



BOARD OF SUPERVISORS AGENDA ITEM REPORT

Requested Board Meeting Date: 3/18/2025

**= Mandatory, information must be provided*

Click or tap the boxes to enter text. If not applicable, indicate "N/A".

***Title:**

Floodplain Management Plan Update Resolution

***Introduction/Background:**

The Regional Flood Control District (District) created a Floodplain Management Plan (Plan) for unincorporated Pima County for floodplain management and flood control capital improvements as directed by Resolution 2018-FC6. In order for this Plan to be appropriately acknowledged by the Federal Emergency Management Agency (FEMA), the Plan must be approved by the Board of Supervisors, sitting as the Flood Control District Board of Directors (Board), following a public process. The first such plan was approved by the Board in April 2020. Per FEMA guidelines the plan must be updated every five years. Today's Resolution is to approve the updated Plan as recommended by the Stakeholder Planning Committee.

***Discussion:**

The District currently participates in FEMA's Community Rating System (CRS) and is considered a Class 2 community. This ranks the County within the top 0.5% of participating communities in the nation and results in Pima County residents' ability to receive up to a 40% flood insurance premium discount. The creation of this Plan has allowed the County and the District to engage the public in a discussion about flood hazards and the appropriate structural and non-structural strategies to mitigate these hazards. The goal of this process was to create a comprehensive plan, by watershed, that will direct both floodplain management and capital improvement priorities. This Plan does not supplant the annual Capital Improvement Program (CIP) budget process, it provides a road map for CIP planning purposes. This Plan also does not contain any new regulations, it provides direction on new policies to consider, which will follow their own process. The Plan includes a Watershed Master Plan including each of the 28 watersheds impacting unincorporated Pima County that identify flood hazard exposure problem areas, a 5-year Action Plan to mitigate these and a Program for Public Information.

***Conclusion:**

In addition to furthering the District's goal of providing comprehensive floodplain management services for the maximum benefit to County residents, the Plan and the process to create it helped inform the public about flood hazards as well providing an opportunity for discussion regarding the District's strategy for addressing these hazards. Successful completion of this process and adoption of this resolution will provide an opportunity for the County to maintain its CRS ranking along with associated insurance rate discounts. Although not guaranteed until approved by FEMA, the Plan has been written to do so.

***Recommendation:**

The District recommends that the Board adopt this resolution approving the Plan.

***Fiscal Impact:**

There is no impact to the General Fund, and this process will be administered by existing District staff. Successful update of this Plan will help the community continue to benefit from reduced flood insurance premiums.

***Board of Supervisor District:**

Department: Regional Flood Control District

Telephone: (520)724-4600

Contact: Dr. Greg Saxe, CRS Coordinator

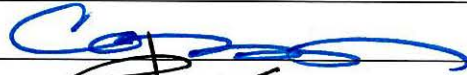
Telephone: (520)724-4633

Department Director Signature: _____



Date: 2/28/2025

Deputy County Administrator Signature: _____



Date: 3/3/2025

County Administrator Signature: _____



Date: 3/3/2025

RESOLUTION NO. 2025-FC_

**PIMA COUNTY FLOOD CONTROL DISTRICT RESOLUTION
ADOPTING THE 2025-2030 FLOODPLAIN MANAGEMENT PLAN
AS PART OF THE NATIONAL FLOOD INSURANCE PROGRAM'S
COMMUNITY RATING SYSTEM**

The Board of Directors of the Pima County Flood Control District finds:

1. Pima County has experienced severe flood disaster events causing significant damage to public and private property, including homes and businesses, resulting in a need for insurance coverage for those who may be exposed to flood risks.
2. Relief from the economic hardships of flood damage is available in the form of federally subsidized flood insurance as authorized by the National Flood Insurance Act of 1968 and its subsequent amendments.
3. The National Flood Insurance Program (NFIP) is a federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding.
4. The Pima County Regional Flood Control District (District) participates in the NFIP's Community Rating System (CRS) which provides a framework necessary for a community's actions and efforts in meeting the three goals of: (1) reduction of flood losses; (2) facilitation of accurate insurance ratings; and (3) promotion of awareness of flood insurance.
5. As part of the CRS, communities are encouraged to exceed minimum standards and in doing so qualify for a reduction in flood insurance premiums for policy holders.
6. On April 7, 2020, the Board of Directors passed Resolution 2020-FC1 and adopted the 2020-2025 Floodplain Management Plan for meeting or exceeding the NFIP standards in unincorporated Pima County and for obtaining a Class 4 designation under the CRS that would allow policy holders up to a 30% reduction in insurance premiums.
7. Since the adoption of the 2020-2025 Floodplain Management Plan, Pima County has improved to a Class-2 community that allows policy holders up to a 40% reduction in insurance premiums.
8. District plans to continue to exceed the minimum NFIP standards through the adoption and implementation of the 2025-2030 Floodplain Management Plan (FMP).
9. The FMP was a committee driven planning process including stakeholder involvement, hazard assessment, and identification of mitigation activities important to flood safety and the protection of the natural beneficial functions of floodplains.

10. To ensure internal and external stakeholders involved in the full scope of NFIP activities are engaged throughout the planning and implementation process individuals from the following Pima County Departments participated in the committee: Administration, Communications, Development Services, Flood Control, Public Works, Department of Environmental Quality, Conservation & Land Resources, and Office of Emergency Management. Additionally, stakeholders representing the interests of groups such as the following were invited to participate in the Planning Committee: Tohono O’odham Nation, Flood Control District Advisory Board, Coalition for Sonoran Desert Protection (environmental), Metropolitan Pima Alliance (business/major employers), Southern Arizona Homebuilders (builders), Tucson Mountain Association (homeowners/floodplain residents), and Tucson Association of Realtors. Stakeholders not participating directly in the Committee are to be contacted individually and the general public will be invited to participate in surveys and at least two public meetings to be held in impacted areas.
11. A component of the FMP includes incorporating the previously approved Program for Public Information, Repetitive Loss Area Analysis, Flood Insurance Coverage Assessment and a Coverage Improvement Plan that requires promoting of the purchase of or an increase in coverage of flood insurance.
12. Pima Prospers Flood Control and Drainage Element Goal 2 Implementation Measure D is “Create and adopt a Watershed Management Plan which identifies the watersheds impacting Pima County, their drainage characteristics, regulatory and infrastructure needs.”

NOW, THEREFORE, BE IT RESOLVED, that:

1. The 2025-2030 Floodplain Management Plan including the Action Plan, Program for Public Information, Watershed Master Plan, Repetitive Loss Area Analysis, insurance Coverage Improvement Plan, and Natural Functions Floodplain Plan recommended by the Planning Committee is adopted; and
2. District shall engage the Planning Committee consisting of staff and stakeholders per NFIP guidelines during implementation, and
3. District staff is authorized to do all things necessary to implement the Plan.

Passed and Adopted this ____ day of _____, 2025.

Rex Scott, Chairman, Board of Directors

ATTEST:

APPROVED AS TO FORM:

Melissa Manriquez, Clerk of the Board



Bobby Yu, Deputy County Attorney

DATE: February 28, 2025

TO: Jan Lesher
County Administrator

FROM: Eric Shepp, P.E.
Director 

SUBJECT: 2025-2030 Floodplain Management Plan Adoption

After an extensive stakeholder process, the Regional Flood Control District (District) has developed a Five-year Floodplain Management Plan (2025-2030 Plan) for unincorporated Pima County that meets and exceeds the National Flood Insurance Program (NFIP) standards. Adoption of this updated 2025-2030 Plan by the Board of Supervisors, sitting as the Flood Control District Board of Directors (Board) will allow the District to meet prerequisites for Pima County to maintain a Class 2 designation under the NFIP's Community Rating System. This memorandum and its attachments summarize the planning process and key elements of the 2025-2030 Plan. The entire 2025-2030 Plan can be found at: www.pima.gov/fmp

After adoption of the first Plan in 2020, Pima County became a Class 2 community, meaning that residents and property owners can enjoy up to a 40% reduction in their flood insurance policy premiums. The Class 2 designation is the result of the exemplary efforts by the District with respect to the following FEMA priorities:

- Development of higher regulatory standards,
- A Comprehensive outreach strategy through the Program for Public Information,
- Use of the Floodprone Land Acquisition Program to mitigate at-risk properties,
- A robust regional Capital Improvement Program,
- Emergency response preparedness, and
- A diligent infrastructure maintenance program.

The 2025-2030 Plan will provide continued direction with respect to these core services and is a necessary element of maintaining the Class 2 designation for the next five years.

The NFIP requires that the process to create a Floodplain Management Plan includes extensive stakeholder engagement through a Planning Committee and focus on specific procedural steps. These procedural steps, as outlined in the attached Executive Summary, create a roadmap to guide a community to evaluate the community's flood hazards, assess its exposure to damage, set goals, and consider activities to address these issues and meet the goals. The activities are actions that the County can take to improve how the floodplains are managed, how risk and flood damage potential can be mitigated, and how these risks are communicated to the public.

Considering the vastness of the County, the District chose to divide the County into planning areas based on regional watersheds to facilitate the assessment of the flood hazards and the extent to which the community is exposed to those hazards. This allowed the Planning Committee and the public to consider watershed specific floodplain management strategies and activities, while also allowing some activities to occur on a County-wide basis. This assessment, while part of the overall 2025-2030 Plan, is considered by the District to be their Watershed Management Plan.

One of the more significant changes in the currently proposed 2025-2030 Plan is the addition of three new goals proposed by the Planning Committee. The new recommended goals are:

- 1) To increase the beneficial use of stormwater including regional recharge and urban green spaces,
- 2) Ensure equitable access to flood mitigation services, and
- 3) Prioritize neighborhood scale stormwater projects in vulnerable and underserved areas.

Jan Lesher, County Administrator

2025-2030 Floodplain Management Plan Adoption

February 28, 2025

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These goals are in addition to the two goals added by the previous Planning Committee in 2020 and retained by the current Planning Committee, which were to ensure flexibility for adaptive floodplain management for changing climate circumstances and increase regional cooperation and offer inter-jurisdictional floodplain management services. The other six goals are derived from the Floodplain Management Ordinance and are mandatory.

The culmination of this planning process is an Action Plan which is the compilation of activities to address the hazards and problems identified earlier in the process to meet the Plan's goals. The Action Plan consists of programmatic activities such as infrastructure maintenance or compliance enforcement activities as well as discrete activities such as constructing specific improvements, studying the flood hazard in a specific area, or adopting new standards.

The attached Action Plan will provide direction to the District over the next five years for various programs, including the development of higher regulatory standards, prioritizing watershed and river management studies, enhancing the Program for Public Information, directing the investment in capital improvements, expanding activities for using stormwater as a resource, and continuing and enhancing the District's interdepartmental and interjurisdictional coordination.

With respect to the organization of the 2025-2030 Plan, the District has chosen to build on the statutorily required and previously published Comprehensive Program Report that presents a summary of the programs and activities the District has implemented during the past five-year period. Since the 2025-2030 Plan is a five-year Plan, the summary of the 2020 Action Plan's accomplishments can also serve as the basis for the Comprehensive Program Report. A summary of the accomplishments of the 2020 Action Plan is provided as an attachment. There is also a Dashboard at [RFCD FMP Data Dashboard](#) to visualize the 2020 and 2025 Action Plans by watershed. Any activities that were not completed in the 2020 Action Plan have been included in the 2025 Action Plan.

Please note that the approval of the Floodplain Management Plan does not supplant the normal Capital Improvement Program planning process, or other processes such as rulemaking or adoption of new floodplain studies. These discrete activities must be considered independently and will follow their respective processes.

Please let me know if you have any questions.

ES/GS/BJ/tj

Attachments

c: Carmine DeBonis, Jr., Deputy County Administrator – Public Works
Brian Jones, Deputy Director – Regional Flood Control District
Dr. Greg Saxe, CRS Coordinator – Regional Flood Control District

ATTACHMENT 1

FLOODPLAIN MANAGEMENT PLAN

EXECUTIVE SUMMARY

Floodplain Management Plan

Executive Summary

On October 2, 2018, the Board of Supervisors (Board), sitting as the Board of Directors for the Flood Control District (District), adopted Resolution No. 2018-FC6, which authorized the District to develop a Floodplain Management Plan (Plan) for unincorporated Pima County. The Resolution further authorized the District to engage the public in the process, including the formation of a Planning Committee that would help develop the Floodplain Management Plan. The goal of this Resolution was to create a Floodplain Management Plan that meets or exceeds the National Flood Insurance Program (NFIP) standards and that can be considered as a sufficient prerequisite for Pima County to obtain a Class 4 designation under the NFIPs Community Rating System.

Since adoption of the Plan in 2020 the County rating improved to a Class 2 community, meaning that residents and property owners in unincorporated Pima County can enjoy up to a 40% reduction of their flood insurance policy premiums, an increase of 15%. The current combination of the District's efforts for higher regulatory standards, outreach activities, flood prone land acquisition for open space, and drainage infrastructure construction and maintenance, results in this score and the Floodplain Management Plan Update is necessary to ensure the retention of this rating for the next five years.

The following is a description of the NFIP procedural steps with an explanation of the benefits of each step in the process to the formation of and updates to the Floodplain Management Plan. Where appropriate, excerpts are included to visualize the substance of the discussion at that step. The final product is the Floodplain Management Plan, which can be found at www.pima.gov/fmp. The District is seeking the Board's approval of this document and the Action Plan (attached), which is the list of activities to implement the Floodplain Management Plan. The appendices include Program for Public Information, Watershed Master Plan, Repetitive Loss Area Analysis, insurance Coverage Improvement Plan, and Natural Functions Floodplain Plan per NFIP terminology.

NFIP Floodplain Management Plan Process

Step 1- Organize to Prepare the Floodplain Management Plan

This step was completed on October 2, 2018, with Board adoption of Resolution 2018 FC6. This resolution established the goals of the Floodplain Management Plan and authorized the creation of the Planning Committee. After approval by the Board of the first plan in April 2020, the committee continued to meet at least annually to track progress, identify emerging issues and partner on project implementation. The Committee membership was updated and broadened in 2024 to develop this updated Plan.

Step 2 - Involve the Public

The Planning Committee was comprised of a broad spectrum of the public, including representatives from neighborhood associations, builders and developers, trade associations, insurance providers, environmental organizations, as well as the University of Arizona and the San Xavier District of the Tohono O'odham Nation. Other County departments were also represented on the committee, including County Administration, Development Services, Conservation and Land Resources and Office of Emergency Management. The Planning Committee provided significant input and direction throughout Steps 4 through 8. The Planning Committee represented the following groups, specifically:

- Catalina Foothills Association
- Coalition for Sonoran Desert Protection
- Community Water Coalition
- Conservation and Land Resources
- Country Financial
- Flood Control District Advisory Committee
- Metropolitan Pima Alliance
- Natural Resources Parks and Recreation
- Pima Association of Governments
- Pima County Administrator's Office
- Pima County Department of Transportation
- Pima County Development Services Department
- Pima County Office of Emergency Management
- Pima County Parks and Recreation
- Pima County Regional Wastewater Reclamation Department
- Tohono O'odham Nation
- Pascua Yaqui Tribe
- San Xavier District of the Tohono O'odham Nation
- Southern Arizona Homebuilders Association
- Tucson Association of Realtors
- Tucson Audubon Society
- Tucson Mountain Association
- Watershed Management Group
- Residents

Although public involvement is only identified in Step 2, the District wanted to ensure consistent public outreach throughout the process. As the Floodplain Management Plan was being created, staff participated in the following additional public meetings to inform the members and solicit input and comments on the draft:

- Catalina Foothills Association
- Flood Control District Advisory Committee

- Green Valley Coordinating Council
- Pima County Planning and Zoning Commission
- SAHBA Technical Committee
- Southeast Area Regional Council
- Tucson Mountains Association

Step 3 - Coordinate

In addition to public input, the NFIP guidance emphasizes internal coordination within the community's government to leverage additional benefits of the Floodplain Management Plan. As such, the District met frequently with the following departments:

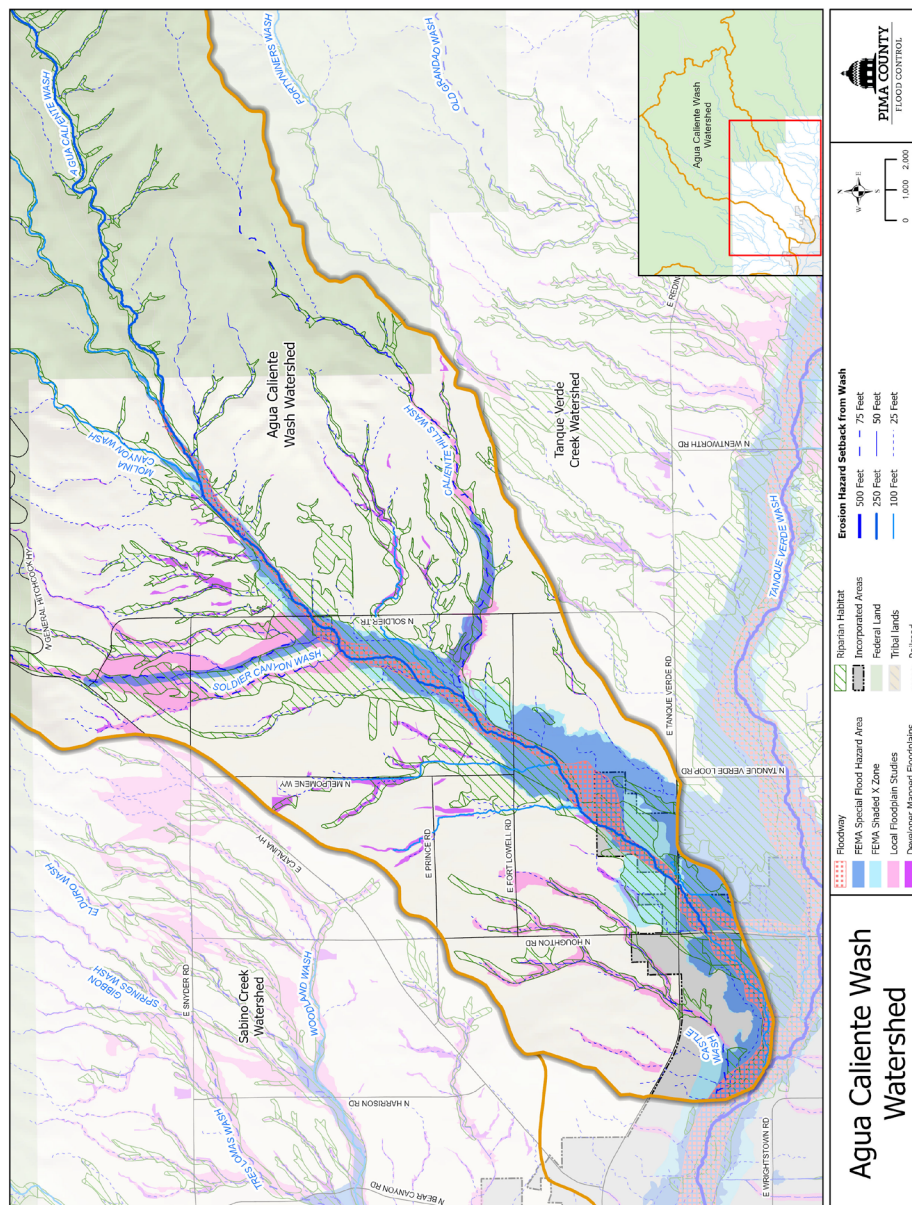
- Communications: To identify better ways to inform the public of this process, as well as to assist in future floodplain awareness outreach activities.
- Development Services: To promote awareness of the flood hazards and risks associated with new and existing development and ensure that any actions proposed by the Floodplain Management Plan related to development are compatible with Building Safety and Zoning requirements.
- Office of Emergency Management: To identify and address gaps with internal and external processes to communicate flood warning, flood risk messages to the public, critical facilities, and other agencies, as well as to coordinate flood response actions.
- Parks and Recreation and Conservation and Land Resources: In order identify, coordinate, and prioritize land management activities to maintain the natural and beneficial functions of floodplains and associated uplands.
- Department of Transportation: To coordinate the response to the public safety risk associated with flooded road conditions, to develop solutions to reduce the frequency of swift water rescues and to coordinate identification of safe travel routes during times of flooding.
- County Administration: To ensure the issues are identified in the Floodplain Management Plan, and the proposed activities in the Action Plan continue to meet overall County objectives.

Step 4 - Assess the Hazard

Assessing the hazard is the first substantive step in the Floodplain Management Plan process and entails reviewing the floodplain mapping coverage County-wide. This provided a great opportunity to hear from the Committee and the public about gaps in the District's flood hazard data, areas that have flood hazard information that is out-of-date or imprecise, and to consider additional hazards such as fire, future conditions rainfall, debris flows, alluvial fans, and canyon washes. The review of this information

was completed on a watershed basis and resulted in the identification of flood hazard information needs which can be found in the watershed chapters (aka Watershed Master Plan). These gaps and needs have been made part of the Action Plan to be accomplished by the District's Watershed Studies Division over the next five years.

As an example, the map of the Agua Caliente Watershed identifies flood hazard information currently available. The map includes floodplain delineations, erosion hazard setback requirements, as well as regulated riparian habitat, which are indicative of the presence of regulatory floodplains. Maps like these are used to determine where additional information is needed, and to discuss the age and accuracy of the existing mapping.



Step 5 - Assess the Problem

This extremely important step entails the identification of areas where development and the community are exposed to the known flood hazards. The process for identification of the problem areas was rigorous and included significant involvement of the Planning Committee members reviewing the problems on a watershed-by-watershed basis, outreach to various community stakeholders, including homeowner's associations, neighborhood groups, and various relevant environmental and trade associations.

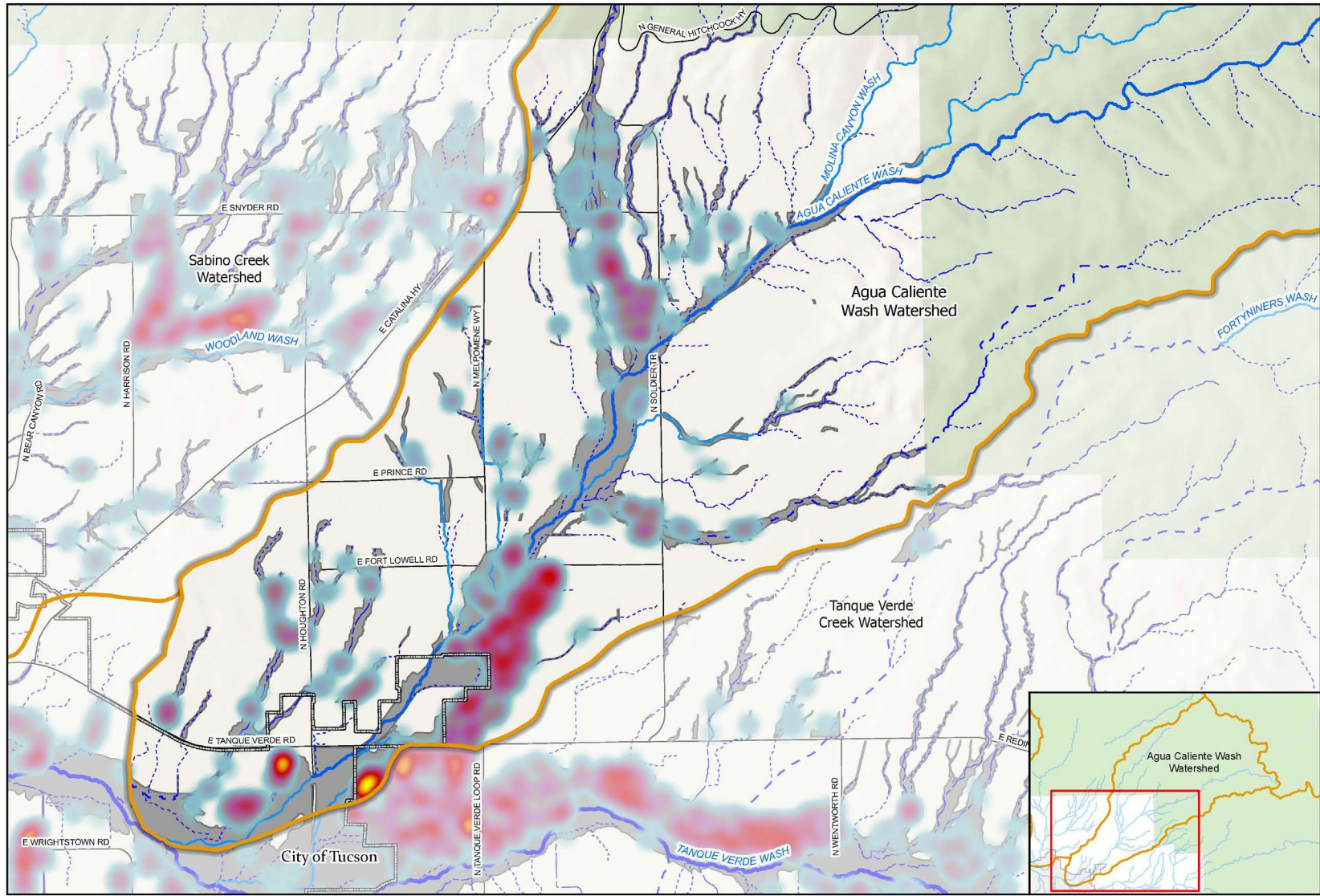
In addition, the District provided updated information on the adequacy of insurance coverage, repetitive loss areas, estimates of potential loss due to flood hazards, and exposure of any critical facilities. Much of this information was previously prepared in the District's Program for Public Information and the County's Hazard Mitigation Plan but required updates. As part of the update, the Program for Public Information will be made part of the Floodplain Management Plan to facilitate both programs administratively, as well as to make sure that they remain substantively relevant to each other.

The District developed maps, by watershed, of existing structures exposed to the known flood hazards. The resulting "heat maps" show the density of structures exposed to flood hazards and assist in showing that within certain floodplains there are areas of little exposure and areas with considerable exposure. Fact sheets were also developed for each watershed and used in outreach and problem identification.

The problem areas collected during this process has been made part of the Action Plan to be accomplished by the District's Floodplain Management Division, who use non-structural methods to reduce risk such as compliance enforcement of the Floodplain Management Ordinance and acquisition of floodprone lands. The Engineering and Landscape Architecture division will also accomplish actions using structural improvements through the Capital Improvement Program.

Assessing population exposure will also assist in coordinating with the Pima County Department of Transportation where transportation issues increase exposure risks and with the Office of Emergency Management for planning during flood emergencies.

An example of the risk exposure map for the Agua Caliente Watershed is shown below which identifies the exposure of structures to the known flood hazards. A comprehensive list of problems identified by the Planning Committee and stakeholders can be found in the Floodplain Management Plan and each watershed chapter.



<h3>Building Density: Agua Caliente Wash Watershed</h3>	Building Density In Floodplains: 	Internal Watershed Boundaries	Federal Land	Erosion Hazard Setback from Wash			
		Floodplains	Tribal lands	500 Feet	75 Feet		
	Incorporated Areas	Railroad	100 Feet	25 Feet			

Step 6 - Set Goals

The Federal Emergency Management Agency (FEMA) guidance for this step indicates that the goals set need to be sufficient to address all of the problems that were identified. The comprehensive nature of the problems identified in the previous steps resulted in the need for the Planning Committee to debate the language of the goals extensively. The deliberative exercise proved to be fruitful. To start the discussion, the District provided the Planning Committee with the District's existing mission and goals, which can be found in the Floodplain Management Ordinance and approved plan. The goals of the Floodplain Management Ordinance were generally satisfactory; however, there were issues that the Planning Committee decided needed their own goals in 2020. These were associated with planning for future watershed conditions, including considering climate change, and increasing the District's role in providing interjurisdictional floodplain management services. Then in 2024 the committee identified three new goals relating to regional recharge, stormwater harvesting and equity as identified below.

The goals of the Floodplain Management Plan are:

Required by Ordinance:

1. Identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them, and restore and enhance them where they have been degraded.
2. Protect, preserve and enhance water resources.
3. Ensure that those who occupy areas within regulatory floodplain and erosion hazard areas are aware of the consequences of their actions within those areas.
4. Reduce the need for rescue and relief efforts.
5. Ensure the most effective expenditures of public money for flood control projects.
6. Prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.

Added by Planning Committee in 2020:

7. Ensure flexibility for adaptive floodplain management for changing climate circumstances.
8. Increase regional cooperation and offer inter-jurisdictional floodplain management services.

Added by Planning Committee in 2024:

9. Increase beneficial use of stormwater including regional recharge and urban green spaces.
10. Ensure equitable access to flood mitigation services.
11. Prioritize neighborhood scale beneficial use of stormwater projects in vulnerable and underserved areas.

Step 7 - Review Possible Activities

During this step, the Planning Committee discussed activities, both current and future, to implement the goals that were previously developed. These activities are those that can prevent or reduce the severity of the problems previously identified and include all aspects of the District's organization as well as activities from other County departments. This was a systematic review of a wide range of activities to ensure all possible measures were explored. These activities were then organized to fit into activity areas using the terminology preferred by FEMA, with activities identified as those that are currently performed and proposed new activities. The FEMA Activity Areas are:

- A) Preventive activities keep flood problems from getting worse. The use and development of floodprone areas is limited through planning, land acquisition, or regulation. They are usually administered by building, zoning, planning, and/or code enforcement offices.
- B) Property protection activities are usually undertaken by property owners on a building-by-building or parcel basis.
- C) 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.
- D) 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.
- E) Structural project activities 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.
- F) 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.

Step 8 - Draft an Action Plan

To create a Floodplain Management Plan that meets the prerequisite for a Class 4 community, at least 50% of all available points must be awarded. That requires that the Planning Committee consider all activities and address who is responsible for implementing the activity, when this activity will occur and how each will be funded. Like the previous steps, the Planning Committee then evaluated the activities on a watershed-by-watershed basis. Some activities were considered applicable County-wide, while other activities were relevant or more relevant in individual watersheds. In addition, when watershed specific projects could be identified they were included on the list.

This list of activities with priorities, costs, and timelines is considered in the Flood Control District's Floodplain Management Action Plan. This is essentially the distilled substance of the Floodplain Management Plan process and represents a forward-looking vision for the prioritization of the District's programs and projects for the next five years. It will become what is used at the end of that five-year period to look back and evaluate accomplishments and satisfy the requirements of the Comprehensive Program Report.

It is important to note that funding for these activities will likely come from the Flood Control tax levy. While some of the activities may be considered new, they may have been known or considered by the District already. Plan credit is available for activities the District currently performs to reduce flood risk and exposure. The purpose of the Action Plan is to consolidate the District's various priorities to develop a reasonable and measurable way to ensure progress is made.

The approved 2020-2025 Action Plan included 166 activities. As of April 2024, the last progress report; 71 were annual programs, 43 completed discrete projects, 34 in progress, and 18 planned.

For this update FEMA recommended that programmatic activities such as code enforcement and maintenance need not be listed. Furthermore, in some cases projects were determined by the committee to no longer be needed. Most often this was due to replacement by alternatives, such as sub-watershed studies that were subsumed into larger studies and the removal of individual maintenance projects such as particular homeless encampments in favor of an annual program to remove them. Therefore, the Action Plan presented below includes only discrete projects with an indication of when each was identified and when it is to be completed. The new 2025-2030 Action Plan includes 108 discrete projects. Of these 18 were carried forward from the 2020 plan as they were still incomplete and 90 are new or modified. These fall under 61 annual activities or programs. Some of these such as enforcement have

no discrete projects associated with them while mapping studies and structural projects do.

Notable new activities along with listed flood hazard studies, structural and outreach projects proposed include:

- Expansion of hazard mapping to excluded washes and to reflect future rainfall conditions
- Regional recharge projects
- Neighborhood water harvesting projects in underserved areas
- Identification of lands for inclusion in the Santa Cruz River National Wildlife Refuge
- Consideration of economic impacts of new regulations
- Identification of funds to offset flood control costs of affordable housing projects

Step 9 - Adopt the Plan

The FEMA guidance requires that the Floodplain Management Plan be adopted by the District's governing board, the Board of Directors of the Flood Control District. This full Floodplain Management Plan is on the District's website at www.pima.gov/fmp. This document represents a compilation of the numerous Planning Committee meetings and is organized by the procedural steps described above along with the WMP, which breaks these same issues down by watershed.

This Executive Summary and the excerpted Action Plan have been provided as a summary of the procedural steps and detailed discussion that have occurred over the past 6 months. The District requests the Boards formal adoption of the Floodplain Management Plan, including the WMP and PPI, and associated Action Plan.

Step 10 - Implement, Evaluate, and Revise

To retain credit under the Community Rating System, the Floodplain Management Plan must be annually reviewed and updated by the Planning Committee. To be more efficient, the District combined the committee that reviews our Program for Public Information with the Floodplain Management Planning Committee, since both require annual review reporting this action would occur through the District's annual reports.

The Floodplain Management Plan requires additional public process and Board adoption every five years. Again, for the purpose of efficiency, this five-year process will also result in the publication of the statutorily required Comprehensive Program Report. This allows the public process to look back on the past five years of accomplishments, while also looking forward to the next five years of planning.

The final Action Plan created and endorsed by the Planning Committee and the Flood Control District Advisory Committee follows the following summary of written comments received on the draft.

1. Catalina Foothills Association, Planning and Zoning Committee provided a letter proposing 5 actions. The first three, analysis and application of a Climate Informed Science Approach including worst case long duration storms and expansion of regulatory maps to excluded watercourses have been included in the final proposed Action Plan. The last two are enforcement of code and the comprehensive plan (Pima Prospers) Flood Control Resource Area policy including annual map updates to reflect future climate conditions which had already been included.
2. Coalition for Sonoran Desert Protection, Kate Hotten provided a letter with language that has been incorporated into the action plan. This included creation of an expert team to assess locations for wildlife ramps for bank protected watercourses which have been added, designation of segments of the Santa Cruz River for inclusion in the proposed National Wildlife Refuge, and expansion of regulatory maps to excluded watercourses. Programmatic recommendations expressed support and guidance for nature-based solutions, invasive species coordination, and wildlife friendly fencing practices.
3. FEMA/ISO Technical Reviewer, Jonathan Smith agreed with District Management that annual activities such as code enforcement and drainage system maintenance need not be included. Rather than exclude them entirely, the final proposed Action Plan has been split into two lists. One for Annual Activities that are mostly county wide and institutionalized as programs. Two, watershed specific discrete activities including mapping studies, structural and outreach projects. Also, despite a recommendation made at the beginning of the process to separate the individual watershed hazard and problem assessments as a Watershed Master Plan, upon courtesy review of the drafts, points were not awarded based upon the information contained therein. Therefore, these assessments have been moved back into the FMP main body.
4. PCRFC Staff, revised language related to structural projects (including addition of a *Community Engagement Guide* as an Outreach Project), studies and drainage system maintenance for clarity in response to the separation of annual activities from discrete projects. Further one significant addition is a pilot study for the Rillito watershed to determine if the worst-case design long duration storm is longer than the 1-hour, 3-hour, and 24-hour storms currently required, again as a response to CRS guidance and staff developing expertise.
5. Pima Association of Governments, Mead Mier provided language related to nature-based solutions, outreach and participation activities that have been included.
6. Resident, Jonathan Goldman provided language relating to a project to evaluate the use of improved forecasting methods and identifying appropriate partners and experts that has been included.
7. Resident, Melanie Mizell provided locations of flooded roads for possible water harvesting projects and input on the need for outreach to children

regarding safe routes to school and future conditions. The former have been added to the hazard assessment documentation and the latter to outreach project activities.

8. Southern Arizona Homebuilders Association, Brendan Lyons provided reference material for the impacts of regulations on housing affordability which has been added to the plan document to justify new action items previously added to evaluate new ordinance economics and provide county funding to offset flood control costs of developing affordable housing projects.
9. Tucson Mountains Association, Steve Dolan provided a spreadsheet with new activities including expansion of regulatory maps to excluded watercourses and locations for ALERT gages and road improvements. These have been included in the Action Plan.
10. San Xavier District of the Tohono O'odham Nation, Planner John Baskett added Wa:K Park and technical assistance on hydrology for Black Mountain Ki:Ki Project (Housing Area). Planner Camden Walsh also provided a list of graphic corrections and indicated broken and suggested links. He also asked for high resolution maps to be included on the project webpage.
11. Pima County Regional Wastewater Reclamation District added discrete water quality monitoring projects for Cienega Creek and Lee Moore Wash (Copper World). The former has been ongoing since 2015, and the latter is new.
12. Tortolita Alliance, President Mark L Johnson provided a detailed letter of support with several additions related to describing completed studies and referencing their letter of support for the Santa Cruz River Urban Nation Wildlife Refuge including inclusion of all ASLD land. The FMP letter of support emphasizes support for Technical Policy 010 to address future rainfall conditions and its application to all existing development that is protected by flood control improvements.

While no specific projects were identified therein, meetings were also conducted with the Southeastern Area Council, Green Valley Council, Catalina Foothills Association membership, Southern Arizona Homebuilders Association Technical Committee, Flood Control District Advisory Committee and Tohono O'odham Nation.

ATTACHMENT 2

FLOODPLAIN MANAGEMENT PLAN

2025 ACTION PLAN

<u>Year Added</u>	<u>Ref #</u>	<u>Programs (Annual Activities)</u>	<u>Watershed</u>	<u>Deadline</u>
Preventative				
Pre 2020	1.1	CRS Participation (including Annual Recertification, Tri-annual CRS performance audits, program development, and providing annual progress reports to the Planning Committee, public and Board)	Countywide	Annual
Pre 2020	1.2	Enforce the Floodplain Management Ordinance	Countywide	Annual
Pre 2020	1.3	Drainage System Maintenance	Countywide	Annual
Pre 2020	1.4	Develop and maintain staff expertise	Countywide	Annual
Pre 2020	1.5	Participate in interagency reviews of development and studies/projects including those distributed by State, Federal and Local agencies	Countywide	Annual
Pre 2020	1.6	Provide a regional repository for locally mapped floodplains and participate in regional watershed planning activities to promote uniform standards and regional coordination	Countywide	Annual
Pre 2020	1.7	Create Intergovernmental Agreements with other jurisdictions for services including mapping, code enforcement, drainage system construction and maintenance, and outreach	Countywide	Annual
2020	1.10	Identify undersized drainage infrastructure	Urban Sub-Watersheds, Rillito, CF, CDO	Annual
2020	1.11	Monitor sand and gravel operations	Pantano, SCRM, SCRL	Annual
2020	1.12	Work to address issue of sediment placement during road maintenance activities	AV, Brawley, BW, LMW, TF	Annual
2025	1.13	Identify and monitor erosion on tributaries to the Santa Cruz River using LIDAR or NearMAP data available GIS analysis to be run to identify scour on a priority basis based upon inspections	LSCR, MSCR, USCR	Annual
2025	1.14	Analyze and disclose potential costs to development when enacting new floodplain regulations.	Countywide	Annual
2025	1.15	Include evaluation of the effects of all existing stormwater detention and retention basins on runoff peak flow rates as part of floodplain studies	Countywide	Annual
2020	1.24	Map canyon wash floodways as part of each study	Countywide	Annual
2020	1.25	Consider mitigation alternatives in floodplain studies	Countywide	Annual
2025	1.26	Conduct flood risk mapping studies using CISA as identified in the WMP and by the Chief Engineer and include mitigation alternatives	Countywide	Annual
Property Protection				
Pre 2020	2.1	Provide outreach and assistance on mitigation strategies to the community including obtaining flood insurance	Countywide	Annual
Pre 2020	2.2	Implement Floodprone Land Acquisition Program	Countywide	Annual
Pre 2020	2.3	Identify and address maintenance needs of private infrastructure during the entitlement and permitting processes	Countywide	Annual
Pre 2020	2.4	Pursue property protection funding to facilitate timely assistance to individual property owners	Countywide	Annual
Pre 2020	2.5	Work with responsible parties to address flooded roads	CDO, LMW, Pantano, Rillito, Sabino, TVC, TF, TM	Annual
Pre 2020	2.6	Conduct voluntary floodprone land acquisition program outreach to areas impacted by flooding	Countywide	Annual
2025	2.8	Prioritize capital improvement projects in disadvantaged communities, including green infrastructure and other investments	Countywide	Annual

2025	2.10	Identify non-District funds to offset flood control costs for affordable housing developments	Countywide	Annual
2025	2.11	Increase Pima County's annual gap funding for the development of affordable housing to mitigate increased housing costs due to improved flood prevention requirements	Countywide	Annual
Natural Resources Protection				
Pre 2020	3.1	Enforce the Riparian Habitat Mitigation Standards during permitting and entitlement processes.	Countywide	Annual
2020	3.2	Monitor groundwater table depth and flow direction, surface flows and quality	Countywide	Annual
2025	3.3	Work with partners to update water quality monitoring plan(s) for areas downstream of any mining activities	Countywide	Annual
Pre 2020	3.4	Invasive species management	Countywide	Annual
2020	3.5	Spatially rectify riparian classification maps	Countywide	Annual
2025	3.6	Work with partners to use nature based solutions including Natural Infrastructure for Dryland Streams (NIDS) in uplands to support shallow groundwater and perennial reaches to build resiliency to climate change	Countywide, CC	Annual
Pre 2020	3.7	Identify, acquire, preserve, restore, and enhance the natural portions of the Drainage System including riparian habitat and wildlife corridor areas and develop open space management plans and best practice manuals	Countywide	Annual
2020	3.8	Refine, expand and implement District natural resource management plans including the Multi-Species Conservation Plan	Countywide	Annual
2020	3.9	Expand riparian habitat maps to excluded watercourses	Countywide, TM	Annual
Updated2025	3.10	Prioritize and construct regional stormwater recharge facilities upgradient of well fields, shallow groundwater areas, and subsidence areas that provide flood control benefits as well as green spaces that can reduce the heat index while also providing habitat restoration and enhancement in coordination with partners and owners on stormwater and effluent use	Countywide	Annual
2020	3.11	Operate the Marana High Plains groundwater recharge facility	SCRL	Annual
2025	3.12	Identify locations for and prioritize design and construction of neighborhood scale beneficial use of stormwater projects in urban, vulnerable, disadvantaged and underserved areas and work with partners to build and maintain them	Countywide	Annual
2025	3.17	Create team of subject matter experts to evaluate locations for ramps and other means to facilitate wildlife movement across and through the District flood control facilities	Countywide	Annual
Emergency Response				
Pre 2020	4.1	Coordinate with other Departments in development of Hazard Mitigation Plans, Emergency Operations Plans, Flood Response Plans and Grant Applications	Countywide	Annual
2020	4.2	Adopt an All-Hazards Planning Strategy per the Approved Hazard Mitigation Plan (e.g. health, catastrophic fire, extreme weather)	Countywide	Annual
2020	4.3	Increase pre-event technical assistance to the Office of Emergency Management and first responders including identifying all weather emergency response access routes	Countywide	Annual
2021	4.4	Pursue Mitigation and Post-Disaster Declaration Grants	Countywide	Annual
Pre 2020	4.5	Operate the flood recognition and warning system in coordination and cooperation with PCOEM and conduct annual training and exercises as required and expand services to underserved and emerging high risk areas in all jurisdictions	Countywide	Annual
Structural				
Pre 2020	5.1	Evaluate the feasibility of using infrastructure to enhance flood protection in hazard areas identified in watershed studies	Countywide	Annual
Pre 2020	5.2	Develop a 10-year plan for prioritizing the design and construction of capital projects	Countywide	Annual

Pre 2020	5.3	Design flood control improvements using a multi-function approach including infiltration, water quality, recreation and habitat enhancement.	Countywide	Annual
2020	5.4	Apply Green Infrastructure/Low Impact Development design principles and CISA in design of District projects	Countywide	Annual
2020	5.5	Loop and Trail Enhancements	CDO, Rillito, Pantano, SCRL, SCRM, SCRU	Annual
2020	5.6	Coordinate with the Altar Valley Conservation Alliance to implement watershed restoration	AV	Annual
Pre 2020	5.7	Utilize property tax revenues to fund drainage improvements to protect existing and future development and seek additional funds when available	Countywide activity	Annual
Outreach				
Pre 2020	6.1	Implement the Program for Public Information including providing annual progress reports to the committee and engaging them in updating targeted messaging.	Countywide	Annual
Pre 2020	6.2	Provide a system for the community to receive technical assistance or to address drainage concerns	Countywide	Annual
Pre 2020	6.3	Coordinate outreach with local municipalities to promote consistent messages among the region's jurisdictions	Countywide	Annual
Pre 2020	6.4	Provide a regional federal map repository	Countywide	Annual
Pre 2020	6.5	Provide map information services in unincorporated Pima County	Countywide	Annual
2020	6.6	Establish message partnerships with community-based organizations serving access & functional needs populations	Countywide	Annual
2025	6.7	Solicit input on projects from disadvantaged communities and neighborhoods, to get their perspective on issues and solutions.	Countywide	Annual
2025	6.8	Engage with at risk disadvantaged neighborhoods and communities to identify potential District projects to improve their resiliency and effectiveness.	Countywide	Annual
2023	6.9	Provide Annual Outreach to Residents in the COT and those in all jurisdictions living behind levees and dams	Countywide	Annual
2025	6.10	Maintenance and Structural Project Outreach	Countywide	Annual
2020	6.11	Update outreach projects and messages with new targets and audiences (e.g. critical facilities, private infrastructure, renters, riparian habitat, non-conforming uses and high stress index populations)	Countywide	Annual
Note: Activities highlighted in blue are annual programs that also have discrete projects associated with them.				

<u>Year Added</u>	<u>Ref #</u>	<u>Projects (Discrete Activities)</u>	<u>Watershed</u>	<u>Deadline</u>
Preventative				
Pre 2020	1.3.1	Update Drainage System maintenance plans and manuals to include vegetation, sediment, and debris	SCRL, SCRM, Rillito, Pantano, CDO	2030
Pre 2020	1.3.2	Update open space management plans and manuals to consider location specific vegetation maintenance practices including fire breaks	AV, CC, CDO, SCRM, SCRU, SCRL, SPR, TVC	2030
2020	1.8	Update the Watershed Master Plan to identify existing and future development at risk from flooding, and FMP to identify mitigation strategy	Countywide	2030
2020	1.9	Prioritize watersheds where floodplain studies and structural project design should use a Climate Informed Science Approach (CISA)	Countywide	2027
2020	1.16	Require use of GI/LID	Countywide	2025
2020	1.17	Update analysis of the Pantano's instability	Pantano	2025
2025	1.18	Create a Technical Policy to identify construction techniques and site designs including GI/LID and distributed retention that protect from flood hazards including erosion by mimicking natural conditions	Countywide	2026
2025	1.19	Study unmapped watercourses including floodways, flow corridors, floodplains, Erosion Hazard Setbacks and riparian habitat for potential inclusion in FCRA	CF, TM	2026
2025	1.20	Coordinate with the planning department to ensure that the results of modeling and mapping are incorporated into the 2025-2035 Pima County comprehensive plan (Pima Prospers)	Countywide	2025
2025	1.21	Coordinate with ADOT to ensure an adequate Drainage, Mitigation, Restoration & Enhancement Plan for the Sonoran Corridor	LM	2030
2025	1.22	Work with the City of Tucson and Arizona State Land Department to apply the Conservation Land System (CLS) set-aside requirements and ensure Flow Corridors are retained	Countywide	2030
2020	1.23	Develop criteria for site design and infrastructure at major watercourse confluence areas	Countywide (SCRU, SCRM, TM, CF, TF)	2030
2020	1.26.1	Approximate FEMA Special Flood Hazard Areas detailed mapping	TF, TM, SCRM	2030
2020	1.26.2	Rincon Foothills Unnamed Wash #s 8, 9 and 10 floodplain mapping	TVC	2027
2020	1.26.3	Roller Coaster Wash floodplain remap	AC	2027
2022	1.26.4	Jeremy Wash Floodplain Delineation	Rincon, Pantano	2027
2020	1.26.5	Alluvial fan flow corridor mapping	TF	2027
2020	1.26.6	Local approximate sheet flow floodplains detailed mapping	Countywide	2027
2025	1.26.7	Agua Caliente Wash Sedimentation Assessment	ACW	2025
2025	1.26.8	Ajo/Gibson Arroyo Floodplain Remap	Tenmile	2030
2025	1.26.9	Amado (Arivaca Junction) Floodplain Remap	SCRU	2029
2025	1.26.10	Arivaca Floodplain Study	SCRU	2030
2025	1.26.11	Earp Wash Study	SCRM	2027
2025	1.26.12	Hawser and Twin Lakes drainage 27 Mile Wash Update	CDO	2027
2025	1.26.13	Tucson Diversion Channel Levee Study	SCRM	2030
2025	1.26.14	Ventana Canyon inundation mapping	CF	2026
2020	1.26.15	Black Wash inundation mapping	BW	2030
2025	1.26.16	Gibson Arroyo inundation mapping	Tenmile	2026
2025	1.26.17	Wyoming, Dakota, and Nebraska Washes AE Zone Remap	SCRM	2025
2025	1.26.18	Woodland Update	Sabino	2029
2025	1.26.19	Downtown Links LOMR	SCRM	2026

2025	1.26.20	Tanque Verde LOMR	TVC	2027
2025	1.26.21	Valencia Wash LOMR	SCRM	2028
2025	1.26.19	Gardner Canyon Wash mapping	CC	2025
2025	1.26.20	Assess Floodplain Gap South of Arthur Pack park to Hardy Wash and Cortaro	TF	2026
2025	1.26.21	Robb Wash	Rillito	2025
2025	1.26.22	Conduct a pilot study for the Rillito watershed to determine if the critical design worst-case storm is less than the five-day event.	Rillito, Agua Caliente, Catalina Foothills, Cienega Creek, Pantano, Rincon Creek, Sabino Creek, Tanque Verde Creek	2030
Property Protection				
2025	2.7	Identify ways to reduce the flood control costs to developers of affordable housing restricted to low-income households, as well as market rate housing in high poverty areas	Countywide	2030
Pre 2020	2.9	Evaluate cumulative impacts of lot-splits and identify mitigation	BW, TM	2026
Natural Resources Protection				
2025	3.3.1	Cienega Creek & Davidson Canyon Water Quality Monitoring	CC	2030
2025	3.3.2	Copper World Water Quality Monitoring	LM	2030
2025	3.8.1	Identify locations for cattle exclusionary and wildlife friendly fencing	CC	2026
2025	3.8.2	Catalina Park Master Plan update	CDO	2026
2025	3.8.3	Identify acquisition needed to fill gap in the Loop on the north bank of Tanque Verde Creek	TVC	2028
2025	3.8.4	Acquired lands mitigation strategies assessment	Rincon Creek	2025
2020	3.9.1	Expand riparian habitat maps to excluded watercourses in the Tucson Mountains Watershed	TM	2025
2025	3.9.2	Expand riparian habitat maps to excluded watercourses in the Catalina Foothills Watershed	CF	2026
2025	3.10.2	Retain runoff upgradient of the Tucson Water western Avra Valley well fields in the Black Wash headwaters	BW	2027
2025	3.10.3	Rita Ranch Basin Recharge Pilot	Pantano, SCRM	2025
2025	3.10.4	Orange Grove Pit recharge potential evaluation	SCRM	2030
2020	3.12.1	Proposition 407 projects coordination with the City of Tucson	Rillito, Pantano, SCRM	2030
2025	3.12.2	Julia Keene Stormwater Park	SRCM	2026
2025	3.12.3	Amphi Neighborhood Stormwater Park	SCRM	2027
2025	3.12.4	Sewell School Stormwater Park	SCRM	2028
2025	3.12.5	San Xavier Wa:K Park	USCR	2027
2025	3.13	Expand Roger Road Wastewater Treatment Plant riparian habitat restoration	MSCR	2027
2025	3.14	Identify land within half a mile of the Santa Cruz River for potential inclusion in the Urban National Wildlife Refuge and coordinate with stakeholders on identifying potential parcels	LSCR, MSCR, USCR	2025
2025	3.15	Pursue acquisition Arizona State Land with high density of cultural resource co-occurrence with floodplain	CC	2026
2025	3.16	Coordinate with partners to identify location of shallow groundwater to inform Pima Prospers Water Policy	Countywide	2025
2025	3.17	Create team of subject matter experts to evaluate locations for ramps and other means to facilitate wildlife movement across and through the District flood control facilities	Countywide	Annual

Emergency Response				
2025	4.5.1	Install ALERT gage at Silverbell and Oxbow Road Dip (Sweetwater Wash)	TM	2030
2025	4.5.2	Install ALERT gage at Silverbell Rd and Camino de Oeste Wash	TM	2030
Pre 2020	4.6	Identify critical facilities exposed to or isolated by flooding and evaluate level of risk using a Climate Informed Science Approach (CISA) and coordinate with operators on Flood Response Plans	Countywide	2026
2020	4.7	Develop a plan to enhance public safety where roads flood and/or create isolated areas (e.g. reporting, warning, signage, permanent closures, all-weather crossings, automated temporary closures)	Countywide	2025
2025	4.8	Evaluate potential for use of latest forecasting tech and collaborate with groups such as the NWS, FAA, and Air Force to expedite installation of next generation radar and other technologies to improve "now-casting" and allow better warnings and alerts to the public, first responders and aviation. See, for example: https://psl.noaa.gov/aqpi/ and https://www.nssl.noaa.gov/tools/radar/ . Improving the capability to measure and forecast intense rainfall rates and winds and their spatial movements will benefit the public, aviators and first responders.	Countywide	2026
2025	4.9	Coordinate with partners to update the Community Wildfire Prevention Plan with emphasis on invasive species.	Countywide	2027
Structural				
Pre 2020	5.7.1	Soldier Trail erosion prevention	ACW	2025
Pre 2020	5.7.2	Sells Wash bank protection	SR	2025
Pre 2020	5.7.3	Silverbell Road drainage improvements coordination with the City of Tucson	SCRM, TM	2026
Pre 2020	5.7.4	Unnecessary diversion removal	BW, Brawley	2026
Pre 2020	5.7.5	Pantano Wash and tributary stabilization	Pantano	2027
Pre 2020	5.7.6	Wentworth Wash Channel	TVC	2027
Pre 2020	5.7.7	Ruthrauff/Gardner Lane area drainage improvements	SCRM	2027
2025	5.7.8	Santa Cruz River Master Plan Project (Alt 6 Grade Control/Effluent Training)	SCRL	2027
2025	5.7.9	Brawley Wash Improvements	Brawley	2027
2025	5.7.10	Canada Del Oro - West Bank from Thornydale to Magee	CDO	2030
2025	5.7.11	Santa Cruz River - Drexel to Valencia East Bank Riverpark	SCRM	2027
2025	5.7.12	Santa Cruz River Sunset Road Bank Protection and Riverpark	SCRM	2029
2025	5.7.13	Santa Cruz River Master Plan Project (Alt 8 Effluent Training Structures)	SCRL	2028
2025	5.7.14	SCRMP Project (El Corazon)	SCRL	2029
2025	5.7.15	Santa Cruz River Pedestrian Bridge Near Prince Road	SCRM	2025
2025	5.7.16	Ajo Gibson Arroyo	Tenmile	2030
2025	5.7.17	Cienega Creek Erosion Stabilization	CC	2027
2025	5.7.18	Cienega Creek Riparian Restoration	CC	2027
2025	5.7.19	Lee Moore Wash Regional Basins	LM	2029
2025	5.7.20	Pantano Wash Rancho Del Lago Erosion Mitigation	Pantano	2028
2025	5.7.21	Santa Cruz River: Sonoran Corridor	SCRU, LM	2030
2025	5.7.22	Blanco Wash - 2 large head cuts extending from the deeply incised Blanco Wash channel (Musket) repair design	Brawley	2025
2025	5.7.23	Pantano Wash - Large head cut extending upstream from a historic sand and gravel pit repair design	Pantano	2025
	5.7.24	Southeast Employment and Logistics Center (SELC) South Channel	LM	2027
Outreach				
2020	6.11.1	Vegetation and riparian habitat protection to prevent or reduce drainage runoff problems	TF	2025
2020	6.11.2	Nonconforming use structure improvements	ACW, TVC	2025
2020	6.11.3	Brawley Wash below 3 Points Bridge Break-Out	Brawley	2025

2020	6.11.4	Isolated areas which can get cut-off during flood events	ACW, SPR, LMW, AVG, TM	2025
2020	6.11.5	Irvington Rd. and east of San Joaquin Ave flood insurance with Increased Cost of Compliance coverage availability	SCRM	2025
2020	6.11.6	Private road and drainage easement technical assistance availability	BW, Brawley, SCRM, TM	2025
2020	6.11.7	PTRS131332 assistance available to homeowners	SCRM	2025
Pre 2020	6.11.8	Target floodways and flow corridor areas with information including how to report flooding hazards, how to receive alerts when concerns arise, and safety information.	BW, Brawley, SCRM, SPR	2025
2025	6.11.9	Climate Informed Science Approach (CISA) engineer training	Countywide	2026
2024	6.11.10	Schools safety information including increased severity of events, warning systems and safe routes to school	Countywide	2027
2025	6.11.11	Stormwater Job Force Development Program	Countywide	2026
2025	6.11.12	Neighborhood Stormwater Ambassador Program	Countywide	2026
2025	6.11.13	Facility Impact Permit Users	Countywide	2026
2025	6.11.14	FPUP Process for Utilities	Countywide	2026
2025	6.11.15	Pima County Regulated Riparian Habitat property owner outreach update to include invasive species	Countywide	2026
2025	6.11.16	River and riparian areas signage to improve stewardship and understanding of ecosystem services, especially at community "gateways to rivers". Do a gateway analysis of ideal locations to enhance with educational restoration projects, including GSI/LID on river banks.	Countywide	2025
2025	6.11.17	Collaborative green street project benefits and perceptions of risks to street infrastructure training for transportation planners and engineers	Countywide	2030
2025	6.11.18	Community Engagement Guide	Countywide	2026

Note: Those numbers with two decimals are discrete activities that are part of an annual program where #1 is the CRS activity

Key

Urban Watersheds:

- ACW Agua Caliente Wash
- AC Arivaca Creek
- BgW Big Wash
- BW Black Wash
- Brawley Brawley
- CDO Canada del Oro
- CF Catalina Foothills
- CC Cienega Creek
- LMW Lee Moore Wash
- Pantano Pantano Wash
- Rillito Rillito Creek
- Rincon Rincon Creek
- SC Sabino Creek
- SCRL Santa Cruz River Lower
- SCRM Santa Cruz River Middle
- SCRU Santa Cruz River Upper
- TVC Tanque Verde Creek
- Ajo Tenmile/Gibson Arroyo
- TF Tortolita Fan
- TM Tucson Mountains

Rural Watersheds:

- AV Altar Valley
- AVG Aguirre Valley/Green Wash
- RS Rio Sonoyta
- SC San Cristobal
- SPR San Pedro River
- SS San Simon Wash
- Sopori Sopori Wash
- Tule Tule Desert

ATTACHMENT 3

COMPREHENSIVE REPORT

2020 Action Plan Implementation Successes and Comprehensive Program Report

In addition to functioning as the plan for the next five years, the FMP also fills the state requirement for a Comprehensive Program Report on District activities over the previous five years. Each chapter of the plan focuses on one of the 27 individual watersheds impacting Pima County and contains a status report on all the 2020-2025 Action Plan activities in that watershed with a corresponding map. An interactive online GIS dashboard available at www.pima.gov/fmp summarizes the hazards and mitigation actions by watershed and provides the status for ongoing activities.

The activity highlights are described in Chapter 8, this includes:

Preventative:

- Improved CRS Rating to Class 2.
- Development of future rainfall IDF curves and creation of associated draft hydrologic modelling technical policy.
- Created and Integrated services Division to provide information and administrative support services to District staff and partners including regional map information services and grant writing.

Property Protection:

- Finger Rock Wash post-fire flooded homes buyout, demolition, and floodplain restoration.
- 277 of trash removal events/projects (volunteer projects along the major watercourses, demos, and misc. trash removal projects on the OS lands; DOES NOT include homeless camp removal)

Natural Resource Protection:

- Riparian Habitat in lieu fee inflation-based increase.
- We report how many permits we issue that result in avoidance and minimization of RRH disturbance.
- Stormwater parks include habitat restoration such as owl burrows and butterfly gardens in addition to rainwater supported riparian vegetation.
- Created GIS dashboard to identify potential water harvesting project locations and the volume of available water.
- Fencing to restrict access, 2,992 acres protected, and 64,568 linear feet of fence installed.
- 21 property encroachments resolved

Emergency Services:

- Annual updates of the *Flood Response Field Manual problem areas*.
- Initiated multi-agency annual flood exercises.
- 2022 Updated the *Multi-Jurisdictional Hazard Mitigation Plan*.
- 2019 Expanded flood threat recognition and early warning systems to include areas downstream of the Bighorn fire scar.

- Expanded the ALERT rainfall and streamflow gage network to include the San Xavier District of the Tohono O’odham Nation.

Structural Projects:

- Green Stormwater Infrastructure Projects & Program
 - Arizona Forward Award of Distinction – Landscape Design category
 - Seneca Basin Park
 - Richey Basin Park
 - Cherry Basin Park
 - Sunland Vista Wash
 - El Vado Food Forest Basin Park
 - Metropolitan Pima Alliance Common Ground Award
 - Arizona APWA Project of the Year - under \$5 million category
 - Arizona Forward Award of Distinction – Healthy Communities category
 - Alvernon Basin (currently under construction)
 - Wa:k Basins and Community Park, San Xavier District of the Tohono O’odham Nation (construction to start Fall 2024)
- CDO North Bank Protection and Loop
- Paseo de las Iglesias – Southeast Segment
- Santa Cruz Drexel to Valencia – Headcut Repairs
- El Rio Preserve Bank Protection
- Canoa Ranch – Pollinator Garden
- Canoa Ranch – Cienega Restoration
- Canoa Ranch – 30 Acres ILF Site
- North Channel at the Pima County Fairgrounds
 - Metropolitan Pima Alliance Common Ground Award
 - Arizona APWA Project of the Year - \$25 to 75 million category
- Cortaro Narrows Grade Control Structure (construction to start Fall 2024)
- Wildlife Ramp (construction to start Fall 2024)
- Santa Cruz River at Prince Road Pedestrian Bridge (construction to start Fall 2024)
- Finger Rock at Skyline Drive Critical Infrastructure Protection Post Fire Grant
- Canada de Oro Levee Augmentation Post Fire Grant

Public Information:

- Annual updates of the Program for Public Information.
- Published annual Living River Report cards.
- Published a guide to common area drainage maintenance for HOAs.
- Established an annual “Floodplain 101” continuing education credit course for Realtors.

- Created radio, television and social media messages spoken in English and Spanish by elected officials including Board of Supervisors members and Sheriff.

In addition to these highlights, throughout the five-year period covered by this Floodplain Management Plan, the District continued its program of conducting local flood hazard studies, including:

- [Floodplain Study FP-021-2020 - Carmack Wash Floodplain Study TDN](#), Arroyo Engineering, September 16, 2020
- [Floodplain Study FE-106-2020 - Technical Data Notebook for Floodplain Discharge and Mapping for Drainages From Pistol Hill to the Pantano Wash](#), Psomas, April 22, 2020
- [Floodplain Study FP-109-2020 - Bronx Wash](#), Kimley Horn, July 31, 2020
- [Floodplain Study FP-110-2020 - Christmas Wash](#), Stantec, June 28, 2020
- [Floodplain Study FP-111-2020 - Christmas Wash Alternatives Analysis](#), Stantec, June 29, 2020
- [Floodplain Study FP-112-2020 - Navajo/Wilson Wash](#), JE Fuller, December 19, 2019
- [Floodplain Study FP-116-2021 - Canada Agua 1](#), Arroyo Engineering, December 3, 2021
- [Floodplain Study FP-105-2021 - Bighorn Fire: Post-Fire Flood Risk Assessment](#), JE Fuller Hydrology and Geomorphology, Inc., 2020
- [Floodplain Study FP-120-2022 - Finger Rock Wash Floodplain Analysis and Mapping Assessment](#), Michael Baker International, August 2022
- [Floodplain Study FP-121-2022 - Sabino and Bear Creek Detailed Risk Analysis and Mapping Study](#), CMG Drainage, October 3, 2022

Each of these studies includes elements of all six activities as they identify hazards, structural needs and/or higher regulatory standards. Further future conditions are being added to study scopes as of 2024.