



February 12, 2013

# Public Meeting

**Planning Study for Rehabilitation or Replacement of:**

**Powerline FRS**

**Vineyard Road FRS**

**Rittenhouse FRS**

**Felicia Terry, P.E., CFM**

District Project Manager

**Bob Eichinger, P.E., CFM**

Kimley-Horn Project Manager

# Contact Information

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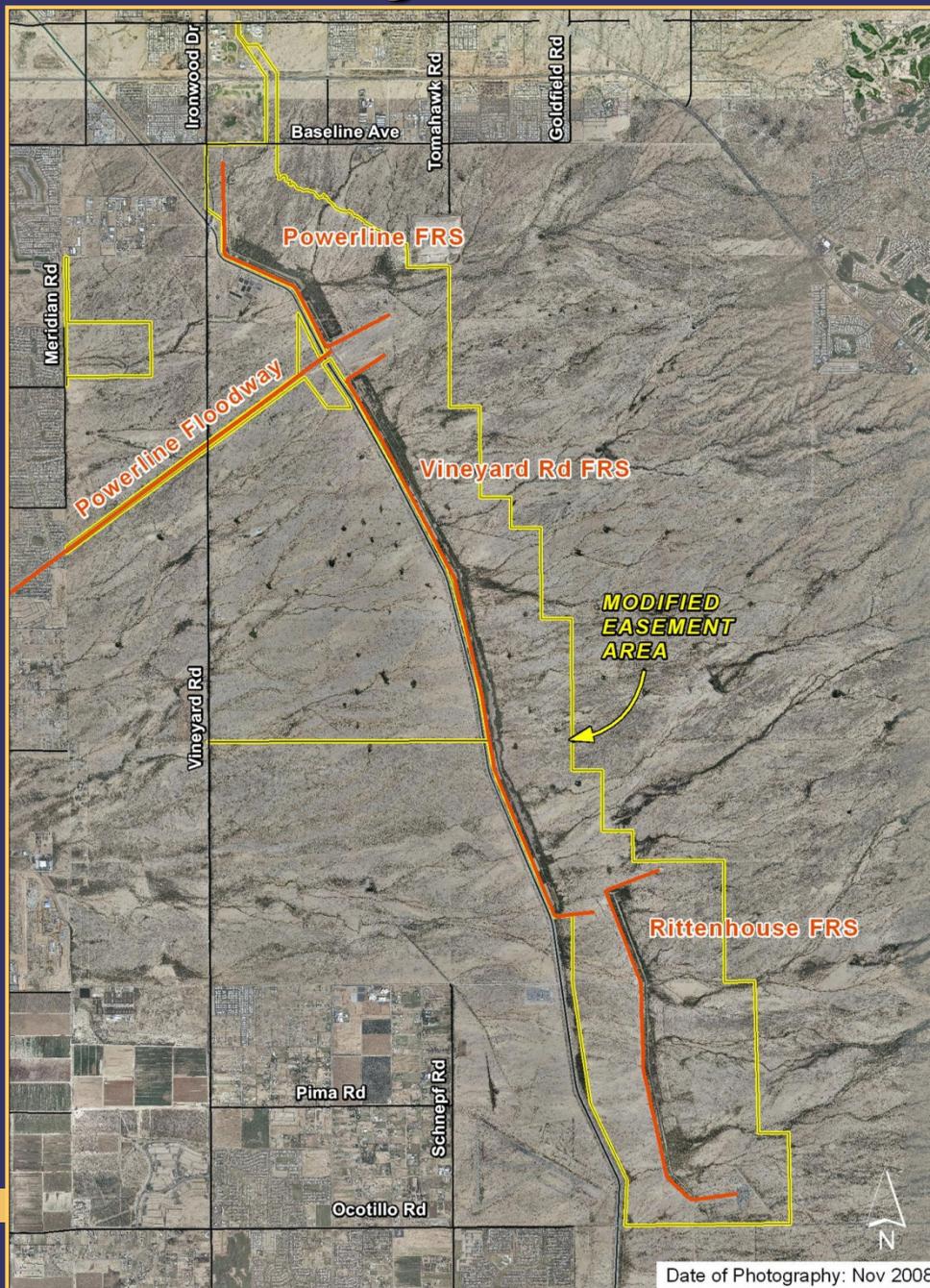
# Meeting Purpose

- Need for Project
- Schedule to Date
- Present Preferred Alternative
- Next Steps
- Request Public Comments

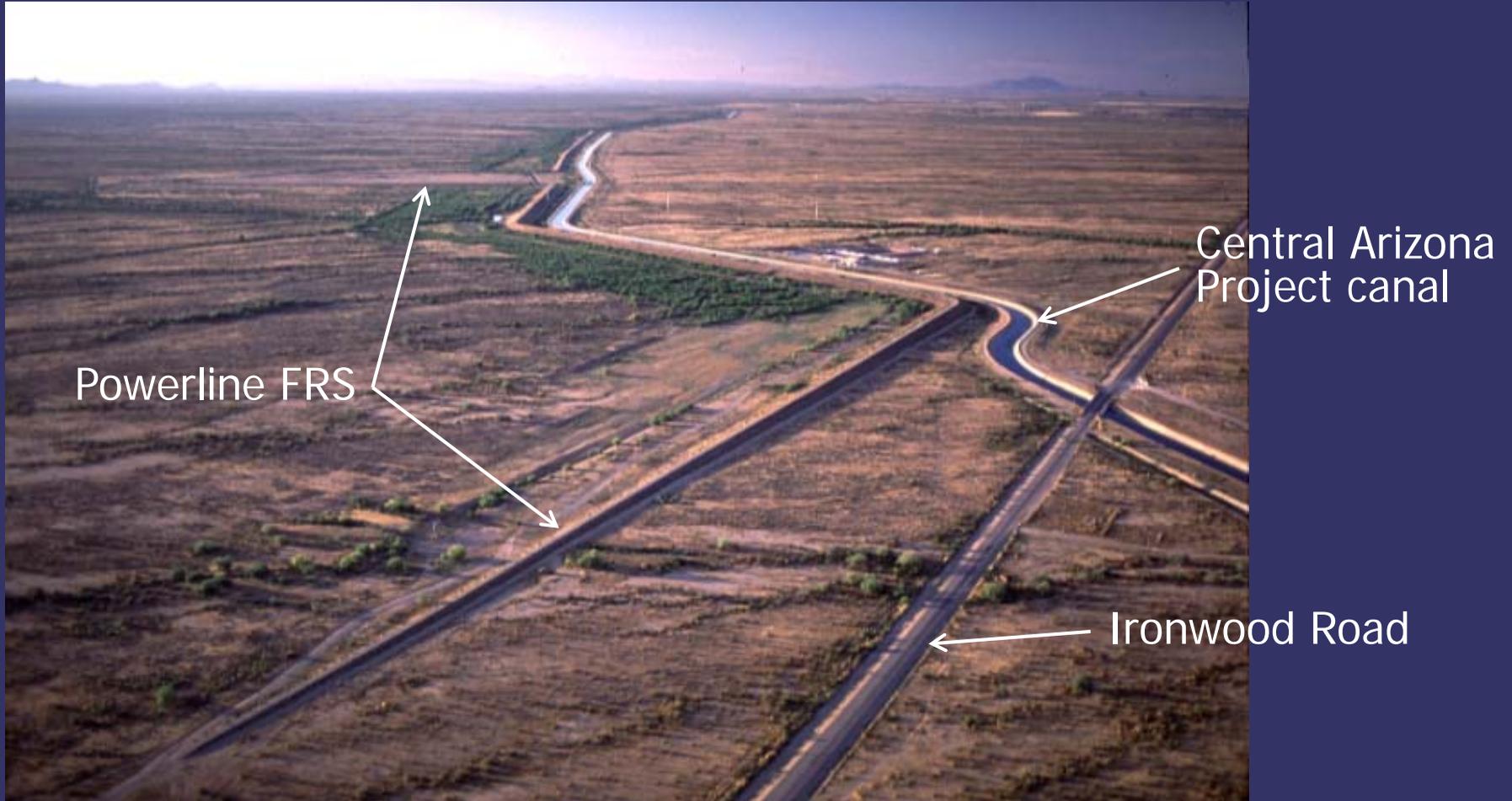




# Project Area



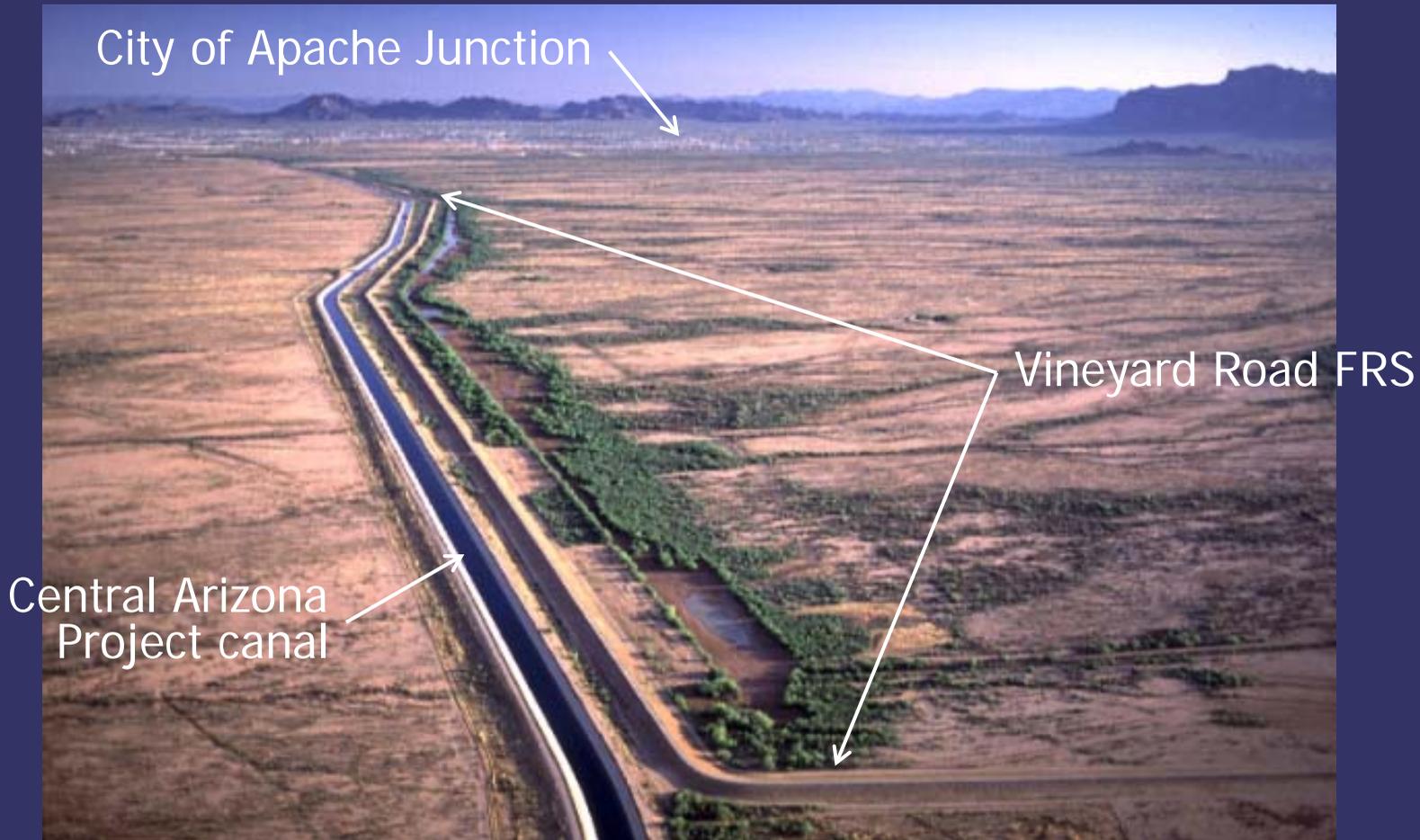
# Powerline FRS



Looking Southeast



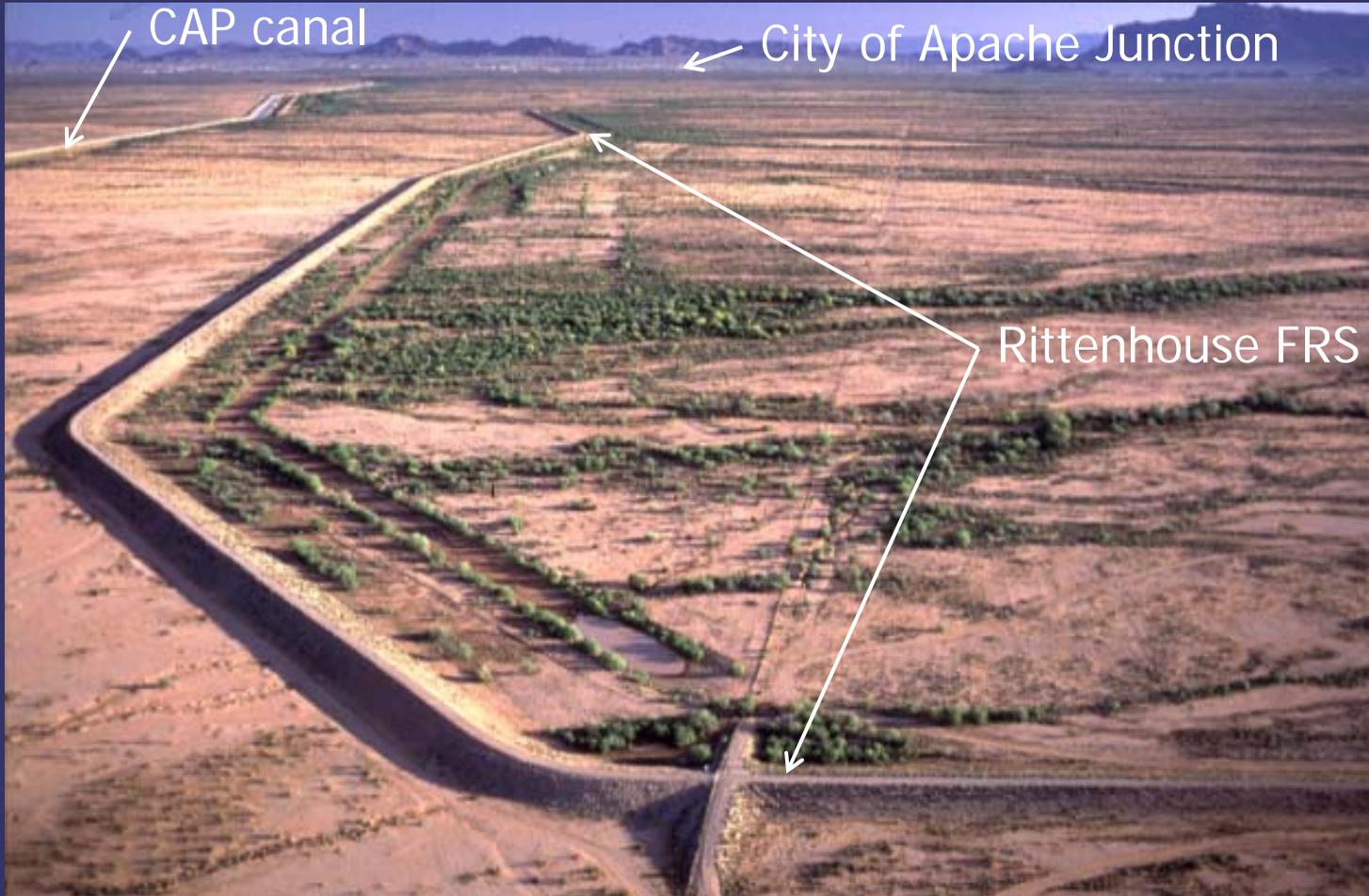
# Vineyard Road FRS



Looking Northwest



# Rittenhouse FRS



Looking Northwest



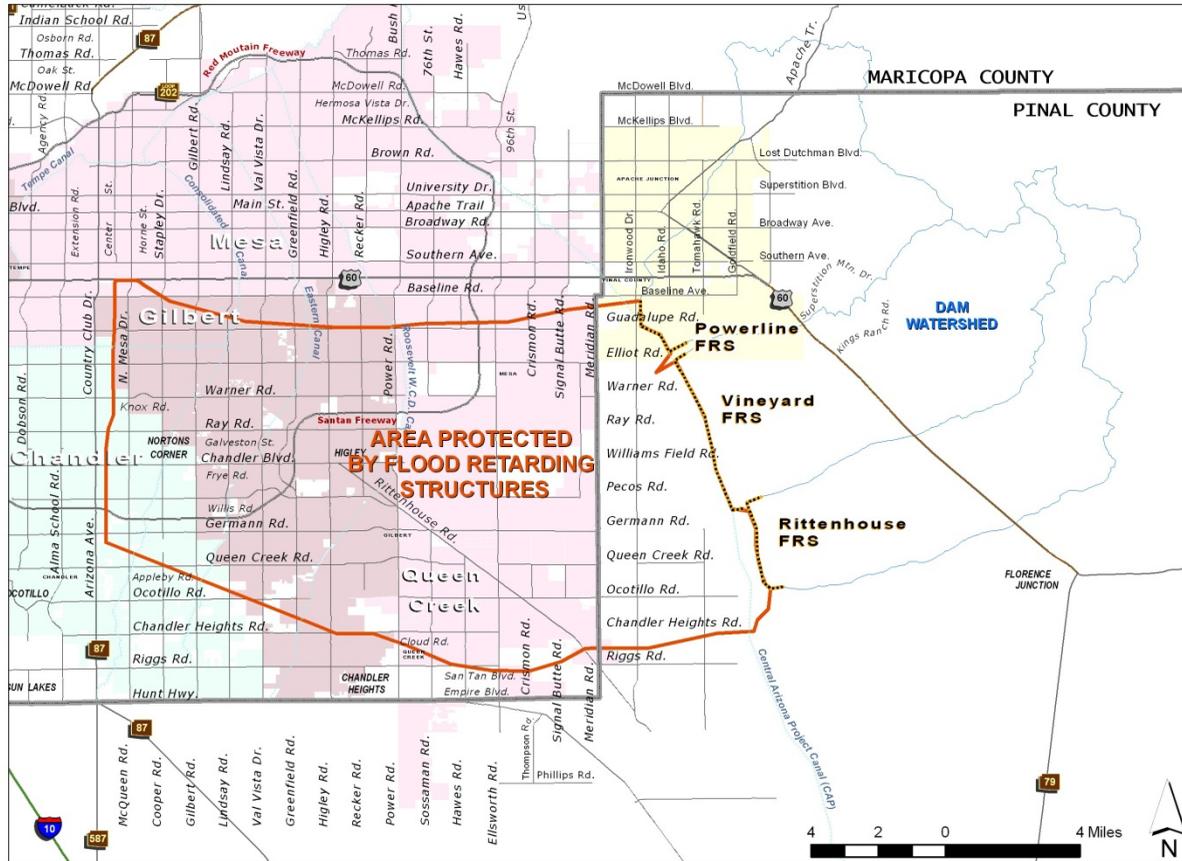
# Powerline FRS, Vineyard Road FRS, Rittenhouse FRS (PVR)



October 20, 1972



# Area Protected by PVR Structures



# Why are we Rehabilitating or Replacing the Dams?

- Potential for Overtopping During Large Flood Event
- Embankment Cracking
- Foundation Deficiencies
- Outlet Pipe Deficiencies
- Earth Fissures: Powerline FRS
- Land Subsidence: Powerline FRS, Vineyard Road FRS (North Third of Dam)



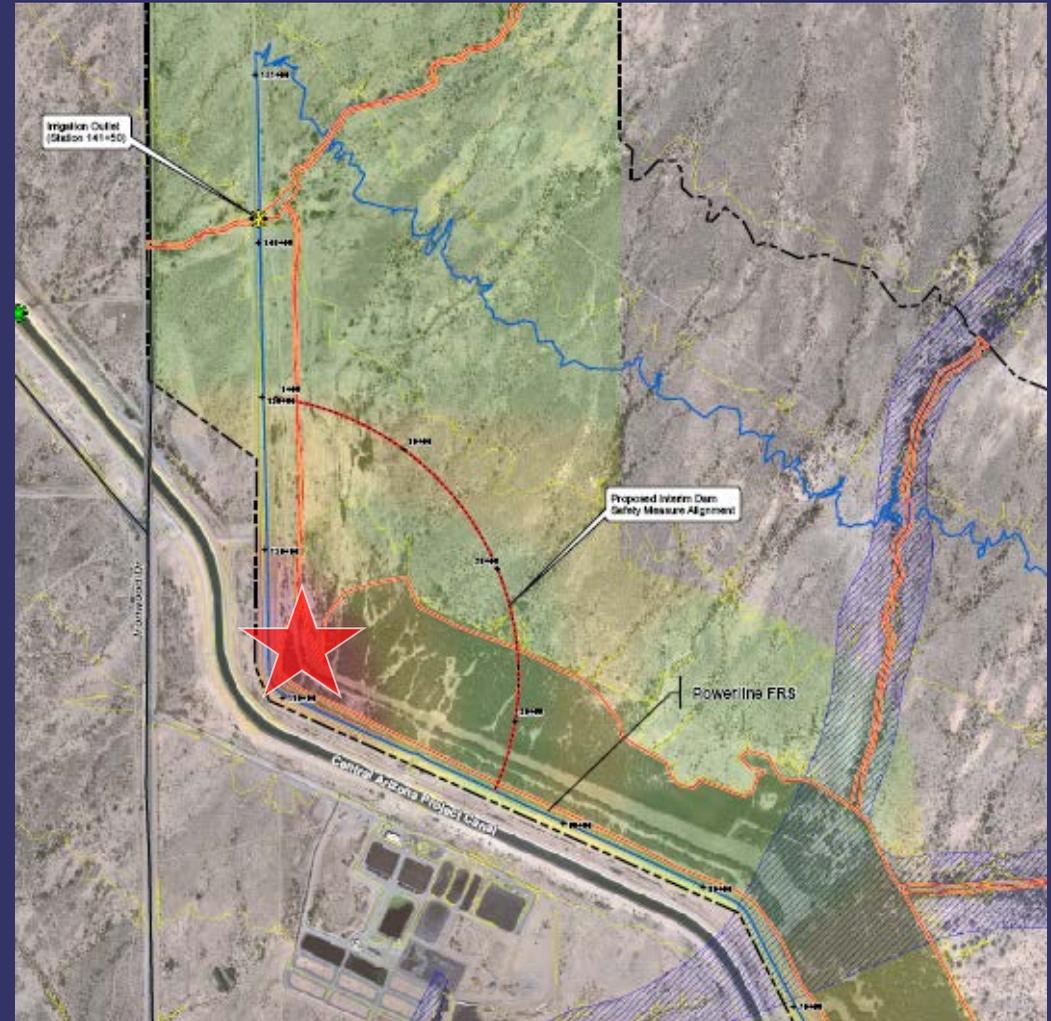
# Embankment Cracking



# Earth Fissures



# Powerline Earth Fissure



# Stakeholder Meetings/Workshops

- Stakeholder No. 1 – December 16, 2009
- Stakeholder No. 2 – August 26, 2010
- Stakeholder No. 3 – September 13, 2010
- Stakeholder No. 4 – November 18, 2010
- Workshop No. 1 – December 8, 2010
- Workshop No. 2 – April 18, 2011
- Workshop No. 3 – April 26, 2012



# Public Meetings

- Public Meeting No. 1 – November 4, 2010
- Public Meeting No. 2 – February 1, 2011
- Public Meeting No. 3 – February 12, 2013



# NRCS Dam Rehabilitation Program

## Four Major Phases

Kimley-Horn  
has completed  
Phase I

We Are Here

PHASE 1	Assessment (USDA: PL566, PL534, Pilot Watershed, RCD projects)	Structures Assessment
	Sponsor Certification	Ability to obtain land rights Provide local funds for cost-share Fund available continued O & M
PHASE 2	Planning Comply with NEPA, National Historic Preservation Act, T&E Species	No action Decommissioning/removal Rehabilitate dam NED alternative Non-structural alternatives
	Cost-Share Agreements based on total cost of rehabilitation project	Prepare memorandum of understanding 65% Federal/35% local sponsors
PHASE 3	Design	Complete design that meets current NRCS standards and state standards whichever is more stringent
	Preconstruction	Prepare O & M plan Prepare EAP
PHASE 4	Construction	Construct Project



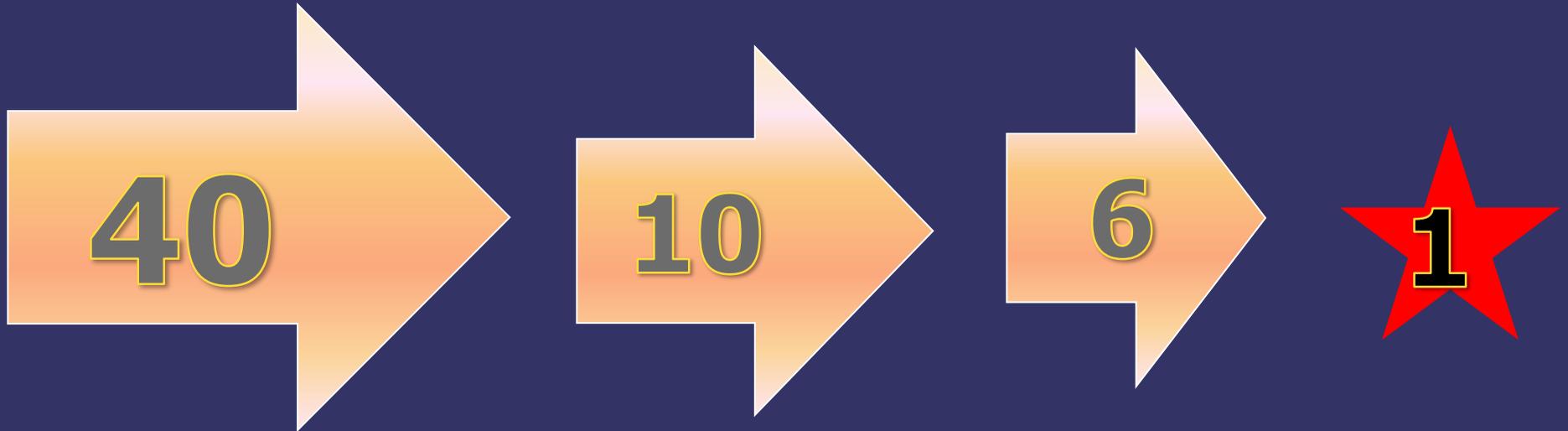
# Supplemental Watershed Plan – Environmental Assessment

- Draft Plans/Environmental Assessments prepared for proposed project
- Plans/EAs describe Preferred Alternative including measures, costs, benefits, and environmental effects
- Public review/comment period:  
February 12 – March 15, 2013



# Alternative Process

- Formulation
- Evaluation
- Screening
- Ranking



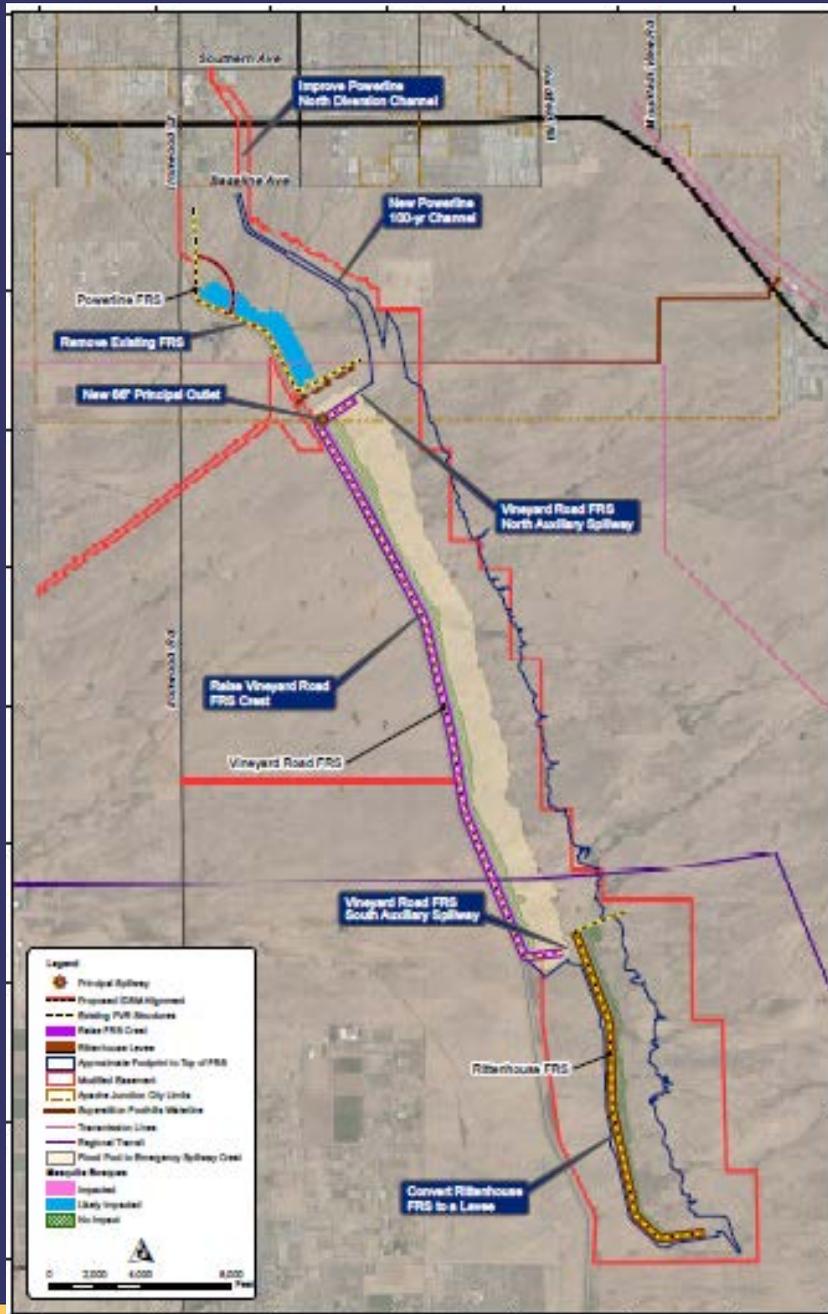
# Six Alternatives

Alternative	Dam		
	Powerline	Vineyard	Rittenhouse
1	Rehabilitation	Rehabilitation	Rehabilitation
2	Channel	Channel/Rehab	Rehabilitation
3	Channel	Channel/Rehab	Levee
4	Channel	Rehabilitation	Channel
5	Channel	Rehabilitation	Levee
6	Channel	Rehabilitation	Rehabilitation
No Action	Existing	Existing	Existing

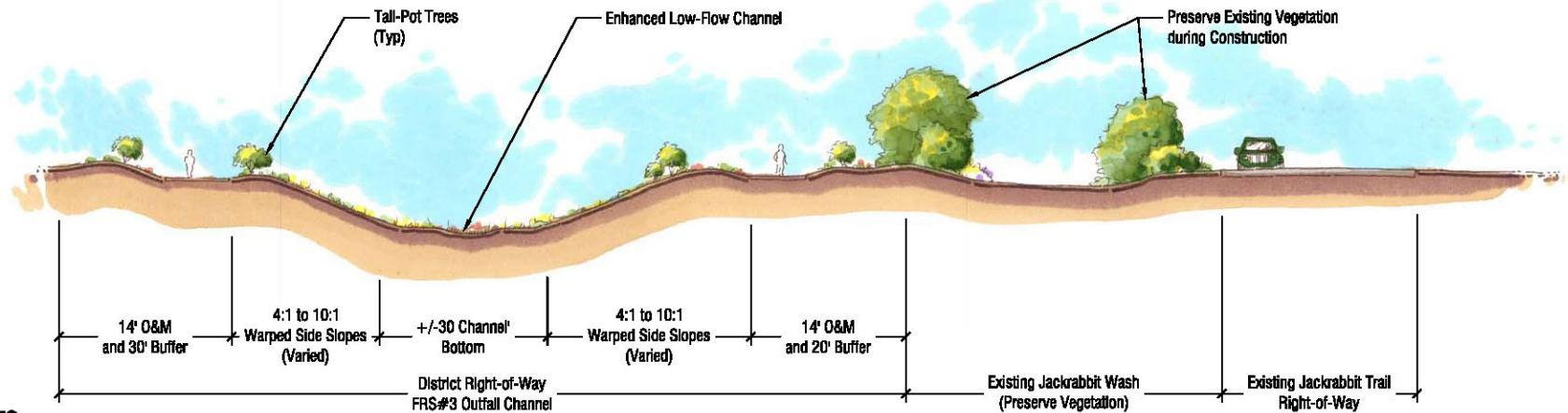


# Preferred Alternative

- Replace Powerline with flood channel – drain to Vineyard Road FRS
- Raise and Rehab Vineyard Road FRS
- Convert Rittenhouse dam to a levee – drain to Vineyard Road FRS



# Typical Channel Section

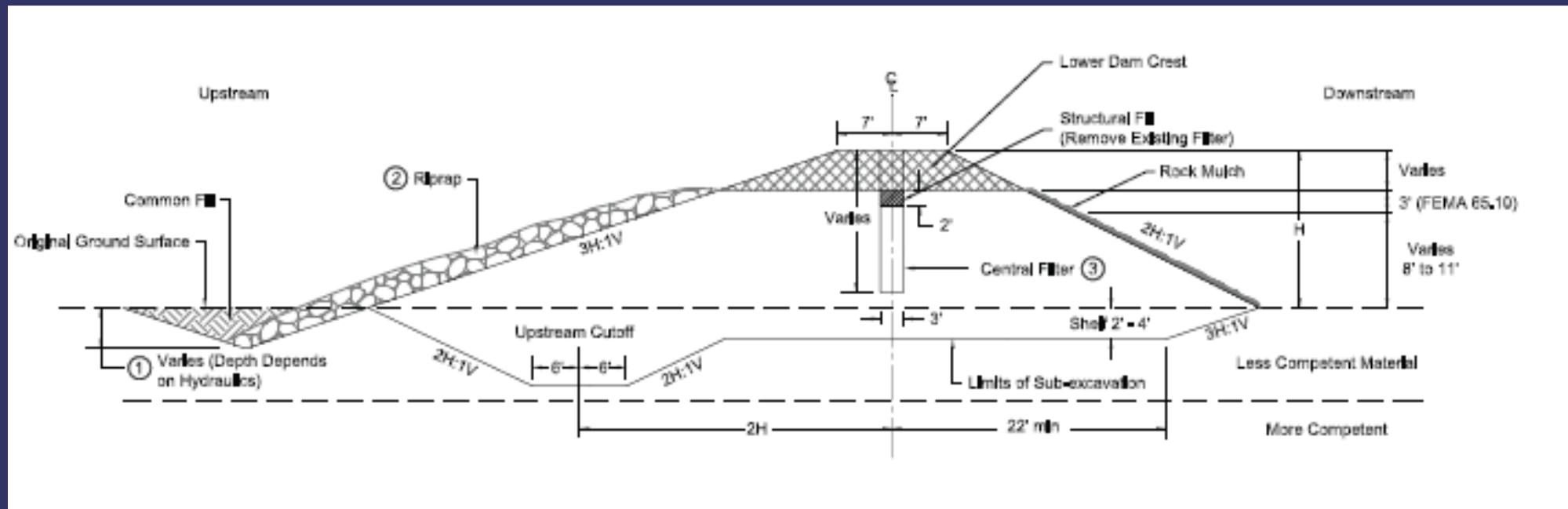


Typical Section - NTS





# Typical Levee Section



# Preferred Alternative Costs

Powerline Structures	\$ 2,882,500
Vineyard Road Structures	\$ 27,594,400
Rittenhouse Structures	\$ 5,371,900
Additional Elements	\$ 6,750,800
Subtotal Structures Cost	\$ 52,599,600
Subtotal Landscape, Cultural/Environmental	\$ 20,727,900
Subtotal Permitting, Engineering, Construction Mgt	\$ 9,535,000
Total Project Cost	\$ 82,862,500



# Cost Share

- Plans/EAs contain Watershed Agreement between NRCS and District which outlines cost-sharing arrangement for project
- 65% Federal
- 35% District



# Benefits of Project

- Continued flood protection for 91,700 residents below the structures
- Central Arizona Project Canal, Phoenix-Mesa Gateway Airport, five schools, numerous commercial buildings, roads, utilities and other infrastructure protected
- Annual flood damage reduction benefits estimated at \$19 million



# Environmental Effects

- Cultural resources surveys have identified prehistoric and historic sites in close proximity to the proposed project
- Where possible, sites will be avoided by project construction
- Sites that will be impacted by project will be mitigated by data recovery studies



# Environmental Effects

- No Threatened or Endangered species are known to inhabit project area
- Tucson shovel-nosed snake and Sonoran desert tortoise are Candidate species that may inhabit the project area
- Prior to construction, surveys will be conducted for these species and appropriate procedures will be taken



# Environmental Effects

- Project construction may directly impact 100 acres of mesquite bosque
- Following construction, mitigation will include salvage of some mature mesquites and planting of “tall-pot” mesquites in areas that will support establishment and growth of trees



# Next Steps

- Public/Agency review/comment period – through March 15, 2013
- Address comments and prepare Final Plans/EAs – April 30, 2013
- Submit Final Plans/EAs and request approval to implement project – anticipated June 30, 2013



# Next Steps

- Final engineering design – FY 2013-2016
- Construction (Vineyard Road FRS) – anticipated FY 2018
- Construction (Powerline Channel) – anticipated FY 2022
- Construction (Rittenhouse Levee) – anticipated FY 2024





**Rehabilitation or Replacement of:  
Powerline FRS  
Vineyard Road FRS  
Rittenhouse FRS**

For more information and to review the  
Plan/Environmental Assessment:

[www.fcd.maricopa.gov/ads/PVR.htm](http://www.fcd.maricopa.gov/ads/PVR.htm)

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