

# Museum Flood Mitigation Plan

November 23, 2021







# Citizen Petition



- 2021-09 Museum Flooding (attached to Staff Summary)
- October 5<sup>th</sup> Council Meeting
- Answer questions
- Meeting with City and County representatives
- Comprehensive report of completed mitigation on museum burn scar and watershed
- Outcomes of completed mitigation
- Short, mid and long-term plans for flooding
- August 23<sup>rd</sup> Joint Meeting (attached to Staff Summary)



# Agenda



- Mitigation Plan Updates
  - USFS Representatives Visit
  - Natural Resource Conservation Service (NRCS)
  - Paradise Channel Stabilization and Restoration
  - Dortha Inlet and Channel
  - Killip Detention Basin
  - Flooding Feasibility Alternative Analysis
- Funding of Mitigation
- Communication with Residents



# Mitigation Plan Updates



## USFS Representatives Visit

- Impacts of Museum Post-Wildfire Flooding
- Federal funding for watershed restoration
  - Significantly reduce large amounts of sediment
  - Mitigation efforts are ineffective when fill up with sediment
- Mitigation for 400 homes and 35 businesses
- Chief's \$3.5 million pledge



# Mitigation Update

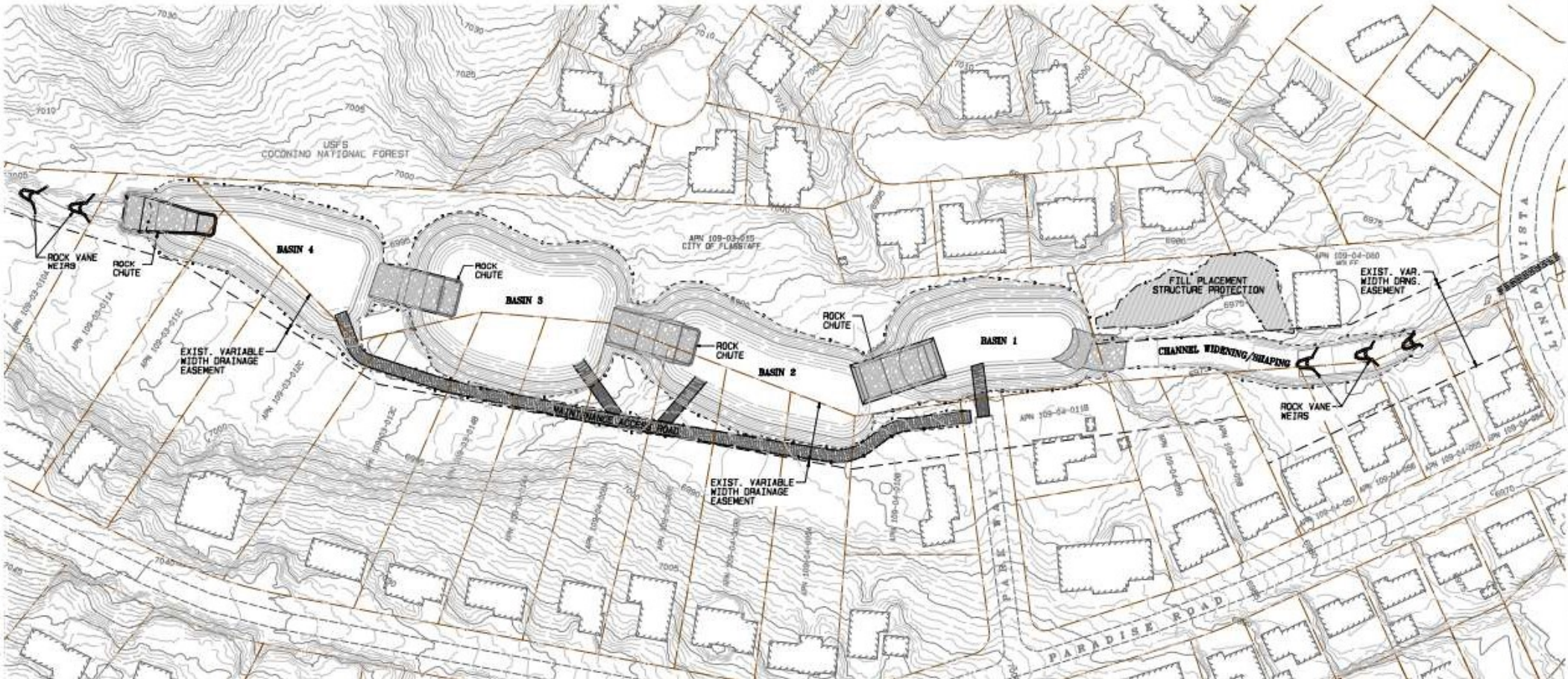


## Natural Resource Conservation Service (NRCS)

- Grant application submitted by Flood Control District
- City and privately owned property
- Two land parcels
  - 40 acres above Mt. Elden Estates
  - 3.6 acres behind Paradise and Park Way
- Flood Control District Match of 25%
- Estimated cost between \$3.5 – \$4.0 million



# NRCS Concept Design







# Mitigation Update



## Paradise Channel Stabilization and Restoration





# Mitigation Plan Updates



## Dortha Inlet & Channel

- Reinforce to protect from level and velocity of flows
- Protect utilities
- Future maintenance consideration given post-wildfire debris
- Add enhancements to increase capacity flow
- Focused segment for feasibility analysis
- Estimated construction cost will be \$1.6 - \$2.0 million





# Mitigation Plan Updates



## Killip Detention Basin

- New elementary school construction
- IGA with FUSD
- Working with Core and SWI
- Underground stormwater infrastructure design for conveyance from basin to 3<sup>rd</sup> Avenue



# Mitigation Plan Updates



## **Flooding Feasibility Alternative Analysis**

- Contract with Peak Engineering
- Feasibility study of mitigation alternatives
- Development of ranking criteria
- Prepare an alternatives report
- Preliminary design of highest-ranking alternative
- Resumed weekly Museum Strategic Planning meeting



# Funding of Mitigation

## **Sediment reduction is a critical prerequisite to the functioning of existing infrastructure and future expansion**

- Spruce Channel Master Plan Development
- Paradise Channel Improvement
- Park Way area detention/retention
- Linda Vista culvert improvement
- Cedar culvert improvement
- Dortha Inlet improvement
- Arroyo Seco Diversion
- Killip School Detention Basin
- Channel Improvements (various)

Estimated cost between  
\$12-18 million





# Communication with Residents

- Frequently Asked Questions
  - City website  
([https://www.flagstaff.az.gov/DocumentCenter/View/70842/11\\_17\\_21\\_Museum-Flood-QA-Document](https://www.flagstaff.az.gov/DocumentCenter/View/70842/11_17_21_Museum-Flood-QA-Document))
  - Flood Control District website  
([https://coconino.az.gov/DocumentCenter/View/29365/Museum-Flood-Area-FAQ\\_11102021?bidId=](https://coconino.az.gov/DocumentCenter/View/29365/Museum-Flood-Area-FAQ_11102021?bidId=))
- Request Tracker to log concerns
  - Supplements Call Center
  - Addresses request for web-based resource
- Council Work Sessions for updates
- Public Relations consultant services

# Council Discussion

