



## **BOARD OF SUPERVISORS AGENDA ITEM REPORT**

**Requested Board Meeting Date:** April 7, 2020

**Title:** 2020 Program for Public Information Resolution

### **Introduction/Background:**

The Pima County Regional Flood Control District (District) participates in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). The CRS encourages communities to develop a Program for Public Information (PPI) to better organize and expand outreach activities as it relates to floodplain management, public safety and flood mitigation. The District's PPI was originally approved by the Board of Supervisors (Board) on March 7, 2017, and the latest update was approved on February 19, 2019. The PPI requires the District to submit changes and updates of the PPI to the Board for annual approval. Today's Resolution is to approve the PPI as recommended by the PPI Committee.

### **Discussion:**

The District has a robust outreach program. After meeting with the PPI Committee in 2015 and 2016, a formal PPI document was adopted by the Board and directed the District to make changes in outreach content and their target audiences. The changes include working with stakeholders to develop messaging related to seasonal flooding, Low Impact Development, sheet flooding and erosion hazards, and all-weather access. In addition, the PPI Committee identified additional target audiences that include new county residents, large employers, and real estate agents. The PPI assists the District in maintaining and possibly improving its CRS Class 5 rating. This rating currently results in a 25% flood insurance discount for policy holders in Special Flood Hazard Areas, and a 10% discount elsewhere. The 2020 PPI Committee and 2020 PPI Document recommends additional outreach in the forms of supporting the District's Floodplain Management Plan.

### **Conclusion:**

The NFIP encourages communities to promote awareness of flood hazards, flood risk, and the availability of flood insurance, and provides incentives through the CRS for such activities. The development of a PPI allows the District to focus on the effectiveness of outreach programs. Approval of this Resolution would allow for the continuation of the PPI and would allow for maximum credit of these activities under the CRS, which could provide benefit to flood insurance policy holders.

If not approved, the District would make appropriate changes to its outreach program, but credit would not be counted within the CRS.

### **Recommendation:**

The District recommends approval of the Resolution and 2020 PPI Document including the recommendations in the third annual update.

**Fiscal Impact:**

N/A

**Board of Supervisor District:**

☐ 1      ☐ 2      ☐ 3      ☐ 4      ☐ 5      ☒ All

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Department: Regional Flood Control District Telephone: 520-724-4600

Contact: Eric Shepp, Deputy Director Telephone: 520-724-4610

Department Director Signature/Date:  3/19/2020

Deputy County Administrator Signature/Date:  3/19/2020

County Administrator Signature/Date:  3/20/20

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**DATE:** March 16, 2020

**TO:** C. H. Huckelberry  
County Administrator

**FROM:**   
Suzanne Shields, P.E.  
Director

**SUBJECT:** Program for Public Information 2020 Annual Update

The Pima County Regional Flood Control District (District) participates in the National Flood Insurance Program's Community Rating System (CRS). The CRS allows communities to develop a Program for Public Information (PPI) to better organize and expand the District's outreach activities as it relates to floodplain management, public safety and flood mitigation.

After meeting with stakeholders in 2015 and 2016, a formal PPI document was developed and adopted by the Board of Directors on March 7, 2017. The 2019 update of the PPI document was adopted by the Board of Directors on February 19, 2019.

Outcomes of the PPI have resulted in the District working with stakeholders to identify messaging gaps related to seasonal flooding, Low Impact Development, sheet flooding and erosion hazards, and all-weather access. In addition to the benefit of better messaging, the PPI assists the District in maintaining and possibly improving its CRS Class 5 rating. This rating currently results in a 25% flood insurance discount for policyholders in Special Flood Hazard Areas, and a 10% discount elsewhere.

The CRS Coordinators Manual states that a PPI evaluation report must be prepared and updated annually.

The 2020 annual update makes the following significant changes to the previously approved PPI:

- Page 5 – Committee meeting members and dates updated.
- Page 10 & 11 – Updated the Flood Hazard Map and ALERT web links.
- Pages 16 - 21 – Updated various data figures including total acreage of regulatory floodplains, insurance policy counts, and tables.
- Page 27 – Updated proposed 2020 outreach projects as approved by the PPI Committee
- Page 35 & 36 – Updated PPI Committee meeting agenda.
- Page 37, Appendix C - Updated map using newer available data.
- Page 40, Appendix E - Updated to reflect proposed 2020 outreach projects.
- Page 42, Appendix G – Updated map using newer available data and queries.
- Page 47, Appendix J – Updated to summarize 2019 outreach efforts.
- **NEW** Page 48, Appendix K – Define and clarify query procedures and rules.

Please let me know if you have any questions regarding this memo or the PPI.

SS/tj

Attachments

c: Carmine DeBonis, Deputy County Administrator – Public Works  
Eric Shepp, P.E., Deputy Director – Regional Flood Control District  
Andy Dinauer, P.E., Deputy Director – Regional Flood Control District  
Greg Saxe, Community Rating System Coordinator

**Resolution NO. 2020-FC\_\_\_\_**

**A RESOLUTION OF THE PIMA COUNTY FLOOD CONTROL DISTRICT BOARD OF DIRECTORS  
APPROVING A PROGRAM FOR PUBLIC INFORMATION 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 NFIPs 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 policyholders, with a current premium discount of up to 25% within unincorporated Pima County.
6. The District plans to further exceed the minimum NFIP standards through the design and implementation of a Program for Public Information (PPI).
7. The PPI is an ongoing, stakeholder driven, public information effort to identify and transmit the messages that the Committee has prioritized as the most important to flood safety and the protection the natural beneficial functions of floodplains.

8. The PPI includes a Flood Insurance Coverage Assessment and a Coverage Improvement Plan that requires promoting of the purchase of or an increase in coverage of flood insurance.
9. The CRS requires District staff to update the Board annually regarding the implementation of the PPI and requires the Board to approve the PPI Committee's recommendations for the upcoming year.

**NOW, THEREFORE, BE IT RESOLVED**, that this community's governing body hereby:

- 1) Approves the PPI and submittal of annual progress reports to the administrator of the CRS by the Committee;
- 2) Commits to participate in the promotion of the benefits of flood insurance and other flood safety messages that have been identified by the Committee in the PPI; and
- 3) Authorizes District staff to do all things necessary to implement this Resolution.

Passed and adopted, this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_  
Chairman, Board of Directors

ATTEST:

\_\_\_\_\_  
Clerk of the Board

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Deputy County Attorney



## **2020 Program for Public Information (PPI)**

**Previous versions of the PPI Document were approved by the Board of Supervisors, sitting as the Board of Directors for the Flood Control District, on:**

**March 17, 2017  
March 20, 2018  
February 19, 2019**

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# Background

The Community Rating System (CRS) is a program of the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). The CRS provides guidelines for delivery and evaluation of programs or projects that meet and exceed the minimum requirements of the NFIP to mitigate flood risks. Using a point system to rate those projects, CRS provides an opportunity for participating communities to reduce flood insurance premiums for their constituents.

The Pima County Regional Flood Control District (District) administers the CRS program within unincorporated Pima County. The District selects programs and projects that provide real benefits with respect to floodplain management and flood risk reduction. Based on our current designation as a Class 5 community, flood insurance policy holders currently enjoy premium discounts up to 25%. To improve the effectiveness of our projects and create a more flood-resilient community, the District is interested in the development of a formal Program for Public Information (PPI). The PPI will evaluate and update the District's existing outreach materials and messages while also engaging our partners and community stakeholders.

The District conducts extensive outreach on an ongoing basis. Outreach projects have been developed and are delivered to landowners and the general public by the District, partner municipalities, government agencies and public interest groups. Most of these projects are well established and have been conducted in the same manner for many years. Throughout this document, specific outreach projects will be identified by number, i.e. Outreach Project 11 or OP11.

Current projects include direct mailers to floodplain property owners, utility bill inserts, publications, technical guidance, participation in special events and public meetings, school programs and interactive websites. Stakeholder involvement includes hosting events such as public festivals and professional workshops, guest articles in newsletters, inclusion of District materials in their publications, distribution of District publications and installation and maintenance of on-site interpretive educational exhibits and signage.

Most outreach projects are oriented toward public safety and permitting activities. However, the District has also developed outreach projects about the ecosystem service functions of natural floodplains, including flood attenuation, groundwater recharge, habitat, property value, and micro-climate. Additional outreach on these topics occurs during floodplain mapping, capital improvement and maintenance projects, and floodplain permitting and compliance enforcement

Under the auspices of the PPI, the District formed a Program for Public Information Committee to evaluate the effectiveness of our outreach. This Committee has been very beneficial since we haven't evaluated our outreach in a systematic manner prior to the formation of the Committee in 2016. In addition to identifying needed projects the committee members have already proved effective in providing stakeholder delivery.

## **Step 1**

### **Establishing the PPI Committee**

In February, 2015, the District mailed letters (Appendix A) inviting partners and stakeholders to participate in a PPI Committee with the purpose of cataloguing and evaluating current District outreach projects, identifying audiences and messages, assessing gaps and obtaining commitments from stakeholders to participate in delivering those messages. Invitees included representatives from environmental groups, insurance organizations and agents, realty organizations and agents, mortgage lenders, homebuilders, homeowners, homeowners associations and major employers. The PPI Committee was officially formed in May, 2015 and current Committee members included:

1. Luke Cole, Associate Director of Resilient Communities and Watersheds, Sonoran Institute
2. Wayne Cran, Senior Manager of RMS Environmental, Health, Safety and Sustainability, Raytheon Missile Systems
3. Christopher Gurton, Insurance Agent, Country Financial
4. Steve Huffman, Government Affairs Director, Tucson Association of REALTORS®
5. Patrick Marum, Southern Arizona Home Builders Association Member
6. Patrick McNamara, Communications Specialist, Pima County Communications Office
7. Eric Shepp, P.E., Deputy Director, Pima County Regional Flood Control District
8. Rebecca Steinecker, Homeowner and public representative
9. Steve Van De Beuken, Mortgage Lender, Sunstreet Mortgage

In addition, the District provided staff to assist the Committee in its work, including:

10. Joseph Cuffari, CFM, Program Coordinator, Floodplain Management Division
11. Brian Jones, CFM, Floodplain Management Division Manager
12. Greg Saxe, PhD, MRP, Environmental Planning Manager and Pima County Community Rating System Coordinator, Floodplain Management Division

PPI Committee meetings were held on the following dates:

- March 9, 2020 - CRS Steps 6 & 7 – Implement, Monitor, and Evaluate the 2020 Program for Public Information Document

Agendas with associated materials were distributed to educate the Committee members and facilitate discussion. The contents and topics of these agendas were expanded upon at the Committee's direction. Agendas have been included in Appendix B.

Upon approval of the PPI by the Committee, the District then presents the PPI to the Flood Control District Advisory Committee (FCDAC). FCDAC members include appointees from each of Pima County's supervisorial districts as well as representatives from each local municipality. The FCDAC advises the Pima County Board of Supervisors, sitting as the Board of Directors for the

Flood Control District, on substantive and technical matters related to the District. The PPI is then submitted to the Pima County Board of Supervisors for adoption in 2020.

## Step 2

# Community Public Information Needs Assessment

### Determination of Target Areas and Audiences:

In addition to examples of all of the current outreach materials, the Committee was given an overview of current credited outreach projects and their intended audiences and target areas. The Committee was also provided an insurance assessment, demographics information, and the flood hazard distribution and exposure information contained in our Hazard Mitigation and Floodplain Management Plan. The PPI Committee agreed that the public is more likely to pay attention to and act upon messages they received from both the District and stakeholders. Such tandem messaging is considered more beneficial than messages that are delivered solely by the District.

In an effort to identify existing gaps, stakeholders' current efforts were identified. These efforts are summarized in Table 1.

**Table 1 - Summary of Existing Outreach by Stakeholders**

Organization	Project	Subject Matter	Frequency
FEMA	<a href="http://www.fema.gov">www.fema.gov</a>	Flood information, brochures	Continuous
National Flood Insurance Program	<a href="http://www.floodsmart.gov">www.floodsmart.gov</a>	Flood Information, Flood Insurance information	Continuous
AZ Department of Emergency Management	Print outreach, broadcasts, emergency response, mapping services, general information	News, weather, safety and hazard response/oversight, general information	Continuous
Pima County Administration, Office of Emergency Management, Communications Office and Department of Transportation	Print and web media, broadcasts, emergency response, mapping services, general information	News, weather, and road conditions	Continuous
Local Jurisdictions and Chambers of Commerce (i.e. Hispanic, Tucson, Oro Valley, Marana, etc.)	Print outreach, broadcasts, general information	News, weather, mapping services and general information	Continuous
Environmental Organizations (Pima Association of Governments, Audubon Society, Tucson Clean &	Print outreach, broadcasts, general information	News, weather, stormwater information, bike and pedestrian routes, safety, general	Continuous

Beautiful, Beat Back Buffelgrass)		information, birding, storm water harvesting	
Pima Community College, University of Arizona, Northern Arizona University, Arizona State University, University of Phoenix	Lecture, print brochures, educational opportunities	Education and community outreach related to the desert environment	Continuous
Homeowners Associations	Newsletters	News, weather and information	Continuous
Newspapers (AZ Daily Star, NW Explorer, Daily Territorial, Bear Essential News)	Print newspapers and websites	News, weather and information	Continuous
Radio Stations	Broadcast radio	News, weather and information	Continuous
TV Stations (KVOA, KGUN, Tucson News Now, News 4 Tucson, KOLD)	Local Broadcasts	News, weather and information	Continuous
Utility companies (Tucson Water, Tucson Electric, Southwest Gas, Various phone/internet)	Billing statements and flyers	Various topics important to Pima County	Monthly
Events (Be Safe Saturday, Earth Day, Monsoon Safety, Emergency Preparedness Month, Cyclovia, Various events/presentations)	Print outreach, broadcasts, emergency response, general preparedness materials	News, weather and information	Continuous
Tucson Association of REALTORS®, Southern Arizona Home Builders Association	Real Estate Documents	Real estate disclosure statements, news, permitting, construction, and insurance information	Continuous
Monsoon Awareness Organization	Pre-monsoon staff meetings and outreach	News, weather and information	Bi-Annual

The District makes a full suite of brochures, manuals and maps available to these stakeholders. These include information encouraging the public to contact the District for details regarding actions they can take to understand and reduce the risks they are exposed to, including the purchase of flood insurance.

In addition to these existing efforts by stakeholders, and existing outreach projects shown in Appendix E, the Committee suggested improvements and new projects. One example that both real estate agents and major employer representatives agreed to help formulate and deliver during plan implementation is the creation of a new-comers packet. It would explicitly include messages encouraging readers to; contact the District prior to buying or renting property, contact insurance agents regarding insurance, and plan safe travel routes. These improvements will be discussed under Section 7, Plan Implementation. New project are also identified in Appendix E the PPI Spreadsheet. The Committee also identified the target areas and audiences for inclusion in the PPI. Those target areas and additional topics related to those targets are described below.

## **Target Areas**

### **Riverine Floodplain:**

There are two primary types of riverine flooding within Pima County. The region is defined by mountainous areas that can quickly generate riverine floods within the mountain front that extend onto the valley floor. These floods can be triggered by both high intensity (short duration thunderstorms) or by low intensity (long duration mesoscale storms). The larger, regional riverine systems are largely controlled by engineered capital improvements that are effective at limiting damage caused by local thunderstorms. These larger riverine systems are typically most affected by mesoscale storms, which have a greater chance of generating the 1% chance flood that could overwhelm the constructed infrastructure in some areas. These areas include Zone A and AE Special Flood Hazard Areas, community mapped floodplains and developer mapped floodplains.

### **Sheet Flooding Areas:**

Pima County has large areas characterized by broad, relatively flat terrain with minimal channel capacity. The small channels that are present in these areas don't have the capacity to convey the 1% chance flow that would result in considerable out-of-channel flows, called sheet flow flooding. Sheet flow flooding is generally shallow, but can affect large areas and cause significant problems. These areas also include Zone A, AH, and AO Special Hazard Areas as well as Zone Shaded-X Other Flood Areas floodplains.

A specific type of sheet flow floodplain, called alluvial fan floodplain, is characterized by channel deposition and evulsion near the mouth of mountain canyons where they transition to the shallower slopes of the alluvial fan. There are increased hazards in alluvial floodplains because of the presence of highly erodible soils, large sediment loads from steeper mountain canyons and the extreme unpredictability of the primary flow path once flow becomes unconfined.

Appendix G includes a map that shows areas which are subject to different types of flooding conditions. The map also includes a count of the number of buildings that are affected by these floodplains.

## **Target Audiences**

### **Pima County Residents:**

The District provides flood protection information and property protection assistance. Since the District is supported financially by a property tax levy, the District does not charge fees for services like floodplain permitting and assisting property owners wishing to develop their property and protect new or existing improvements. Providing our services free of charge means that there is no disincentive for the public to request flood hazard information. District staff includes hydrologists, engineers, biologists and planners, all of whom are knowledgeable about sound floodplain management practices. Numerous technical guidance and standards have been developed by the District and are available on our website.

Most residents are likely to drive on streets that have potential for flooding. To this end, residents should be made aware of the unique characteristics and hazards of desert floods, which can impact roads that are outside of mapped floodplains. Existing outreach projects to this audience include "Turn around, don't drown" type messages in water bill inserts (OP42), signage (OP3), public service announcements (OP4) and awareness campaigns including Monsoon Safety Week (OP25). New projects identified by the committee include new-employee orientation materials (OP49) and a creditable class for real estate agents (OP50). 90% of this audience will be reached through a multi-media approach.

The water bill insert goes to over 220,000 customers. The 2015 census population is just over one million. Using an average household size of 2.5 people, the District is close to reaching all households with the water bill mailers.

The District Website is comprehensive and interactive. In addition to providing descriptions of each our services and CRS activities two interactive features stand out. An interactive Geographic Information System is available to the public at:

<http://gis.pima.gov/maps/mapguide/mgmap.cfm?path=dotmap65.mwf&scriptpath=/maps/RFC D/floodplain/floodplainmap.inc&theme=PCRFGD&LAT=31.966419&LON=-111.883502&WIDTH=193.604495&UNITS=mi&>

A function called the Flood Hazard Map has recently been added which allows a user to enter a street address or parcel number and obtain a map with legend showing all regulatory floodplains and riparian habitat. This map may be printed or downloaded as a pdf. This Flood Hazard Map is found here:

<https://gis.pima.gov/apps/floodhazard/>

Secondly, the District's webpage include an interactive ALERT page whereon users may monitor stream flow and weather in real time as well as query historic records. It has also recently been upgraded and coverage expanded. It is here:

<https://alertmap.rfcd.pima.gov/Gmap/Gmap.html>

As with each of our services this page describes the data available, what it is used for, and directs users to information specific to their location. A mobile “App” is also available for download at this link along with other information related to all ten outreach topics identified above. Each topical page contains general information, FAQ’s, links to publications including brochures and other agencies including local Emergency Management, FEMA, Transportation Department and municipalities.

**Flood Prone Property Owners and Residents:**

Property owners and residents in flood prone areas must live with and plan for specific flooding hazards associated with their parcels and travel routes. A targeted outreach plan will help to address particular topics identified by the committee, including: safe routes, sheet flooding, erosion, building and insurance needs and how these factors differ across the county. The Committee also recognized that Improvement Districts are underutilized in Pima County. An Improvement District can be created at a subdivision or neighborhood scale in order to fund the construction of improvements to reduce the risk and/or severity of flooding. The creation of outreach materials would provide general information about the function and purpose of Improvement Districts might encourage their use to address or mitigate flood-related issues. This potential target audience was identified by the committee’s development community representative. At this time, the District has not formulated a specific message or project; however one possibility is the addition of such information to the District’s *Homeowners Association Booklet* (OP17).

While numerous outreach projects reach this audience, the annual flood prone property mailer (OP47) is sent to 100 percent of properties identified as containing a mapped regulatory floodplain; Improvements to this mailer have already been initiated to provide more detailed travel and hazard information. The combination of the flood prone property mailer to property owners (OP47) (which includes vacant properties), water bill inserts (OP42), and the use of radio and television ads (OP5, OP6, OP9) means the District is reaching more than 90% of this target audience.

**Repetitive Loss and Inundation Area Residents:**

Due to the District’s Flood Prone Land Acquisition Program (FLAP), only a few repetitive loss areas remain throughout unincorporated Pima County. There are currently seven properties listed as unmitigated in the data provided by FEMA on April 30, 2015. The five areas in which these seven properties exist are described below. Maps of repetitive loss areas (Appendix D) are only shown for the first two locations because the remaining properties have been mitigated or are isolated issues. The Committee agreed that we should continue outreach to these areas as required.

1. Three of the seven properties are in the portion of 49ers Country Club Subdivision within the floodplain of Tanque Verde Creek. Other homes in the subdivision are subject



- to similar risk. A levee to mitigate this risk was designed and funded; however it was rejected by the Homeowners Association. This area remains at risk.
2. A fourth property, along Sabino Creek, was flooded in 1990 and 1993. These are years when significant floods occurred. The repetitive loss area consists of this structure and a few other parcels at similar risk of flooding. Due to both the value and quality of these residences, the use of FLAP is an unreasonable solution from a cost/benefit perspective. Outreach regarding flood risk, flood damage prevention and emergency response are the most viable approaches at this location.
  3. A fifth property on River Road was purchased and demolished as part of a road widening and drainage project. This property is still listed as unmitigated, perhaps because there are other buildings present. An opportunity to list this property as mitigated may exist if it can be shown that these other buildings were not subject to any claims or are not impacted by flooding due to drainage changes associated with the road project.
  4. A sixth residence, located in the lower slopes of the Tucson Mountains, is not impacted by regulatory floodplains, but rather from adverse slope and poor road drainage. It is not known what measures the homeowner may have taken to mitigate this risk other than the purchase of insurance.
  5. The seventh residence is not within a regulatory flood hazard area, but is located within a mass graded subdivision adjacent to a channel inlet. This channel was not being maintained as designed. The District assisted the Homeowners Association in removing vegetation and sediment and making channel modifications to correct this flooding. This information has yet to be submitted to update the Repetitive Loss Property list.

The District reaches 100 percent of this target audience described above via direct mail (OP35).

Inundation areas have been mapped for high hazard dams, levees and areas covered by the Districts ALERT Flood Threat Recognition System. Early Warning Dissemination triggered by this system is provided by the National Weather Service, Pima County Offices of Emergency Management, Transportation Department and Sheriff depending upon severity. In 2019, the District provided direct mailers to residents of these areas informing them about and encouraging them to utilize the District ALERT network as well as direct notification through [www.MyAlerts.pima.gov](http://www.MyAlerts.pima.gov)

**Residents of Areas without All Weather Access:**

Large portions of unincorporated Pima County contain development that utilizes unimproved private roads to access individual properties. Most of these private roads, and even many public roads, were not designed to create all weather access and therefore become impassable during times of flooding. Although generally not an issue of damage prevention, this public safety issue is a common topic of concern. The use of public funds on private roads is prohibited and modification of public roads to meet all-weather access standards in these areas is cost prohibitive. The only viable solution is outreach to provide the public information on finding alternative safe routes or preparedness tips when no alternative routes exist. In addition, the provision of information about responsible and effective design, construction and maintenance of private roadways could be helpful for individuals who are dependent on private roadways.

The committee recommendation to add information regarding all-weather access in our direct mailer to flood prone property owners (OP47) was implemented this year. The committee also recommended including this topic as part of the suite of information provided to real estate agents and to major employers for inclusion in the new employee orientation packets.

Current outreach projects include “Do Not Cross Flooded Roads” Signage (OP3), the water bill stuffer (OP42), flood prone property mailers (OP47) and legal access covenant disclosures obtained during the permitting process. These projects currently reach over 90% of the impacted population. Each of these focuses on all-weather access as documented during our audits and annual recertification packages. Our intent is to improve the information the community is receiving and increase public participation in heeding safety messages.

**Residents and Property Owners in Riparian Areas:**

The value of maintaining floodplains in their natural condition is well known. These benefits include flood attenuation, increased recharge, stable sediment transport, habitat for wildlife, and property-value-enhancing open space. The District implements specific regulations to encourage preservation of riparian areas associated with floodplains. In 2005, the Pima County Board of Supervisors adopted the latest edition of riparian habitat avoidance and mitigation standards which apply within mapped riparian areas. Property owners may not be aware of the existence of these areas nor their value and appropriate ways to maintain them. To this end, the District plans to improve outreach to owners of properties that contain riparian habitat including: individuals, real estate agents, Homeowners Associations, and the development community. The information provided to these groups would include the environmental value of riparian habitats and regulations governing their protection.

Riparian habitat brochures and information (OP37) reached 100% of this audience as an initial mailing when the maps were adopted. Information on riparian areas is included in the annual flood prone property mailer, which is sent to more than 90% of the properties that contain mapped riparian areas.

**New County Residents Including Prospective Buyers and Renters:**

Committee members from major private sector employers indicated a need to include flood information for new residents of Pima County. It is important that such residents have information about safe and reliable access to work, schools and other destinations during flood events. New residents considering purchasing a home would benefit from information about how to determine if a property is flood prone. It is important to get such information to new residents early so they can make informed decisions about where they want to live. It is also important to let new residents, especially renters, know about the availability and affordability of flood insurance coverage for contents. Projects on these topics (OP49, OP50, and OP52) have been added to the currently-approved PPI spreadsheet presented herein as Appendix E.

Delivery of these messages by major employer stakeholders will rely on developing relationships with these employers. To reach a larger audience, the new resident flood information packet created for employers will also be made available to real estate agents and

residential property management companies. While real estate agents currently are encouraged to hand out brochures on flood risk, contacts for finding more information including the District, FEMA FloodSmart.gov and flood insurance, including increased cost of compliance policies, the Committee agreed that a new-comers packet in concert with the recommended real estate agent education course would greatly increase participation. The local REALTORS® association representative on the Committee committed to participating in this effort and district staff agreed to coordinate with the Tucson Association of REALTORS® on development of both the packet including brochures, curriculum and promotion of their use. These brochures would advise prospective buyers and renters to contact the District to see if the property is in a floodplain or has a history of flooding, and to contact an agent regarding insurance costs.

There is no way to identify the number of new residents in Pima County for any given period, so it is not possible to measure if 90% of this group has been reached. Nonetheless, this type of effort is viewed as a worthwhile expansion of our outreach. The participation of a major employer such as Davis-Monthan Air Force Base, the University of Arizona or Raytheon Missile Systems would represent a significant expansion of our outreach. Expanding the information provided by real estate agents will also be highly beneficial as information contained upon disclosures may be limited.

#### **Development Community, Non-Governmental Organizations (NGOs), Landowners and Designers:**

The District takes advantage of numerous opportunities to provide outreach to the development community, NGOs, landowners and designers. The District hosts a brown bag lecture series (OP11) monthly and participates in workshops (OP41) multiple times per year. Such meetings cover a broad range of topics and appeal to a variety of target audiences. A specific example of an NGO meeting would be one that educates stakeholders about how Low Impact Development and Green Infrastructure benefit them.

The NFIP and local jurisdictions want to see more widespread use of Low Impact Development and Green Infrastructure practices. The more stakeholders understand the benefits of these practices, the more likely they are to implement them. Last year, the District worked with stakeholders to develop the *Low Impact Development and Green infrastructure (LID/GI) Guidelines*. Work continues on adoption of these techniques into common practice for private development and public projects. The committee agreed that outreach to professional organizations via newsletters and presentations were important new projects that could address drainage issues within existing neighborhoods and promote improved drainage design in new developments. While this project could have been added as a unique outreach project, it is already a part of OP11, OP23 and OP41 on the currently approved PPI spreadsheet presented herein as Appendix E.

While the District makes these opportunities available to 100% of the target audience, it cannot guarantee participation.

**Real Estate Agents, Insurance Agents and Lenders:**

Current outreach to the real estate community includes print and digital articles on flood risks and workshops on specific issues as needed. The Committee also identified the need to provide qualifying classes so these professionals can obtain Continuing Education Credits (CECs) from national realty and insurance organizations. This outreach project (OP50) has been added to the currently-approved PPI spreadsheet.

As noted above current outreach by real estate agents includes providing prospective buyers and renters with information on flood risk, flood history, the availability of insurance and where to find out more including the District and FloodSmart.gov.

While the District and real estate agents make these opportunities available to 100% of the target audience, it cannot guarantee participation.

**Schools, Children, and Educators:**

Schools, children and educators can be encouraged to participate in flood hazard awareness activities. Such activities involve both children and their families and effectively convey messages regarding safety, preparedness, personal responsibility and stewardship. This effort utilizes special activities and standardized curriculum elements. The current PPI includes the District's Sherriff Hank Highwater campaign to reach younger audiences and FEMA materials made available to local schools by the Pima County Office of Emergency Management. To reinvigorate efforts, the Committee recommended adding school curriculum as a new project (OP51) that would complement current projects (OP10, OP15, OP39 and OP41).



While the District makes these opportunities available to the target audience, it cannot guarantee participation.

**Government Partners:**

Government agencies within Pima County, such as incorporated cities and towns, Metropolitan Planning Organizations and Pima County Departments (i.e. Office of Emergency Management and the Department of Transportation), all conduct their own flood-related activities. The Committee advised that increased coordination with these government partners would be beneficial for all parties. The District is guided by an Advisory Committee consisting of members from all local municipalities, the public and the professional community. Furthermore, each NFIP-participating community has a CRS Coordinator who attends our Statewide CRS User's Group. Both of these organizations could assist in coordinating outreach. This PPI identifies the need to coordinate outreach projects with government partners. Although no specific project has been identified or added to the PPI spreadsheet, it is expected that the ongoing Inter-jurisdictional Hazard Mitigation Plan update will improve coordination. Additional current cooperative projects include the Retention Detention Manual, which has been credited as our WMP, Monsoon Safety Water Bill Insert (OP42) and the LID/GI Guidelines (OP23).

While the District makes these opportunities available to 100% of the target audience, it cannot guarantee participation.

### **Other Factors to Consider**

#### **Social and Economic:**

The Committee and support staff felt strongly that social and economic factors should be assessed in order to identify new relevant Target Areas and adjust how outreach is presented to target audiences. These factors include identifying areas with high populations of renters, Spanish speakers, commuters and residents with limited mobility.

According to [www.census.gov](http://www.census.gov), the population of Pima County in July 2016 was estimated at 1,016,206 persons. The American Community Survey (ACS) provides further information regarding Pima County residents (2015 data):

- The current median income is \$46,162. The national median income is \$55,775.
- The median value of owner-occupied units is \$159,900. This is \$18,700 less than the national median.
- Median gross rent is \$816. This is \$112 less than the national median rental rate.
- Renters make up 38.8% of the 389,658 occupied housing units.
- Those under the age of 65 with a disability make up 29.1% of the population. This is 4.3% higher than the national rate.
- Residents who are 65 or older make up 17.1% of the population. This is 1.9% higher than the national rate.
- 23.7% of residents are Spanish speakers. Of those, almost 6.8% (63,489 residents) speak English "less than very well."

*(Census numbers will be updated after completion of the 2020 census)*

Committee members identified and targeted major employers to receive commuter safety and new employee outreach materials related to floods and flooding hazards. After these materials are developed in cooperation with the participating stakeholders, they will be made available to other employers.

New and existing outreach projects will be analyzed to ensure these target areas and audiences are receiving outreach that is appropriate to their needs.

### **Flood Insurance Coverage Assessment**

This section is intended to summarize the findings of the Flood Insurance Coverage Assessment (FIA) and Coverage Improvement Plan (CP) conducted per Activity 370 of the CRS Manual. The FIA, CP and the social and economic factors identified above will help prioritize outreach efforts to a large and diverse community.

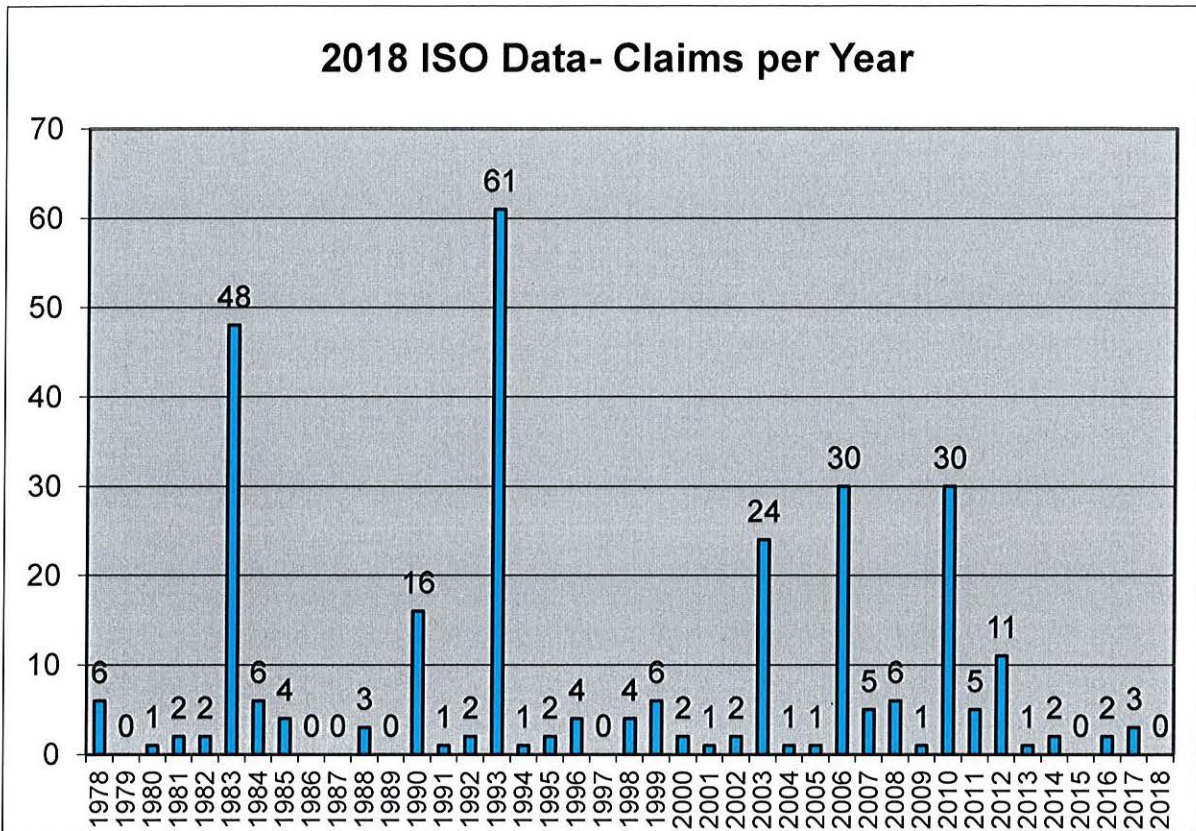
The map in Appendix C shows the floodplains within Pima County and how they relate to CRS NFIP discounts. Within unincorporated Pima County, there are 229,168 acres of FEMA Special Flood Hazard Area (SFHA), where the CRS Class 5 community flood insurance premium discount of 25% is available. "Moderate risk" areas include 25,640 acres of Shaded Zone X which receive a 10% discount. The lowest available premiums apply in the remaining 5,625,474 acres of "low risk" areas which have not been mapped by FEMA as being in a regulatory floodplain. Annually these acreages will fluctuate depending on a variety of factors including refined detailed local studies resulting in Letters of Map Change.

Due to the size and flood characteristics of Pima County, many flood prone areas have not been mapped by FEMA. The District has undertaken a widespread and ongoing effort to identify additional areas exposed to flood risk. These locally mapped flood prone areas are called "Special Studies Floodplains" and total 86,786 acres. These local floodplains are shown in blue on the map in Appendix C. This tool is used to steer people to the District when Floodplain Use Permits might be necessary. Flood insurance in locally mapped floodplains is not required but is highly recommended. The District applies federal, state and local floodplain regulations within local floodplains. Mailings (OP47) are sent to properties impacted by FEMA SFHA or local Special Studies Floodplains. Annually these acreages will fluctuate resulting from increased mapping efforts.

#### **Insurance Services Organization Analysis, Figures 1-2 & Tables 1-4**

The most recent insurance data available from the District's Insurance Services Organization (ISO) representative is updated to **May 31, 2018**. This is in conformance with the FIA requirement that data be less than one year old at the time of the Committee meetings. The FIA will be updated with the latest insurance data as it becomes available. This data includes two spreadsheets - Active Policies and Historical Claims - that form the basis of the following analysis.

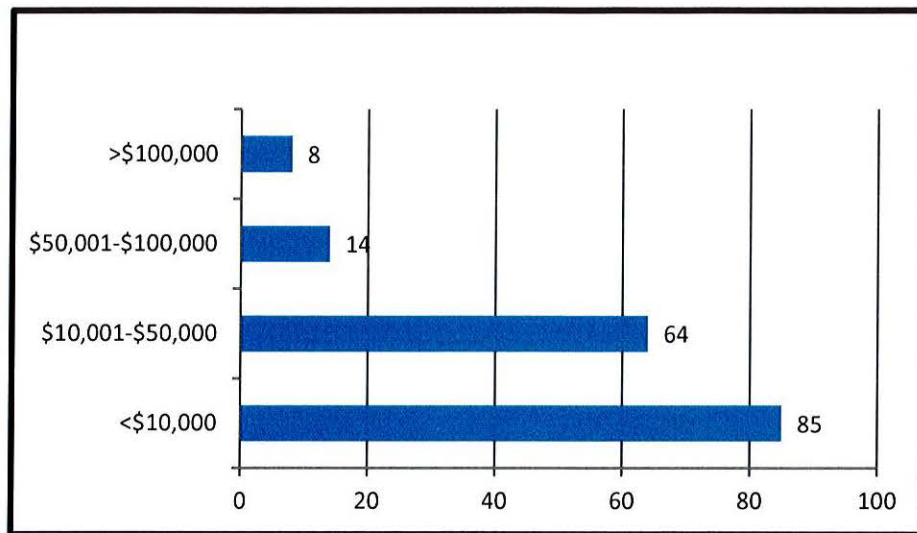
According to the 2018 ISO data, there are 2,133 policies currently in force, including \$418,863,800 in building coverage and \$92,697,400 in contents coverage. The distribution of paid claims over time is shown In Figure 1. It is interesting to note that although years with flood claims are becoming more frequent, there are fewer claims and the cost of claims are smaller. It is suspected that capital improvements, expanded maintenance and permitting activities through the District are reducing the total number of paid claims associated with each flood event even while flood frequency may be increasing. This cause and effect is not well understood by the public and the role of CIP and maintenance is a worthwhile outreach effort to increase community support of flood control efforts. Current outreach efforts regarding this correlation are limited to annual reports, project groundbreaking ceremonies, news releases, website features and our advisory committee. The PPI Document allows for tracking of these activities, and they are reported throughout this document.



**Figure 1 - Distribution of Flood Insurance Claims by Year**

Since the inception of the National Flood Insurance Program in 1978 there have been a total of \$3,999,920 dollars paid on 176 individual claims in unincorporated Pima County. This is an increase of 1 claim and \$2,726 since the 2018 PPI report when data was provided. An additional 121 claims were filed since program inception that resulted in no payment. It is not known how many of these were denied or how many claims were below the deductible. Payments ranged from below \$50 to over \$200,000 with an average of \$22,727 paid per claim. The distribution of claims is heavily weighted toward lesser amounts as shown in Figure 2.





**Figure 2 – Distribution of Claims by Dollar Amount Paid**

The data provided by ISO in 2018 was input into the District's Geographic Information System (GIS) based upon address. Property values were then compared to insurance coverage by floodplain type, as well as occupancy data from the County Assessor's Land Use Code (LUC) associated with each parcel (current data is from December 2019). The information is summarized in Tables 2 through 4.

**Table 2 - Insurance Coverage by Flood Zone Type and Occupancy Type**

<b>Flood Zone Type*</b>	<b>Parcels with Structures</b>	<b>Parcels with Structures and Insurance</b>	<b>Percent of Parcels with Structures Insured</b>
<i>FEMA Special Flood Hazard Areas</i>	7,331	1,280	17.5%
<i>FEMA Other Flood Hazard Areas</i>	3,490	68	2%
<i>Detailed Local Studies</i>	20,350	202	1%
<i>Approximate Local Sheet Flow</i>	9,919	34	0.34%
<b>Total</b>	<b>41,090</b>	<b>1,584</b>	<b>3.9%</b>
<b>Occupancy Type</b>			
<i>Residential</i>	40,178	1,563	3.9%
<i>Commercial</i>	912	21	2.3%
<b>Total</b>	<b>41,090</b>	<b>1,584</b>	<b>3.9%</b>

\* See Appendix K for floodplain data queries



**Table 3 - Flood Risk Exposure and Insurance Coverage by Value for Only Those Properties With Flood Insurance Policies**

<b>Flood Zone Type</b>	<b>Assessor's Full Cash Value</b>	<b>Exposed Value*</b>	<b>Coverage in Force**</b>	<b>Exposed Value Covered</b>
<i>FEMA Special Flood Hazard Areas</i>	\$311,493,328	\$40,494,132	\$226,406,600	559%
<i>FEMA Other Flood Hazard Areas</i>	\$16,622,015	\$2,160,861	\$1,490,100	69%
<i>Detailed Local Studies</i>	\$55,770,565	\$7,250,173	\$39,475,000	545%
<i>Approximate Local Sheet Flow</i>	\$5,208,556	\$677,112	\$6,335,000	936%
<b>Total</b>	<b>\$389,094,464</b>	<b>\$50,582,280</b>	<b>\$273,706,700</b>	<b>541%</b>

\* Exposed Value is defined as Assessor's Full Cash value times .65 to estimate building value, times .2 to estimate potential damage costs.

\*\* Coverage in Force is the sum of building and contents coverage from ISO data. See Appendix K.

**Table 4 - Flood Risk Exposure and Insurance Coverage for All Properties Containing Structures With or Without Flood Insurance Policies**

<b>Flood Zone Type</b>	<b>Assessor's Full Cash Value</b>	<b>Exposed Value*</b>	<b>Coverage in Force**</b>	<b>Exposed Value Covered</b>
<i>FEMA Special Flood Hazard Areas</i>	\$1,852,370,377	\$240,808,149	\$226,406,600	94%
<i>FEMA Other Flood Hazard Areas</i>	\$656,468,969	\$85,340,965	\$1,490,100	1.75%
<i>Detailed Local Studies</i>	\$4,984,457,220	\$647,979,438	\$39,475,000	6%
<i>Approximate Local Sheet Flow</i>	\$912,117,121	\$118,575,225	\$6,335,000	5%
<b>Total</b>	<b>\$8,405,413,687</b>	<b>\$1,092,703,779</b>	<b>\$273,706,700</b>	<b>25%</b>

\* Exposed Value is defined as Assessor's Full Cash value times .65 to estimate building value, times .2 to estimate potential damage costs.

\*\* Coverage in Force is the sum of building and contents coverage from ISO data. See Appendix K.

#### **Flood Insurance Coverage Assessment Conclusions and Recommendations:**

The following conclusions and recommendations were made by the Committee based on the data summary provided above.

There is a ratio between the number of policies in force and the number of properties at risk. While a large percent of the exposed building value is covered, this is misleading as a much lower percent of total structures are covered. As such, buildings that are insured appear to be generally over insured, while many buildings are not insured at all. There is a need to increase the number of buildings that are covered while at the same time ensuring that existing policyholders obtain coverage equal to their risk.

There are no buildings listed with only contents coverage, so it appears that not a single renter has obtained contents coverage. Due to privacy requirements, we are looking for legal means to target this group.

### **Arizona Department of Water Resources Analysis, Tables 5 & 6**

In addition to the detailed data received from the ISO, the Arizona Department of Water Resources (ADWR) provided the following summarized data as of **September 30, 2019** that indicates the distribution of coverage within floodplains and by occupancy. This data reveals the prevalence of residential coverage outside the SFHA.

**Table 5 - Insurance Coverage by Zone**

<b>Insurance by Flood Zone</b>	<b>Policies in Force (+/- change from 2018 ADWR data)</b>	<b>Premium</b>	<b>Insurance in Force**</b>	<b>Number of Paid Losses*</b>
<b>AO1-30 &amp; AE</b>	425 (-94)	\$ 573,955.00	\$ 97,758,600.00	52
<b>A</b>	255 (-152)	\$ 322,025.00	\$ 47,789,600.00	27
<b>AO</b>	457 (-50)	\$ 260,241.00	\$84,503,300.00	14
<b>AH</b>	6 (-5)	\$ 3,809.00	\$ 621,800.00	0
<b>D</b>	1 (-1)	\$1,508.00	\$ 300,000.00	0
<b>B, C &amp; X - Standard</b>	161 (-44)	\$ 120,299.00	\$ 45,930.00	17
<b>B, C &amp; X - Preferred</b>	727 (-63)	\$ 278,756.00	\$ 217,953.00	34
<b>Total</b>	<b>2,032 (-409)</b>	<b>\$ 1,560,593.00</b>	<b>\$ 494,856,500.00</b>	<b>145</b>

\* Per FEMA Region IX NFIP specialists; there is a recognized discrepancy between the number of paid losses in each table due to the different reporting systems they utilize.

\*\* Insurance in Force is the total value of insurance. See Appendix K.

**Table 6 - Insurance Coverage by Occupancy Type**

<b>Insurance by Occupancy Type</b>	<b>Policies in Force (+/- change from 2018 ADWR data)</b>	<b>Premium</b>	<b>Insurance in Force**</b>	<b>Number of Paid Losses*</b>
<b>Single Family</b>	1,956 (-308)	\$ 1,466,239.00	\$ 475,221,400.00	153
<b>2-4 Family</b>	2 (-18)	\$ 2,112.00	\$ 600,000.00	2
<b>All Other Residential</b>	13 (-12)	\$ 12,316.00	\$ 3,869,200.00	1
<b>Non Residential</b>	61 (-71)	\$ 79,926.00	\$ 15,165,900.00	26
<b>Total</b>	<b>2,032 (-409)</b>	<b>\$ 1,560,593.00</b>	<b>\$ 494,856,500.00</b>	<b>182</b>

\* Per FEMA Region IX NFIP specialists; there is a recognized discrepancy between the number of paid losses in each table due to the different reporting systems they utilize.

\*\* Insurance in Force is the total value of insurance. See Appendix K.

Between the ADWR data provided in 2018 and the current data from 2019, there was an overall reduction of 409 policies in force. This may potentially be attributed to various District efforts

including mapping efforts and Capital Improvement Projects that may eliminate the mandatory flood insurance requirement or remove properties from flood hazards.

The ADWR FIA data summarized above helped the Committee identify gaps in coverage and therefore identify gaps in outreach. The Committee made the following recommendations:

1. Increase the percentage of structures within the floodplain that are covered for property damage via revised materials and projects.
2. Increase contents coverage via targeted outreach to renters and owners.

Our Coverage Improvement Plan (CP) is to direct messaging at the targeted audiences presented in the next section.

## **Step 3**

### **Recommended Messages**

Historically, District outreach information focused on the six priority topics. Audiences included residents of flood prone areas, the community at large and the professional community. The PPI process provided an opportunity to establish additional appropriate topics and target audiences.

Although the District's existing outreach materials address many of these topics, they will be revisited with an expectation that some outreach will be revised and new outreach will be created. This is also covered in areas for improvement described under Step 7.

#### **Topics and Messages:**

Upon review of the Target Areas and Audiences identified in Step 2, insurance coverage analysis, and census data, the Committee agreed upon 4 additional outreach topics:

- **Topic 7 - Seasonal Flooding** - This topic includes summer monsoon storms and sustained winter rains, both of which are historical causes of flooding within Pima County. Due to severity, rapid development and other characteristics, flash flooding caused by monsoon storms is a major concern. The perception of the desert as a dry place makes it all the more important to educate residents about the unique risks associated with rapid onset flooding when intense rain occurs. Flash floods may travel downstream to areas far outside the storm area often leading to little or no warning signs that a flood is approaching. It is important that people learn about and understand the characteristics of these risks. Sustained winter rains typically cause our most widespread flooding.
- **Topic 8 - Low Impact Development and Green Infrastructure (LID/GI)** - This topic includes protecting existing flood prone areas and constructing water storage and recharge enhancements that provide public safety, drainage and water supply benefits.

The beneficial use of storm water runoff and enhancement of recharge improves the regional water budget and makes the region more resilient to drought. It also benefits riparian habitats which provide flood attenuation and recharge while simultaneously reducing flood risk. These are but two justifications to maintain flood prone areas and riparian habitats in their natural state. The County has coordinated with other local jurisdictions to develop guidelines and regulations regarding LID/GI practices. Because the techniques and benefits of LID/GI are not widely known within the development and landowner communities, the District will depend on its own expertise, the expertise of other knowledgeable professionals and the expertise of NGO stakeholders to disseminate important information about the benefits of adopting LID/GI practices.

- **Topic 9 - Local Hazards** - This topic includes some of the unique flood hazards in Pima County: alluvial fan flooding, sheet flow flooding, and channel migration. Flood hazards in many areas are difficult to predict and quantify due to channel aggradation, down-cutting and lateral migration. This is especially true on alluvial fans. In alluvial fan areas, large amounts of sediment and debris are carried down steep mountain canyons and are deposited at the mouth of the canyon, causing flows to become unpredictable. Throughout the County, the presence of unconsolidated alluvial soils and relatively sparse vegetation creates a high potential for lateral migration of watercourses. Much of the recorded flood damage in Pima County has been associated with the lateral erosion of watercourses undermining structures, buildings and public infrastructure.
- **Topic 10 – All Weather Access** - This topic covers the lack of safe access to certain areas during times of flooding. Some roads within Pima County have been designed to convey flows, while many others convey flow due to poor design. In addition, many roads utilize dip crossings to pass flows over the road as opposed to under the road. This has resulted in issues of unsafe or non-existent access to and/or within certain areas during times of flooding. Many complaints to the District and the County's Department of Transportation originate from such areas. These areas also require frequent maintenance. Awareness of these hazards and active emergency planning are critical for public preparedness in the event of lost access during a flood. The public should be prepared to use alternate routes to travel home, to work or to medical care. They should also be prepared to avoid such areas to prevent the need for being rescued during flood events. Almost all flood-related fatalities within Pima County have been associated with people trapped in cars while crossing flooded roads.

Privately-maintained roads pose unique access problems. They are often constructed without any consideration of drainage or flooding. As a result, they often capture flow or become destroyed due to lack of adequate design. There was wide agreement on the Committee that planning flood-safe routes and improving private roadway construction are very important topics for outreach.

**Outcomes:**

The associated messages and desired measurable outcomes of the six CRS priority topics and four additional topics identified by the PPI Committee are shown in Table 7.

**Table 7 - Topics, Messages, and Outcomes**

<b>Topic</b>	<b>Messages</b>	<b>Outcome</b>
<b>1: Know Your Flood Hazard</b>	"A portion of your property is in a floodplain and the structure may be. View a Flood Hazard Map at: <a href="http://pcmaps1.pima.gov/mapapps/rfcd/parcelsearch/">http://pcmaps1.pima.gov/mapapps/rfcd/parcelsearch/</a> and then call the District to find out more." "Purchase Flood Insurance" "Prepare Before the Floods Come" "Protect Yourself From Flooding" "Monitor streamflow depth and rainfall for your local area at <a href="http://alertmap.rfcd.pima.gov/gmap/gmap.html">http://alertmap.rfcd.pima.gov/gmap/gmap.html</a> "	Increased Flood Hazard Map website hits, flood hazard information requests, customer service counter visits and approved permits
<b>2: Insure Your Property</b>	"Building and contents insurance is available at discounted rates, contact your agent to find out how low they are." "Renters may contact an insurance professional to learn how inexpensive contents insurance is." "Owners of properties outside federal floodplains qualify for discounted insurance rates, contact your agent to find out how low they are." "Please protect your home and your contents/belongings with a flood insurance policy today"	Increased number of flood insurance policies, especially contents coverage
<b>3: Protect People from the Hazard</b>	"Don't drive through flooded washes" "Turn Around Don't Drown" "Never Cross a Flooded Road" "Plan Ahead" "Make a flood preparedness plan."	Decreased swift water rescues and law enforcement citations for ignoring barricades
<b>4: Protect Your Property from the Hazard</b>	"Contact the District for technical assistance in the best ways to protect your property"	Increase in requests from property owners to develop a plan to mitigate flood hazards
<b>5: Build Responsibly</b>	"Obtain a Floodplain Use Permit"	Decrease in unpermitted development and code violations

6: Protect Natural Floodplain Functions	"Do not dump in washes" "Preserve riparian habitat"	Decrease in illegal dumping complaints and unpermitted disturbance of riparian habitat
7: Seasonal Flooding	"Understand flash floods by monitoring streamflow depth and rainfall for your local area at <a href="http://alertmap.rfcd.pima.gov/gmap/gmap.html">http://alertmap.rfcd.pima.gov/gmap/gmap.html</a> "	Increase in hits on ALERT website. Increase number of users of MyAlerts flood warning message system.
8: Low Impact Development and Green Infrastructure	"Use the techniques found in the Low Impact Development and Green Infrastructure Manual at <a href="http://webcms.pima.gov/cms/one.aspx?portalId=169&amp;pageId=65263">http://webcms.pima.gov/cms/one.aspx?portalId=169&amp;pageId=65263</a> the following link for managing floods"	Increase in the use of LID/GI techniques
9: Local Hazards: Erosion, Floodplains, and Sheet Flooding)	"Contact the District to learn about all the risks to your property"	Increase in counter visits, flood hazard information requests, and approved permits
10: Safe Routes	"Plan for floods by knowing the safe routes to places of shelter shown here <a href="http://webcms.pima.gov/cms/one.aspx?portalId=169&amp;pageId=34193">http://webcms.pima.gov/cms/one.aspx?portalId=169&amp;pageId=34193</a> "	Decreased swift water rescues, increase in safety plans by having people create them during site visits and outreach to schools and employers

#### **Flood Response Preparations:**

The District has a Flood Response Plan and an associated flood response procedure and field manual. District flood investigators are given emergency response supplies that include a variety of outreach and technical assistance materials that are distributed to the public as appropriate. Outreach on topics 1, 2, 4, 6, 7 and 10 is provided to owners in areas impacted by a flood event: Know Your Flood hazard, Insure Your Property, Protect Your Property and Build Responsibly, Understand Flash Floods and Don't Drive through Flooded Roads.

In addition to materials that are distributed during and after a flood event, there are also outreach materials for flood preparation in advance of an event, including:

- Water bill insert (OP42)
- Floodplain property brochure (OP47)
- 1983 flood brochure (OP40)
- Public event booths (OP10)
- Monsoon Safety Awareness Week (OP25)
- Monsoon safety brochure (OP26)
- Sheet flood and map change outreach letter (OP13)
- Repetitive loss property letters (OP35)
- Sherriff Hank Highwater coloring book/campaign (OP15)

The entire list of outreach projects can be found in the PPI Spreadsheet in Appendix E. This spreadsheet contains a master list and additional lists with outreach organized by target demographic audiences and geographic areas.

## Step 4

### Recommended Outreach Projects

The Committee reviewed existing outreach projects, including 2019 District efforts (**Appendix J**), to ensure that the topics and messages are adequately presented. The Committee decided to not any additional outreach projects at this time, and instead focus on expanding or improving upon existing efforts. Current but more defined projects will be implemented in 2020 and can be found on Table 8 below. A list of outreach projects are found on the PPI spreadsheet (Appendix E). Appendix E includes additional matrices specific to each target audience or target area.

Gaps in coverage identified in the Flood Insurance Coverage Assessment (FIA) include renters and locally mapped Special Studies floodplains. The District has revised its outreach methods and materials to provide information on flood insurance availability to a larger audience of flood prone area renters and owners. Insurance information is included in outreach projects including (OP42, OP 48, OP49, OP52 and OP55).

It was decided that the projects termed “outreach projects” will be deliverable and implemented at least once per year. Flood response projects will be prepared but will not be distributed until needed after the occurrence of a flood event.

The Committee-recommended projects are outlined in Table 8:

**Table 8 – 2020 Expansion of Existing Outreach Projects**

<b>New Outreach Project</b>	<b>Topics and Messages Covered</b>	<b>Message Delivery by Stakeholders</b>	<b>Outcome</b>
School Curriculum (OP 51)	1, 3, 4, 6, 7, 9 & 10	RFCD, Schools	Provide schools with a curriculum or materials related to various flood hazards and emphasize road safety
Automated Local Evaluation in Real Time (ALERT) inundation mapping messaging (OP 53)	1, 2, 3, 4, 6, 7, 9, & 10	RFCD, first responders	Work with first responders on education and response related to real time flood events
Floodplain Management Plan Support (OP 58)	1-10	RFCD, various stakeholder groups and individuals	Support the District's Floodplain Management Plan for watershed management

## **Step 5**

### **Other Public Information Initiatives**

In addition to the efforts of the District and stakeholders, it is important to review other public information efforts and identify opportunities for coordination and consolidation.

#### **REALTOR® Disclosures:**

In Arizona, real estate agents are required to disclose the presence of Special Flood Hazard Areas to buyers. Recognizing one of our primary functions under the NFIP, the District provides detailed FIRM information to agents. Various organizations of real estate professionals coordinate with the District to assist real estate agents via targeted and general outreach projects numerous times annually. These are intended to raise awareness of flood-related issues and provide information and materials needed to meet the disclosure requirement. Brochures, the website and general and targeted outreach projects all address this need. Additional new projects have also been identified in this plan (OP48, OP49, OP50 and OP52). Using these materials, real estate agents can meet their disclosure requirement and provide their clients with FEMA and District contact information, brochures and relevant website links.

#### **Web Resources:**

In addition to the District Webpage which covers all ten topics, all CRS activities and much more as described above other Departments also maintain websites that provide information describing actions the public can take to avoid or mitigate flood risk, and to recover from floods.



Pima County has a Road Closure hotline and website that includes closures due to flooding: ([webcms.pima.gov/cms/one.aspx?portalId=169&pageId=34193](http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=34193)).

The Pima County Office of Emergency Management website contains information about emergency preparedness, disaster recovery, MyAlerts resource application and flood insurance: ([webcms.pima.gov/government/office of emergency management homeland security/](http://webcms.pima.gov/government/office%20of%20emergency%20management%20homeland%20security/)).

#### **Disaster Recovery Assistance:**

The American Red Cross provides information to help the public prepare for disasters, provides shelter and other resources during floods. It also provides information to help individuals recover from flood damage.

#### **On-Site Open Space Educational Exhibits and Signage:**

The County has a system of open spaces identified for preservation in the Sonora Desert Conservation Plan. Much of the focus of this plan has been on what are locally referred to as Important Riparian Areas which are a subset of our regulated riparian habitats. These have been acquired through bond and FLAP purchases, easements obtained during the entitlement process, donations and as part of Capitol Improvement Projects. Notable is the system of river park greenways known as "The Loop" which circles the metropolitan area mostly along major river corridors. The bank protection installed by the District to prevent channel migration has provided for this continuous bike path that is complemented with passive and active recreation areas including riparian restoration and groundwater recharge projects.



Most County open space lands are managed jointly by the District and the Natural Resources Parks and Recreation Department. River parks and recharge facilities throughout the county feature water harvesting, riparian habitat restoration, groundwater recharge and other beneficial functions of floodplains. In most cases, these are developed to provide public access and educational opportunities regarding beneficial floodplain functions. On-site

materials include interpretive centers containing exhibits, conservation workshop spaces, trails with interpretive signage and demonstration projects. These are complemented by a suite of outreach materials, including general riparian habitat information (OP36 and OP38) and site specific brochures. In the case of Cienega Creek Preserve these brochures includes maps and species lists. Related groundwater level monitoring data is made available on our website and is an example of



The Mountain Lion of the Rocky Mountains  
Betsy P. Age 8  
Pineville School No. 1, LaGrange  
Grand Prize Art Category 2

the range of materials produced by the District, from coloring books for kids and the Living River of Words poetry and art contest to highly verifiable scientific data for use by modelers. In the case of Agua Caliente Park, a ranching and water use history is available.

Illegal dumping outreach efforts associated with the Clean Water Act include code enforcement signage. The Pima Association of Governments, Pima County (Sheriff's Office and Department of Transportation) and others are involved in the placement of such signage. The District supplements this type of anti-dumping outreach with stormwater pollution prevention information (OP32).

#### **Related CRS Activities:**

Outreach projects conducted by others were considered throughout the Committee review process. It was decided that in addition to ensuring completion of those outreach projects identified on the PPI spreadsheet, the District should also pursue the following improvements:

- **Activity 320 (Map Information Services)** - The information provided with the Flood Hazard Map (available on the District's website) will be modified to include the four additional CRS topics consented to by the Committee.
- **Activity 340 (Hazard Disclosure)** - Real estate disclosure practices have been identified and discussed by the Committee. While the MLS sheet used by the Tucson Association of REALTORS® requires disclosure of FEMA SFHAs, the District will work with real estate agents to educate them on investigation and disclosure of local flood hazards prior to execution of purchase and sale agreements.
- **Activity 350 (Flood Protection Information)** - The District's current outreach webpage will be modified to reflect the four additional CRS topics consented to by the committee.
- **Activity 360 (Flood Protection Assistance)** - The District's current flood response projects will be implemented during flood response efforts during and after flooding events.
- **Activity 370 (Flood Insurance Promotion)** - The Committee was presented with flood insurance data to help identify gaps in coverage. A more detailed explanation of this activity can be found in Step 2. Existing materials will be modified and new materials will be developed to address these gaps. Additionally, public service announcements have been produced (OP55) in conjunction with a member of the District's elected leadership.
- **Activity 510 (Floodplain Management Planning)** - The Flood Insurance Coverage assessment and PPI will be incorporated into the Floodplain and Watershed Management Plan(s).
- **Activity 540 (Drainage System Maintenance)** - The Committee helped to create a document related to dumping regulations for homeowner associations and private areas. The District will partner with the Pima County Department of Environmental Quality to help advertise future illegal dumping messages. In addition, the District has a

Drainage Complaint system in place that provides the public with an opportunity to not only notify the District of potential floodplain violations, but also to seek out advice on how to protect properties from flood hazards. Those needing financial assistance are directed to a number of governmental and non-governmental organizations as appropriate, including the American Red Cross and local housing and economic development agencies. While the District directly funds maintenance and construction of capital improvement projects, the District does not provide direct financial assistance for private property owners.

- **Activity 610 (Flood Warning and Response)** - The District has recently made substantial revisions to the public face of the ALERT Flood Threat Recognition System and needs to provide outreach about the revisions. The District is also working to update the Hazard Mitigation Plan (HMP).

## **Step 6**

### **PPI Document Preparation**

This document was prepared by District staff to support and memorialize the efforts of the Committee and District during the 2016 through 2019 calendar years.

## **Step 7**

### **Plan Implementation**

Following adoption of the PPI by the Board of Supervisors, we plan to schedule a PPI Committee meeting to celebrate completion and discuss implementation of the plan. Invitations will also be sent to organizations that have been identified as participating in stakeholder delivery. That plan is outlined in Table 7 above. District staff will continue to coordinate the development and delivery of outreach projects as identified in the PPI. Stakeholders will continue to be involved in the development and delivery of projects as noted herein.

In addition to ongoing work by District staff and stakeholders, the PPI Committee shall meet at least annually to review progress and make recommendations regarding updating target audiences, areas and additional topics. District staff shall provide annual progress reports to the PPI Committee. This report, in the form of an updated PPI, shall include emerging issues, updated insurance, available demographic data and any available outcome measures.

District staff will then incorporate the PPI Committee recommendations along with corresponding documentation. The updated PPI will then be presented to the Flood Control District Advisory Committee and Board of Supervisors for adoption.

# **Appendix A**

## **Committee Invitation Letter**

February 25, 2015

Name, Title  
Company/Organization  
Address  
City, AZ 857XX

**Subject: Program for Public Information Stakeholders Committee**

Dear XXXX,

The Pima County Regional Flood Control District (District) is seeking stakeholders with an interest in helping their community, especially individuals with some involvement or knowledge of the National Flood Insurance Program (NFIP) or who may advocate for some of its priorities, in order to provide guidance and direction to the District with respect creating a comprehensive outreach program.

The District is a participant in the NFIP's Community Rating System (CRS), which is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Participating in the CRS program can benefit the community through the reduction of flood insurance premium rates when community actions meet the following three goals: 1) reduce flood damage to insurable property; 2) strengthen and support the insurance aspects of the NFIP; and 3) encourage a comprehensive approach to floodplain management.

At present, District efforts towards those goals have resulted in a Class 5 Community designation, which means that residents of unincorporated Pima County are eligible for up to a 25% discount on flood insurance premiums. The District is poised to become a Class 4 Community, which will increase that discount to 30%.

In order to further these goals, the District is establishing a Program for Public Information (PPI), which includes distributing public outreach materials to communities, owners of flood prone property, and stakeholders within the community with connections to floodplain issues such as real estate agents, insurance agents, engineers and surveyors. The PPI is a community driven outreach effort to help provide the public with the information necessary to increase flood hazard awareness and to help motivate actions to reduce flood damage, encourage flood insurance coverage, improve public safety and help protect the natural functions of floodplains.

Awareness of flood hazards is not enough to meet these goals, and a community driven program is needed to develop local strategies to motivate residents to take action to mitigate flood hazards. The District is in the process of setting up a stakeholder committee to help prepare a PPI for a combined effort that will assess the community's public information needs, formulate outreach messages, identify ways to disseminate the information, and implement outreach projects.

## **Program for Public Information Stakeholders Committee**

February 25, 2015

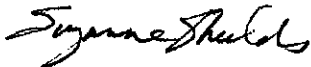
Page 2

We ask for your help because of your special interest/knowledge in (area of interest). (INSERT SUPPLEMENTAL STAKEHOLDER SPECIFIC INFORMATION)

The District strives to use forward-looking floodplain management practices to increase flood hazard awareness, minimize damages to property and infrastructure from flood hazards, and promote the health, safety and welfare for all Pima County residents.

If you would like to become a stakeholder or would like more information, please contact Joseph Cuffari at 724-4624 or via e-mail at [joseph.cuffari@pima.gov](mailto:joseph.cuffari@pima.gov). If you are unable to participate, but know someone else who might be interested in participating, please let us know.

Sincerely,



Suzanne Shields, P.E.  
Director and Chief Engineer

SS/tj

### **Supplemental Stakeholder Specific Outreach**

#### **Realtors**

Realtors have an obligation to disclose to the buyer if a parcel is subject to FEMA Special Flood Hazard Areas, but not if a home is within a locally mapped floodplain. New construction activities or additions to current structures could be limited by locally identified flood hazards. A realtor who is informed about floodplain issues could better serve buyers by making them aware of the potential liabilities of a property being considered for purchase, which would foster a new level of trust between you and the client. Likewise, an informed realtor can assist sellers by identifying issues that may affect sales at the last minute thus allowing time to correct the liabilities before they become a problem.

#### **Insurance Agents**

Insurance agents should make homeowners aware of the importance of flood-proofing and insuring a flood prone home, whether flood insurance is or is not federally mandated. Since homeowners' insurance policies do not cover flood damage, insurance agents should let their clients know about the high costs of flood damage and the importance of insurance to cover those costs at the time of sale. Potential policy holders should be made aware that a new policy usually takes 30 days from the date of purchase to become effective. Buying a policy early could save the property owner thousands of dollars later. Insurance agents should also discuss the availability of insurance for contents of the home to both owners and renters.

#### **Developers / Surveyors / Engineers / Contractors**

Development occasionally is located in an area with a high risk of flooding. Developers must either design and construct improvements that are appropriately flood resilient and resistant, safe for homeowners, and will not increase the flood risk in surrounding areas, or modify the site layout to

avoid the high hazard areas and leaving the watercourse in a natural state. If avoidance is not possible, developers should seek flood risk management opportunities such as proper elevation, erosion protection measures, and mitigation strategies such as water harvesting for irrigation. By avoiding high risk areas or providing flood safe improvements, a developer can reduce costs and risks while creating an amenity with significant value for the customer.

#### Regional Sustainability Organizations

By regulating riparian habitat and flow corridors, the District is dedicated to preserving the natural and beneficial functions of floodplains, which is an ecosystem-wide approach that helps to reduce peak flood discharge rates, enhance water quality, maintain watershed scale sediment balance, and provides biological corridors that benefit plant and animal communities. In addition, the preservation of these areas provides a more livable community for residents and visitors alike. Stormwater collection and conservation can lead to a reduction in the use of potable water and free up our most precious resource for other beneficial goals. Protection of these assets is vital to a more sustainable quality of life for plants, animals, and humans.

#### HOAs and Community Assistance

Homeowners are often in need of assistance post-disaster and must look for aid from local disaster relief organizations. A person's home and contents may be damaged, but many belongings can be restored through community help. The NFIP has suggested steps that can be taken to help the public remain calm during a traumatic experience including taking care of themselves and family, rehabilitating their home and making sure it is safe to re-enter, and checking for financial grant assistance. Sometimes these processes, such as the requirements for post-disaster construction, can be daunting and a collaborative effort with the District can help your neighbors and community prepare for a future flood disaster.

Community assistance organizations such as yours regularly respond to natural and manmade disasters throughout Pima County including local flooding from monsoon storms or heavy rain events. During times of floods, homeowners may be trapped in their homes with no working utilities or without a dry place to spend the night. Recovery from a disaster can take months or years to mitigate and the support you provide is important to the recovery of our community. Homeowners may not be aware of the services you offer and a collaborative effort would be beneficial in the rebuilding of Pima County post-disaster.

#### Major Employers

Major employers in Pima County can play an important role in keeping their employees and the broader community safe when disaster looms. Research has shown that human behavior is most likely to change when an individual receives information from multiple sources, especially from sources that they otherwise trust. A company's response to imminent or ongoing flood risks has the power to not only keep people safe during the flood event itself, but project a powerful message that flood hazards need to be taken seriously. An example of a company taking the initiative to keep employees safe includes allowing employees to leave work early so they aren't driving when a major storm hits, which makes streets safer for emergency responders. Other strategies include allowing people to flex their time or work from home. We look forward to having you as a business partner in keeping our community safe.

#### School Districts

Developing a program that teaches kids what to do before, during, and after a flood related emergency is important in preparing a child for a real disaster. Emergencies and natural disasters can be both scary and fascinating, but a child can find reassurance by applying classroom lessons to

real world situations. By developing a curriculum showing what could happen, how a child should prepare, and what to do during a flood related event, students will feel empowered and can become essential parts of disaster relief efforts as students become teachers to their families to help the family and the whole community prepare a plan to keep everyone safe. Every person who knows how to stay safe during a flood is one less person who may need to be rescued or need emergency services. All learning activities lead to important discussions through collaborative fact finding and classroom sharing. The District can work with your school to help foster a curriculum which will educate the student as well as the teaching staff on how to best prepare for a flood related disaster whether at home or school.

## **Appendix B**

### **Meeting Agendas**

**March 9, 2020: 9AM-10AM**  
**201 N. Stone Ave., 9<sup>th</sup> Floor Conference Room C**

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#### **1. Introduction of new member**

- a. Patrick McNamara, Communications Specialist, Pima County Communications Office

#### **2. Review of the District's 2019 outreach efforts as approved in the 2019 PPI Document**

- a. Engineering and Capital Improvements (CIP) brochure (OP 57)
  - i. The District developed a CIP brochure that highlights major capital improvements within each Board of Supervisor's district. This brochure has been handed out at various engineering conferences and "construction career days" at schools. Highlighted projects include:
    - 1. Christina-Taylor Green Park
    - 2. Park Avenue Basins
    - 3. Curley School Detention Basin
    - 4. Pantano Wash Bank Protection & Green Valley Drainageways
    - 5. Paseo de las Iglesias
- b. Floodplain Management Plan support (OP 58)
  - i. The Board of Supervisors directed the District to conduct a public process to develop a Floodplain Management Plan (FMP). This plan will help the District identify the activities that will be most effective in each of the watersheds in unincorporated Pima County. Efforts include identifying high flood risk areas, preserving natural watercourses, constructing flood control facilities, establishing locally appropriate development standards, distributing public information, providing early warning, and responding to flood emergencies. The PPI will serve as an appendix to the FMP and will be the catalyst for developing goals and outreach projects to address individual problems throughout each watershed.
- c. Other outreach
  - i. The District participated in numerous outreach events, distributed various brochures, and was part of year-round delivery of TV/radio advertisements emphasizing District activities, road safety, and flood insurance needs.

#### **3. 2020 potential outreach efforts**

- a. Expand on existing outreach projects
  - i. School curriculum (OP 51)
    - 1. Provide schools with a curriculum of materials related to various flood hazards and emphasize road safety during flood events.



- ii. Automated Local Evaluation in Real Time (ALERT) inundation mapping messaging (OP 53)
      - 1. Work with first responders on education and response related to real time flooding events.
    - iii. Floodplain Management Plan support (OP 58)
      - 1. Continue support of the District's FMP for watershed management.
  - b. Other activities as decided by the PPI Committee

**4. Updates to the 2020 PPI Document**

- Page 5 - Committee meeting members and dates updated
- Page 10 & 11 - Updated the Flood Hazard Map and ALERT web links
- Pages 16 - 21 - Updated various data figures including total acreage of regulatory floodplains, insurance policy counts, and tables
- Page 26 - Updated proposed 2020 outreach projects as approved by the PPI Committee
- Page 35 & 36 - Updated PPI Committee meeting agenda
- Page 37, Appendix C - Updated map using newer available data
- Page 40, Appendix E - Updated to reflect proposed 2020 outreach projects
- Page 42, Appendix G - Updated map using newer available data and queries
- Page 47, Appendix J - Updated to summarize 2019 outreach efforts
- **NEW** Page 48, Appendix K - Define and clarify query procedures and rules

**5. Explanation of Committee expectations for the rest of 2020**

- a. Approve the 2020 PPI Document
- b. Provide support as stakeholders in development and delivery of outreach projects and messages

**Insurance Rate Discounts Vary Across Unincorporated Pima County**

**Flood Hazard Area**

Special Studies Area = 86,786.17 acres. Map titled Insurance Rate Discounts does not include all sheet flow floodplains. Hazard Areas (SFHA) - High Risk (Zone A, Zone AO, Zone AH, Zone AE, 25% discount) = 229,167.50 acres. Other Areas (OFA) - FEMA Low Risk (Unshaded Zone X and Zone D, lowest available rates) 5,625,474.26. Other Flood Areas (OFA) - Moderate Risk Shaded Zone X, 10% discount already low rates) = 25,640.23.

Legend:

- Interstates
- Rivers
- Jurisdiction
- Arizona Counties

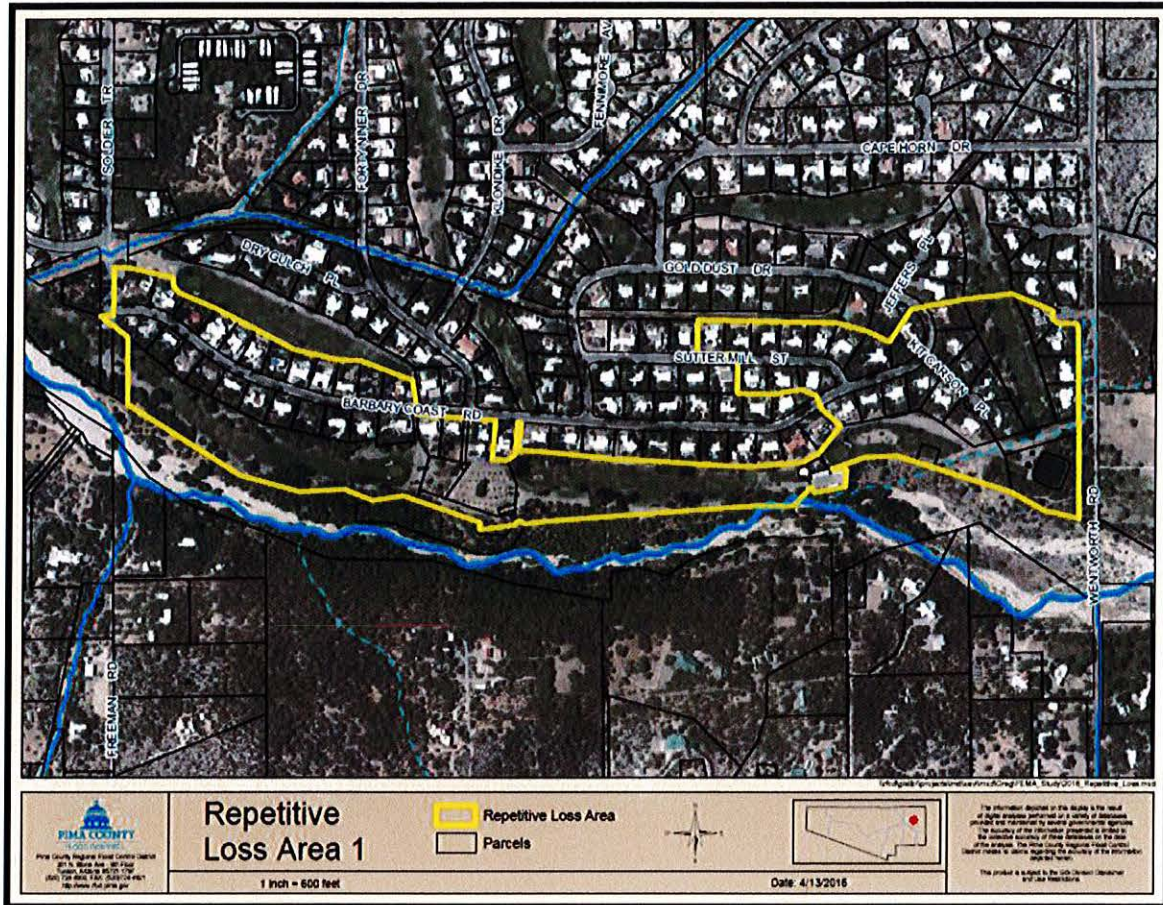
Scale: 0 5 10 Miles

Date: 12/10/2019

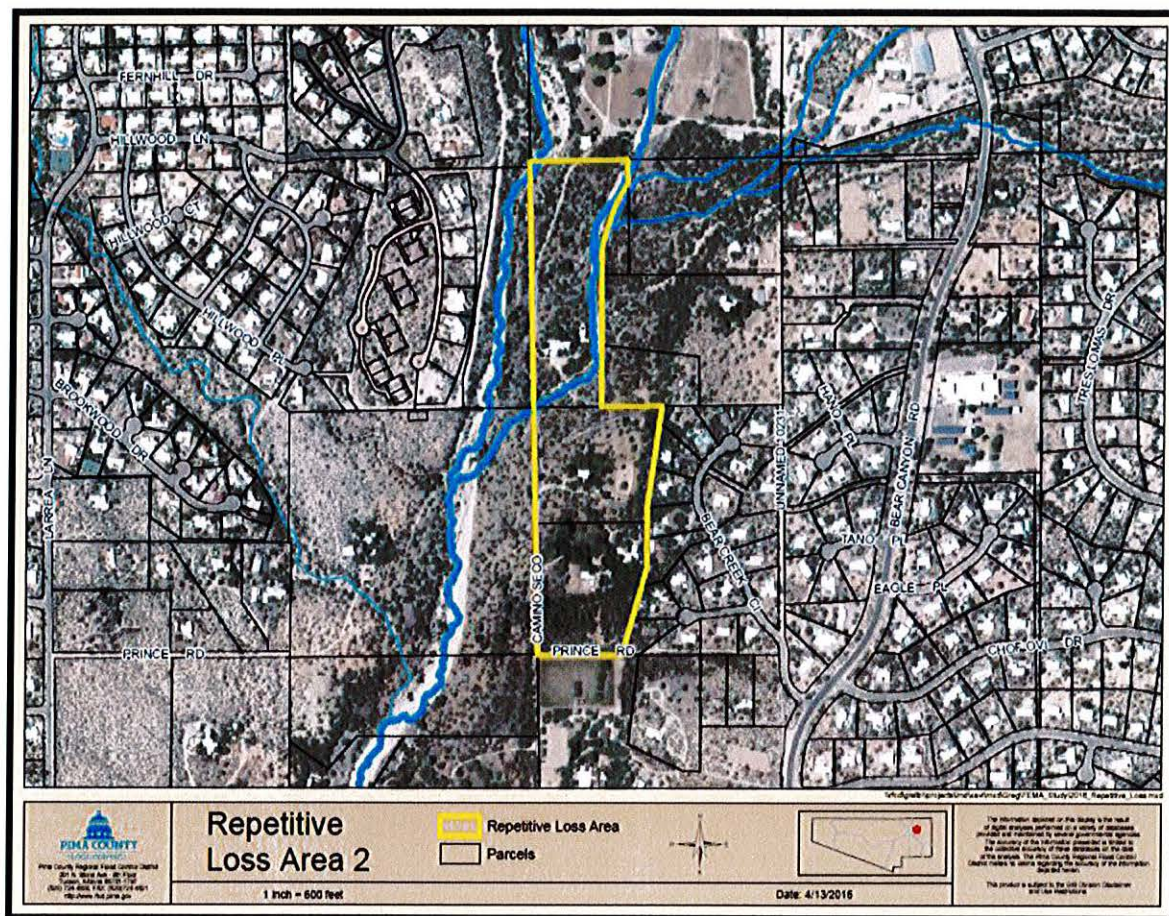
This map shows mapped floodplains that relate to insurance discounts. Additional areas of the County are subject to significant flood risk areas also shown however insurance, while recommended, is not required. Please consult the District for more information.

## Appendix D

### Repetitive Loss Area Maps







**Appendix E**  
**PPI Spreadsheet**  
**(Attached as 2020 Appendix E.xls)**

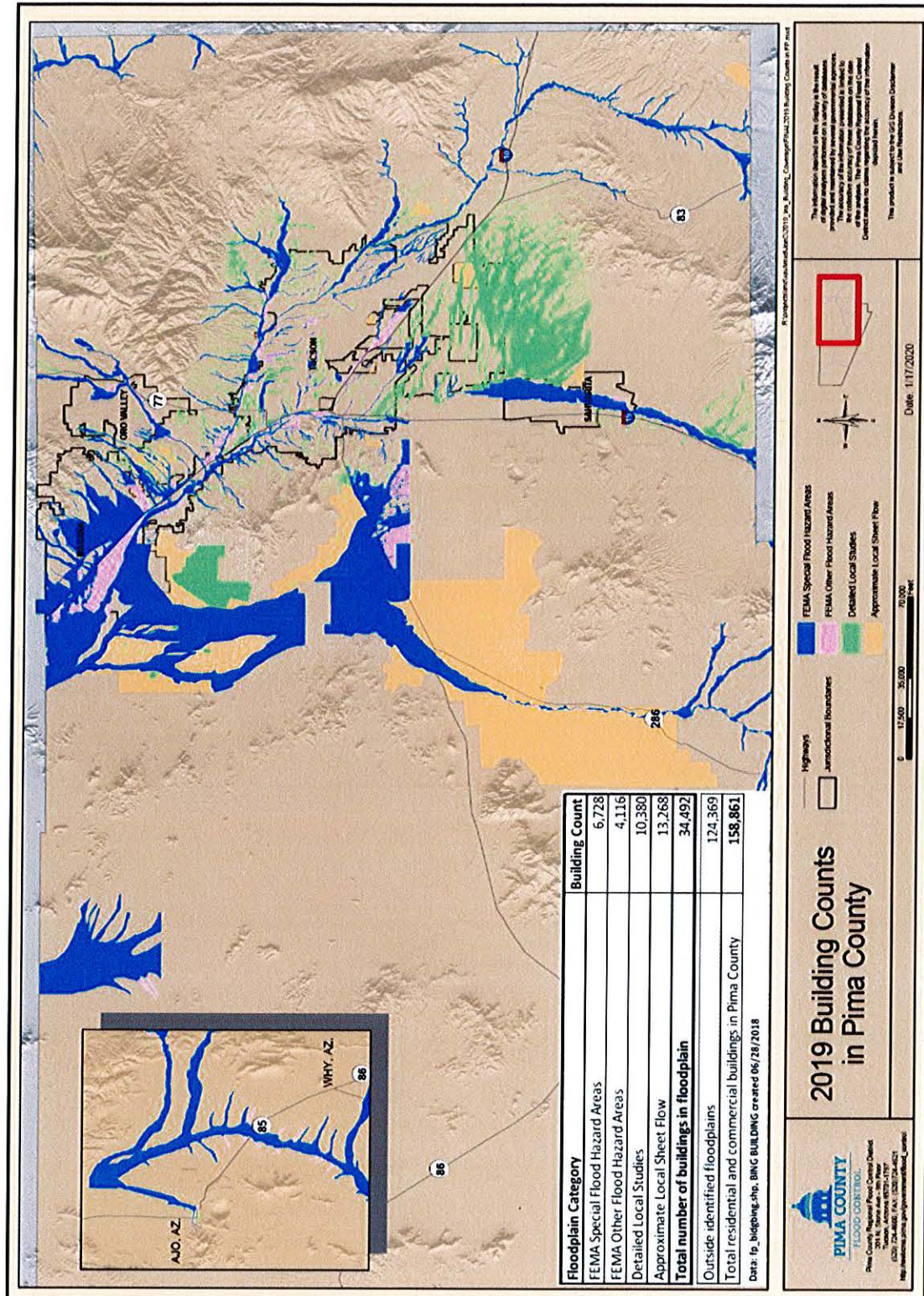
## **Appendix F Acronyms**

**ACS:** American Community Survey  
**ADWR:** Arizona Department of Water Resources  
**CEC:** Continuing Education Credit  
**CIS:** Community Information System  
**CP:** Coverage Improvement Plan  
**CRS:** Community Rating System  
**District:** Regional Flood Control District  
**FCV:** Full Cash Value  
**FEMA:** Federal Emergency Management Agency  
**FIA:** Flood Insurance Assessment  
**FLAP:** Flood prone Land Acquisition Program  
**FCDAC:** Flood Control District Advisory Committee  
**GIS:** Geographic Information System  
**HMP:** Hazard Mitigation Plan  
**ISO:** Insurance Services Organization  
**LID/GI:** Low Impact Development/Green Infrastructure  
**NGO:** Non-Governmental Organization  
**NFIP:** National Flood Insurance Program  
**PPI:** Program for Public Information  
**WMP:** Watershed Management Plan



# Appendix G

## 2019 Building Counts in Pima County



## **Appendix H**

### **Elected Officials Declaration (OP55)**

#### **30 second - Flood Insurance Spot:**

I'm Pima County Supervisor Ramón Valadez. Anyone who's lived here awhile knows flooding can happen anywhere in Pima County. Flooding can damage your vehicle, home or business, and everything inside them. Protect your property, especially if you own or rent in a floodplain or near a wash. Flood insurance provides piece of mind that your property can be repaired or replaced when flooding strikes. With discounted policies available for buildings or their contents, it's probably more affordable than you think. To learn more, contact the Pima County Regional Flood Control District.

Hola, soy Ramón Valadez, Supervisor del Condado Pima. Quien ha vivido en esta región sabe que las inundaciones suceden en cualquier lugar. Una inundación puede dañar su vehículo, hogar o negocio. Proteja su propiedad con seguro de inundación, especialmente si es propietario o inquilino en un sitio propenso a inundaciones. Hoy en día existen tarifas reducidas para edificios y sus pertenencias. Para más información, contacte al Departamento de Control de Inundaciones del Condado Pima.

#### **15 second - Flood Insurance Spot:**

I'm Pima County Supervisor Ramón Valadez. Flooding can happen anywhere in Pima County... damaging vehicles, homes, and business, and everything inside them. Get peace of mind with flood insurance. Discounted policies are available for buildings or their contents. To learn more, contact the Pima County Regional Flood Control District.

Hola, soy Ramón Valadez, Supervisor del Condado Pima. En esta región las inundaciones suceden en cualquier lugar, y pueden dañar su vehículo, hogar o negocio. Proteja su propiedad con un seguro de inundación. Para más detalles, contacte al Departamento de Control de Inundaciones del Condado Pima.

#### **30 second - Road Safety Spot:**

I'm Pima County Supervisor Ramón Valadez. You've probably experienced flooded roads, but you may not know that flash floods are the number one weather-related killer in the United States, mostly from people driving through these deadly waters. If you can't see the road stripes, turn around, don't drown, and find another route. Your safety is worth a few extra minutes. Better to arrive late than not at all. Contact the Pima County Regional Flood Control District to learn more about avoiding flood risks and protecting yourself from flooding.

Hola, soy Ramón Valadez, Supervisor del Condado Pima. ¿Sabía que en Estados Unidos, las inundaciones repentinas son la causa número uno de muertes relacionadas con el clima? Si no puede ver las líneas en el camino, de la vuelta y encuentre una ruta segura. Esos minutos extra le pueden salvar la vida. Para más información sobre los riesgos de inundación y cómo protegerse, contacte al Departamento de Control de Inundaciones del Condado Pima.



**15 second - Road Safety Spot:**

I'm Pima County Supervisor Ramón Valadez. Flash floods can be killers, especially on the road. If you can't see the road stripes, turn around, don't drown. Better to arrive late than not at all. For more information

Hola, soy Ramón Valadez, Supervisor del Condado Pima. Las inundaciones repentinas pueden ser fatales, especialmente en la carretera. Si no puede ver las líneas en el camino, de la vuelta, y evite una desgracia. Para más información contacte al Departamento de Control de Inundaciones del Condado Pima.

# **Appendix I**

## **Adopted Resolution**

### **A RESOLUTION OF THE PIMA COUNTY FLOOD CONTROL DISTRICT BOARD OF DIRECTORS APPROVING A PROGRAM FOR PUBLIC INFORMATION AS PART AS 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 NFIPs 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, with a current premium discount of up to 25% within unincorporated Pima County.
6. The District plans to further exceed the minimum NFIP standards through the design and implementation of a Program for Public Information (PPI).
7. The PPI is an ongoing, stakeholder driven, public information effort to identify and transmit the messages that the Committee has prioritized as the most important to flood safety and the protection the natural beneficial functions of floodplains.
8. The PPI includes a Flood Insurance Coverage Assessment and a Coverage Improvement Plan that requires promoting of the purchase of or an increase in coverage of flood insurance.

9. The CRS requires District staff to update the Board annually regarding the implementation of the PPI and requires the Board to approve the PPI Committee's recommendations for the upcoming year.

**NOW, THEREFORE, BE IT RESOLVED,** that this community's governing body hereby:

- 1) Approves the PPI and submittal of annual progress reports to the administrator of the CRS by the Committee;
- 2) Commits to participate in the promotion of the benefits of flood insurance and other flood safety messages that have been identified by the Committee in the PPI; and
- 3) Authorizes District staff to do all things necessary to implement this Resolution.

## Appendix J

### 2019 Outreach Efforts

**2019 Outreach Projects**

<b>New Outreach Project</b>	<b>Topics and Messages Covered</b>	<b>Message Delivery by Stakeholders</b>	<b>Outcome</b>
Engineering and Capital Improvement brochure (OP 57)	3, 6, 8 & 9	RFCD and NGOs	Highlight engineering and capital improvement projects completed by RFCD
Floodplain Management Plan Support (OP 58)	1 – 10	RFCD, various stakeholder groups and individuals	Help develop a floodplain management plan to help guide RFCD efforts within individual watersheds

# **Appendix K**

## **Floodplain Data Queries**

### **Floodplain Categories, Queries, and Rules for Analyses:**

1. FEMA Special Flood Hazard Areas
  - a. Where there is overlap, local studies get clipped to FEMA SFHA - FEMA SFHA takes precedence
  - b. Remove FEMA Other Flood Areas (Shaded X zones)
2. FEMA Other Flood Areas (OFA)
  - a. Where there is overlap, local studies get clipped to FEMA OFA - FEMA OFA takes precedence
  - b. Include all areas (protected by levee, depths less than one foot, etc.)
3. Detailed Local Studies
  - a. Include all special studies except as noted in Approximate Local Sheet Flow
  - b. Remove "less than 6 inch" data layer from Special Study 61, Picture Rocks Technical Data Notebook for Hydrologic and Hydraulic Mapping
  - c. Include Developer Mapped Floodplains
4. Approximate Local Sheet Flow
  - a. Include Special Study 46, Sheet Flood Mapping for Unincorporated Pima County
  - b. Include Special Study 12-10, Area Floodplain Mapping
5. Use latest available building data footprint spatial imagery
6. Analysis is for unincorporated Pima County parcels only, see next page for removed land use codes and property ownership classes
7. Use latest available flood insurance data tables from the Arizona Department of Water Resources (ADWR) and Insurance Services Organization (ISO)

### **Table 2 analysis:**

- a. Parcels with structures where floodplain impacts structures
- b. Parcels with structures where there is insurance
- c. Separate residential and commercial parcels using analysis above

### **Table 3 analysis:**

- a. Obtain the full cash value (FCV) of parcels where floodplain impacts structures
- b. Relate insurance coverage to those parcels using ISO data
- c. Coverage in Force is the sum of building and contents coverage from ISO data

### **Table 4 analysis:**

- a. Obtain the FCV for all parcels within a floodplain regardless of flood insurance coverage
- b. Coverage in Force is the sum of building and contents coverage from ISO data

## Tables 5 & 6 analysis

- a. Information provided by queries run by ADWR
- b. The number of paid losses may have a discrepancy that is a known query error by FEMA

### Removed Land Use Codes

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(MAIL1 NOT LIKE '%SCHOOL DISTRICT%') AND  
(MAIL1 NOT LIKE 'BANNER-UNIVERSITY MEDICAL CENTER%') AND  
MAIL1 NOT IN ('CITY OF TUCSON REAL ESTATE DIVISION',  
'CITY OF TUCSON',  
'CITY OF SOUTH TUCSON',  
'STATE OF ARIZONA',  
'PIMA COUNTY COMMUNITY COLLEGE DISTRICT',  
'PIMA COUNTY',  
'TOWN OF MARANA',  
'TOWN OF MARANA MUNICIPAL PROPERTY CORP',  
'TOWN OF ORO VALLEY',  
'TOWN OF ORO VALLEY MUNICIPAL PROPERTY CORP',  
'TOWN OF SAHUARITA',  
'UNITED STATES OF AMERICA',  
'UNITED STATES OF AMERICA IN TR',  
'UNITED STATES OF AMERICA IN TRUST',  
'UNITED STATES POSTAL SERVICE',  
'ARIZONA BOARD OF REGENTS',  
'ARIZONA BOARD OF REGENTS',  
'ARIZONA BOARD OF REGENTS FBO',  
'BANNER HEALTH',  
'TUCSON AIRPORT AUTHORITY INC')  
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AND ( "MAIL1" NOT LIKE '% MINING %' )  
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AND ( "LEGAL1" NOT LIKE 'U S PAT MINE %' )  
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Outreach Projects Master List

OP#	Current Projects	Topics & Messages						Additional Topics & Messages				Times per Year	Stakeholder Delivery
		1. Know your flood hazard	2. Insure your property	3. Protect people from the hazard	4. Protect your property from the hazard	5. Build responsibly	6. Protect natural floodplain functions	7. Seasonal flooding, monsoon storms	8. Low Impact Development & Green Infrastructure	9. Local hazards (erosion, alluvial fans, sheet flooding)	10. Safe Routes		
1	ALERT Brochure			X			X	X		X	X	1	RFCD
2	Beat Back Buffelgrass Campaign (Brochure, Website www.buffelgrass.org, Events)								X			1	RFCD, ASDM, NPS, BLM, COT, PAG, HOAs & NAs
3	Bus Posters							X				1	SunTran
4	Developing Your Floodprone Property Brochure	X	X	X	X	X	X		X	X		1	RFCD, Mobile Home Installers
5	Don't Drive Through Flooded Streets PSA & Signage			X						X	X	1	Radio Stations
6	Don't Play in Flood Waters PSA			X				X			X	1	Radio Stations
7	Do's and Don'ts in Floodplains Brochure	X			X	X	X					1	RFCD
8	Drainage Complaints Brochure			X			X		X			1	RFCD
9	Educate Yourself about Flood Hazards PSA	X		X	X		X			X		1	Radio Stations
10	Events & Fair Booths (TAR, Earth Day, etc.)	X		X	X	X	X	X			X	6	NGO, Schools
11	RFCD Brown Bag Lecture Series	X			X		X					12	RFCD,USGS, ADWR UA etc.
12	Flood Insurance Webpage	X	X		X	X						1	RFCD, NGOs
13	Floodplain Property Owner Map Change Letters / Flood Hazard Mailing	X	X	X	X	X	X			X		1	RFCD
14	Grow Native Brochure								X			1	RFCD, Landscape Professionals
15	Hank Highwater Coloring Book & Campaign	X					X			X	X	1	RFCD, Schools
16	Historical Flood Events in Pima County Brochure			X			X	X		X	X	1	RFCD
17	HOA Drainage System Maintenance Booklet			X	X	X	X		X			1	RFCD, HOAs
18	Home Repair Programs Brochure			X	X	X					X	1	RFCD, Contractors
19	How do I remove my Home or Property from a FEMA Mapped Floodplain? Web Document	X	X			X						1	FEMA
20	How to Obtain a Floodplain Use Permit Brochure				X	X	X			X		1	RFCD, Contractors
21	Know Your Flood Risk and Insurance Needs Brochure	X	X			X						1	RFCD, Contractors
22	LOMR FAQ Brochure	X	X		X							1	RFCD
23	Low Impact Development & Green Infrastructure Manual					X			X			1	RFCD, COT, WMG, UA, Landscape Professionals
24	Manufactured Homes, Recreational Vehicles, Park Trailers and Floodplains Brochure				X	X				X		1	ADWR, RFCD
25	Monsoon Safety Awareness Week							X					RFCD, OEM, Schools, Local Media
26	Monsoon Safety Brochure			X			X	X			X	1	RFCD
27	Myths and Facts About Flooding in Pima County Webpage			X	X		X	X		X		1	RFCD

28	New 2011 Flood Insurance Rate Maps Brochure	X	X									1	RFCD
29	No Way Out! The Dangers of Washes, Storm Drains, and Culverts Handout			X			X	X		X	X	1	RFCD, PCDOT
30	Nothing Could Dampen the Joy of Homeownership - Or Could It FEMA Booklet	X	X	X	X	X					X	1	FEMA
31	Post Flood Requirements and Recommendations Handout	X	X		X				X			1	RFCD
32	Prevent Stormwater Pollution Brochure						X		X			1	RFCD, PCDEQ, PAG, HOAs
33	Public Meetings (Neighborhood and Rezoning Public Hearings)	X	X	X	X	X	X	X		X	X	12+	DSD, HOAs, Neighborhood Associations
34	Repairing Your Flooded Home Brochure				X			X	X		X	1	RFCD, Contractors
35	Repetitive Loss Area Mailing	X	X	X	X	X	X			X		1	RFCD
36	Riparian Ecosystems in Pima County (Brochure)						X			X		1	RFCD, WMG, PAG
37	Riparian Habitat Brochure and Mailing								X			1	RFCD
38	Riparian Projects Brochure								X			1	RFCD
39	School and classroom events	X		X	X		X	X		X	X	1	RFCD, Schools
40	The Floods of October 1983 Brochure			X				X		X	X	1	RFCD
41	Topical Conferences & Workshops (LID, Elevation Certificates, DFIRMs, etc.)	X	X	X	X	X	X	X	X	X	X	4	RFCD, NGOs, ADWR, Professional Organizations
42	Water Bill Monsoon Safety Insert	X	X	X	X	X	X	X		X	X	1	RFCD, COT, Tucson Water
43	What is a 100-Year Floodplain Brochure	X								X		1	RFCD
44	What To Do in the Event of a Flood Brochure			X							X	1	RFCD
45	Wildfire and Flood Risks Brochure							X		X	X	1	RFCD
46	Wipe Out Weeds Brochure								X			1	RFCD, ASDM, COT
47	Your Property is in a Mapped Floodzone Brochure and Mailing	X	X		X	X	X			X	X	1	RFCD
48	Booklet covering all 10 PPI topics	X	X	X	X	X	X	X	X	X	X	1	RFCD
49	Deserts and Floods? (New Employee Orientation)	X		X	X	X		X		X	X		Major Employers
50	Realtor and Insurance Agent Continuing Education Credit Course Curriculum	X	X	X	X	X	X	X	X	X	X	2	TAR
51	School Curriculum	X		X	X		X	X		X	X	2	RFCD, Schools
52	Target audience specific booklets covering all 10 PPI topics	X	X	X	X	X	X	X	X	X	X	1	RFCD, Employers, TAR
53	Automated Local Evaluation in Real Time (ALERT) inundation mapping messaging	X	X	X	X		X	X		X	X	2	RFCD, first responders
54	Levee failure messaging	X	X	X	X		X					1	RFCD, HOAs
55	Work with elected officials to deliver messages and promote the need for flood insurance	X	X			X	X				X	1	RFCD, elected officials
56	Outreach associated with the <i>Living River Project</i>					X	X		X			6+	RFCD, SI
57	Engineering and Capital Improvement brochure			X			X		X	X		2	RFCD, NGOs



58	Floodplain Management Plan support	X	X	X	X	X	X	X	X	X	X	6+	RFCD, various stakeholder groups and individuals
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