

# STAGECOACH AREA DRAINAGE MASTER PLAN



## Technical Team



Stagecoach Community Center  
February 22, 2023

# What is an Area Drainage Master Plan? (ADMP)

- ⦿ Planning-level study of flooding hazards within a watershed
  - Multiple watercourses
- ⦿ Goals:
  - Develop a comprehensive understanding of the drainage existing conditions
  - Develop alternative mitigation solutions
- ⦿ Exclusions
  - Groundwater assessments (quality, quantity)
  - Future development plans

# Stagecoach ADMP

- Project funding

- FEMA Cooperative Technical Partner (CTP) grant
- CWSD Funding Administrator
- Lyon County – in-kind leverage





# Stagecoach ADMP

Storey

Meeker  
Pond

70 square miles

Stagecoach

US Highway 50

US Highway 50 E

439

US Highway 50

Talapoosa

Silver Springs

95

Weeks  
Churchill

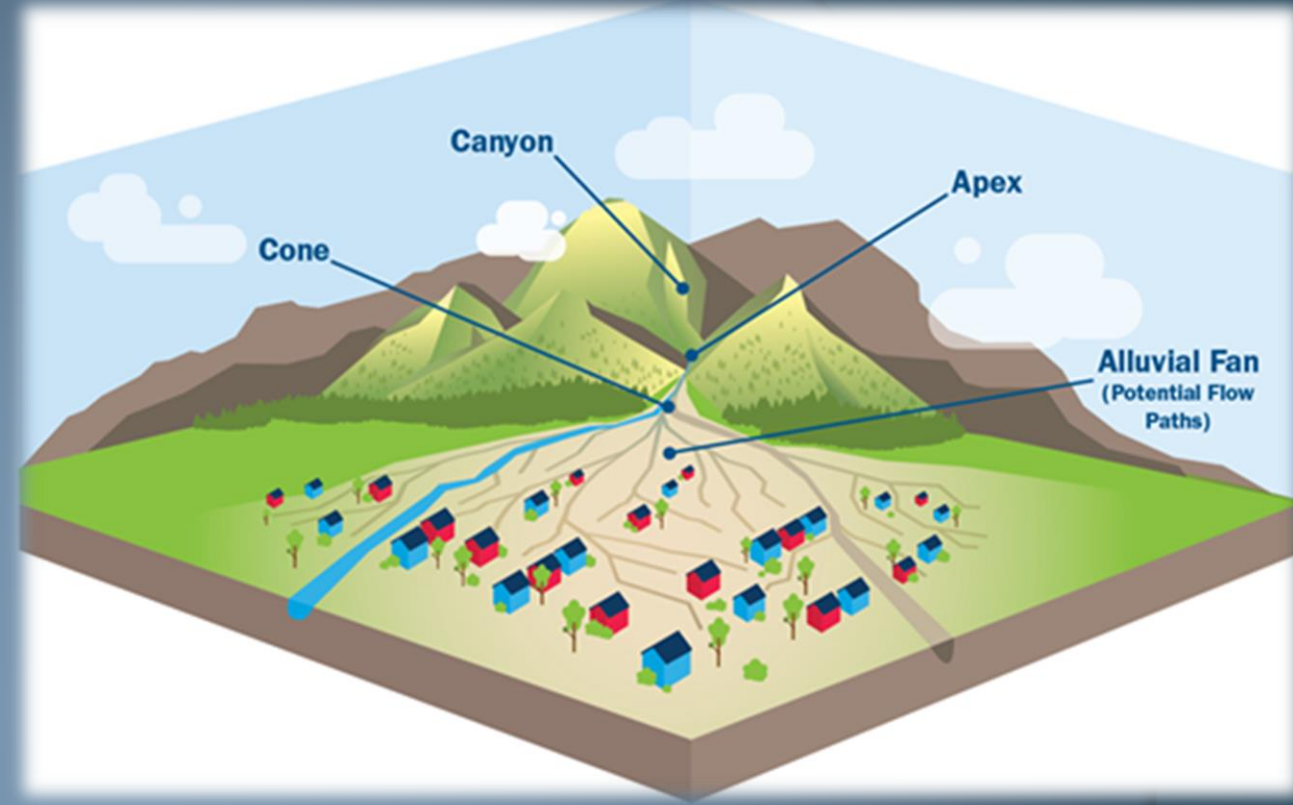
50



# ADMP Study Area

## ● Complex Characteristics

- Active Alluvial Fans
- Distributary Flooding
- Sedimentation
- Closed basin system (playa)
  - Misfits Flat

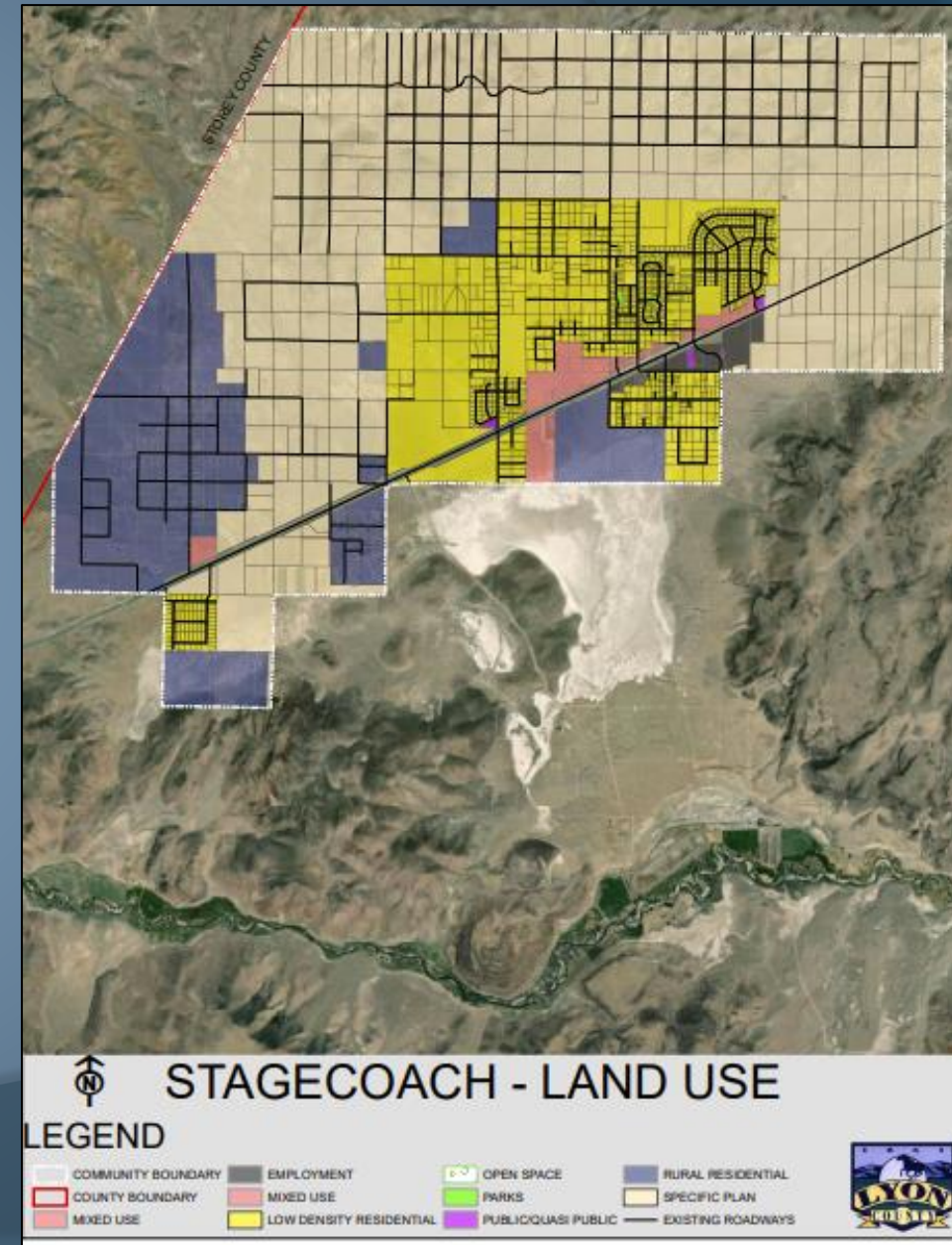


Seneca Road

# ADMP Project Elements

## • Data Collection

- USACE Alluvial Fan Study (2017)
- County Data (General Plans, drainage reports, land use, photos, mapping, etc.)
- NRCS Soils Mapping
- Geologic Mapping
- Historical Aerial Photography
- Rainfall and Streamflow Records
- Resident videos/photos and documentation

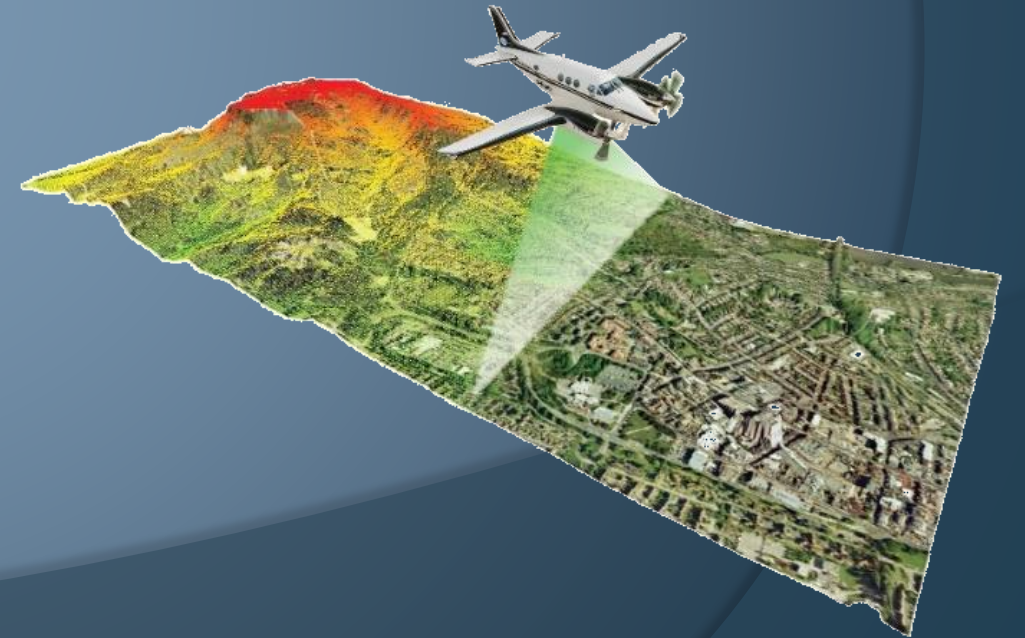




# ADMP Project Elements

## ● Mapping and Survey

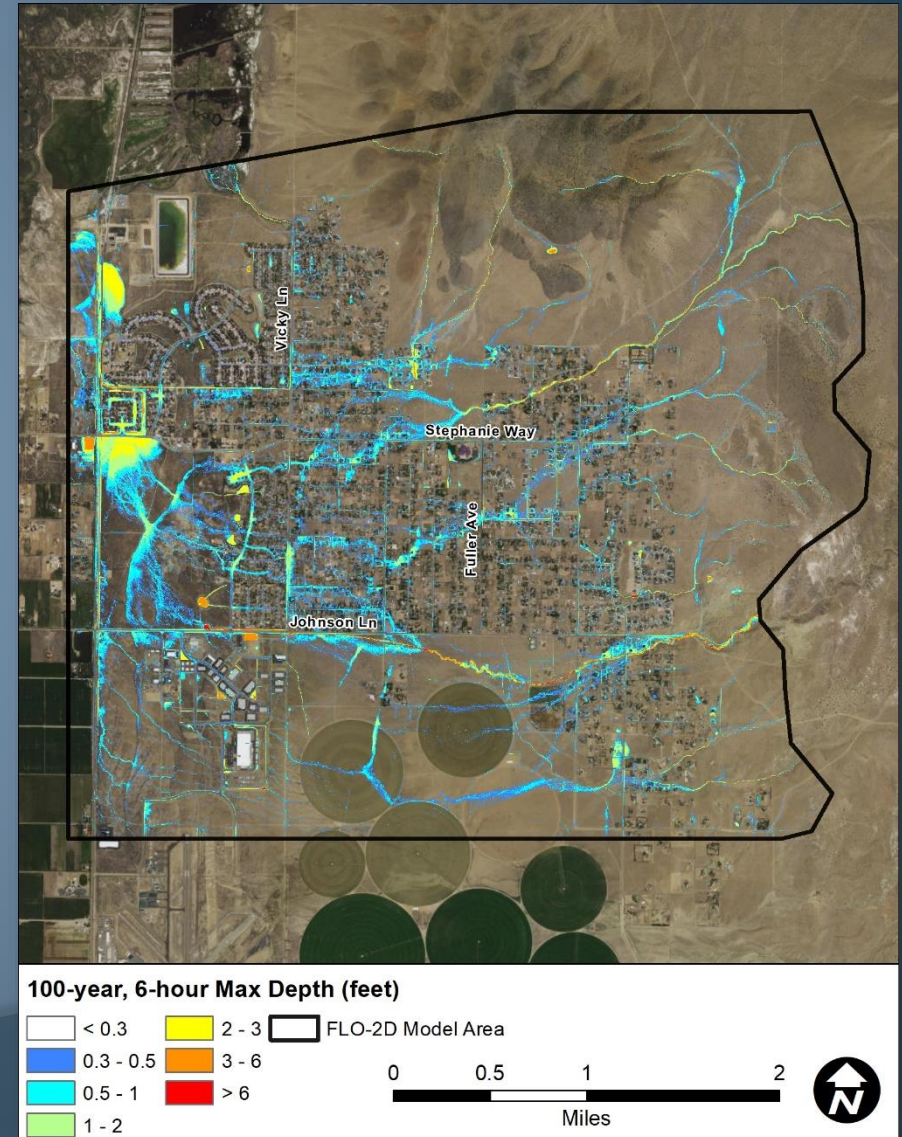
- High-resolution LiDAR mapping (USGS)
  - Light Detection and Ranging
- Existing drainage infrastructure inventory
  - Culverts
  - Bridges



# ADMP Project Elements

## Hydrologic and Hydraulic Modeling

- Where do flood flows come from?
  - Rainfall & Runoff
  - Storms
    - 5-year, 25-year, 100-year storms
- Where does the storm runoff go?
  - Two-Dimensional hydraulic model (FLO-2D)
    - Latest technology
    - Best tool for complex, urban flooding
    - High resolution, detailed results
      - Flow Depth
      - Flow Velocity







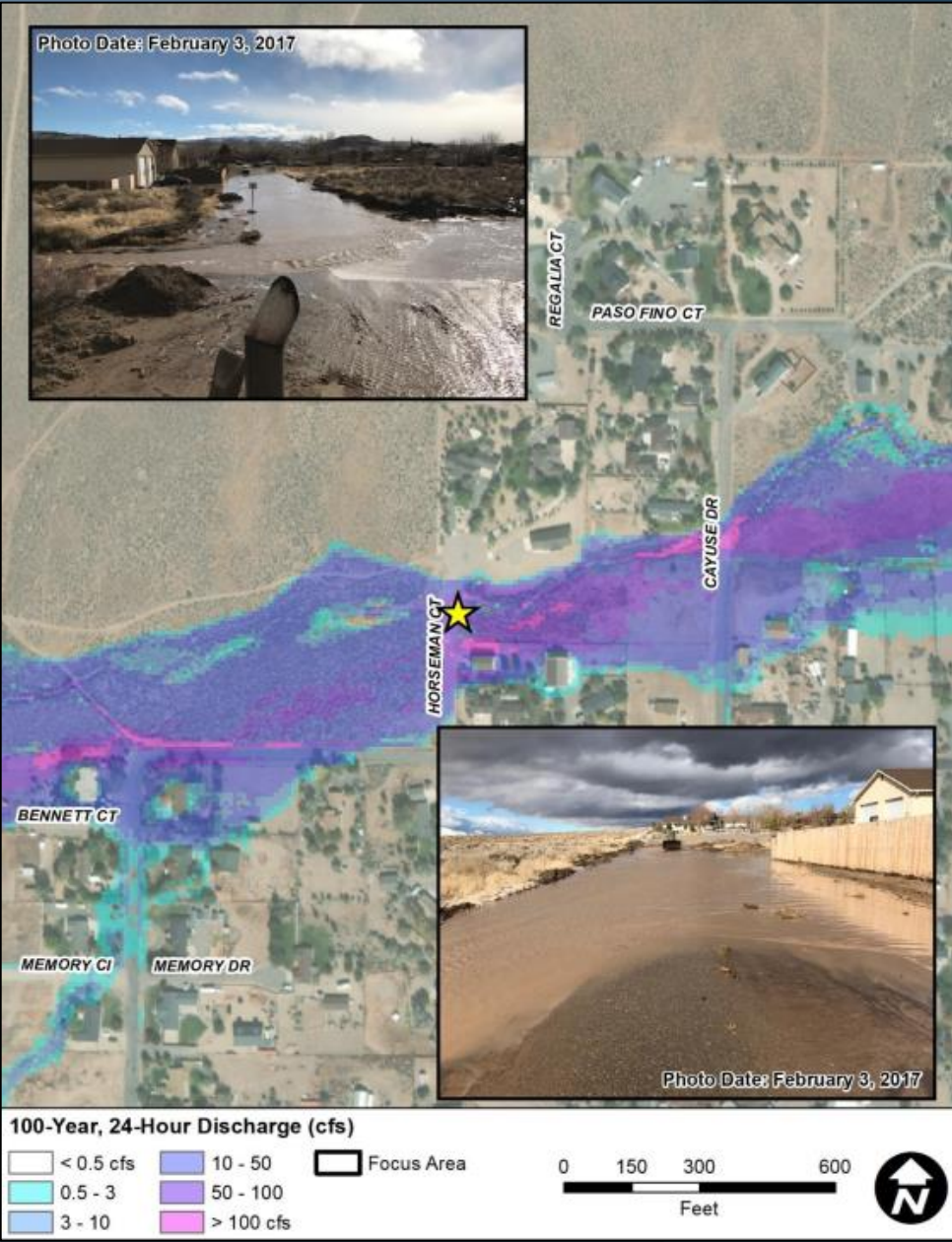
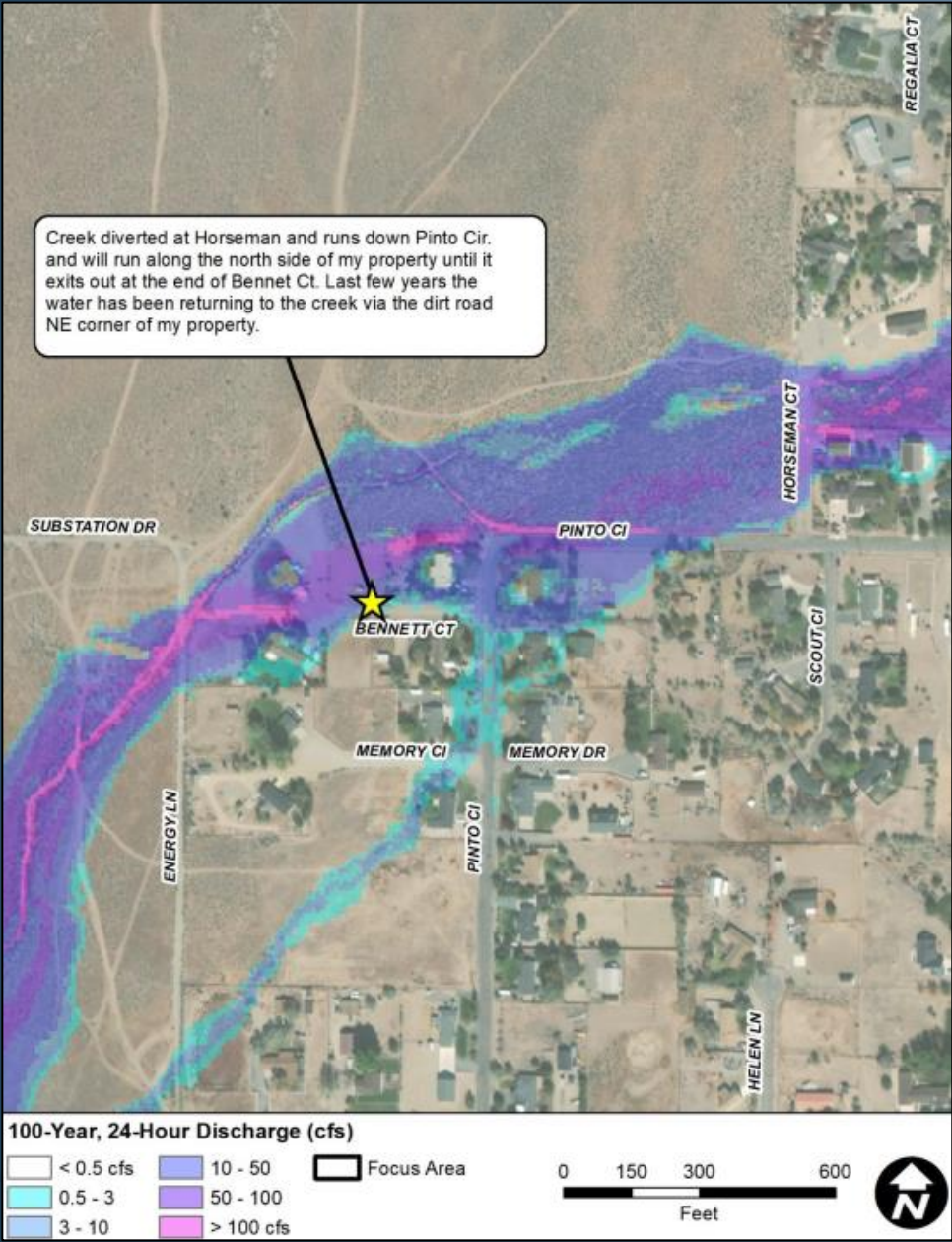
**Animation Legend**

depth

	<0.3 ft
	0.3-0.5 ft
	0.5-1.0 ft
	1.0-2.5 ft
	2.5-5.0 ft
	5.0-7.5 ft
	7.5-10.0 ft
	>10.0 ft



# Resident videos/photos and documentation





# ADMP Project Elements

## ● Sedimentation Assessment

- Sediment has been issue historically
  - Clog roadside ditches
  - Clog culverts
  - Debris in roadways

Seneca Road



Seneca Road

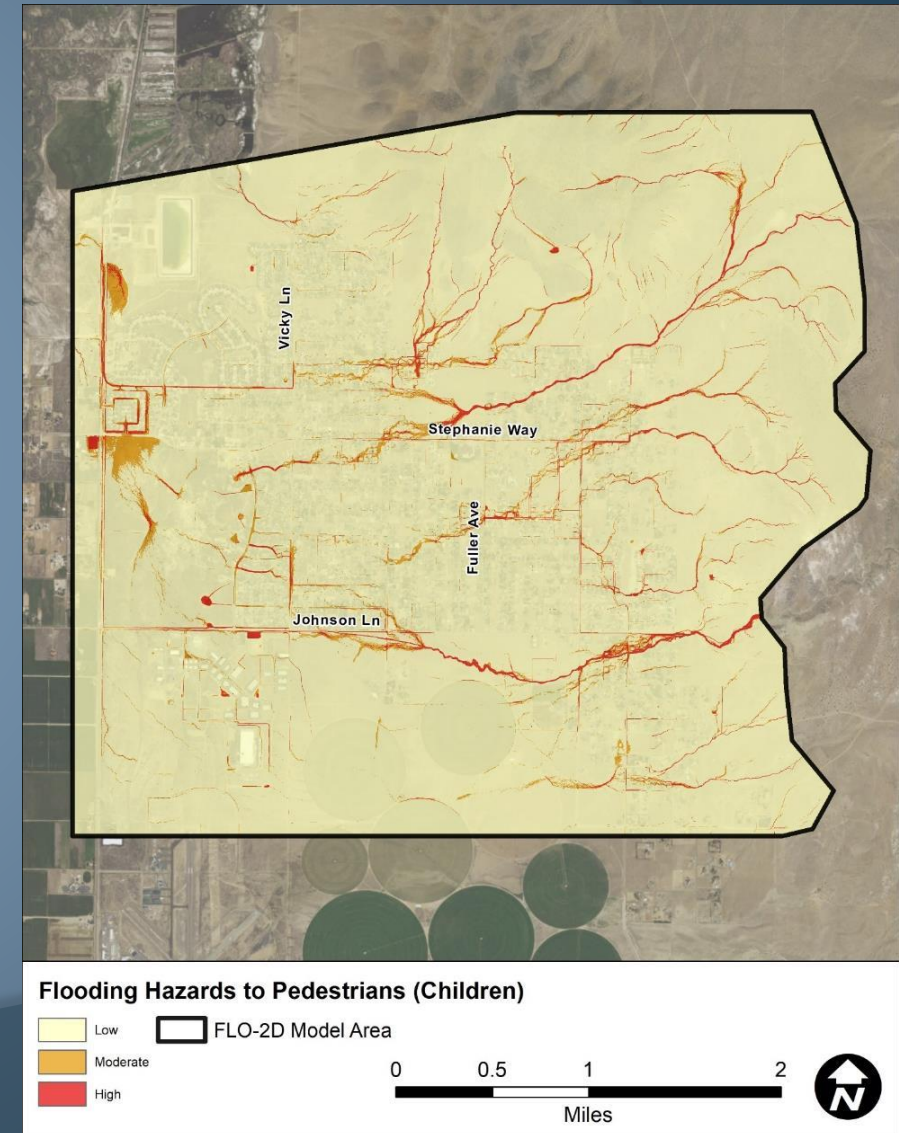
Cheyenne Trail



# ADMP Project Elements

## ● Flooding Hazard Classification

- Define areas of flood risk
  - Pedestrians
  - Vehicles
  - Buildings

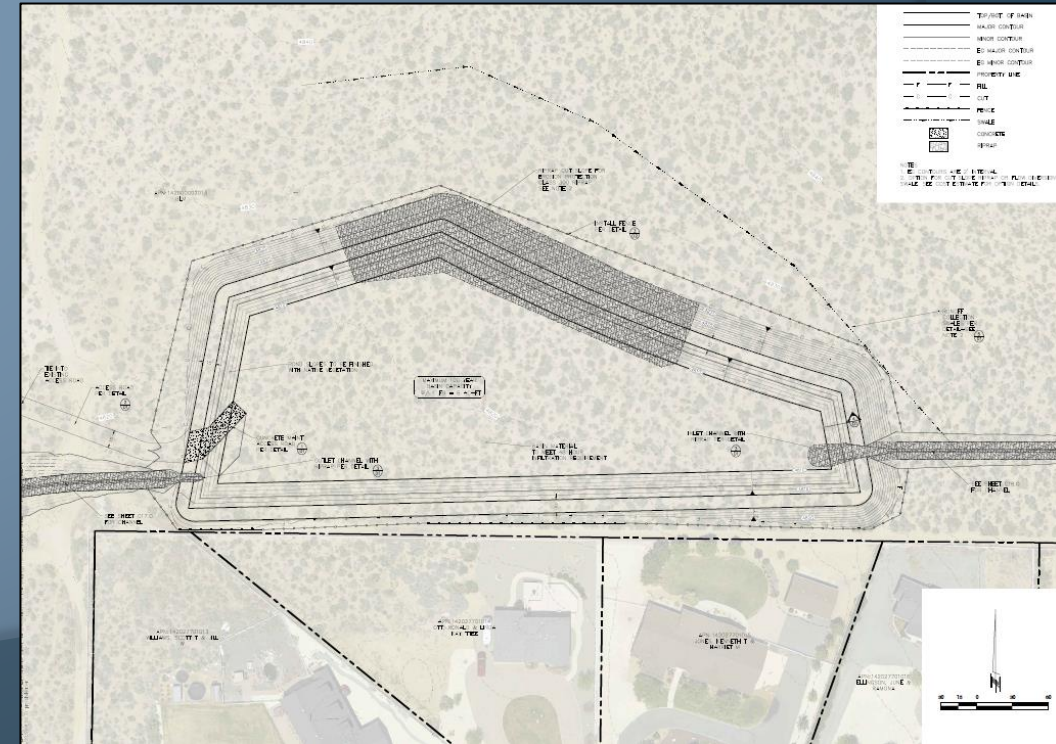




# ADMP Project Elements

## ◉ Alternatives Formulation

- Mitigation for the 25-year storm
- Mitigation for the 100-year storm
- Mitigation for sediment
- Conceptual Design Plans



# ADMP Project Elements

## Public Meetings and Outreach

- Open House – Tonight
  - Introduce Project
  - Hear your experiences, get your input on where problems frequently occur
- Meeting #2 – Summer 2024
  - Present project results, mitigation alternatives
- CWSD Board and Lyon County Board
  - Summer 2024

