



PINNACLE PEAK WEST

AREA DRAINAGE MASTER STUDY

June 2016

PRACTICAL RESULTS THE COMMUNITY CAN USE

The Pinnacle Peak West (PPW) Area Drainage Master Study (ADMS) is now complete. The PPW ADMS is one of the most comprehensive studies of stormwater drainage and flood risk ever conducted by the Flood Control District of Maricopa County (FCD) and its partners, the cities of Scottsdale and Phoenix and the Arizona State Land Department. The study provides practical information that can be used by FCD, local municipalities, homeowners associations, developers, residents and others to collectively reduce potential flood risk.

Below is a list of the PPW ADMS materials and results available, and how they will be used by FCD, its partners and the community.

PLANNING AHEAD

Flood Hazards

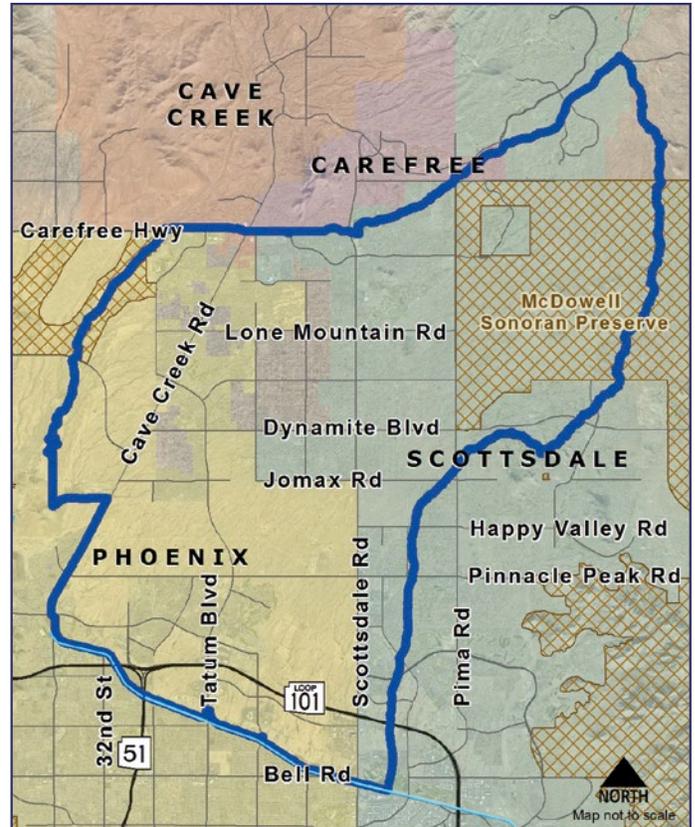
Flood hazard modeling was conducted for the 95-square mile study area to identify the location, depth and speed of stormwater. This data represents the most up-to-date information on predicted flood hazards during large storm events.

FCD provided the flood hazard modeling and data to the cities of Scottsdale and Phoenix, Maricopa County Department of Transportation, Maricopa County Planning and Development and Arizona State Land Department for their use in planning and floodplain management purposes.

Flood hazard results are valuable for many uses, including:

- Helping homeowners to understand their potential flood risk.
- Allowing residential and commercial developers to ensure proper stormwater drainage in their design plans and
- Providing municipalities resources for transportation planning and design, stormwater management and review of development plans for proper drainage.

Hazard results are available online at: <http://gis.fcd.maricopa.gov/apps/PPW-ModelResults>.



Flood Risks

Locations were identified where flood hazards from larger storms could cause flood damage to properties or cause a safety or access issue to drivers and pedestrians.

- 2,000 buildings in the study area were identified as having a potential risk of flood damage, during a 100-year storm (4-5 inches of rain in 24 hours)
- One-in-five roadways in the study area have sections that will be extremely hazardous or impassible.

Areas of high flood risk were prioritized to be evaluated for potential flood mitigation in the future.

Maps identifying the locations of these flood risks are available on the study web page. Visit www.fcd.maricopa.gov and search “Pinnacle Peak West”.



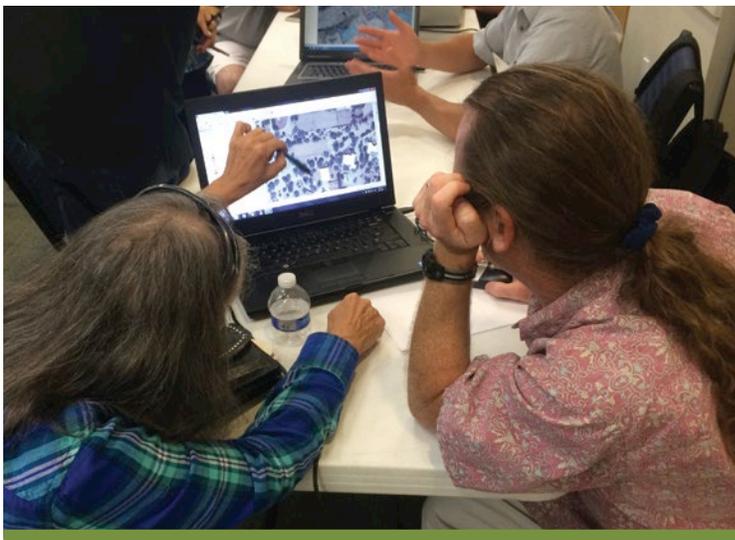
Flood damage to a pool and back yard at a home in the Sandflower subdivision.

FLOOD RISK COMMUNICATION

Extensive community and stakeholder outreach was conducted throughout the study to seek the community’s input about previous flooding, inform people about study results and understand the community’s concerns and priorities for addressing flooding problems. Many of the community outreach and information methods used for this study were new for FCD and are now being used in other studies and projects.

More than 1,100 community members participated in study outreach activities and provided input through the following activities:

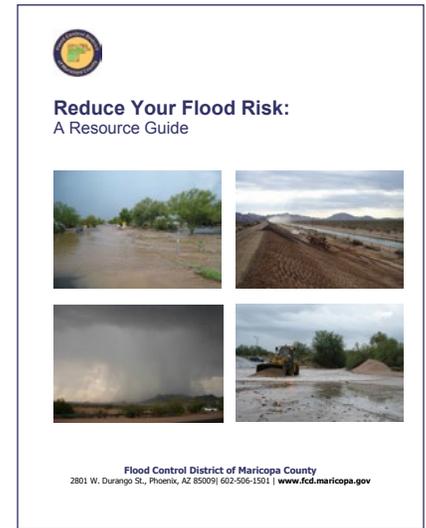
- **Public Meetings** – Nearly 300 people attended a series of public meetings throughout the study to learn about the study findings and to provide input on flooding concerns and priorities for mitigation.
- **Flood Talk** – A community educational event was held early in the study process to allow residents to learn more about flooding topics that were of interest to them.
- **Homeowners Association (HOA) Briefings**
The study team met with 397 residents and HOA managers from 28 HOAs throughout the study area to provide information about the study and flood risks within their individual communities. Information was also provided to the HOA managers to help guide decisions about drainage infrastructure maintenance.



Residents review modeling results to determine the risk of their property flooding during a 100-year storm.

- **Rawhide Wash Community Stakeholder Group** – A citizen advisory group was established to review and provide input on potential flood control alternatives to address the flood risk from Rawhide Wash. The group is composed of residents from neighborhoods adjacent to the wash and other interested community organizations.
- **School District Briefings** – The study team met with administrators, school principals and transportation representatives from school districts within the study area to provide information about the potential flood hazards and risks to school properties and routes to their schools. The information may help school staff make decisions about transportation and emergency plans, and safe routes to schools.
- **Individual Meetings** – Site visits and meetings were held with several individual property owners who had flooding concerns.
- **Flood Tolerance Survey** – 179 residents completed surveys on their tolerance to different types of flooding hazards. This information helped determine the community’s priorities for addressing flooding problems.
- **Report a Flood** – An online resource was developed to enable residents to view and share images and videos of current and past flooding incidents. This information was used to help identify and verify flooding areas of concern. The tool is available at: <http://gis.fcd.maricopa.gov/raf/>.

Flood Resource Guide Available Online



www.fcd.maricopa.gov

IDENTIFYING POTENTIAL FLOOD CONTROL MEASURES

Rawhide Wash was identified by the study team and the community as a high-priority area for potential flood mitigation measures. There are currently more than 800 homes, businesses and other structures in this area at risk of flooding in a 100-year storm.

The study team evaluated two potential alternatives to reduce the Rawhide Wash flood risk by directing stormwater flows to stay within the wash: a Conveyance Alternative and a Conveyance with Basin Alternative. Each of the Build Alternatives would equally reduce the flood risk to properties from a 100-year flood event, reduce the FEMA floodplain by 500 acres and remove the 100-year FEMA regulatory floodplain from 870 properties. The cost to design, construct and maintain the Build Alternatives ranges from approximately \$19 million to \$106 million. A Build Alternative is estimated to reduce flood insurance premiums paid by property owners by \$30 million and reduce flood damage to properties by \$19 million over a 50-year timeframe.



Rawhide Wash flows near the Los Portones community after a January 2016 storm.

A public meeting is planned later this year to seek the community’s input on these alternatives. The FCD and its project partners will consider the public’s input, along with cost and technical considerations, to make a decision on a preferred alternative. Please see the Rawhide Alternatives fact sheet on the study web page for more information about the alternatives.

FLOODPLAIN MANAGEMENT

Based on the flood hazard modeling results, the FCD and the cities of Phoenix and Scottsdale are pursuing a re-delineation of two existing FEMA regulatory floodplains, known as Fans 5 and 6, to reflect the reduced flood risk identified in that area.

If the revised floodplain is approved by FEMA, it would reduce the size of the current floodplain by 1,980 acres and remove the 100-year regulatory floodplain designation from 2,817 structures. The federal flood insurance requirement would be removed for structures no longer in the FEMA floodplain. The existing and anticipated future FEMA floodplain following the re-delineation process is shown on the map below. Existing FEMA floodplains upstream and downstream of Fans 5 and 6 are also shown for reference.

FCD anticipates submitting the re-delineation request to FEMA later this year. Public meetings will be held as part of the FEMA process and affected property owners will be invited to participate. The FEMA floodplain re-delineation process typically takes approximately three years once a request is submitted.

The updated hazard information will help local jurisdictions better manage the areas at risk of flooding and will help them to protect residents. This is accomplished through the adoption and enforcement of local Floodplain Management Ordinances and Plans to control activities in the floodplain and includes:

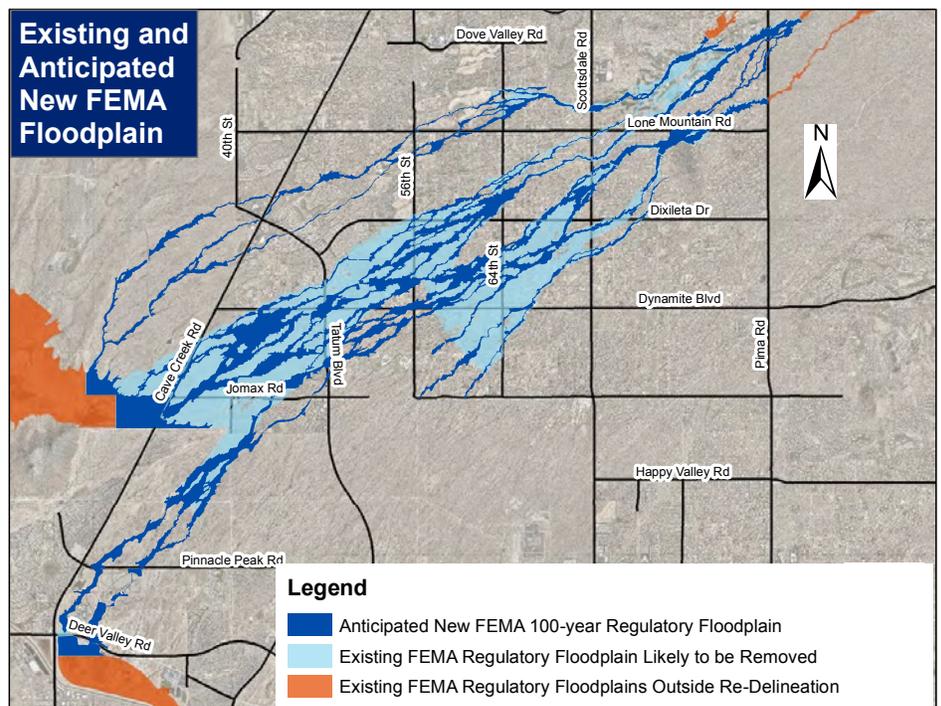
- Promoting safer development by establishing requirements for building within floodplains.
- Reviewing and approving permits for proposed uses within the floodplain to ensure proper stormwater drainage so that new projects do not cause adverse impacts to existing properties.
- Enforcing violations of the Floodplain Management ordinances.

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