



# Public Meeting No. 2 – 2020 Floodplain Management Plan for Unincorporated Maricopa County

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February 13, 2020

## Safety Moment

- Recreation Safety & Flash Flood Hazards
  - Don't get caught!
    - Know the risks and have a plan.
    - Know the weather conditions in and around your location.
    - Don't camp or park in danger zones.
  - Have a backup plan in case weather changes.
  - Make sure children understand risks and what to do in case of flooding.
  - Abandon your possessions and seek high ground in emergency situations.



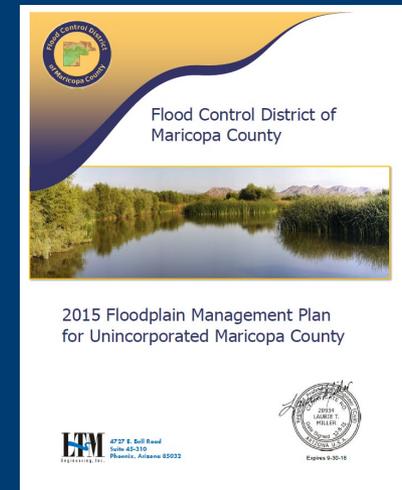
When we continue to  
**Think • Plan • Act**  
we will achieve Zero Injuries Today

Image Source: [ksl.com](http://ksl.com) (Photos by Dennis Slavensky)



# Floodplain Management Plan 2015 Reference

- **NFIP Community Rating System:**
  - Unincorporated MC = Class 4 Community
  - FMP Update Required (Committee\*)
  - 5-year Update Cycle
  - Annual Program Review
- **2015 FMP Update (Reference)**
  - Update Completed August 2015 – LTM Engineering, Inc.
  - Agenda Item C-69-16-012-6-00 (Nov 18, 2015)
  - Adopted - Board of Directors Resolution FCD2016R001
  - Final Sealed Product: December 8, 2015



# Floodplain Management Plan (FMP) Update 2020 Process

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- **What does the FMP do?**
  - Identify Hazards
  - Understand Problems Caused by Hazards
  - Set Goals
  - Develop/Evaluate Potential Actions
  - Prepare five-year Plan
  - Implement the Plan
    - **Annually Monitor Progress**

# Floodplain Management Plan (FMP) Update 2020 Process

- How did the 2020 Update do it?
- Five Committee Workshops
  - Hosted at FCDMC Campus
  - October 3, 2019
  - October 24, 2019
  - November 14, 2019
  - December 5, 2019
  - January 16, 2020
- Two Public Meetings
  - November 4, 2019
  - February 13, 2020

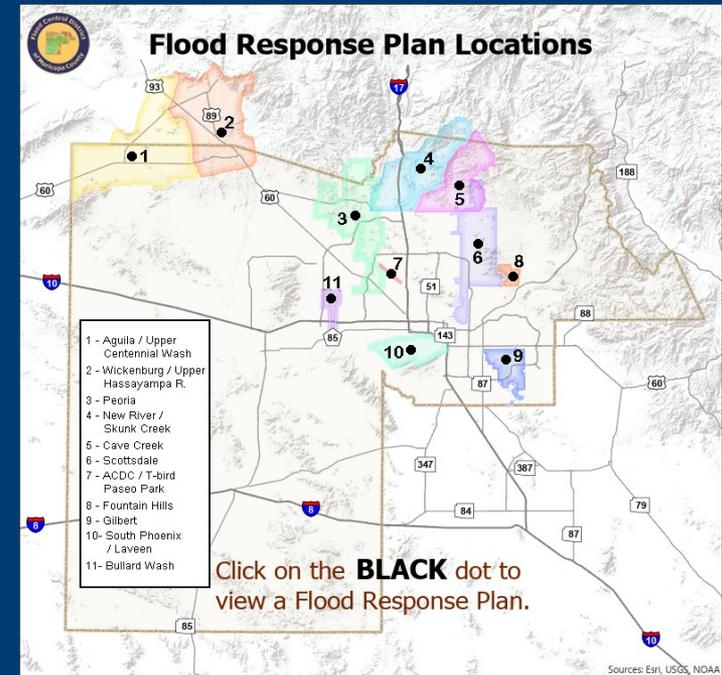


# Floodplain Management Plan (FMP) Update 2020 Committee Participants

- Arizona Department of Transportation
- Arizona Department of Water Resources
- Arizona Rock Products Association
- Arizona State Land Department
- Audubon Society of Arizona
- Irrigation and Electrical Districts Association
- Central Arizona Project
- City of Buckeye
- City of Glendale
- City of Mesa
- City of Peoria
- City of Phoenix
- City of Surprise
- Town of Gila Bend
- Town of Gilbert
- Town of Youngtown
- Three Maricopa County Residents
- Maricopa County Department of Emergency Management
- Maricopa County Parks and Recreation
- Maricopa County Planning and Development
- Maricopa County Department of Transportation
- Maricopa County Farm Bureau
- Yavapai County Flood Control District

# Floodplain Management Plan (FMP) Update Meeting Framework

- **Meeting 1 - Engagement**
  - Committee Introductions
  - Featured District Presentations
  - Roadmap of Meetings
- **Meeting 2 – Planning Process**
  - Review of 8 FMP Watershed (Breakout Exercise)
    - **Large Plots / Worksheet / Identify Hazards**
  - Participants Draft Definition of “Flood Threat”
  - Group Discussion of Flood Hazards



# Floodplain Management Plan (FMP) Update Meeting Framework

- Meeting 3 – Set Goals

- Draft Flood Threat Definitions (Five Options)
- Summary of Flood Hazards
- Discussion of Hazards by Watershed
- Discussion of Potential 2020 FMP Goals



# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committe11.14.19

- **Group 1 – Agua Fria River Watershed**

- **Key Hazards**

- Alluvial Fans
- Wildcat Development
- CAP Canal (U/S Ponding)
- Inactive Mine (New River)
- Tailwater
- Local / Urban Flooding
- Unmaintained Drainage Facilities



# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committe11.14.19

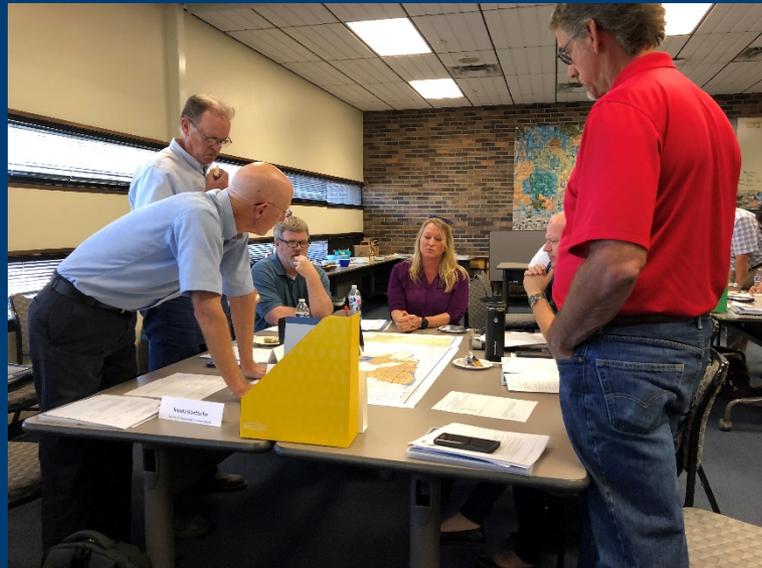
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- **Group 2 – Cave Creek/Salt River and Verde River Watersheds**
- **Key Hazards (Verde)**
  - Repetitive losses on roadways
  - Head-cutting of roadways and banks
  - Single-lot development (hardscapes/un-natural)
- **Key Hazards (Cave Creek/Salt River)**
  - Street flooding
  - Building below street grade
  - Outdated infrastructure feeding canals
  - Multiple jurisdictions
  - No areas of impoundment
  - Hardscaped surfaces prevent infiltration
  - Action – Build more storm sewers

# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committe11.14.19

- **Group 3 – Gila River/Queen Creek Watersheds**
- **Key Hazards**
  - **Public safety**
    - Hospitals / Emergency Services / Critical Facilities
  - **Flash flooding and transportation**



# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committe11.14.19

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- **Group 4 – Centennial Wash and Hassayampa River Watersheds**
- **Key Hazards**
  - Limited infrastructure
  - At-grade crossings contribute to transportation flooding
  - Large areas of development
  - Management of alluvial fans (Hassayampa)

# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committe11.14.19

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- **Group 5 – Lower Gila River and Waterman Wash Watersheds**
- **Key Hazards**
  - Gila Bend – areas of risk not within SFHA
  - Major flood events on Gila River
  - Split flow in Hassayampa and Centennial Tributaries
  - At-grade crossings
  - Single-lot developments
  - Suburban-urban interface
  - Tamarisk
  - Wildlife areas

# Summary of Flood Hazards by Watershed

Reference : FMP\_Meeting#3\_Committee11.14.19

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- **Additional Hazards – Not identified elsewhere**
  - **Urban Redevelopment and Densification**
  - **Subsidence and Fissures**
  - **Block Walls / Property Fences**
  - **Fill in Washes (Vegetative / Earthen)**
  - **Flood Warning Signage**
  - **Depth Gauges**

# Floodplain Management Plan (FMP) Update Meeting Framework

- Meeting 4 – Review Possible Activities
  - Proposed Flood Threat Definition (5→3→1)
    - Review / Edit / Concurrence by Committee
  - Review of Potential 2020 FMP Goals
  - Discussion of Possible Activities



# Floodplain Management Plan (FMP) Update Meeting Framework

- Meeting 5

- Review of Online FMP Survey Results
- Final FMP Flood Threat Definition
- Review of Committee Meetings
- Review of Goals and Assignment of Possible Activities



# Definition of Flood Threat – FMP 2020

Potential risk to life, property, environment, economy, structures, or infrastructure anticipated from a flood event which causes interruptions to a normal operating condition or way of life.



*Source: FCDMC Report-a-Flood (Heritage Park)*

# Recommend Action Items by Category

## Reference : FMP\_Meeting#5\_Committee1.16.20

- Preventative
- Property Protection
- Natural Resource Protection
- Emergency Services
- Structural Projects
- Public Information

*NFIP CRS: Series 500,  
Activity 510,  
Figure 510-4*

### Step 7 Categories

- Preventive measures (e.g., codes)
- Property protection (e.g., elevation)
- Natural resource protection
- Emergency services
- Structural flood control projects
- Public Information

Also see Figure 510-4.

- 1. Preventive** activities keep flood problems from getting worse. The use and development of flood-prone areas is limited through planning, land acquisition, or regulation. They are usually administered by building, zoning, planning, and/or code enforcement offices.
  - Floodplain mapping and data
  - Open space preservation
  - Floodplain regulations
  - Erosion setbacks
  - Planning and zoning
  - Stormwater management
  - Drainage system maintenance
  - Building codes
- 2. Property protection** activities are usually undertaken by property owners on a building-by-building or parcel basis.
  - Relocation
  - Acquisition
  - Building elevation
  - Retrofitting
  - Sewer backup protection
  - Insurance
- 3. Natural resource protection** activities preserve or restore natural areas or the natural functions of floodplain and watershed areas. They are implemented by a variety of agencies, primarily parks, recreation, or conservation agencies or organizations.
  - Wetlands protection
  - Erosion and sediment control
  - Natural area preservation
  - Natural area restoration
  - Water quality improvement
  - Coastal barrier protection
  - Environmental corridors
  - Natural functions protection
- 4. Emergency services** measures are taken during an emergency to minimize its impact. These measures are usually the responsibility of city or county emergency management staff and the owners or operators of major or critical facilities.
  - Hazard threat recognition
  - Hazard warning
  - Hazard response operations
  - Critical facilities protection
  - Health and safety maintenance
  - Post-disaster mitigation actions
- 5. Structural projects** keep flood waters away from an area with a levee, reservoir, or other flood control measure. They are usually designed by engineers and managed or maintained by public works staff.
  - Reservoirs
  - Levees/floodwalls
  - Diversions
  - Channel modifications
  - Storm drain improvements
- 6. Public information** activities advise property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of local floodplains. They are usually implemented by a public information office.
  - Map information
  - Outreach projects
  - Real estate disclosure
  - Library
  - Technical assistance
  - Environmental education

# Floodplain Management Plan 2020 Goal #1 and Action Items

The District will work with transportation agencies and the communities to address public concerns on transportation routes that result in interruptions to normal operating conditions, delays of emergency services, negatively impact the economy, or pose safety risks due to flooding.

## ACTION ITEMS

- *Identify and categorize locations of risks and concerns.*
- *Develop a matrix of prioritization.*
- *Design and funding options.*
- *Establish triggers or warnings for areas to avoid.*
- *Additional cost sharing partnerships.*
- *Partnership with emergency services.*
- *Coordination with transportation agencies for crossing risks.*

*Goals and Action Items developed by Floodplain Management Plan 2020 Committee*

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# Floodplain Management Plan 2020 Goal #2 and Action Items

The District shall work in partnership with stakeholders to evaluate its various programs, fiscal opportunities, and funding processes to assure funds continue to be invested back into the communities.

## ACTION ITEMS

- *Regular review cycle for funding status and community evaluation*
- *FCDMC to communicate availability of Federal funding*
- *Funding based communication to the community*
- *Develop a definition of process and evaluation*
- *Intergovernmental Agreements for fiscal partners*

*Goals and Action Items developed by Floodplain Management Plan 2020 Committee*

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# Floodplain Management Plan

## 2020 Goal #3 and Action Items

The District shall work with stakeholders and local organizations on consistent county-wide technical and educational materials for flood preparedness with materials available in physical locations as well as electronically.

### ACTION ITEMS

- *Identifying additional physical locations*
- *Combine technical resource materials with emergency service information*
- *Utilities and points of contact for emergency response*
- *Outreach to HOAs for flood preparedness and wash management*
- *Characterization of acceptable vegetation within wash corridors*
- *How to maintain drainage infrastructure after it is built*
- *Illustrative literature and “how to” maintenance videos*
- *Home and garden show booth to present and educate*
- *Support check dams and water retention for recharge*
- *Distribution of Green Infrastructure and Low Impact Development literature*
- *Communicate / educate on adverse impacts of walls*
- *Citizen rain gage program*

*Goals and Action Items developed by Floodplain Management Plan 2020 Committee*

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# Floodplain Management Plan

## 2020 Goal #4 and Action Items

The District shall continue pursuing nature-based solutions for flood mitigation, working with stakeholders, to identify and acquire open space in conjunction with flood control projects.

### ACTION ITEMS

- *Coordination and cooperation with communities and stakeholders*
- *Prioritization for areas poised for risk*
- *Prioritize locations where floodplain delineations and re-delineations are needed*
- *Additional identification of flood risks*
- *Best practice for locations where recharge is best suited*
- *Connectivity of open space*

*Goals and Action Items developed by Floodplain Management Plan 2020 Committee*

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# Floodplain Management Plan 2020 Goal #5 and Action Items

The District shall continue to perform duties as the regional leader in floodplain management. District shall provide and communicate information, guidelines, and regulations to agencies and communities throughout Maricopa County and to adjacent Counties.

## ACTION ITEMS

- *Annual meeting and communication of changes in regulations and policies*
- *Review current information and guidelines available*
- *Define a review cycle for literature*
- *Identify regulatory authority*
- *Incorporate agency best proactive*
- *Permitting enforcement and regulation*
- *Changes of Section 404 and protection of open space*

*Goals and Action Items developed by Floodplain Management Plan 2020 Committee*

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# Next Steps - Assign Action Items to Responsible Parties

## ■ Open Discussion

- Flood Control District of Maricopa County
- Maricopa County Planning & Development
- Maricopa County Department of Transportation
- Partner Cities / Agencies

## Community Departments:

- Building department/code enforcement
- Engineering
- Land use planning/zoning
- Public works
- Emergency management/public safety
- Public information
- Environmental protection/public health
- Parks/recreation
- Board of Directors Member, BOD staff, or Flood Control Advisory Board member
- Housing/community development
- External Stakeholders

# Floodplain Management Plan Update - Next Steps

- **Tentative FMP 2020 Timeline**
- **February 2020**
  - Review of Action Items & Proposed Responsible Parties
  - Comments on Proposed Parties
  - Draft FMP Update
- **March-April 2020**
  - Committee and District Review
  - Stakeholder Review
  - Public Comment Period
  - Comment Review and Resolutions
  - Finalize FMP Update
- **June 2020**
  - Recommendation for BOD & Supervisors Adoption
- **September - October 2020**
  - Finalized FMP Record Copy
  - 2020 FMP Submitted for Evaluation
  - Re-scheduled Verification Audit in November

