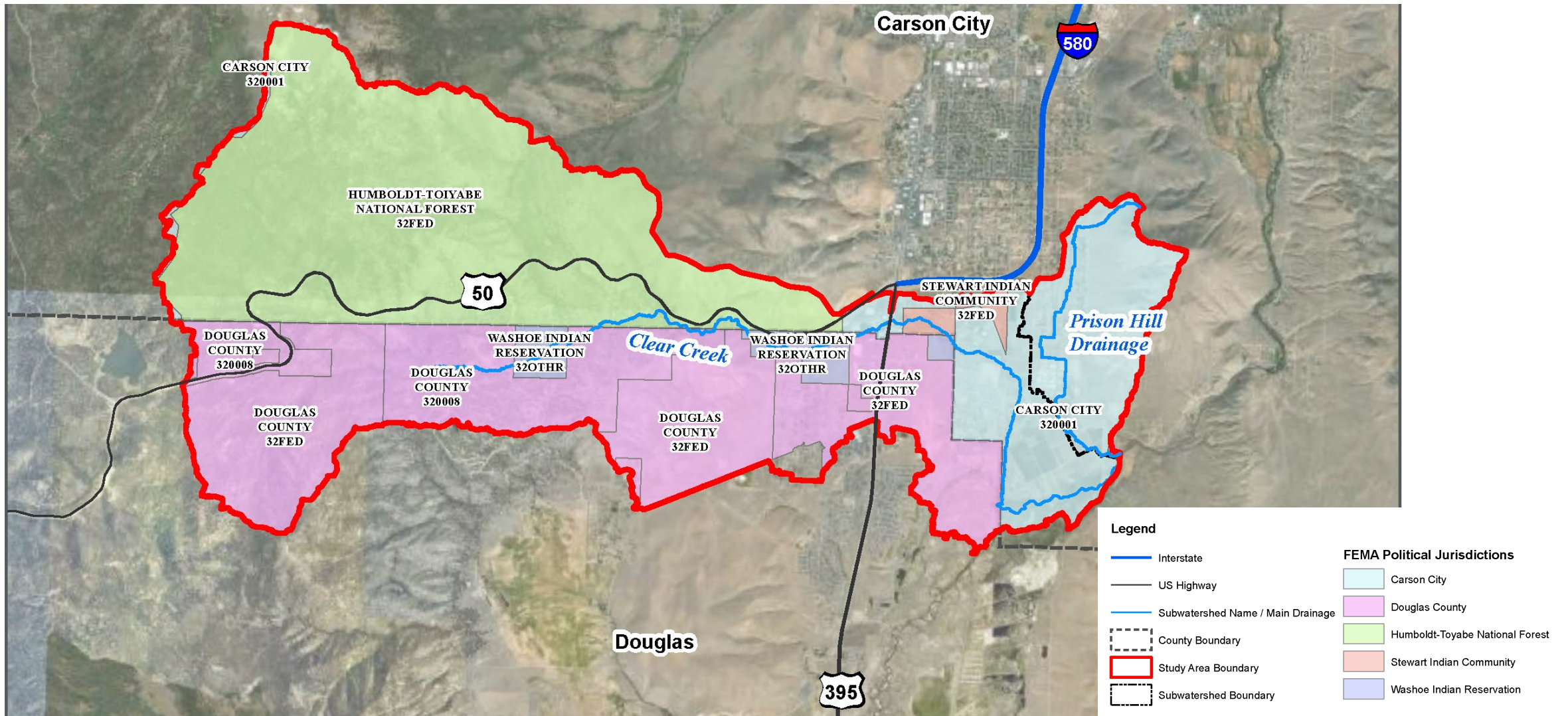
# Methods Overview

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1. Surveyed hydraulic structures
2. Performed hydrologic analyses
3. Developed hydraulic model
4. Updated floodplain and floodway mapping
5. Submitted Letter of Map Revision to FEMA on November 1, 2022
  - FEMA will inform us of their findings by March 24, 2023

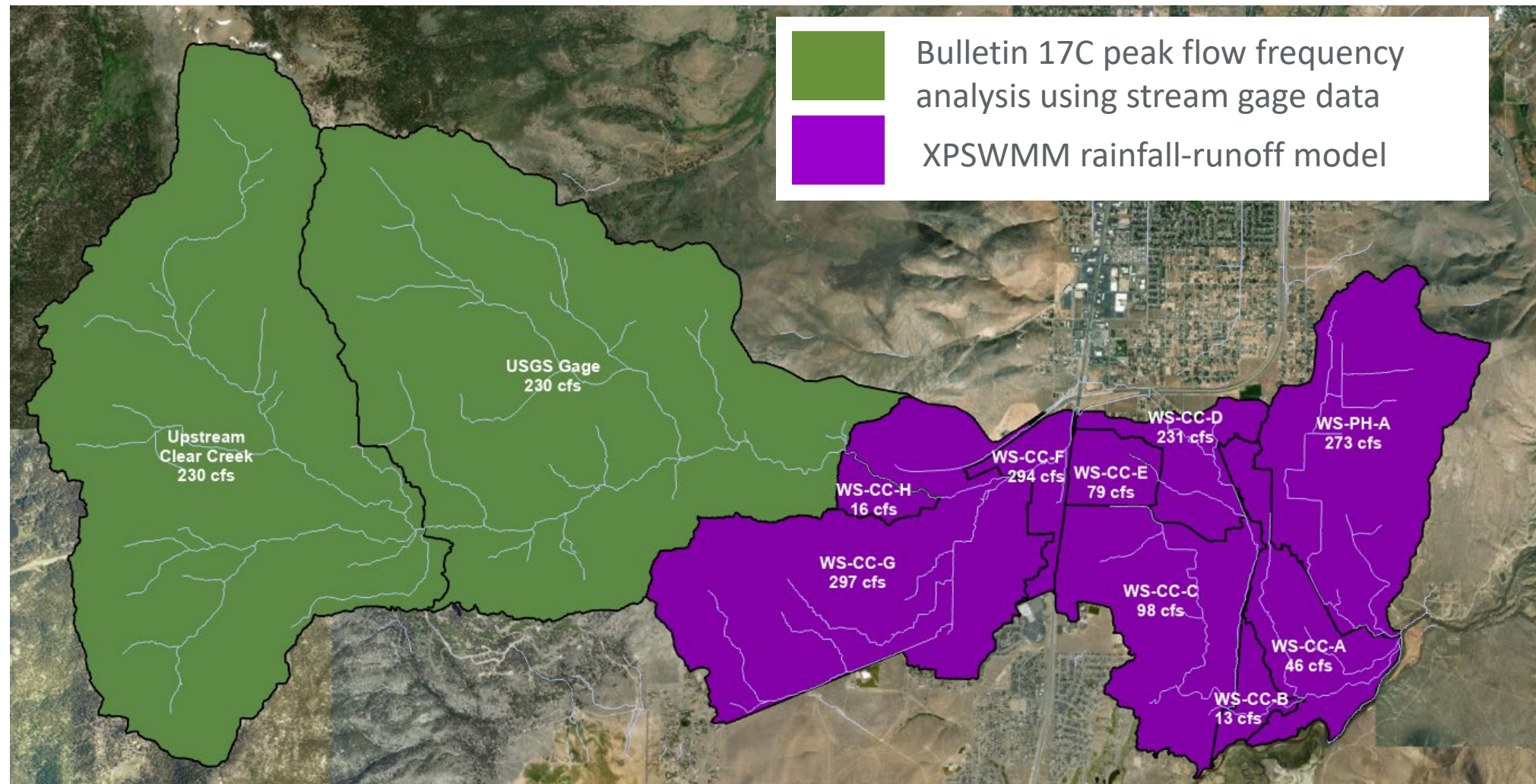


# Study Area



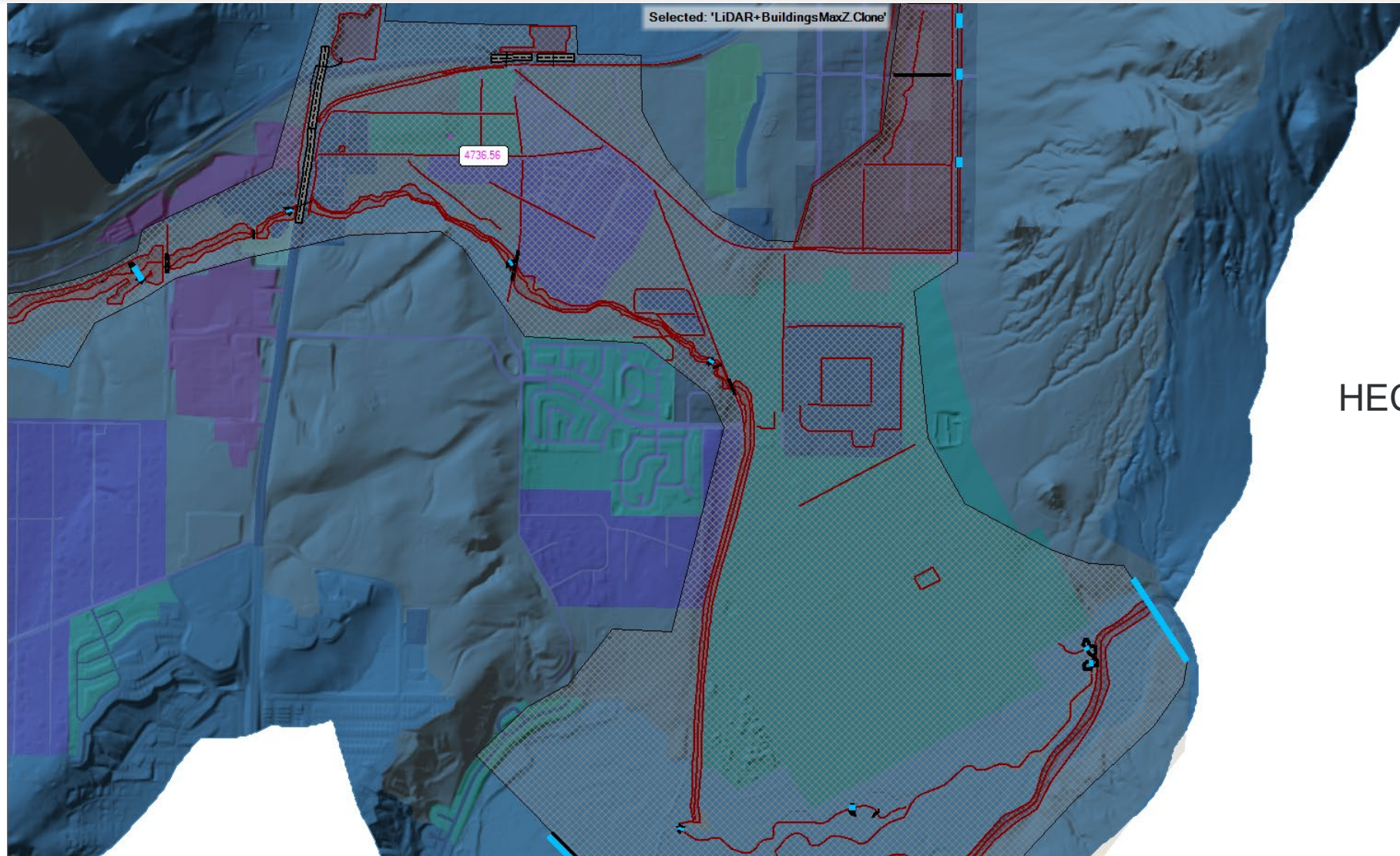


# Hydrology Methodology





# Hydraulics Methodology



HEC-RAS 6.1 2D Model

# Floodplain Mapping Methodology

- Special Flood Hazard Areas (SFHA) Zone AE
  - SFHA = Area inundated during the base flood
  - Zone AE = Riverine flooding
- Shaded Zone X
  - Areas of moderate flood hazard inundated during the 500-year event
  - Areas inundated during the base flood with average flood depths less than one foot
- Regulatory Floodway
  - The channel of watercourse and the adjacent land areas that must be reserved to discharge the base flood without increasing the water surface elevation more than 1 foot on average.

# Results

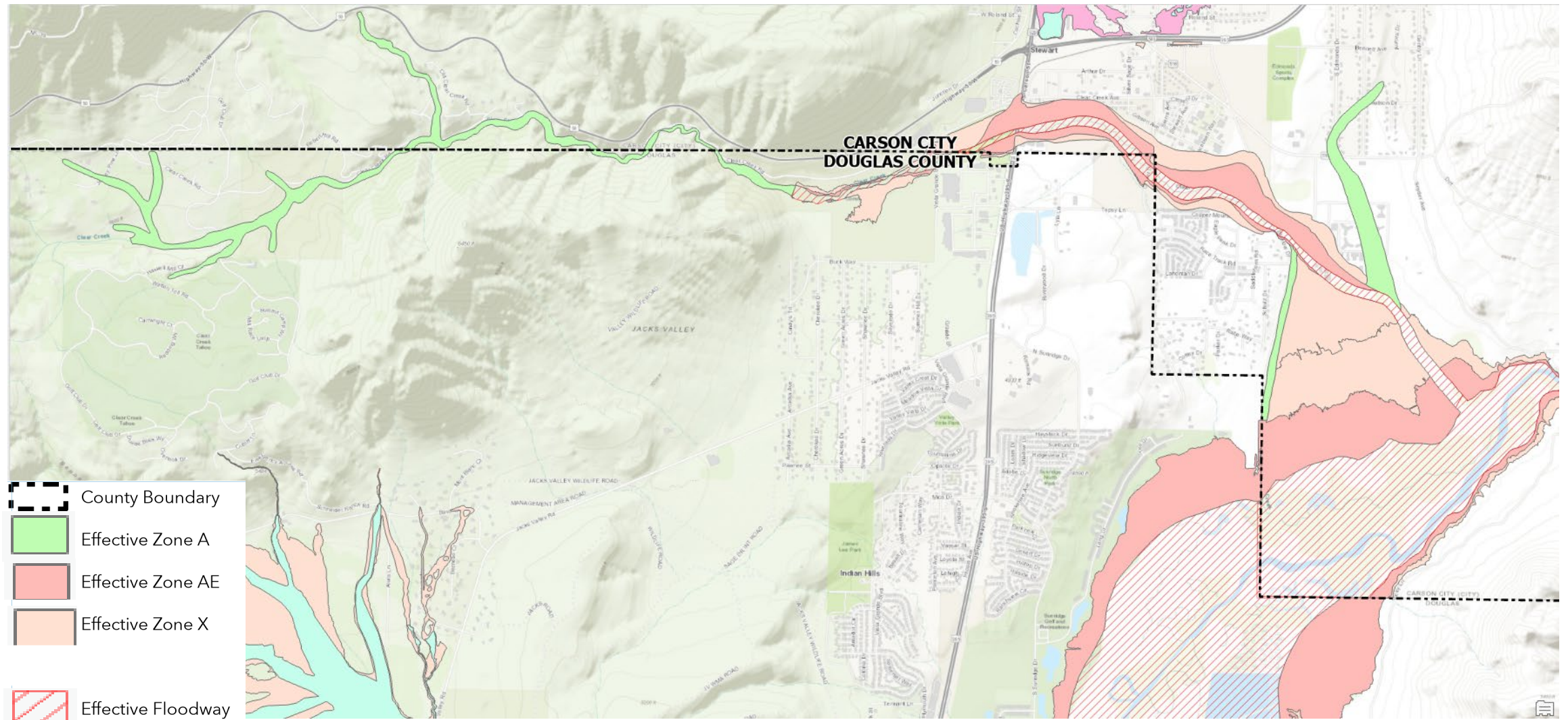
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# Hydrology Results

Discharge Source	Flooding Source	Location	Drainage Area (square miles)	Peak Discharge (cfs)					
				10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance Existing	1% Annual Chance Future	0.2% Annual Chance
Effective discharge	Clear Creek	Approximately 1.0 miles upstream of U.S. Highway 395 (in Douglas County, NV)	16.0	190	*	1,200	2,450	*	11,300
Computed Discharge (1989-2020)	Clear Creek	Approximately 2.0 miles upstream of U.S. Highway 395 (in Douglas County, NV)  Approximately 1.0 miles upstream of effective discharge location	15.5	104	195	302	461	*	1,162

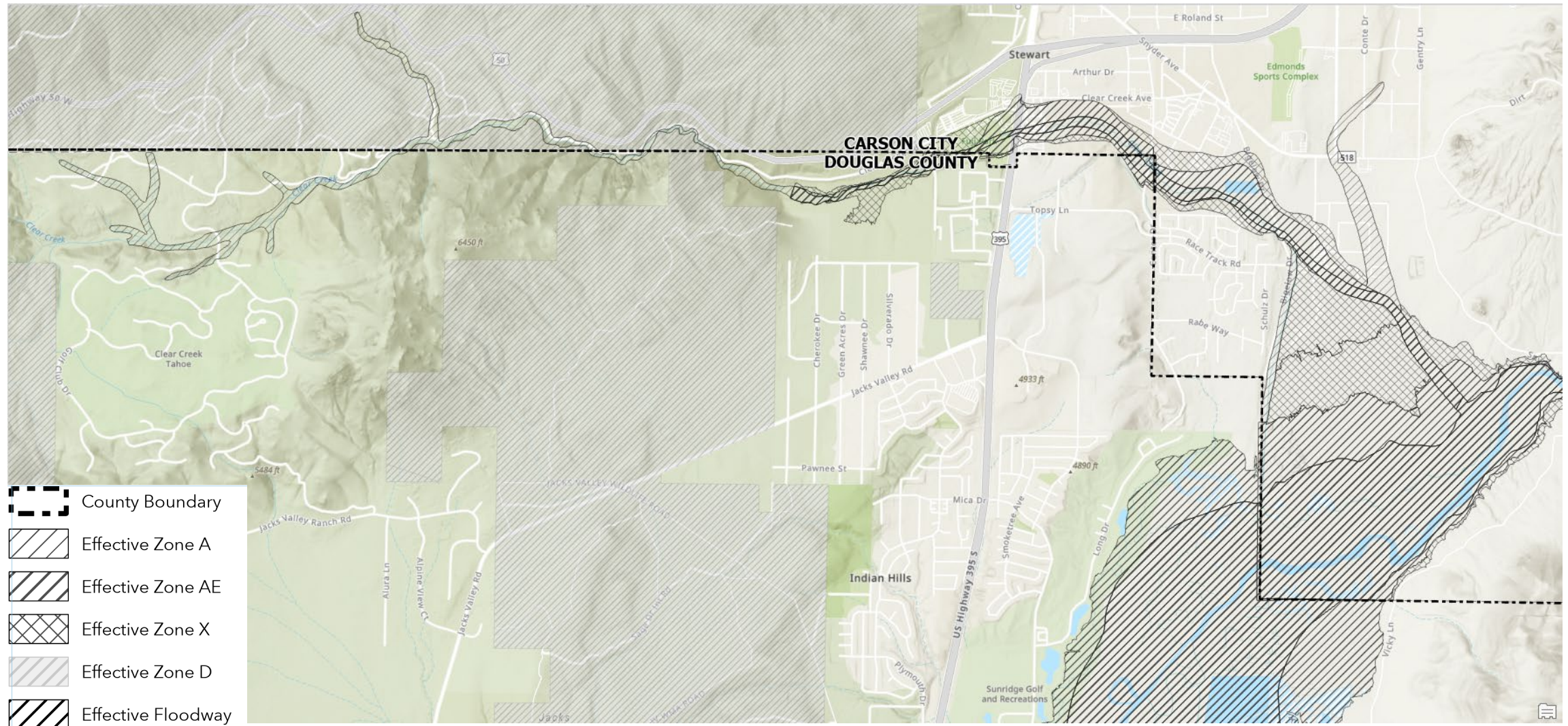


# Current Effective Mapping



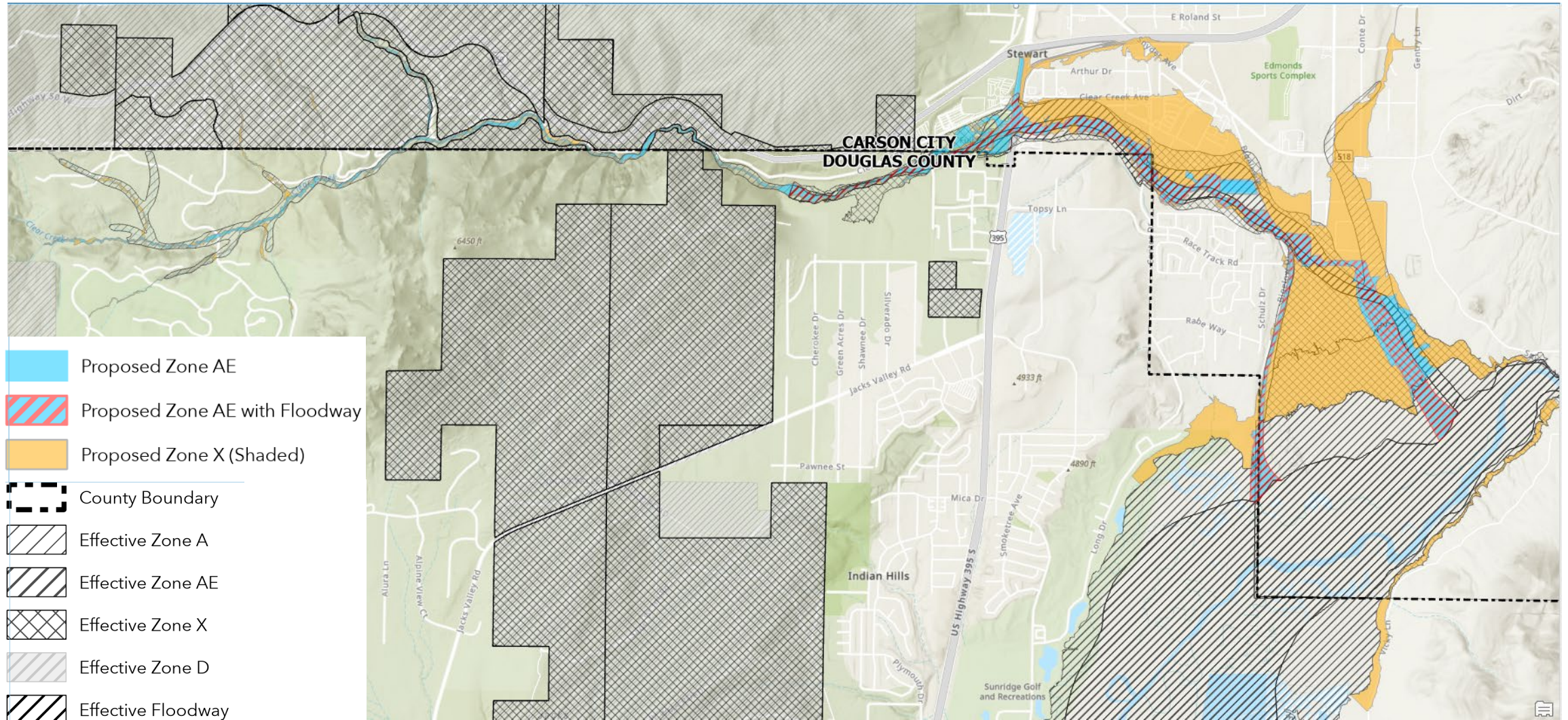


# Current Effective Mapping



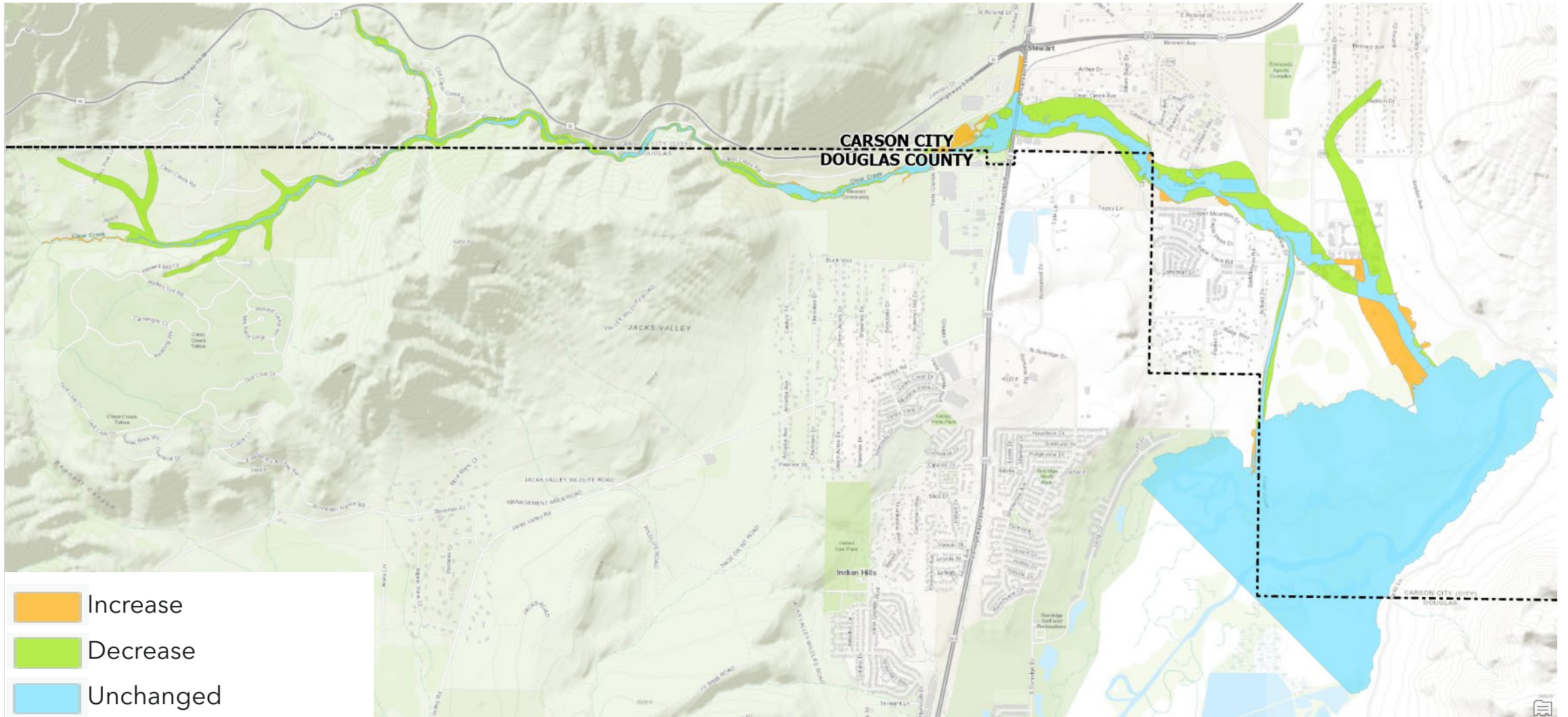


# Proposed Mapping



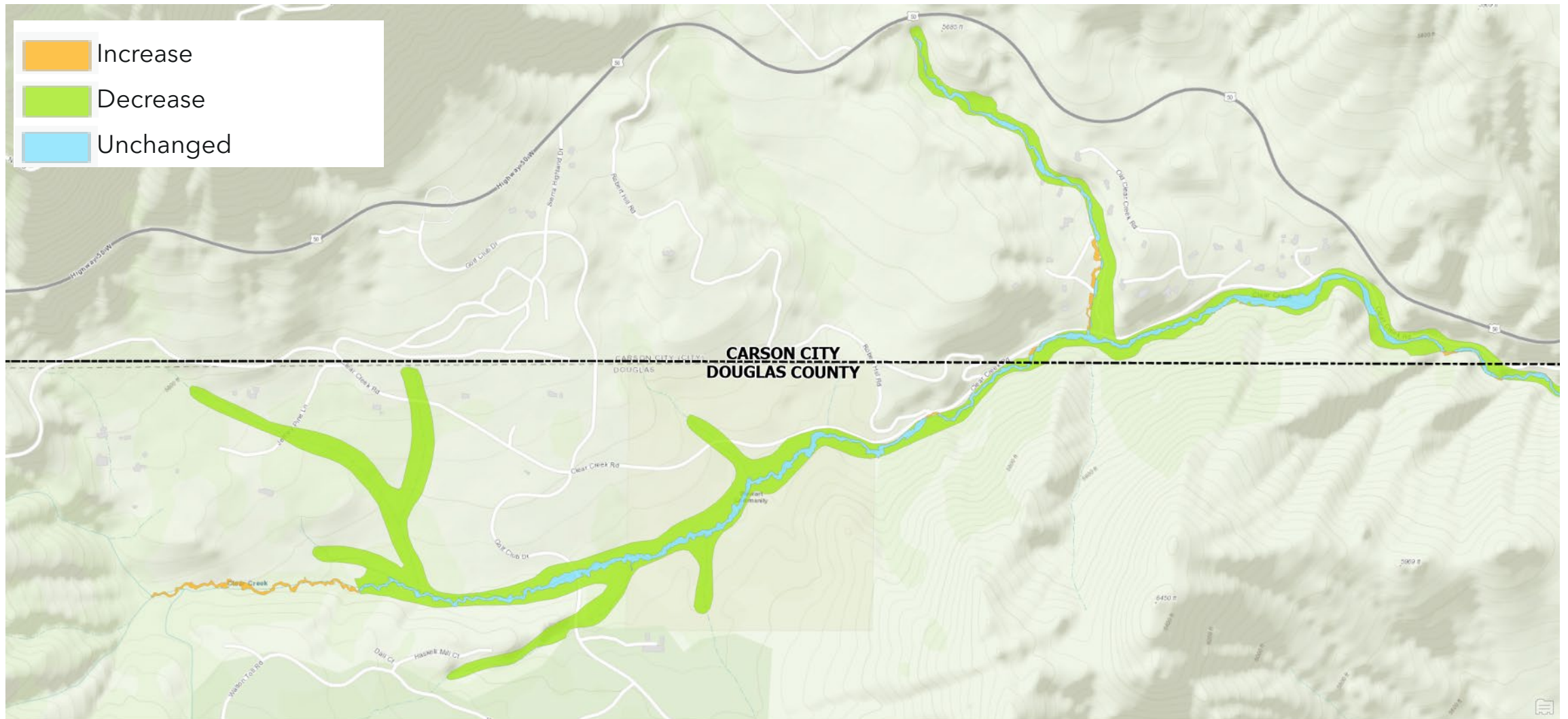


## Increase/Decrease/Unchanged Map

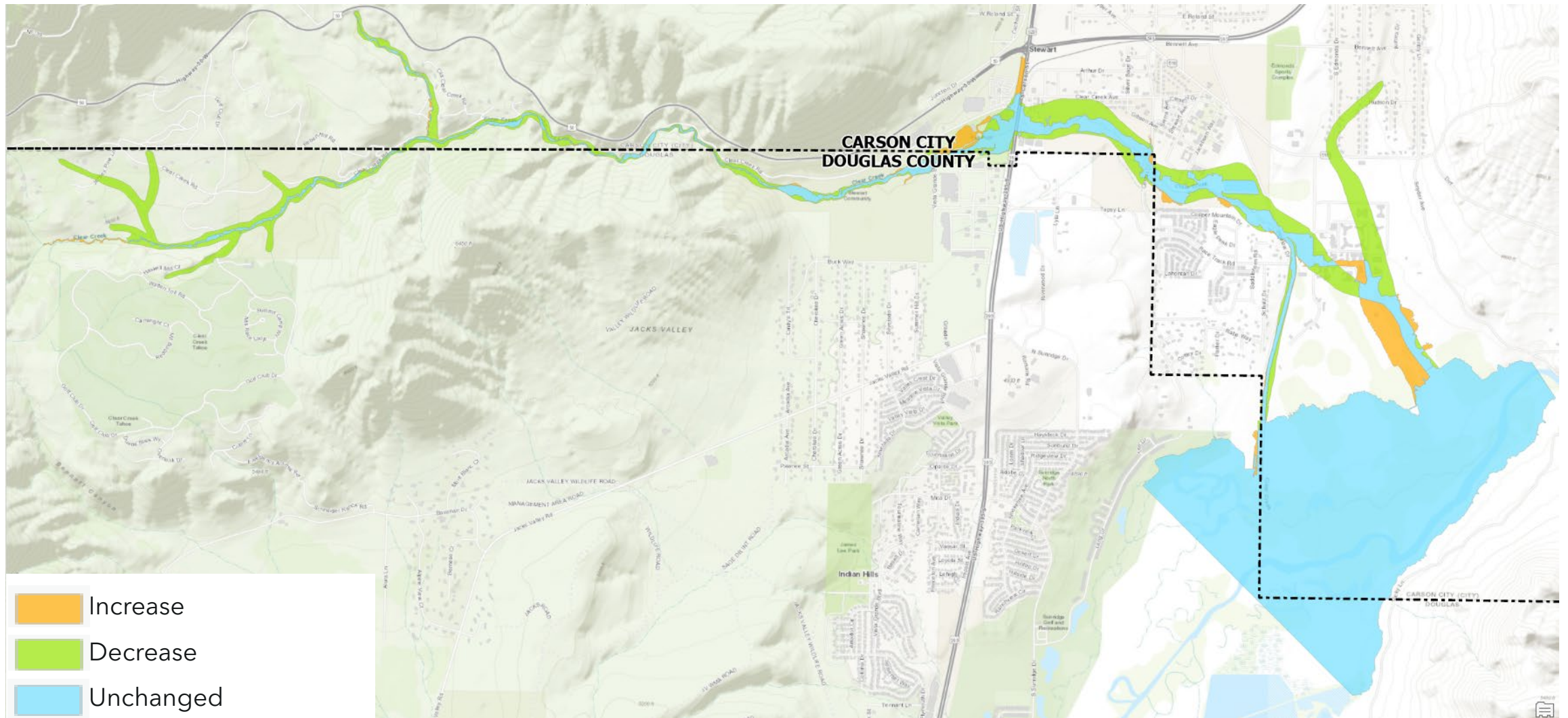




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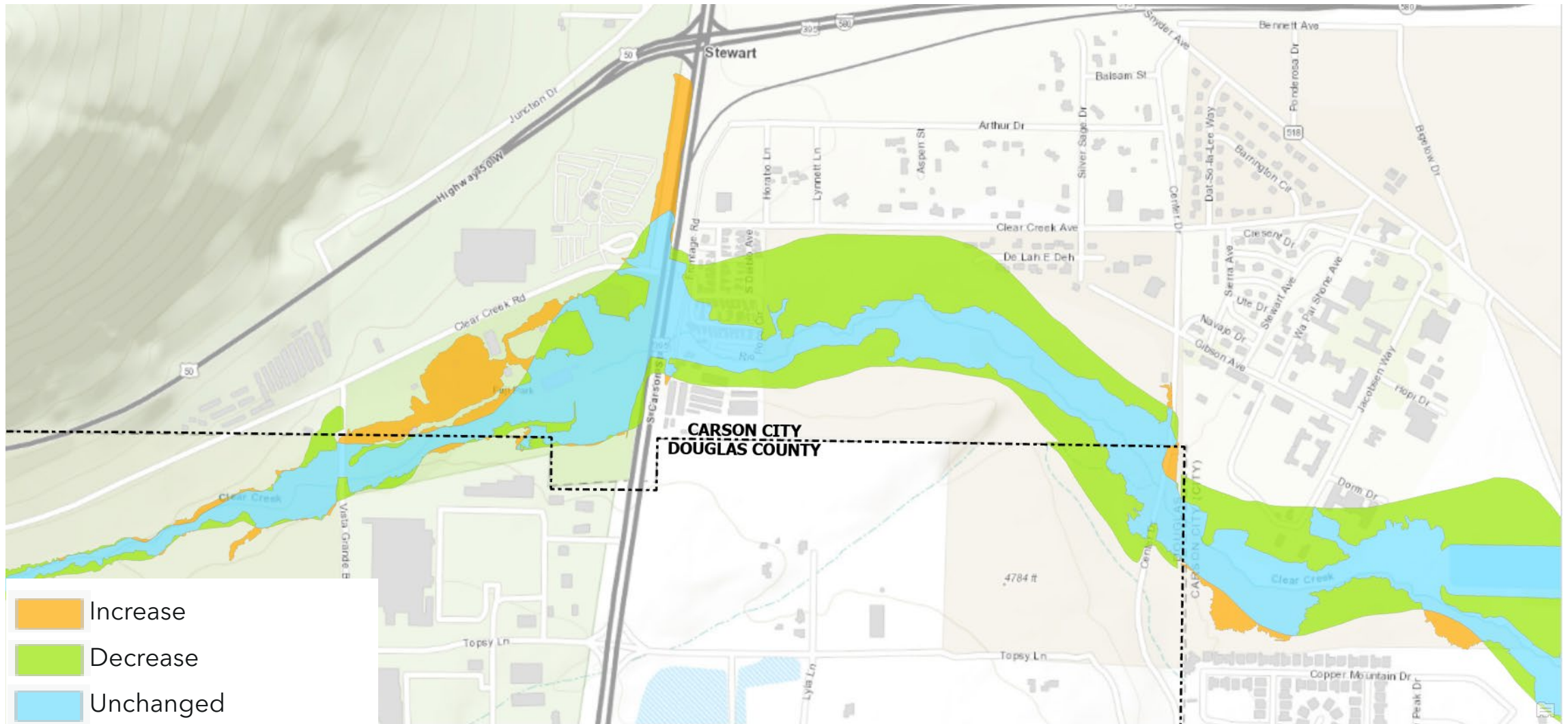


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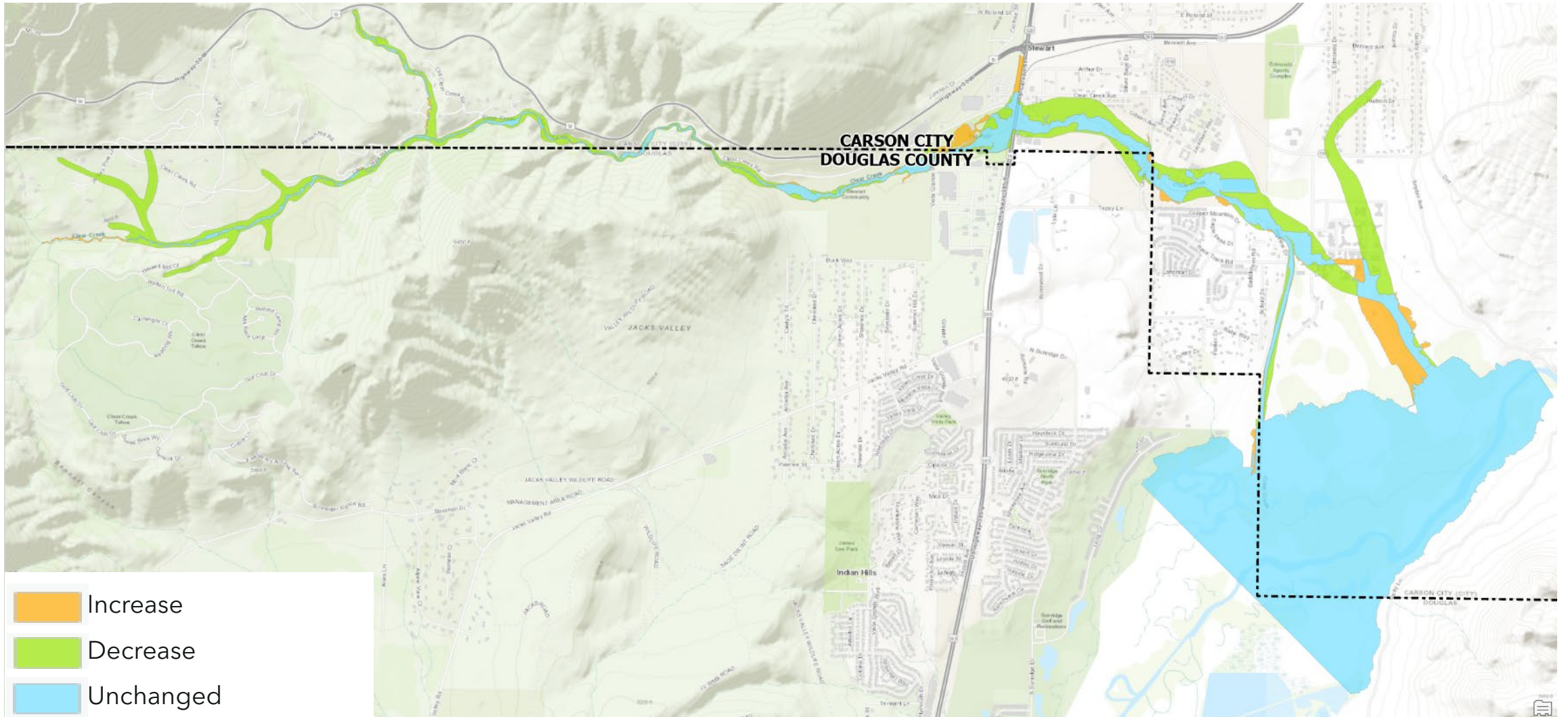




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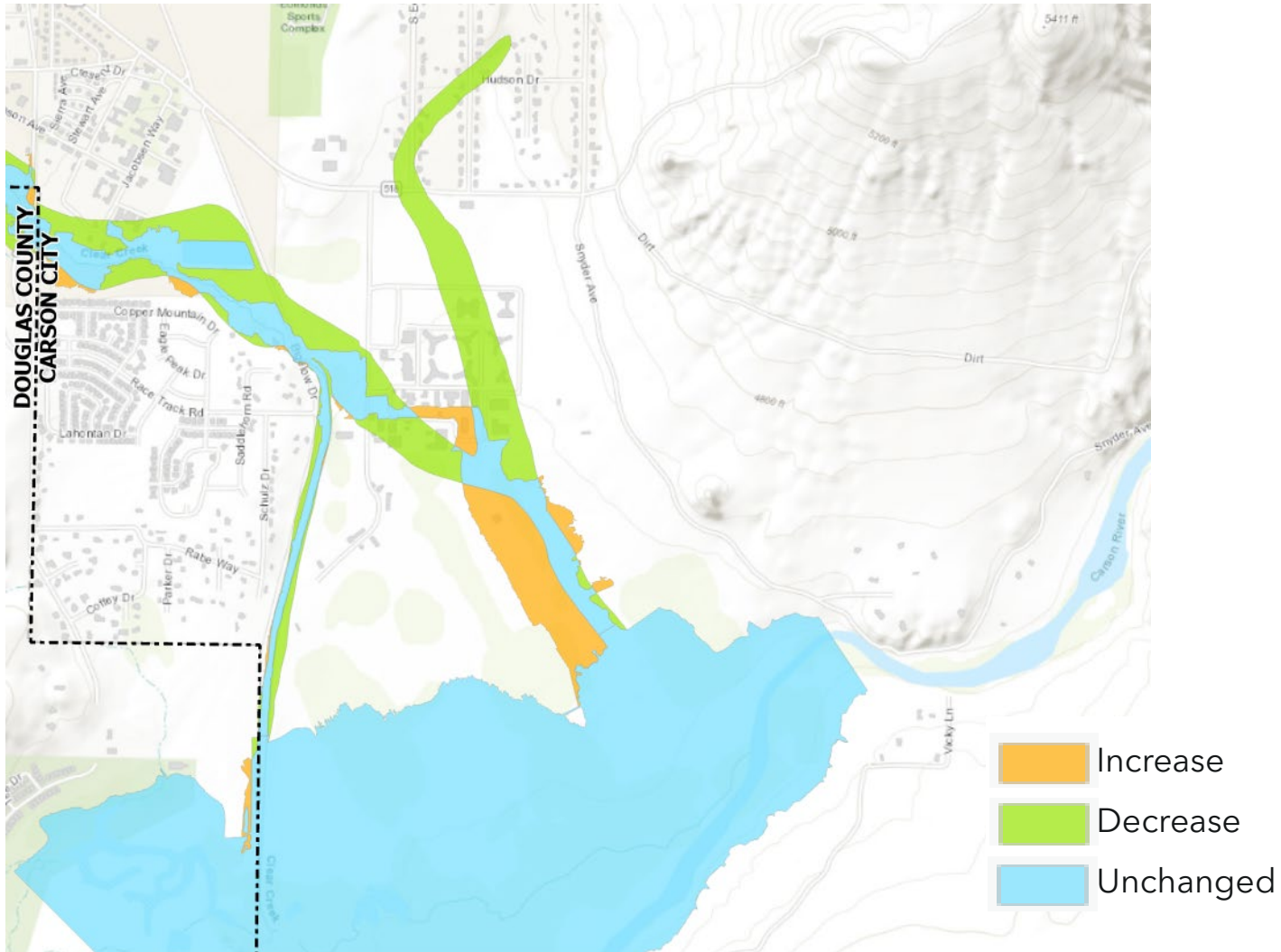


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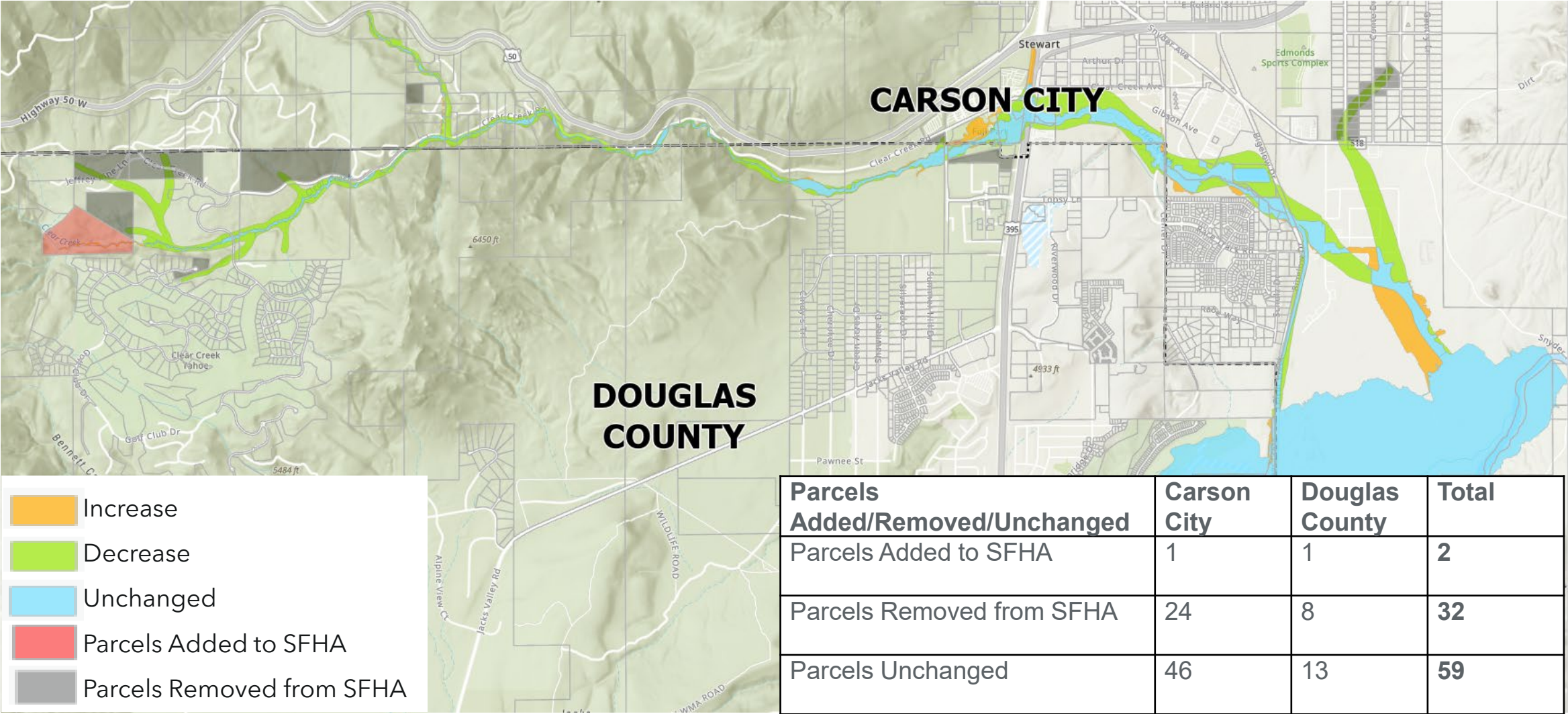




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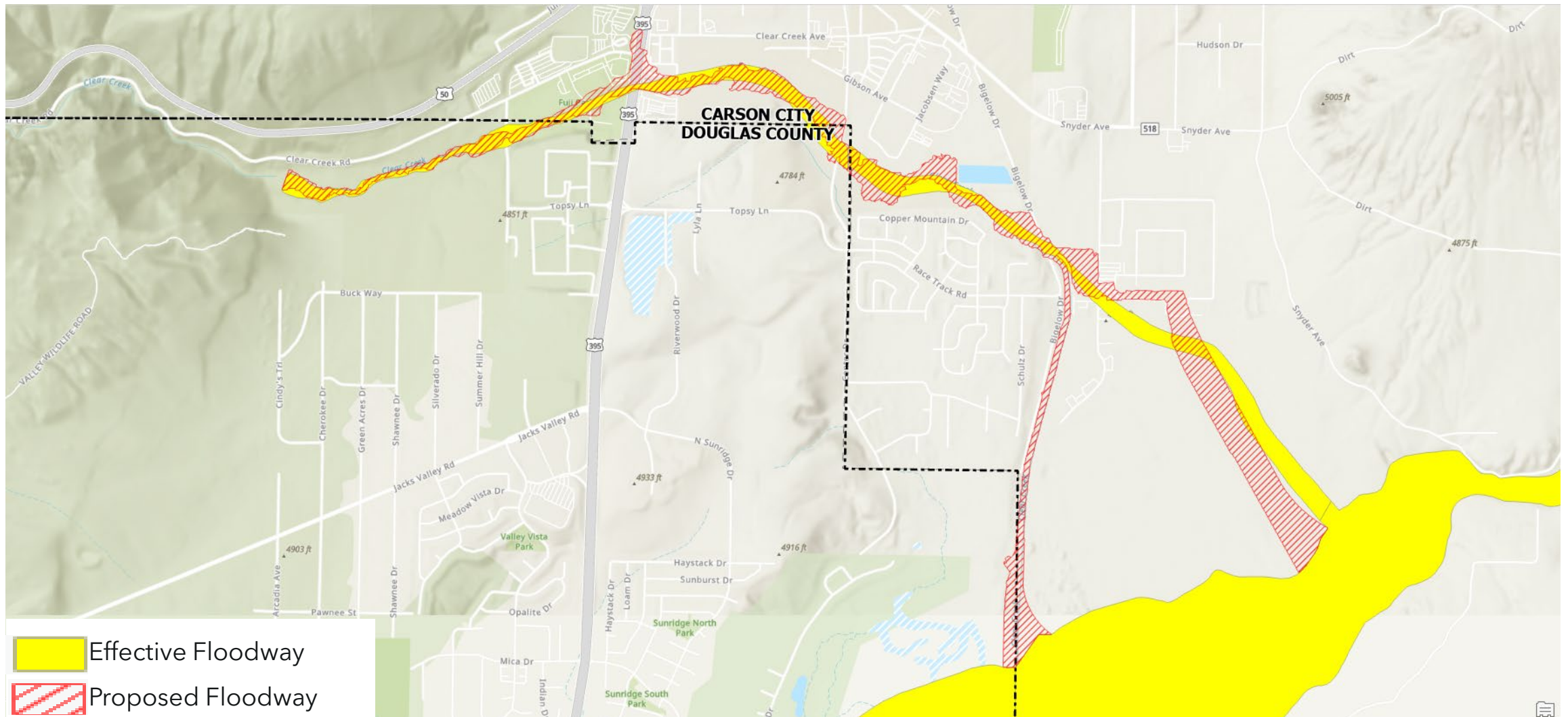


# Parcels Added and Removed from SFHA





# Effective and Proposed Floodways



QUESTIONS?







## Thank you

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For more information

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