

**Flood
Stakeholder
Group**

WELCOME

April 14, 2016



Agenda

- **Welcome and Updates**
(Bill Wiley)
- **Floodplain Management: Who Does What**
(Kelli Sertich)
- **Wickenburg Flood Prone Property Buyout Update**
(John Hathaway)
- **Emergency Action Plans**
(Stephanie Gerlach)
- **Project Updates**
(Don Rerick)
- **Round Table**
(All)





WELCOME



- **Amir Motamedi**
Sr. Civil Engineer (*Engineering*)



- **Denise Cook**
Accounting Specialist (*Administration*)



- **David Olson**
GIS Programmer (*Graphic Info. Svcs.*)



WELCOME



NO IMAGE
AVAILABLE

- **Scott Roybal**
Inspector - Maintenance (*O&M*)



- **Joshua Lee**
Construction Project Mgr. (*PPM*)



- **Jocelyn Hicks**
Property Mgmt. Specialist (*Real Estate*)

Farewell

- **Art Smith**

Management Analyst (*Executive*)

- **John Stock**

Map Survey Chief (*Engineering*)

- **Pedro Melo-Rodriguez**

Hydrologist (*Engineering*)



Farewell

- **Gary Wesch**

Project Manager (*PPM*)

- **Mike Towers**

Construction Project Manager (*PPM*)

- **Dianna Cunningham**

Property Mgmt. Branch Manager
(*Real Estate*)



Farewell

- **Jamie Granado**

Property Mgmt. Specialist (*Real Estate*)

- **Jacob Franzmeier**

General Maintenance Worker (*O&M*)

- **Peter Slack**

Heavy Equipment Operator – Sr.
(*O&M*)



Farewell

- **William Townsend**

General Maintenance Worker *(O&M)*



Federal Regulatory Changes/Issues

1. Revised Federal Flood Risk Management Standard
2. Waters of the United States
3. Changes for NPDES Permit Requirements
4. U.S. Army Corps of Engineer's Permitting Process
5. National Flood Insurance Program
6. Other Issues



2015 FCD Annual Report
Flood Control's Progress Report to Residents

2015 Flood Facts
A locally produced publication about your flood risk, current regulations, and more.

Reduce A Resource
Understand to reduce it

News and Media

Peoria Community Park one step closer to development
Approved IGA enables Peoria and FCD to move the park project towards development.

Voluntary Buyout for Flooded Wickenburg Properties
Flood-prone homes may be removed from the Town floodplain

New River Trail Expands
Residents were welcomed to the the New River Trail expansion (99th Ave. and Northern Ave).

Small Projects to Prevent Flooding
On 10/7/2015, four neighborhood flood control projects were approved.

[News Archive](#)

How Do I...?

- [Find current and historical rainfall & stream data?](#)
- [Find flood hazard information for my property?](#)
- [Learn about, or purchase, flood insurance?](#)
- [Find out the status of a permit?](#)
- [View flood hazard study information?](#)
- [Find real estate auctions, sales and leases?](#)
- [Register to be a vendor?](#)
- [Report a flood?](#)
- [Request maintenance on a flood control property?](#)
- [Reduce my risk of flooding?](#)
- [Prepare for a storm and recover from flooding?](#)
- [Know what's open for bid? Current Contracts | Future Contracts](#)
- [Learn about projects in my area? View Map | See List](#)
- [Know I'm in a Floodplain / How do I request to be removed?](#)

Current Weather

Flood Control District Weather Station
Phoenix, AZ

Currently : 70°F
Wind : SE at 4.1 MPH
Humidity : 65%
Dewpoint : 57°F
Barometer : 29.90 inches
 Last updated : 04/08/2016 09:17 AM
[Weather Outlook and Gage Information](#)

Event Calendar

< April 2016 >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

All Events

How To Reach Us

Main (602) 506-1501
 Floodplain Information (602) 506-2419
 Media Inquiries (602) 506-6762
 Citizen Advocate (602) 506-4723

Give us your feedback?
 Subscribe for email notifications





April 14, 2016

Floodplain Management: Who Does What?

Kelli Sertich, AICP, CFM
Floodplain Mgmt/Svc Manager

Arizona Revised Statutes

Title 48

Each county required to organize a flood control district. Some of the Powers & Duties:

- ✓ Capital Improvement Projects
- ✓ Survey & Report of Flood Control Problems
- ✓ Water Course Master Plans
- ✓ Delineate & Regulate Floodplains
- ✓ Adopt & Enforce Floodplain Regulations
- ✓ Perform Floodplain Management for cities & towns in the county

Federal & State

- **Floodplain Regulations intended to carry out the requirements of the NFIP**
- Code of Federal Regulations (CFR) sets minimum standards for development in the floodplains
 - 44 CFR
- **State of Arizona through ADWR has a Floodplain Management Model Ordinance based on the CFR**
- Communities then adopt Floodplain Regulations based on the CFR and Model Ordinance

Floodplain Management?

- Title 48 ARS – floodplain management – focus is on regulating floodplains
- §48-3610 - City or Town can assume its own floodplain management – resolution adopted by council
- **10** cities/towns – perform own
- **14** cities/towns – District Dependent
- Unincorporated County - hybrid



District Dependent

- Buckeye
- Carefree
- Cave Creek
- Chandler
- El Mirage
- Gila Bend
- Guadalupe
- Litchfield Park
- Mesa
- Queen Creek
- Surprise
- Tolleson
- Wickenburg
- Youngtown

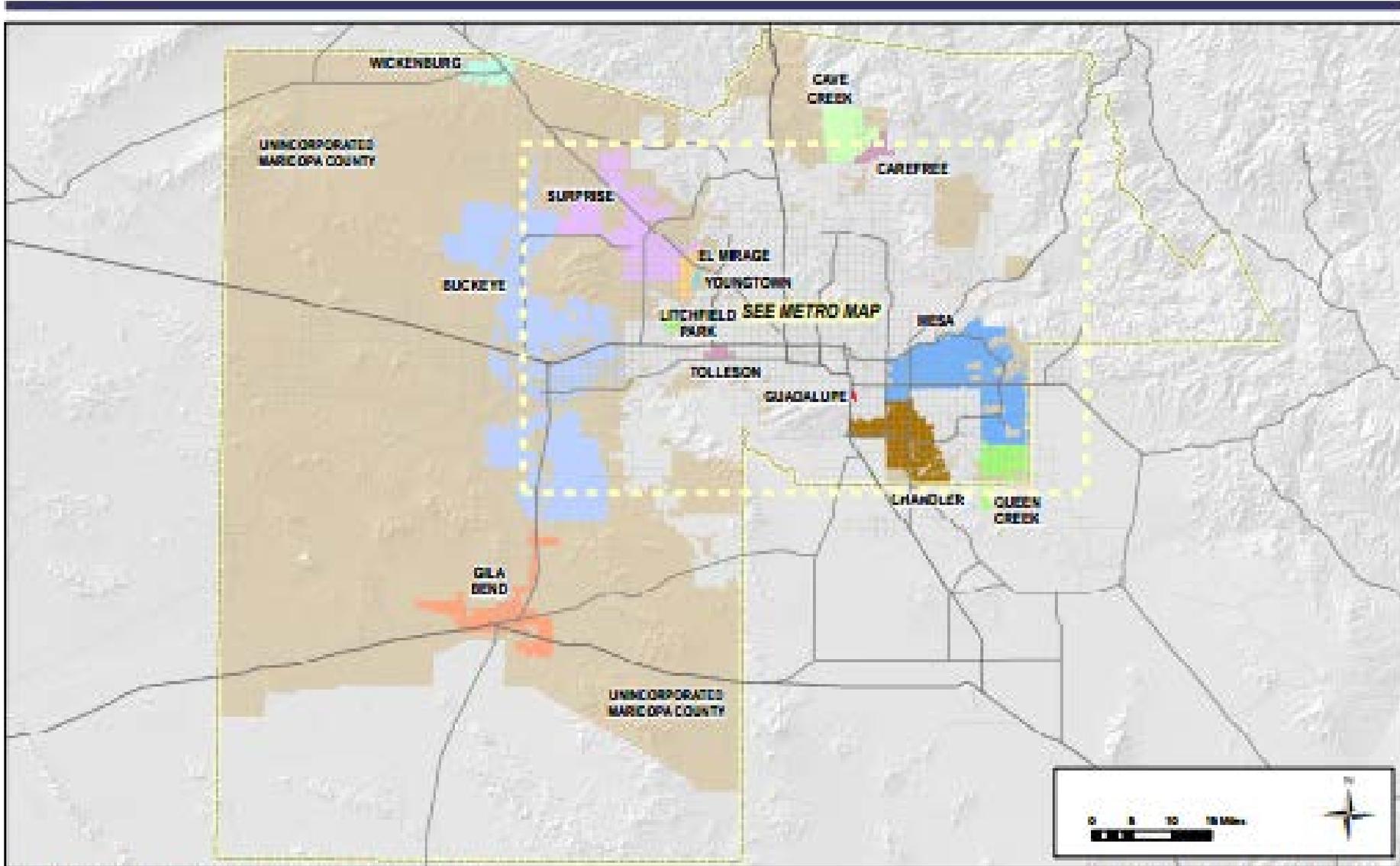
Own Management

- Avondale
- Fountain Hills
- Gilbert
- Glendale
- Goodyear
- Paradise Valley
- Peoria
- Phoenix
- Scottsdale
- Tempe





Communities Dependent on FCDMC to Perform Floodplain Management



Source: Public Works Management Department/Flood Control District of Maricopa County

Flood Control District of Maricopa County, 500 University, July 2017

Customer Inquiries FY 2015-16 (to date)

Calls on property of from people
all over county – provide general
floodplain information

JURISDICTION		ACTIVITIES
City of Avondale	040038	12
City of Buckeye	040039	36
City of Chandler	040040	187
City of El Mirage	040041	8
City of Glendale	040045	13
City of Goodyear	040046	22
City of Litchfield Park	040128	3
City of Mesa	040048	144
City of Peoria	040050	33
City of Phoenix	040051	350
City of Scottsdale	045012	115
City of Surprise	040053	143
City of Tempe	040054	8
City of Tolleson	040055	12
Other	N/A	103
Town of Carefree	040126	15
Town of Cave Creek	040129	37
Town of Fountain Hills	040135	10
Town of Gila Bend	040043	6
Town of Gilbert	040044	62
Town of Guadalupe	040111	2
Town of Paradise Valley	040049	7
Town of Queen Creek	040132	19
Town of Wickenburg	040056	81
Unincorporated Maricopa County	040037	1,289

FCD & Unincorporated County

- FCD – Floodplain Administrator for County and Map Repository
- FCD – Drainage Studies, Delineations, Regulations
- P&D – Technical review for Floodplain Use Permits and Drainage
- P&D – Inspections for Floodplain Use Permits
- FCD – Enforcement for violations
- FCD – NFIP & CRS documentation

District Dependent

Minimum by FCD:

- Meet with community to discuss responsibilities and expectations from FCD
- FCDMC Process Floodplain Use Permits for any development in the community's floodplains
- Maintain records of permit activity for NFIP
- Send copy of approved permit to city/town
- Assist with any additional technical support
- Participate in NFIP and CRS audits / cycle visits

District Dependent

Minimum by Community:

- Appoint a community Floodplain Administrator
- Assure that all development in the floodplains get permits
- Keep permit records and Elevation Certificates
- Keep and maintain copies of the Floodplain Regulations and FIRMs
- Complete Inspections as required by permit
- Have a written SOP for how they work with FCD on permitting for NFIP

Inspections & Enforcement

- **FCD** – enforcement for violation of permit or non-permitted in floodplain
- **FCD** – also investigate non-floodplain flooding issues after storm events
- **Dependent Communities** – will usually do inspections with building permit but FCD will assist if asked
- **Enforcement** – FCD practice of not enforcing in cities/towns unless requested by community.
- **FCD** – issue NOV, record notice on property, take to Hearing Officer

Variations & Appeals

- Variations for the Dependent Communities go through FCD – Administrative or Floodplain Review Board
- FCD will seek ok from community first – affects city/town NFIP standing
- Appeals regarding interpretation of Regulations go to FCD Floodplain Review Board



NFIP & CRS

FCD to Cities/Towns/County

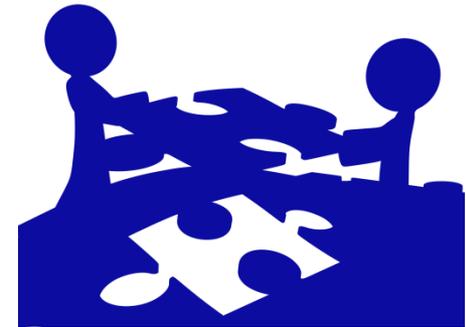
- Consultant relationship/partnership

Relationship with FEMA

- The community is responsible for staying in good standing in the NFIP
- FCD and community will compare record keeping before audits.
- FCD will attend community's audit and assist with any issues
- Community provides documentation for CRS visits – FCD starting to be more involved

Summary

- Basic services for all
- Variable for each community depending on need
- Goal – keep process quick and seamless for applicant
- Keep communities in good standing with FEMA



Questions?

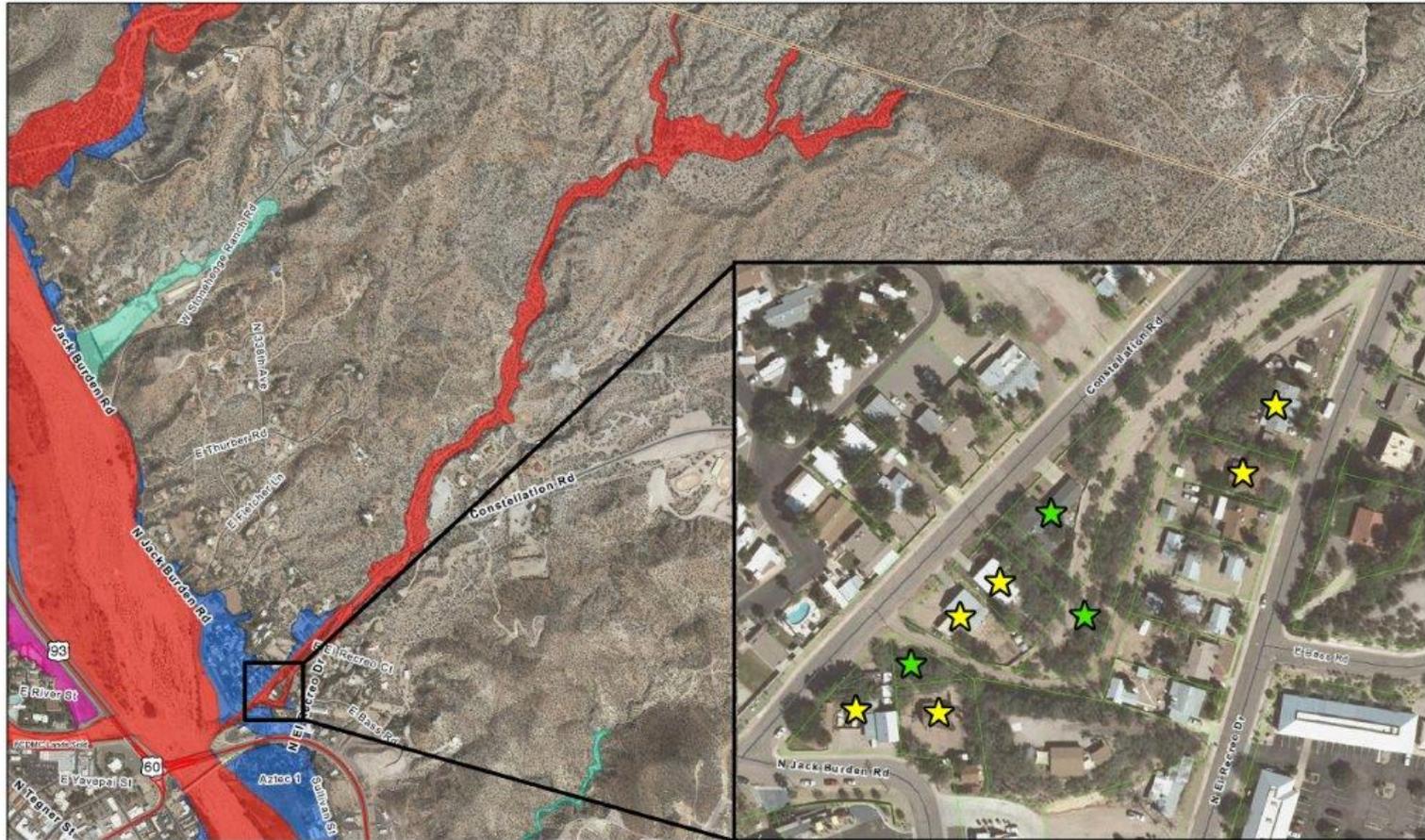




WICKENBURG FLOODED PROPERTIES ACQUISITION PROJECT

**April 14, 2016
John Hathaway, P.E.**

Project Location



Date: 9/11/2015 Time: 12:39:23 PM 0 420 840 1680 Feet 1 inch = 833 feet

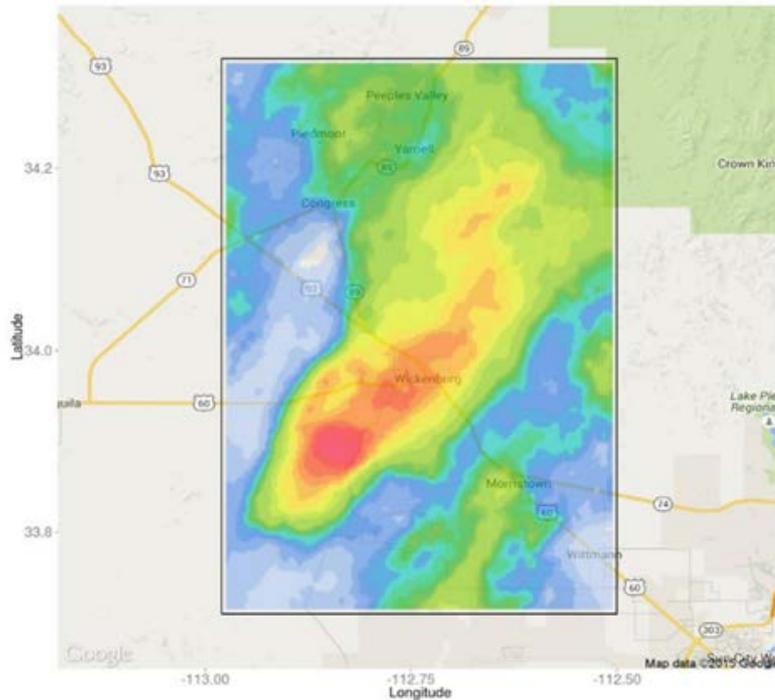
The Flood Control District of Maricopa County (FCDMC) - Unofficial Document
 This document cannot be used for floodplain determinations. Current studies, erosion setbacks and other factors may also affect the floodplain status of the property.
 The information shown for pending floodplains are the best technical information available at this time to determine the one percent chance flood and are subject to change.

Current FEMA Flood Zones
 Occupied structure, possible District acquisition
 Un-occupied structure/vacant land, possible Town acquisition

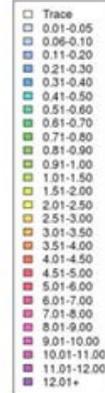
Floodplain Management & Services
 2851 West Glendale Street
 Phoenix, Arizona 85029
 Phone: (602) 305-2410
 Fax: (602) 373-4252
<http://www.fcfd.maricopa.gov/floodplain/floodplain.aspx>

Storm of July 18, 2015

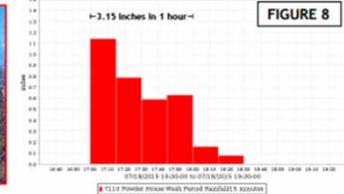
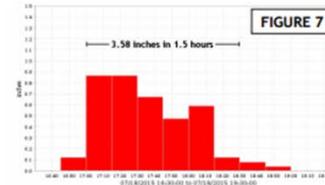
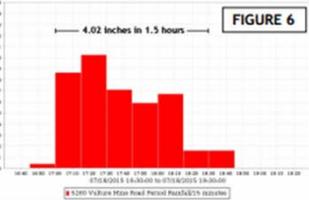
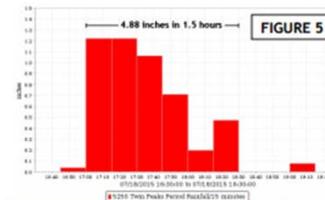
Final 12-hour Storm Total Precipitation
 July 18 (2200 UTC), 2015 to July 19 (0900 UTC), 2015
 Domain: 34.32 N - 112.95 W 33.71 S - 112.5 E (Maricopa County)
 Maximum Precipitation = 5.31 inches



Created by MetStorm on 2015-05-13



15-minute time distributions for selected rain gages are shown in Figures 5-8 below:



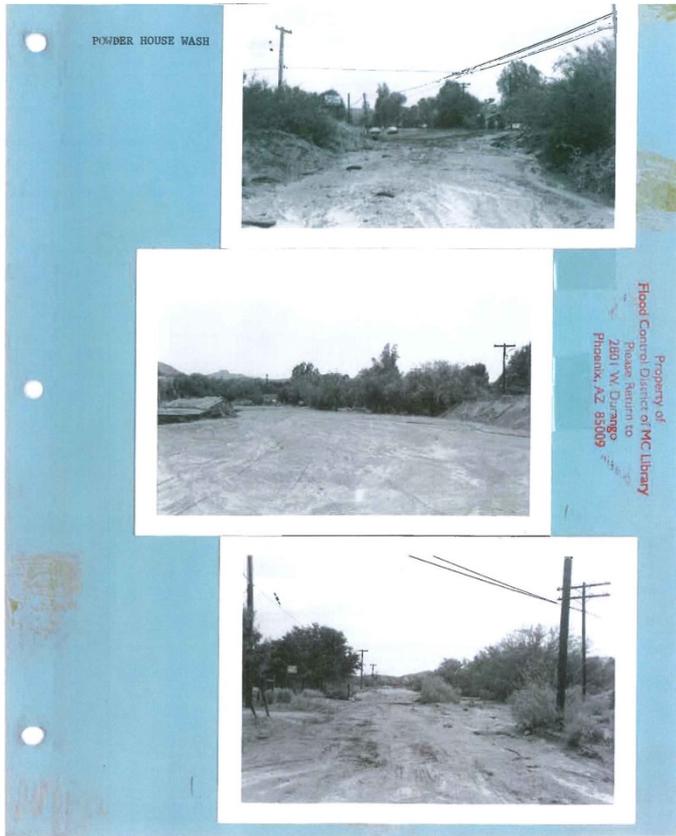
Constellation Road



August 26, 2014



Oh, no! Not again!



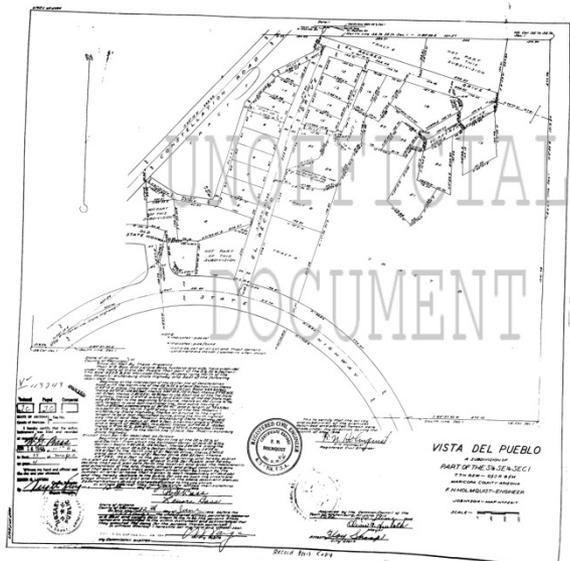


How does this happen?

Pueblo Del Vista 1946

Lot split c.1992

4



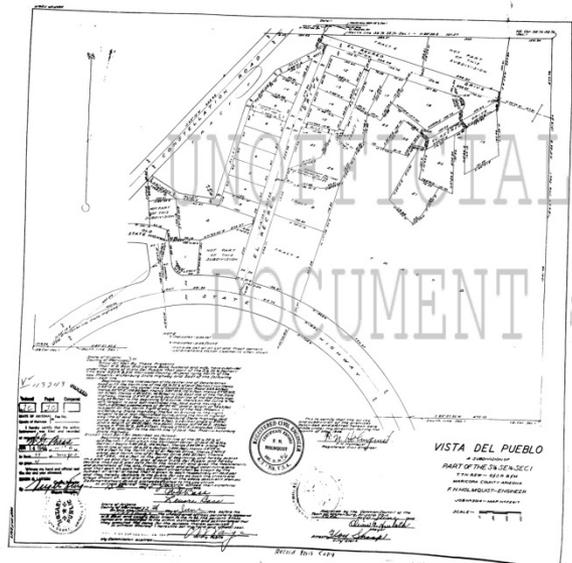
★ = occupied structure; possible District acquisition

★ = unoccupied structure/vacant land; possible Town acquisition

How does this happen?

Pueblo Del Vista 1946

Lot split c.1992



4



★ = occupied structure; possible District acquisition

★ = unoccupied structure/vacant land; possible Town acquisition

District Response



Thursday, July 23, 2015 – FCD staff and other agencies working the one-stop-shop at the Wickenburg Community Center providing information to residents after the flooding.



Authorizing a Solution

- Resolution FCD 2015R008
 - Wickenburg Flooded Properties Acquisition Project
 - Companion Budget Adjustment
 - Floodprone Properties Assistance Program Model
- IGA FCD 2015A013
 - Partnership between Wickenburg & FCD
 - Flood Control: acquire 6 “occupied” houses
 - Wickenburg: unoccupied house & vacant parcels

Project Description

- FCD Goal: Voluntary buy-out before 2016 monsoon
- Offers based on “pre-disaster” appraisal
- Wickenburg: Unoccupied residence & vacant parcels
- FCD: relocate residents & demolish all structures
- Wickenburg: Reimburse cost of demo
- FCD: Deed properties over to Wickenburg at end
- Wickenburg: Perpetual maintenance as open space
- Wickenburg: Potential future Corps project/Park

Questions?



★ = occupied structure; possible District acquisition

★ = unoccupied structure/vacant land; possible Town acquisition



FCDMC's (Dam Safety) Emergency Action Plans

Stephanie Gerlach, PE

Engineering Division, Special Projects Branch

Agenda

- Why are EAPs important?
- Terminology
- Emergency Action Plans
- FCDMC Responsibilities
- Questions



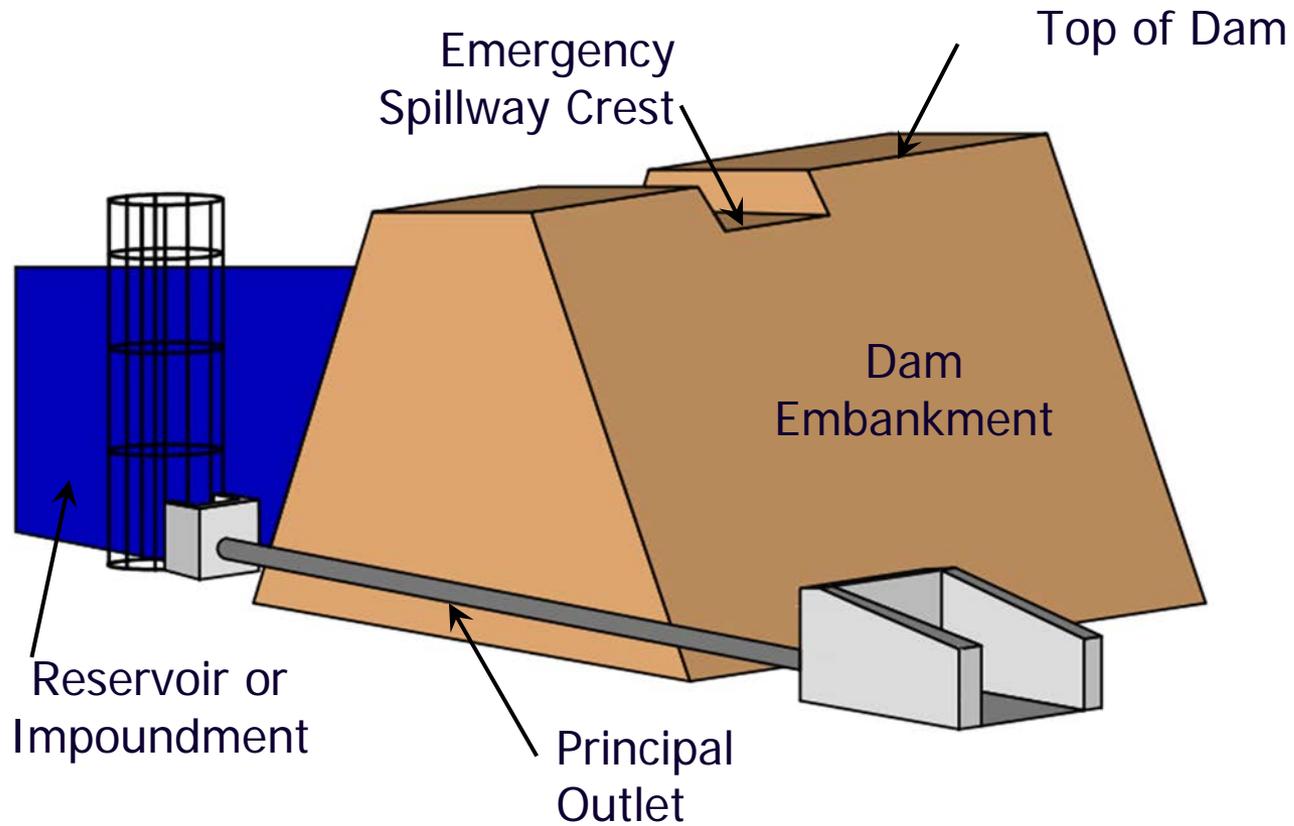
**Bento Rodrigues Dam
Break, Brazil
November 5, 2015**

Why Do We Have EAPs?



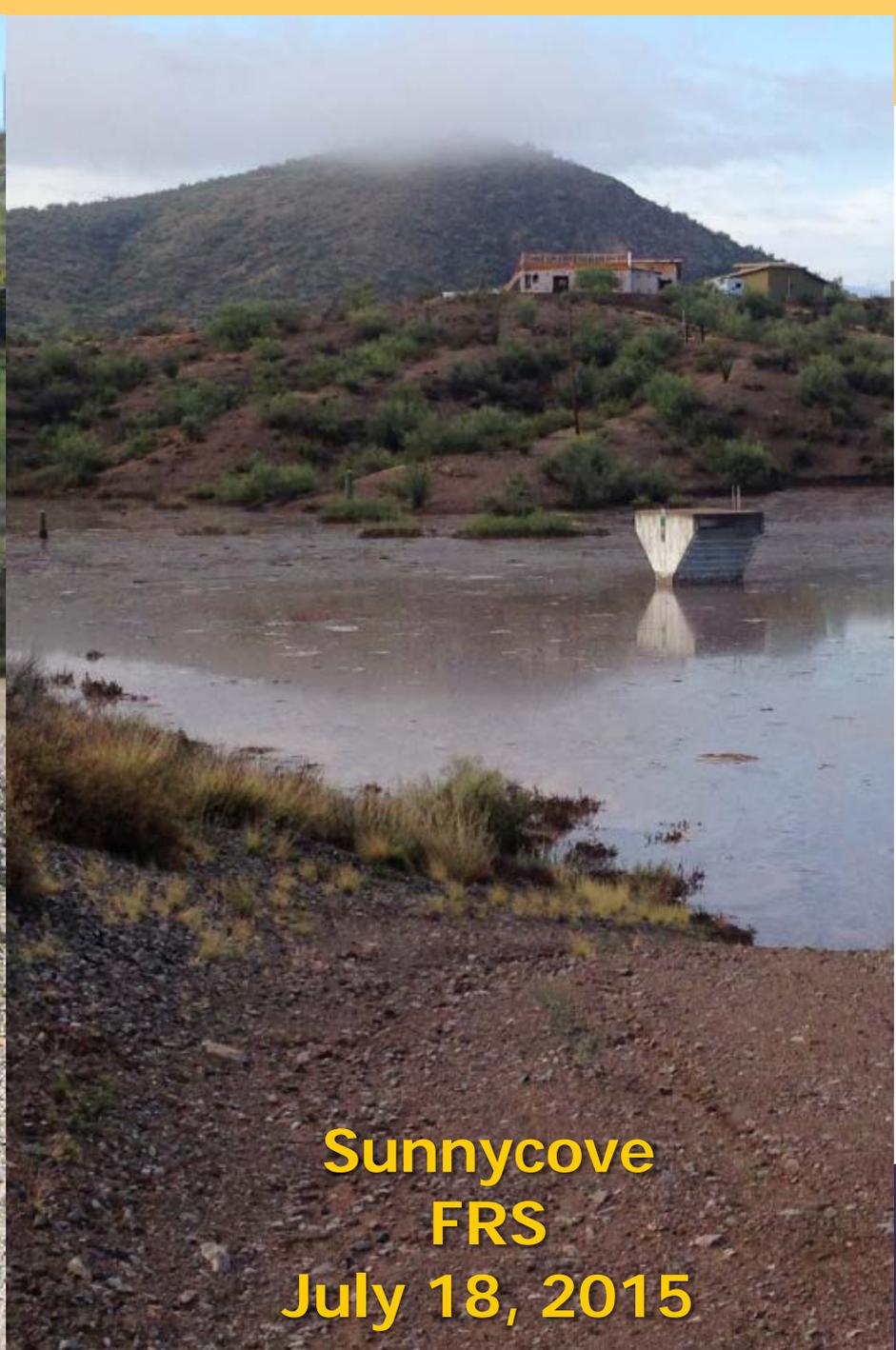
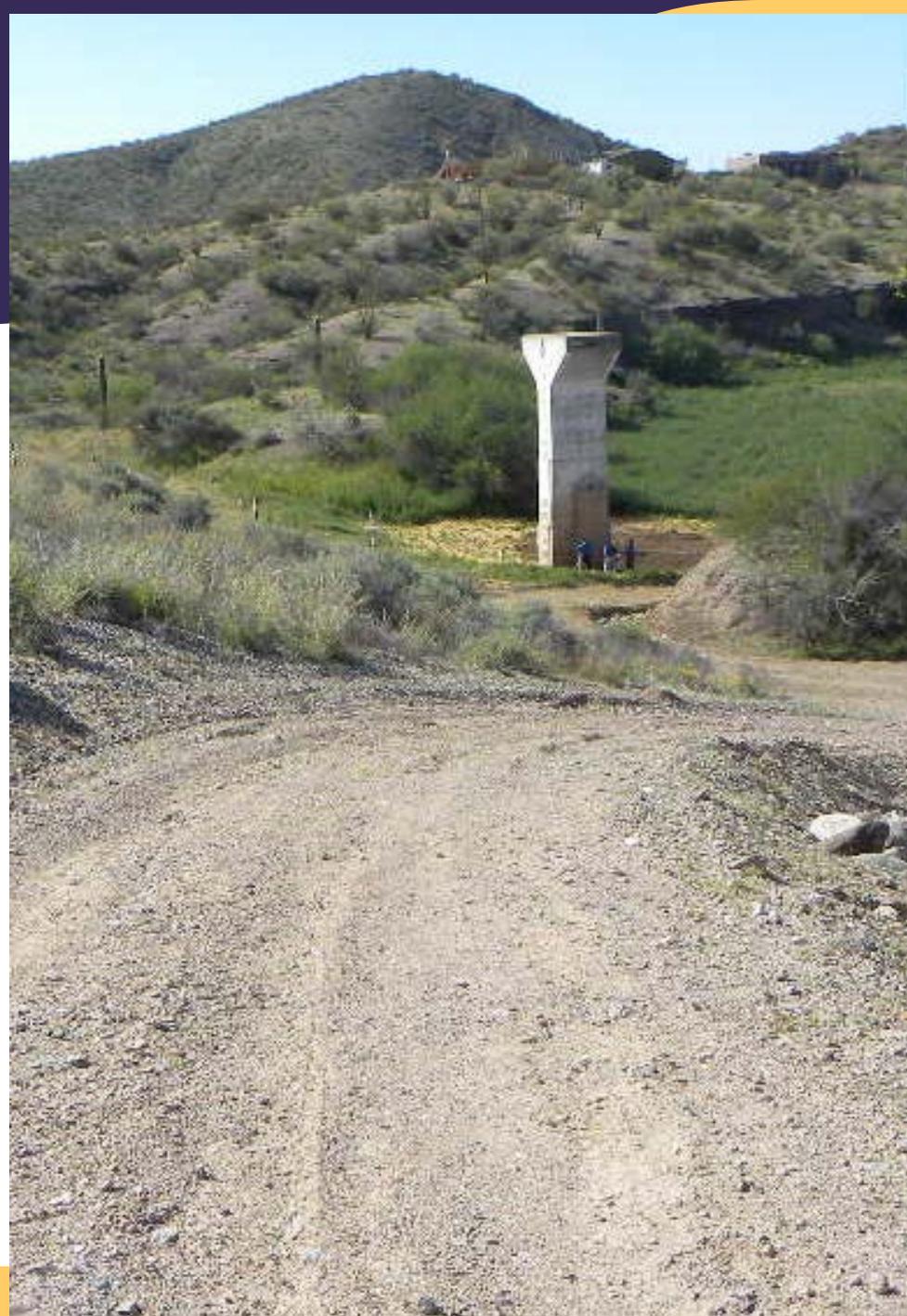
Dam Terms

Flood Retarding Structure (FRS)





Sunset FRS Emergency Spillway



Sunnycove
FRS
July 18, 2015



Guadalupe FRS Emergency Spillway

McMicken Dam



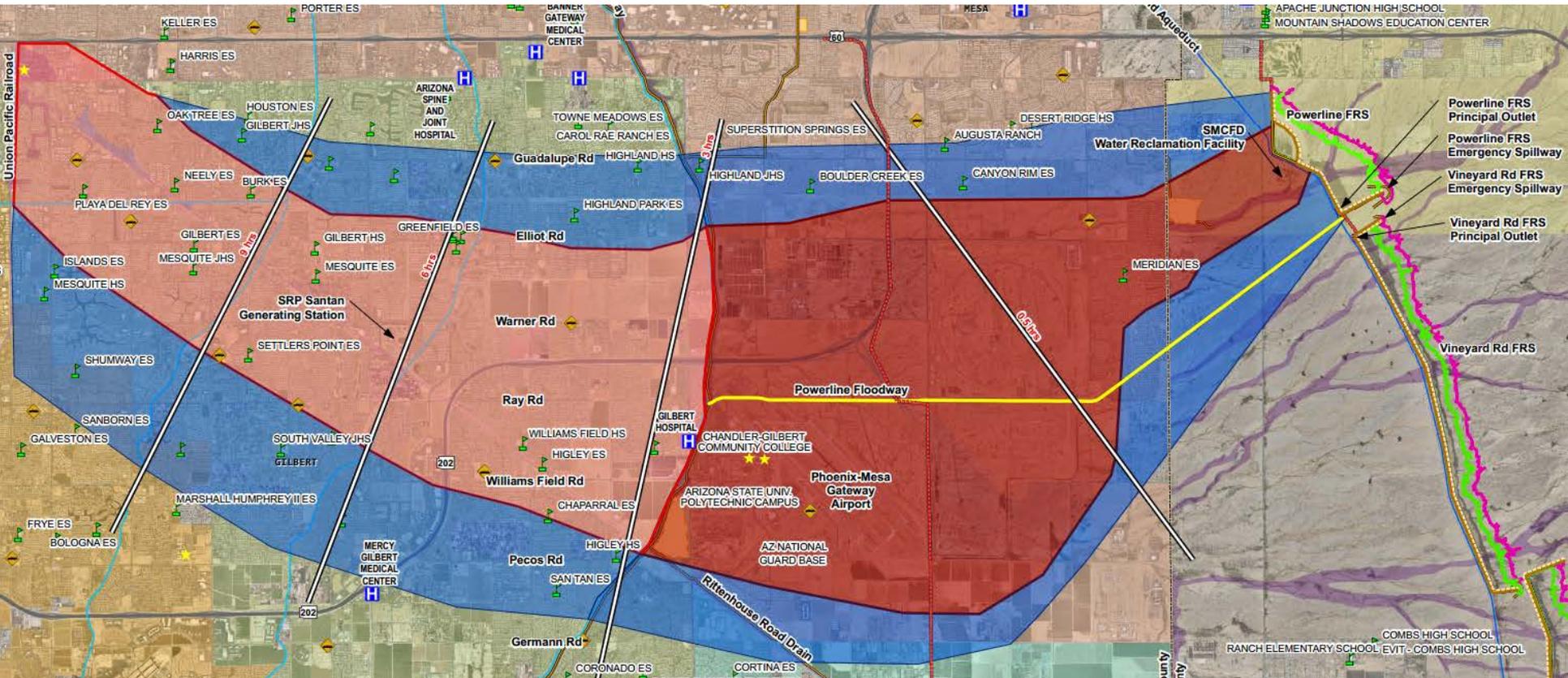
Dams - Potential Emergency Conditions

1. Reservoir pool inundation
2. Discharge from the principal outlet
3. Discharge from emergency spillway
4. Potential or actual failure of FRS embankment
5. Impacts to utilities

Critical Facilities

- Schools
- Hospitals
- Fire Stations
- Police Stations
- Freeways
- Major Roadways
- Railroads
- Major Canals
- Military Facilities
- Large drainage facilities
- Major Utilities
- Airports
- Water/Wastewater Treatment Plants
- **Your House?**

Powerline FRS Dam Breach Inundation Limits



FCDMC Responsibilities

- Monitoring 24/7
- Notify MCDEM & others per instructions in the EAP
- Review & update EAPs
- Provide EAP to MCDEM and ADWR
- Coordinate exercises
- Prepare after action reports
- FCDMC has a IGA with MCDEM for notifications

Exercises/Training

- Monthly training by MCDEM
- Periodic Flood Emergency Response Training
- Annual Flood Exercise
- Conduct Seminars and Workshops



Questions?



Beaver Dam
Columbia, South Carolina
October 5, 2015

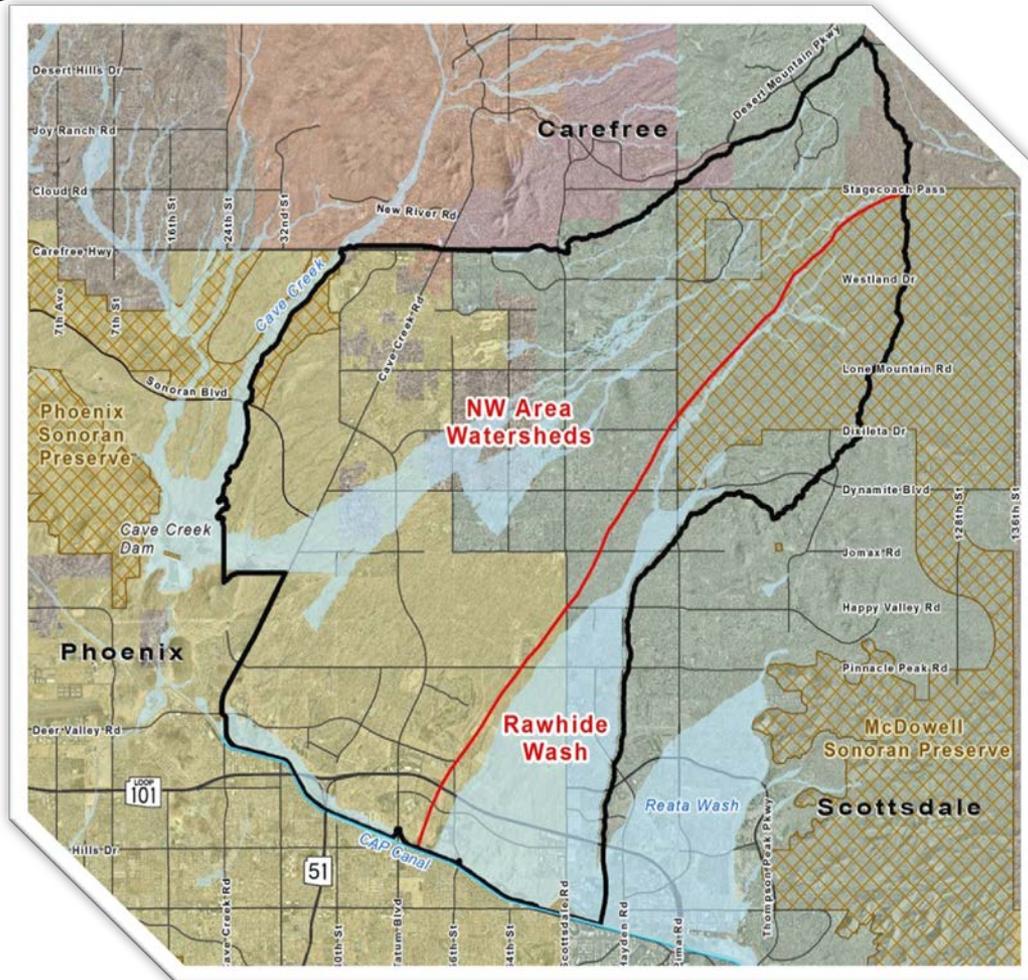


Projects Update

Don Rerick
PPM Division Manager

Planning Study

Pinnacle Peak West ADMS



- Development of Rawhide Wash mitigation alternatives continues.
 - Field surveys of floodwalls and levees completed.
 - Alternatives being refined with costs.
- Redelineation of Fans 5 & 6 continues.
 - Preliminary floodplain maps submitted and being reviewed by the District.
 - About 2,900 properties will be remapped out of the floodplain.
- Public and HOA meetings:
 - Community Stakeholder Group and public meetings will continue.

Planning Study

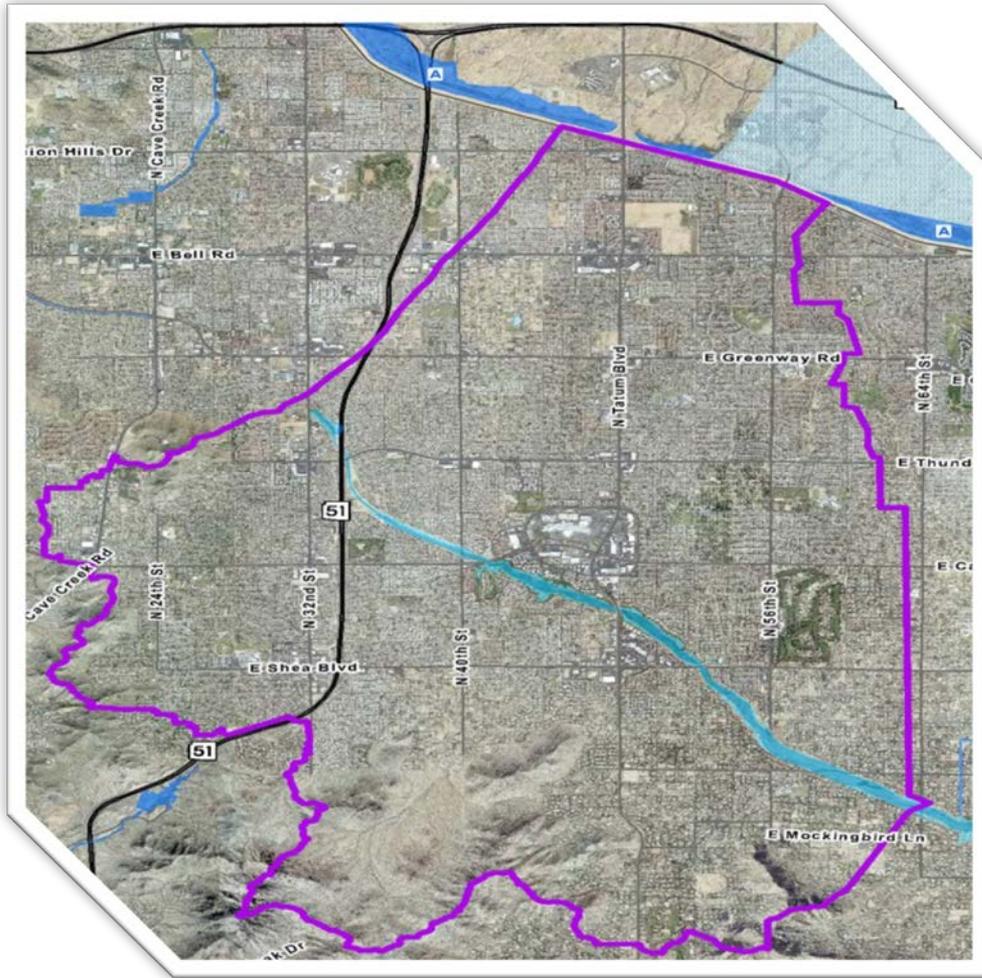
Upper East Fork Cave Creek Area Drainage Master Study Update



- Study efforts continue:
 - Data collection report complete.
 - Detailed H/H modeling to be submitted for review in April.
 - Flood hazard assessments continue.
- Public outreach efforts continue:
 - Coordination on-going with Phoenix.
 - Public involvement activities will continue into September.

Planning Study

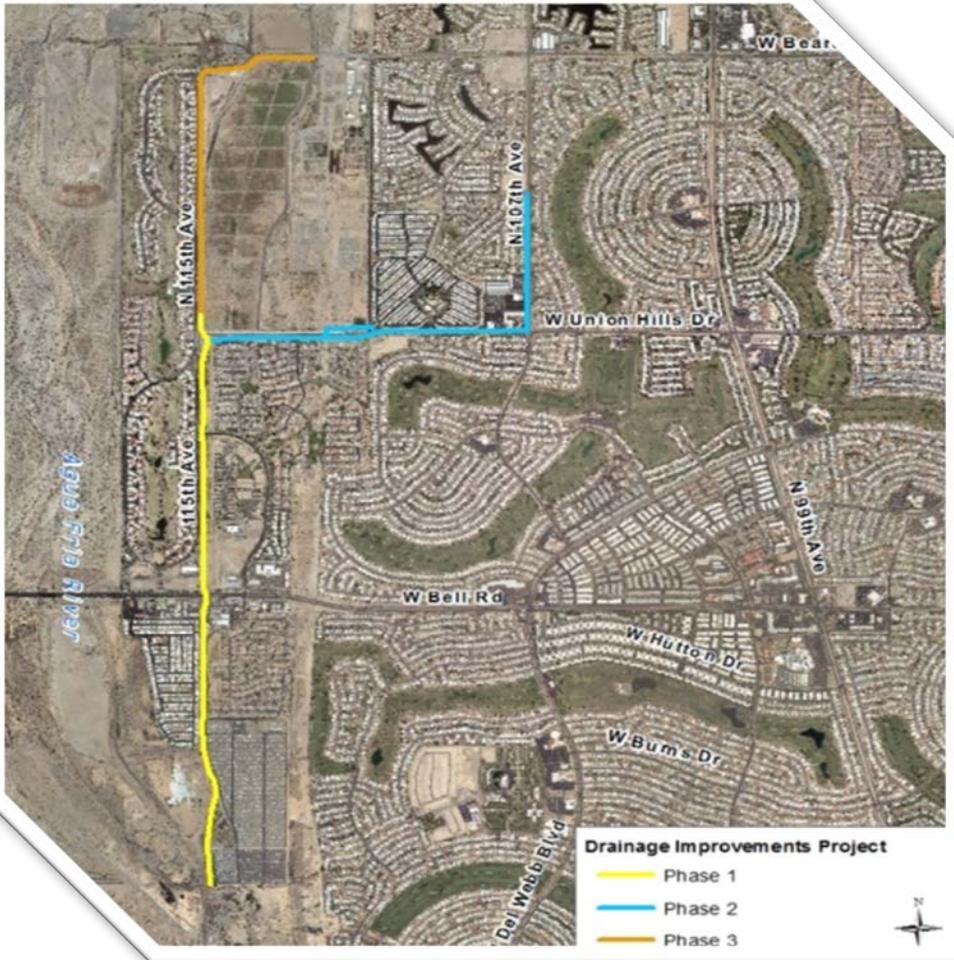
Middle Indian Bend Wash Area Drainage Master Study



- Work Assignment #2 activities continue:
 - FLO-2D analysis incorporating storm drain system is underway.
- Coordination with Phoenix and Paradise Valley is on-going.
- Public meetings will be scheduled to gather input from residents in the study area.

Design

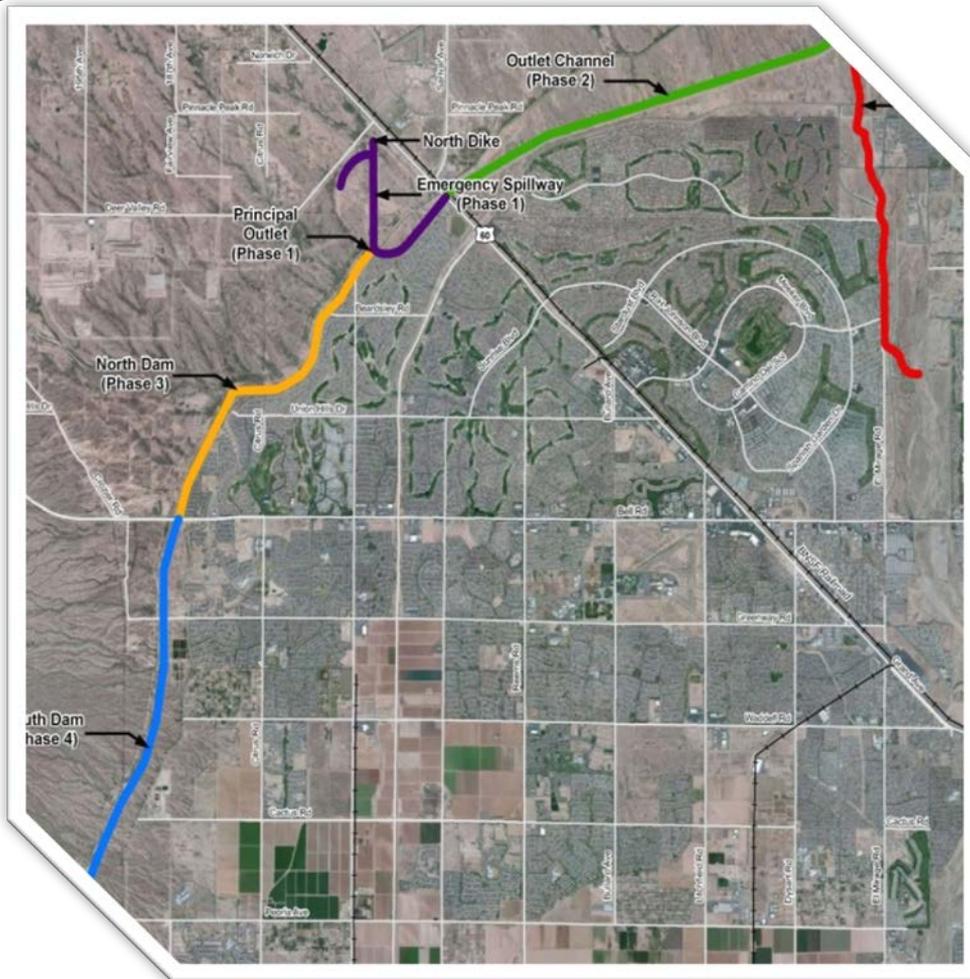
115th Avenue & Union Hills Drive Drainage Improvements



- Phase 1 P&S complete.
- Utility relocations for Phase 1 to be complete in May.
- Phase 2 P&S complete.
- Phase 3 design at 30%.
- Construction on hold due to budget constraints.
- Project consists of:
 - Channels and storm drains; and
 - Provides 100-yr protection.

Design

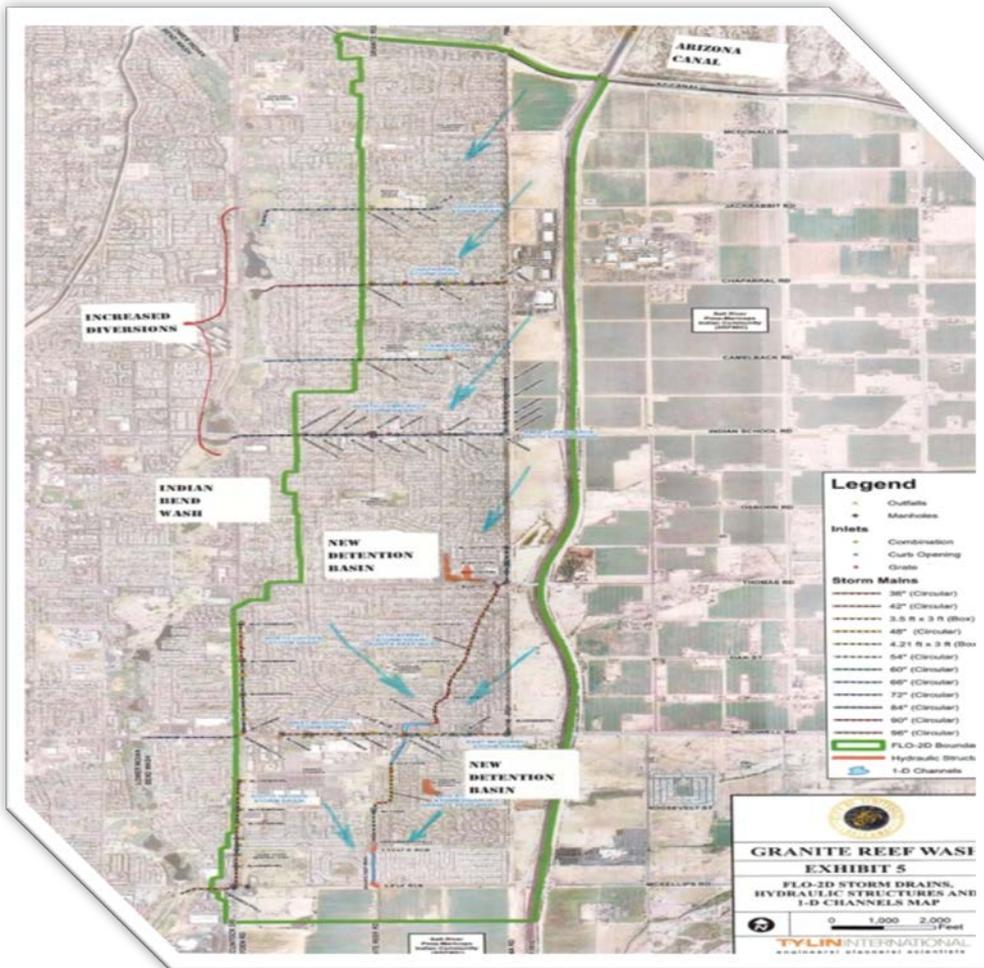
McMicken Dam Rehabilitation



- Design being done in phases.
- Notice-to-Proceed for final design of Phases 1 & 2 has been issued.
- Phases 1 & 2 60% design is in progress.
- Outlet Channel 30% design nearing completion.
- Remainder of Outlet Channel design to be done in-house.
- ADOT Loop 303 contractor has removed about 400,000 cu. yds. of dirt from channel.

Design

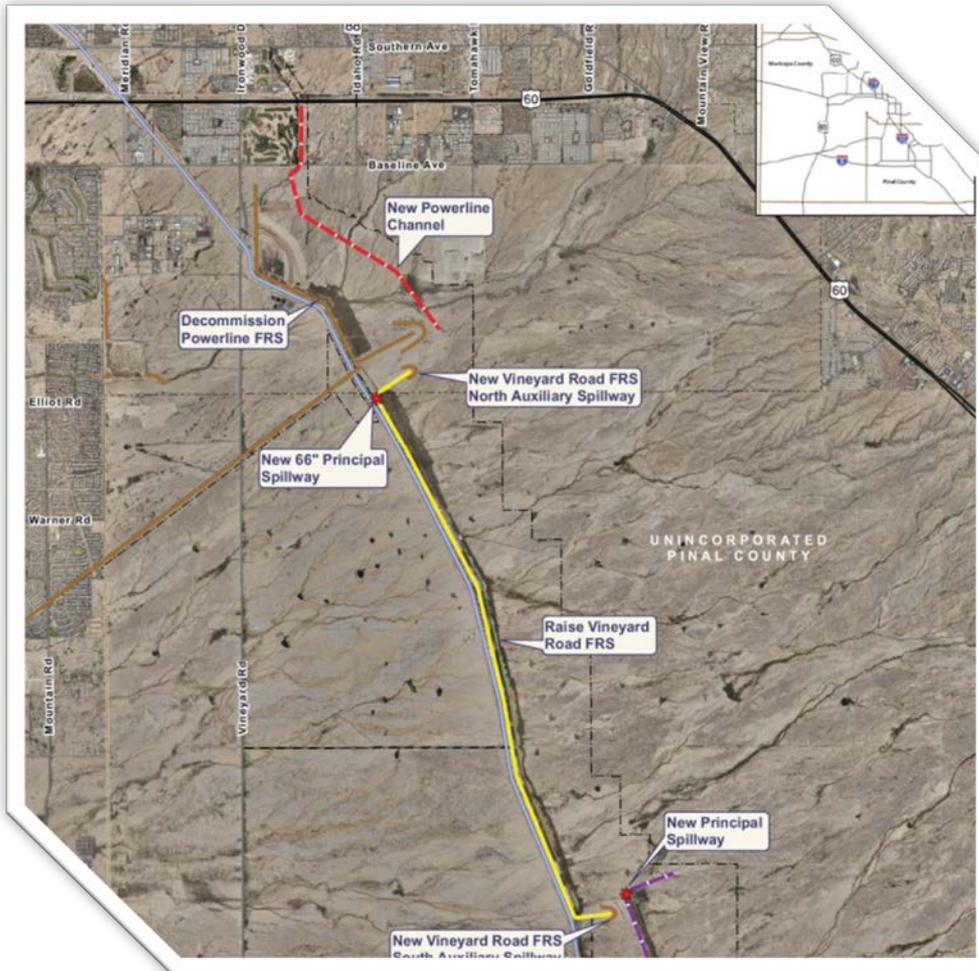
Granite Reef Watershed Project – Phase 1



- Lead Agency – City of Scottsdale
- Design Phase 1 continues:
 - H/H modeling continues for remainder of watershed.
 - 90% design for new lateral storm drains is underway.
 - Phase 1 design complete in summer 2016.
- ROW Acquisition
 - ROW for both basin sites has been acquired.

Construction Manager at Risk (CMAR)

Vineyard Road & Powerline FRS Rehabilitation



- Vineyard:
 - Phase 1 design complete.
 - Phase 2 100% design due in May.
 - Phase 3 design NTP has been issued.
- Powerline:
 - Finalizing scope and fee for final design.
 - NTP expected in late April.
 - Continuing to resolve multiple utility conflict issues.
- Archaeological mitigation work completed. Report writing is underway.
- Vineyard Phase 1 construction continues by CMAR.

Questions?

Ashbrook Wash Drainage Improvements

View of U/S half of box culvert at Saguaro Blvd. The culvert is constructed half at a time for purposes of traffic control. The large Cottonwood tree was protected in place to retain existing native vegetation within Ashbrook Wash.





ROUND TABLE

