

PIMA COUNTY, ARIZONA

REGIONAL FLOOD CONTROL DISTRICT

2004/2005 ANNUAL REPORT



PIMA COUNTY, ARIZONA

REGIONAL FLOOD CONTROL DISTRICT



RIVER PARK GATEWAY

VISION

The District will continue to be a leader in providing quality flood protection and floodplain management services within Pima County.

MISSION

The Pima County Regional Flood Control District is a regional agency whose mission is to protect the health, safety, and welfare of Pima County residents by providing comprehensive flood protection programs and floodplain management services. These services emphasize fiscal responsibility, protection of natural resources, and a balanced multi-objective approach to managing regional watercourses, floodplains, and stormwater resources.

ADMINISTRATION **2004/2005**

BOARD OF DIRECTORS (BOARD OF SUPERVISORS)

Richard Elías, Chairman, District 5
Ann Day, District 1
Ramón Valadez, District 2
Sharon Bronson, District 3
Raymond J. Carroll, District 4

FLOOD CONTROL DISTRICT ADVISORY COMMITTEE

Jim Hossley, Town of Oro Valley
Paul Cella, District 4
Jennifer Christelman, Town of Marana
Mike Zeller, Chair, City of Tucson
Andy Dinauer, City of Tucson
Scott Altherr, District 3
Linwood Smith, City of Tucson
Richard Salaz, City of South Tucson
Phil Pearthree, 2nd Vice Chair, District 5
Doug Shakel, Vice Chair, District 1
Vacant, District 2
Martin Roush, Town of Sahuarita

GENERAL MANAGER (COUNTY ADMINISTRATOR)

C. H. Huckelberry

PUBLIC WORKS DIRECTOR

John M. Bernal

CHIEF ENGINEER AND DIRECTOR

REGIONAL FLOOD CONTROL DISTRICT

Suzanne Shields

DEPUTY DIRECTOR, REGIONAL FLOOD CONTROL DISTRICT

Chris Cawein

MESSAGE

FROM THE CHIEF ENGINEER

Our constituents are often surprised to learn that our dry, desert region holds the potential for major flooding events that can cause widespread inundation and damage. As we have all witnessed, our normally dry rivers and wash channels can become raging rivers literally overnight, and sometimes, even in minutes.

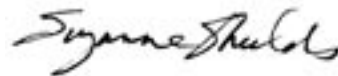
More than 130 miles of major watercourses and a vast network of smaller, tributary watercourses traverse eastern Pima County. Adjacent to these waterways are over 230,000 acres of federally mapped flood hazard areas or 100-year floodplains. These areas have a significantly higher probability of flooding.

The Pima County Regional Flood Control District's job is to minimize and ultimately eliminate the danger of flood and erosion hazards throughout Pima County. The District strives to find cost-effective and practical flood control solutions that will benefit the entire community.

Although the District has accomplished a great deal since its inception in 1978, we continue to work toward new and innovative ways to meet the challenging flood control needs in Pima County and surrounding communities.

In addition, the District maintains a myriad of programs such as water resources, riparian management, and flood warning and emergency preparedness to name a few.

The District's efforts in fiscal year 2004/05 made a significant contribution toward minimizing flood and erosion hazards for Pima County residents and their property. I hope you'll take some time to read this year's annual report, which details the District's many multi-faceted activities. This year's and all previous annual reports are available at: www.rfcd.pima.gov.



Suzanne Shields, P.E.

Chief Engineer and Director
Regional Flood Control District



ESTABLISHMENT OF THE DISTRICT

To comply with federal law, the State of Arizona passed the Floodplain Management Act of 1973. This act authorized Arizona counties to adopt rules and regulations concerning management of floodplain areas. The Arizona state legislature subsequently authorized flood control districts to levy taxes on real property to finance district operating expenses. The Pima County Board of Supervisors, which sits as the Pima County Flood Control District Board of Directors (Board), organized the Pima County Flood Control District (District) on June 5, 1978. The District first became operational on July 1, 1978.

Provisions of state legislation also allow incorporated cities and towns within the county to undertake their own floodplain management duties and regulatory functions. In Pima County, the incorporated areas of the City of Tucson, the Town of Oro Valley and the Town of Marana have elected to assume floodplain management duties in their respective jurisdictions. The District is responsible for floodplain management activities for the remainder of unincorporated Pima County (with the exception of national forests, parks, monuments, and Indian Nations) and for the City of South Tucson and the Town of Sahuarita.

GOALS AND OBJECTIVES

The goals and objectives of the District represent both flood control and resource protection views and vary from traditional flood control approaches because of a multi-benefit public philosophy. The District recognizes that it is necessary and desirable to maintain a balanced relationship between human communities and the land and resources that sustain them. To that end, the following policy goals and objectives have been adopted by the Board as part of the District's Floodplain and Erosion Hazard Management Ordinance:

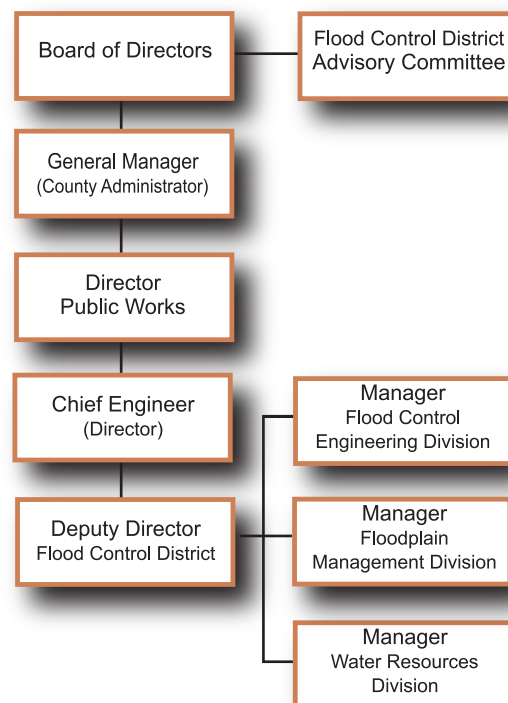
- To minimize flood and erosion damages.
- To meet or exceed state and federal requirements relating to floodplain management.
- To establish minimum flood protection elevations and damage protection requirements for structures and other types of development.
- To regulate encroachment and building development within areas subject to flooding or erosion.
- To encourage the most effective expenditures of public money for flood control projects.
- To minimize the need for rescue and relief efforts associated with flooding and erosion, usually undertaken at the expense of the general public.
- To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets located in regulatory floodplain and erosion hazard areas.
- To help maintain a stable tax base by providing for the protection of regulatory floodplain and erosion hazard areas.
- To inform the public when property is in a regulatory floodplain or erosion hazard area.
- To encourage the preservation of natural washes and enhance the riverine environment.

DISTRICT ORGANIZATION

The District is organized into three main divisions based on the major functions of each group: 1) the Floodplain Management Division; 2) the Flood Control Engineering Division; and 3) the Water Resources Division. The District receives substantial support from the Pima County Department of Transportation. These include Administrative Support Services, Maintenance Operations, Field Engineering, Real Property, and Technical Services. Further assistance is received from other county departments, including Development Services, Environmental Quality, Graphic Services, and the Pima County Attorney's Office. The District pays for services rendered by Pima County departments through interdepartmental fund transfers from the District to Pima County.

As noted, the Board governs the Flood Control District. The Board also hears requests for variances and appeals to the Floodplain and Erosion Hazard Management Ordinance (FPMO). In 1988, the Board formed the Flood Control District Advisory Committee (FCDAC) to advise on flood-related matters and to increase public participation in the decision-making process. The 12-member FCDAC includes five members appointed by the Board (one for each Board member), three representatives from the City of Tucson, and one representative each from the City of South Tucson, the towns of Marana, Oro Valley and Sahuarita. One position, in an ex-officio capacity, is available for appointment by the Tohono O'odham Nation.

DISTRICT ORGANIZATIONAL CHART



DISTRICT ACTIVITIES



SERVICE PROGRAMS

Customer Service

Public outreach activities assist in conveying the abundant information created by the District throughout the years. Flood awareness, flood preparedness, and safety are major themes along with groundwater recharge, watershed protection and riparian habitat conservation.

Public Information and Education

District staff and Community Relations staff provided Monsoon Safety materials to KOLD-TV to develop a \$10,000 public service announcement broadcast on local TV and radio stations during the summer monsoon season. Flood Control Engineering's excellent video of floodwaters filling the Silvercroft Wash was featured in the message promoting driving safety on flooded public roadways.

Earth Day was celebrated on April 22, 2005 at Agua Caliente Park. The District's theme was Fundamentals in Water. Fourth and fifth graders learned about the dangers of flooded washes and received information on creating a family disaster kit. The children played a game to help them understand how rainwater gets to the aquifer. The District did an experiment to see which portions of the aquifer held more water, sand v. gravel, etc. In addition, a discussion was held to

determine what should be packed into a family emergency kit including making their own pack with activities for them and toys for their pets.

In May 2005, the District sent 235,000 Flood Safety Flyers with Tucson Water utility bills within Pima County.

Public Works Week May 15-21, 2005

On May 19, 2005, District staff along with other Public Works departments, the City of Tucson, the Town of Marana, the City of South Tucson, and Pima Association of Governments participated in the 3rd Annual Southern Arizona Public Works Week Fair. Each jurisdiction provided displays and information on the services and facilities they provide to the public.

District World Wide Web Site

District staff has implemented a new on-line feature at www.dot.pima.gov/flood/intranet/fpservices/ that allows users to search and view information about floodplain use permits, drainage complaints and violations. Part of an on-going effort to automate various office functions, the new application extends access to this information to users including the Board of Supervisors, their aides, county managers, and others. The on-line access now gives these users the ability to view data in real time while assisting constituents. The detail report pages provide current status, outcome and other details about these key services. The application also includes an integral mapping function that allows users to view maps or aerial photographs of the affected parcels.



INTERNAL BUSINESS PROCESSES

Providing prompt, high quality service to external and internal customers is the goal of the Floodplain Management Section. In order to achieve this goal, the section's staff meets twice each month to discuss process improvements.

In 2003, work began on reviewing and updating several standard operating procedures to better serve the public. Several improvements were implemented such as placing additional layers of resource material on the geographic information system to advance project reviews and processing times; creating databases for elevation certificates; improving and adopting updated record keeping processes.

Drainage Maintenance Process Improvement

The Maintenance Operations and Floodplain Management divisions work together to resolve drainage problems affecting public safety. There are many causes for drainage problems that staff diligently works toward understanding, correcting, and ultimately preventing future problems.

Process improvements embrace better communication between staff. Meetings are held to resolve large watershed problems or development projects and to improve drainage design and construction methods for development projects to reduce maintenance needs and costs. These ongoing discussions integrate small projects to remedy the smaller problems with capital improvement projects.

Permits Plus

In 2005, the District began working with the Pima County Development Services Department to improve the permit review process using the Permits Plus system. Permits Plus is a computer tracking program used by Development Services to manage Activity Permits (i.e., building permits, exterior wall permits, grading permits, etc.). This program will streamline the overall permitting process, which will allow the District to be more efficient and effective in serving our community.

Unified Hydrology

In January of 2005, the District began holding monthly meetings with all local jurisdictions to promote a Unified

Hydrologic Model for eastern Pima County. The long-term goal is to produce a seamless county and municipal-wide stormwater planner that could be incorporated into each agency's GIS system. The results will provide proper drainage infrastructure sizing that will meet any jurisdictions' requirements and eliminate the current practice of re-analyzing infrastructure design for each jurisdiction. The use of NOAA IVX rainfall values as well as the HEC HMS hydrologic software will ultimately allow users to obtain watershed data via the District's web site.

MANAGEMENT PROGRAMS

Water Resources and Riparian Habitat Management

This program consists of activities intended to prevent flooding, erosion and riparian habitat loss by means other than constructing structural flood control improvements. The District promotes and supports regional riparian restoration with the intent that it will result in some level of recovery of natural functions within riverine systems.



Floodprone Land Acquisition Report for Fiscal Year 2004/05

Acquisitions throughout Pima County during 2004/05 totaled 72.22 with the majority of those purchases being along the Cañada del Oro (CDO) Wash near Catalina. Twelve parcels totaling 36 acres were added to the CDO FLAP inventory during 2004/05 bringing the total acreage to 204 acres of land obtained since the floods of August 2003. Nearly two million dollars was spent during this fiscal year for additional properties. The District is fortunate to have received a \$3,000,000 grant from the Federal Emergency Management Agency, which is helping with acquisition costs.

Ongoing efforts among the Catalina neighborhood residents, the District, and Natural Resources, Parks and Recreation over the past year for an equestrian-oriented regional park are closer to being a reality! Hiking and nature trails, some sports fields, bird-watching areas, ramada and picnic spaces, and linkages to Catalina State Park are all planned for this area.

Floodplain and Erosion Hazard Management Ordinance Revisions

During fiscal year 2004/05, the FPMO was revised to strengthen both public safety elements as well as protection of Pima County's natural resources (Riparian Habitat Protection & Mitigation). Updated riparian classification maps were included in the proposed amendment. The FCDAC was instrumental in providing oversight and comment on staff's efforts. Extensive public input was sought through a series of focus group meetings with members of the development community and the conservation community plus numerous public meetings. Public comment was incorporated into the final draft Ordinance amendment. The FPMO amendment will be presented to the BOS for adoption during a public hearing to be held in August of 2005, following a 30-day public notice period.

FISCAL YEAR STATISTICS

A total of 30,400 customers were served in 2004/05 for average of 2,500 customers per month. The services provided included:

- Issued an average of 54 Floodplain Use Permits per month.

- Investigated an average of 26 drainage complaints per month.
- Processed approximately 541 Flood Hazard Information Sheets per month.
- Assisted an average of 476 customers at the counter per month.
- Reviewed an average of 1,430 permits per month.

Flood Warning and Emergency Preparedness

The Flood Warning Program encompasses the District's Automated Local Evaluation in Real Time (ALERT) System, which consists of approximately 85 automatic self-reporting precipitation gauges, 32 stream gauges, 4 weather stations, and 4 radio repeater stations. The system automatically transmits hydrometeorological data via radio telemetry to the District's base station and to the Tucson office of the National Weather Service (NWS). During storm events, District staff evaluated incoming data to monitor changing flood conditions. The NWS also uses the information when issuing flash flood warnings and advisories.



FLOODPLAIN MANAGEMENT PROGRAM

The main responsibility of District staff in the Floodplain Management Program is to enforce provisions of the Pima County Floodplain and Erosion Hazard Management Ordinance. This ordinance, prepared in accordance with the National Flood Insurance Program (NFIP), includes regulations and requirements designed to minimize flood damage and losses throughout the community. This important goal is accomplished largely through review and the issuance of Floodplain Use Permits, detailed site reviews for potential development, and investigation of drainage and flood-related complaints. Flood Hazard Information Sheets provide a succinct listing of a parcel's floodplain status. Customers are assisted by phone, fax or in person.

FLOOD INSURANCE PROGRAM

The Federal Emergency Management Agency (FEMA) under the guidelines of the Flood Insurance Study Program (FIS) publishes Flood Insurance Rates Maps

(FIRMs). The District works in conjunction with FEMA to identify floodprone areas. The FIRMs display flood hazard zones and other relevant hydrological information and are used to set insurance rates for flood hazard areas within Pima County. Federal, state, and local floodplain management regulations apply to development and other activities that take place within designated flood hazard zones.

The District has launched a program to design and provide the most current FIRM information on the Internet with search capacities and aerial photography. This Combined Map Repository would cover the cities of Tucson and South Tucson, the towns of Oro Valley, Marana, and Sahuarita and the unincorporated areas of Pima County. This project required:

- A coordinated technical review of the digital FIRM data.
- Further rectification of property boundaries with the Geographic Information System (GIS) data.
- Correction of the floodplain boundaries shown on the FIRMs.

- Identification of floodplains that need re-mapping.
- Establishing procedures resulting in correct digital projections of floodplain boundaries.

One of the most significant LOMRs was associated with the Big Wash Levee, which protects the Northwest Hospital in the Town of Oro Valley. Hospitals are designated by FEMA as critical facilities and must be protected from a 500-year flood event. The District worked in partnership with the Town of Oro Valley via an established Intergovernmental Agreement and with FEMA to force modifications to the levee to meet this higher standard.

Current floodplain remapping projects include the Pima Wash, Cañada Del Oro Wash, and Ventana Canyon Wash.

The District is also pursuing to become a Cooperating Technical Partner (CTP) with FEMA to improve the floodplain mapping processes.



INFRASTRUCTURE

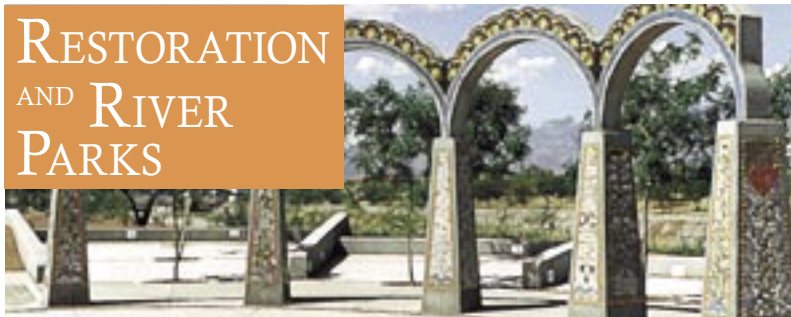
Cañada Del Oro Wash Levee Survey

The District performed a survey of the Cañada Del Oro Wash Levee System in Town of Oro Valley. The District is responsible for the maintenance of the levee within Oro Valley via an Intergovernmental Agreement. The District will coordinate the levee maintenance activities as they develop a linear park system within the levee right-of-way.

PIMA COUNTY UNDERGOES CRS AUDIT

In March 2005, a representative of the Community Rating System (CRS) performed Pima County's 5-year audit. The audit is a routine part of the CRS voluntary incentive program, which rates communities participating in the National Flood Insurance Program. For CRS participating communities, flood insurance premium rates are discounted in increments of 5% (a Class 1 community would receive a 45% premium discount, while a Class 9 community would receive a 5% discount, whereas a Class 10 is not participating in the CRS and receives no discount). The CRS classes for local communities are based on 18 creditable activities, organized under four categories: 1) Public Information, 2) Mapping and Regulations, 3) Flood Damage Reduction, and 4) Flood Preparedness.

Pima County is a Class 6 community, which is in the top 5% of all participating communities. With efforts being made to increase community awareness and education regarding flood hazards and regulations, Pima County is hoping to be upgraded to a Class 5 community, which would mean an additional 5% reduction in insurance rates for all property owners purchasing flood insurance. Currently, Pima County residents receive a 20% discount on flood insurance. Every year, Pima County seeks ways to improve its class rating.



CATALINA

After the Aspen Fire and significant flooding that occurred along the Cañada del Oro wash thru Catalina in the summer of 2003, the District continued acquiring flood damaged and floodprone properties through fiscal year 2004-05. By the end of the fiscal year, the vast majority of property owners (nearly 95%) that lived in homes situated within the floodway of the Cañada del Oro Wash between the Miraval Resort and Catalina State Park and constructed before flood control regulations were adopted, had voluntarily sold their properties to the District. Only four property owners in or immediately adjacent to the floodway of the CDO elected not to sell to the District. Thus, the raging floodwaters of the approximate 25-year storm event of August 2003 convinced residents that there are very real flood dangers that had been emphasized in the original flood insurance study for Pima County.

The acquired properties consisted of 67 mostly contiguous parcels of land sold by 57 owners that totaled nearly 200 acres. Total acquisition and relocation costs for the properties exceeded \$10 million dollars.

As the cleanup process and interim management of the purchased properties progressed during the year, significant efforts were made in the planning and development of a regional park, which was most appropriate for the area. An initial public meeting with the Catalina community in November 2004 indicated a strong desire for local input into the park's planning process; subsequently, the Catalina Regional Park Advisory Committee was assembled by Supervisor Ann Day and a series of meetings were held to formulate a park plan. After numerous meetings and discussions, a concept park plan emphasizing the retention of open space, the cultural character of the area was conceived and presented to the community.

Working closely with the Natural Resources, Parks and Recreation Department, the District began the process to plan for and design the park in accordance with the plan developed by the Advisory Committee through the second half of the fiscal year. This park area was also integrated into a larger County vision of completing the linear park along the CDO from the Pinal County line to the confluence with the Santa Cruz River.



SWAN WETLANDS

The Rillito/Swan Wetlands is an ecosystem restoration project being conducted with the USACOE. The project will enhance approximately 60 acres of riparian habitat between Craycroft Road and Columbus Boulevard along the south bank of Rillito Creek. Following the completion of the feasibility phase, the Board of Supervisors and USCOE signed a Project Cooperation Agreement in fiscal year 2004/05. Construction is expected to begin in fiscal year 2005/06.

CORTARO MESQUITE BOSQUE

The District is in the design phase of a riparian habitat restoration project called the Cortaro Mesquite Bosque. The project site is adjacent to the west bank of the Santa Cruz River upstream of Avra Valley Road within the Town of Marana. Approximately 80 acres of riparian woodland and Sonoran desert scrub will be re-established on the lower Santa Cruz River floodplain. Water harvesting from tributary washes will supplement irrigation for the vegetation. The project will allow passive recreation opportunities such as walking and birding, and serve as open space. A path will connect the project with the Town of Marana's river park path, which will be utilized as a portion of the historic Arizona Anza Trail and eventually connect to other regional trail systems. This project complements other efforts by Pima County Cultural Resources and the Town of Marana at the northern end of the Tucson Mountains to improve habitat conditions, highlight cultural history of the region, and maintain landscape connectivity in a rapidly urbanizing area. Construction is expected to begin in 2006/2007.

RILLITO RIVER LINEAR PARK: ALVERNON TO CRAYCROFT

In 1996, the United States Army Corps of Engineers (Corps) and the District



completed soil cement bank protection along the Rillito River from Alvernon Way to Craycroft Road. In 2000, the Corps completed the paved pathway on the north bank, a decomposed granite pathway on the south bank, pedestrian bridges over major washes, and an irrigation supply system. The District's goal is to enhance the existing vegetation along this reach and provide amenities in the form of additional paved trails, parking and staging areas to improve the quality of this segment of linear park. An extensive Design Concept report has been completed, and the District will be seeking a design consultant and Construction Manager at Risk to complete the development and construction of this project over the next two years.

CAPITAL IMPROVEMENT PROGRAMS



STRUCTURAL IMPROVEMENTS

Arroyo Chico Detention Basins

The U.S. Army Corps of Engineers in cooperation with the District and the City of Tucson are developing a series of regional detention basins along Arroyo Chico and other associated channel and storm drain work. This \$27.5 million flood control project will protect residents and businesses in downtown Tucson by removing 220 residents from the 100-year floodplain. Construction of the Tucson Drainage/Arroyo Chico project will take approximately 30 months beginning in February 2006.

Construction of the Park Avenue Detention Basins will include development of the detention basins, relocating the historical foot bridge, construction of pedestrian/animal walk-through drainage culverts, elevating the Highland Avenue roadway crossing, re-establishment and expansion of the paved pedestrian and bicycle pathway, replanting of native plants to establish riparian habitat within the basins, and two small community turf areas. The

Tucson Unified School District's Cherry Field will become a combination of flood basin and athletic fields with a new locker room/classroom/snack bar building, a new parking lot, a new maintenance building, new field lights, new dugouts, backstops, a batting cage, and built-in bleachers.

The project will also include construction of a storm drain under the Tucson High School football field south to the 3rd Avenue and 8th Street intersection, and enlarging the existing upstream channel from Campbell Avenue to Parkway Terrace with new roadway culvert crossings at Plummer, Olsen, and Norris avenues.

Holladay Forrest Drainage Improvements

In order to eliminate repeated local flooding of homes in the neighborhood northwest of Mission and Drexel roads, the District designed a drainage swale and berm system to collect roadside and sheet flows, and a storm drain system to carry the flood waters to an existing downstream channel. Construction of the project began February 14, 2005 and was substantially completed on June 16, 2005.

Silvercroft Wash Pedestrian Bridge

The District has designed a pedestrian bridge across Silvercroft Wash to provide for continuous pedestrian, bicycle, and equestrian access along the west bank of the Santa Cruz River extending access from Grant Road north to Silverbell Golf Course. Construction of the bridge began June 1, 2005 and is expected to take six months to complete.

Earp Wash

The District completed an in-house design of a 10-acre detention basin, and documents are being submitted for environmental and cultural resources permitting. Construction of the project is anticipated in December 2005, and will take approximately six months to complete.

Kino Hospital/Tucson Diversion Channel Drainage Improvements

In conjunction with improvements to the Kino Hospital complex, the District is contributing to the channel drainage improvements through this vital community complex. Construction of drainage improvements began in May 2005 and completion is expected by November 2005.



Ajo, Arizona

Ajo, Arizona is an unincorporated community located within Pima County, and lies approximately 160 miles west of Tucson, Arizona. On July 29, 2003, the community of Ajo experienced a severe thunderstorm that produced approximately 1.3 inches of rain in just over one hour. Flooding occurred to businesses and residents along the Gibson Arroyo and upstream tributaries located south of the arroyo.

The District hired a consultant to collect data, evaluate the flooding, and to recommend potential areas for improvement. The report recommended that the Second Avenue Bridge be replaced and that a flood detention facility be considered on the old Curley School Football field. The District is developing both of these recommendations.

Second Avenue Bridge Replacement

The District is currently in the process of hiring a consultant to develop the bridge design alternatives for the crossing. Initial concepts include a new concrete box culvert or bridge that will meet current roadway standards, and the District will evaluate whether or not relocating the bridge to another street will benefit the community.

Curley School Site Detention Basin

The District is currently in the process of hiring a consultant to develop design criteria for a flood detention facility on the old Curley High School football field site. The District is also in the process of securing adequate land to accommodate the final design of the basin.

ENVIRONMENTAL & WATER RESOURCES PROJECTS

Environmental restoration capital improvement projects are intended to protect and/or enhance riparian habitat and promote groundwater recharge utilizing a combination of constructing structural improvements and planting native habitat

El Rio Antiguo

El Rio Antiguo is an ecosystem restoration project being developed in cooperation with the USACOE. Goals of the project include habitat restoration, restoration of natural river functions, stormwater harvesting, and providing passive recreational opportunities along the Rillito River between Craycroft Road and Campbell Avenue.

El Rio Medio

This study is a cooperative effort by the Corps, the District, and the City of Tucson to analyze ecosystem restoration, flood control improvements, river park trail development, and water recharge development along the Santa Cruz River between Congress Street and Prince Road. This study, in conjunction with the Paseo

de las Iglesias and Tres Rio del Norte studies, will complete an environmental, hydrological and economic cost and benefit review of the Santa Cruz River ecosystem restoration within the Tucson metropolitan area.

Methods being considered for possible implementation of the project include a variety of water harvesting features, irrigation, riverbank terracing, and reestablishment of native trees, shrubs, and riparian communities.

Paseo de las Iglesias Environmental Restoration Feasibility Study

Paseo de las Iglesias is an ecosystem restoration study being conducted in cooperation with the Corps with input from the City of Tucson and other stakeholders. The study has evaluated ecosystem restoration, flood control improvements, and river park trail development along seven miles of the Santa Cruz River historic floodplain upstream from Congress Street. The Feasibility Study phase began with a public meeting held in early 2001. The Feasibility Study report was completed in August 2004 and

sent to Corps headquarters for final review. The project design is expected to begin by 2008. The recommended alternative includes restored mesquite bosques on river terraces and floodplains. Watercourse areas will be bordered by mesquite and palo verde, woodland and Sonoran desert scrub species. Riverbanks will be laid-back and/or terraced and planted. Water harvesting features will be incorporated and irrigation will be provided. Recreational elements will include the Juan Bautista National Historical Trail and other amenities.

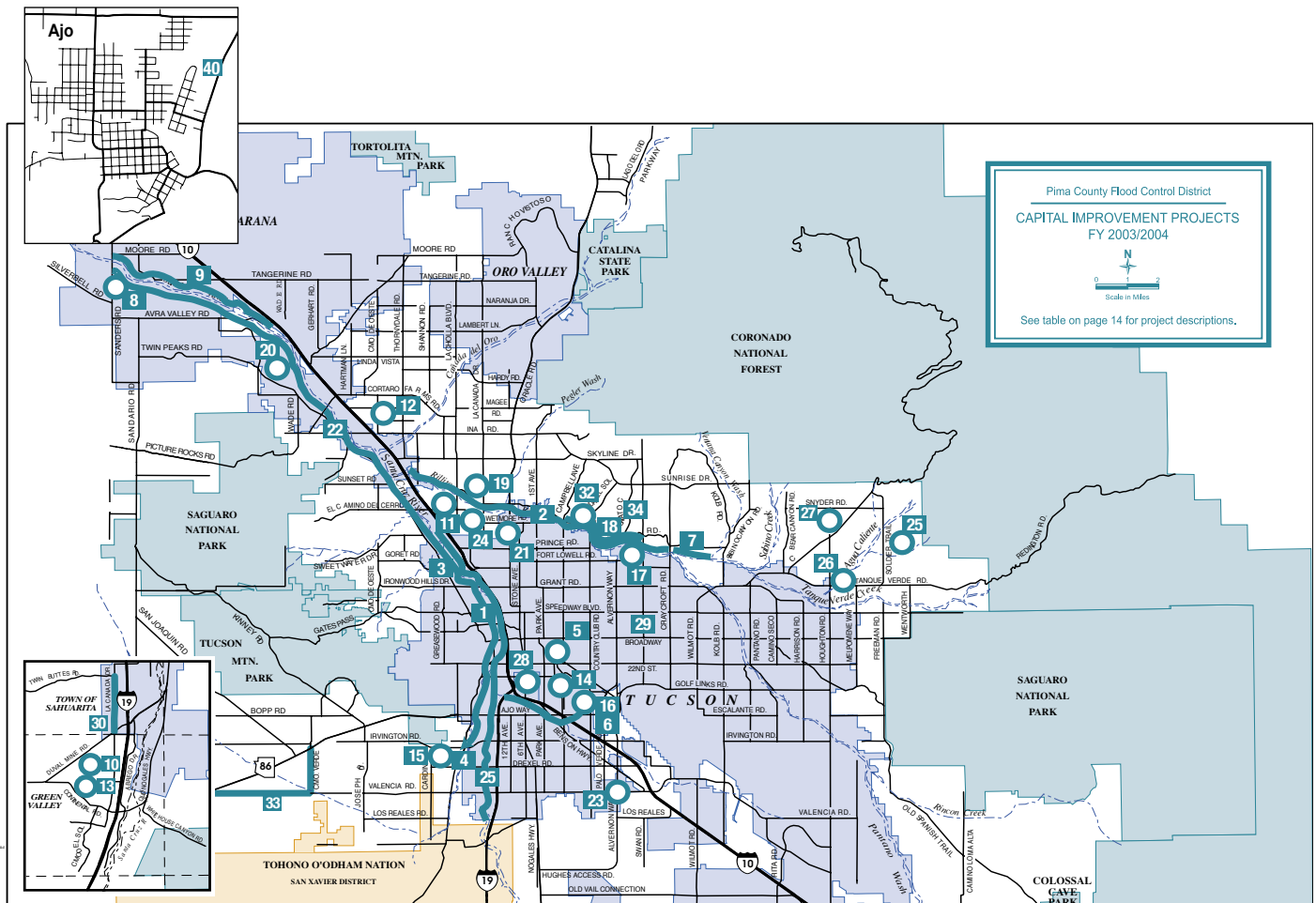
Tres Rio del Norte

The Tres Rios del Norte project is an Environmental Restoration Study being conducted in cooperation with the USACOE, the Town of Marana, and the City of Tucson. The project area covers 18 miles of the Santa Cruz River in northern Pima County. Proposed restoration efforts focus on using available resources such as stormwater runoff and discharged effluent to enhance riparian habitat. Other features include structures to enhance groundwater recharge and channel stability, and a trail system. This feasibility study is expected to be concluded early in 2006.

CAPITAL IMPROVEMENTS PROGRAM PROJECT SPECIFIC EXPENDITURES FISCAL YEAR JULY 1, 2004 - JUNE 30, 2005

Project No.	Project Name	Planning	Design	ROW Acquisition	Construction Cost	Other	Project Total
1	El Rio Medio	102,382	92,231		7,645	89	202,347
2	Rillito River Linear Park Casa Adobes	456	1,373		69,034		70,863
3	SCR/Grant/Ft. Lowell	41,679	21,557	23,167	757	2,044	88,447
4	SCR Valencia/Irvington						
5	Arroyo Chico	3,731	131,110	29,688		3,847	168,376
6	Ajo Detention/Safety		2,709				2,709
7	TV CR-Craycroft/Sabino		51,451	30,850	404		82,705
8	Massingale Detention Spillway		50,014		395,752	4,361	450,127
9	Continental Vistas Erosion		1,129	4,923	2,385		8,437
10	Mission View	27,859	40,419		1,178	1,850	71,306
11	Holladay/Forrest		34,373	1,357	911,583	7,912	955,225
12	Ajo Detention Wetlands		10,744	5,851	46,013	93,380	155,988
13	Rillito/Swan Wetlands	709,133	-3,665	723	2,596	5	708,792
14	Rillito Env. Restoration (Antiguo)	2,731	2,057	379,502	132	593	385,015
15	Cortaro Mesquite Bosque	58,416	2,377		13,277	8,353	82,423
16	Tres Rios del Norte	29,340		26,996	3,671	21,697	81,704
17	City of Tucson/Earp Wash		106,279	2,480	1,035	47,180	156,974
18	Paseo de las Iglesia	88,200	10,397	4,435	18,187	6,437	127,656
19	Aqua Caliente at Tanque Verde	30,354	11,723		5,114	4,569	51,760
20	South Tucson Library	55,842	31,763		338,594	296	426,495
21	Columbus Wash		771			14	785
22	Sahuarita/ La Cañada		1,294		500,000		501,294
23	Urban Drainage		2,124		3,430	251	5,805
24	River Rd./Camino Real		68,151	169,543	112,744	2,577	353,015
25	Camino Verde	44,505		5,285	18		49,808
26	River Rd./Campbell/Alvernon	9,434	121,024	9,295	2,474	5,607	147,834
27	Floodprone Land Acquisition (Non Bond)	25,738	22,560	725,191	22,623	6,077	802,189
28	Silvercroft Wash Ped. Bridge	4,170	53,856	5,477	3,922	223	67,648
29	Kino Hospital / Tucson Div.		11,196		12,000		23,196
30	Juvenile Detention Center						
31	Ajo, Curley School Detention	3,863	8,551	1,128		1,514	15,056
32	Ajo, 2nd Ave. Bridge Replace.	6,027	14,743			2,390	23,160
33	Green Valley Erosion	35,528	28,321				63,849
34	Rillito Linear Park Alv-Craycroft	197	3,536				3,733
35	Green Valley Abrego				286,204		286,204
36	SCR: Ajo to 29th	1,863	65				1,928
37	SCR: Grant to Camino Del Cerro	10,697	3,436	436	1,174		15,743
38	Rillito: Campbell to Alvernon	9,434	121,024	9,295	2,474	5,607	147,834
39	SCR: Continental Ranch	3,269	767		109		4,145

Project No.	Project Name	Planning	Design	ROW Acquisition	Construction Cost	Other	Project Total
41	CDO Floodplain	117,832		1,306,091	90,885	67,902	1,582,710
42	Canoa Ranch	10,479	12,592		10,632	798	34,501
43	Lower Rillito: La Cholla/I-10		25,839				25,839
44	Carmack Wash	80,859	30,890				111,749
45	Sahuarita Drainage	34,730					34,730
46	San Xavier Estates	13,073					13,073
47	Ajo Master Drainage	115,602					115,602
48	Tucson Diversion Channel			156	5,842		5,998
49	2004 Bond Floodprone Land Acquisition			2,910			2,910
50	Tohono O'odham				374,555		374,555
51	Pasqua Yaqui				34,000		34,000
52	Ajo Detention Basin: Piping Mods	91,828	16,201		24,495	4	354,528
53	Cortaro Farms	51,502	444				51,946
54	Cienega/Empirita				20,625	10	20,635





DISTRICT FINANCES

REVENUES

Although the District receives assistance from state and federal agencies to construct major capital facilities, most of the District's funding is generated from the property tax levy along with general obligation bond sales authorized by the electorate.

Information on the District tax levy rate is shown in the table at right.

UNITED STATES ARMY CORPS ^{OF} ENGINEERS (USACOE)

In addition to direct cash received from the federal government, the District received monies for in-kind services from the USACOE. Some projects under our cost share financial agreement are as follows:

- El Rio Medio \$65,000
 - Arroyo Chico \$862,000
 - Paseo de las Iglesias \$252,000
 - El Rio Antiguo \$386,000
 - Tres Rios del Norte \$650,000
- TOTAL \$2,215,000

EXPENDITURES

The table on page 16 provides information on capital project expenditures for FY 2004/05. Project numbers shown in the table correspond to the projects shown on the map on page 17. The remainder of District expenditures goes toward debt services and operating expenses, which include funds allocated for maintenance of flood control structures, floodplain management, planning, and administration activities. A detailed breakdown of the District's finances is provided on page 19.

FLOOD CONTROL DISTRICT TAX LEVY RATE 1981 TO 2003

FISCAL YEAR ENDING	LEVY RATE*	TAX
1981	0.5143	\$4,637,000
1982	0.4683	\$5,342,000
1983	0.5072	\$6,882,000
1984	0.4739	\$7,652,000
1985	0.5269	\$9,243,000
1986	0.5102	\$9,969,000
1987	0.5346	\$11,713,000
1988	0.7630	\$17,272,000
1989	0.5592	\$13,730,000
1990	0.5985	\$14,663,000
1991	0.5985	\$14,058,000
1992	0.5871	\$13,689,000
1993	0.5871	\$13,767,000
1994	0.5398	\$12,678,000
1995	0.4623	\$11,379,000
1996	0.3596	\$9,368,000
1997	0.3596	\$9,467,000
1998	0.3296	\$10,392,000
1999	0.3246	\$10,411,000
2000	0.3046	\$10,327,151
2001	0.3046	\$10,414,427
2002	0.3546	\$13,713,102
2003	0.3546	\$14,467,389

*Per \$100 assessed value
**Unaudited

FINANCIAL HIGHLIGHTS FOR FISCAL YEAR 2004/2005

Revenues

The primary source of revenue is the District's secondary property tax levy of \$0.3546 per \$100 of real property assessed valuation. In 2004/05, the District received approximately \$17.4 million dollars in tax levy revenue. Other local sources of revenue include revenue for capital improvements from the sale of general obligation (GO) bonds (\$2.1 million) and reimbursements for other funds (\$0.3 million). The total revenue from all sources in FY 2004/05 was \$19.8 million.

Expenditures

The total expenditures for the District in FY 2004/05 were approximately \$15.8 million. The Capital Improvement Program expenditures of \$8.1 million were direct capital expenses. The annual operating budget for the District was approximately \$6.7 million. The other significant expenditure was \$1.0 million in debt service for flood control bonds.

BREAKDOWN OF EXPENDITURES

Capital Improvements

The expenditures for capital improvements include engineering service costs for planning and design; construction costs; right-of-way acquisition costs; and other costs such as preparing new FEMA Flood Insurance Rate Maps once a capital project is completed

Operating Budget

The District's operating budget includes administrative, personnel, supplies and service costs associated with Flood Control Support, Flood Prevention and Riparian Protection. Flood Control Support Services include programs such as customer service, permits, public education, and financial management. Flood Prevention Services include maintenance, flood warning, emergency preparedness, and enforcement activities. Riparian Protection Services include the environmental restoration, water resources and riparian habitat management programs.



Property Tax, Regional Flood Control District	87.9%
Federal Participation	0%
Bond Proceeds	10.4%
Other Funds.....	1.7%
Total Revenue	100%



Capital Improvements	51.8%
Operating Budget	42.4%
Debt Service.....	5.8%
Total Expenses.....	100%



ROW Acquisitions & Improvements	29.9%
Construction	38.8%
Planning	16.0%
Design.....	11.2%
Other	4.1%
Total Expenses.....	100%



Flood Control Support Services	49.1%
Flood Prevention Services	38.5%
Riparian Protection	12.4%
Total Expenses.....	100%



PIMA COUNTY DEPARTMENT OF TRANSPORTATION

The District contracts with Pima County for services from divisions within the Department of Transportation:

- Field Engineering Division
- Maintenance Operations Division
- Real Property Division
- Technical Services Division
- Administrative Services Division

OTHER PIMA COUNTY DEPARTMENTS

The District cooperates with other Pima County Departments on various projects and exchanges information as needed:

- County Attorney's Office
- Development Services Department
- Department of Environmental Quality
- Health Department
- Natural Resources, Parks and Recreation Department
- Tucson-Pima County Office of Emergency Management
- Wastewater Management Department (WWM)

LOCAL GOVERNMENTS

The District has entered into intergovernmental agreements (IGAs) to provide specific flood control or floodplain management services to, or to jointly fund flood control activities with, the following:

- City of Tucson
- City of South Tucson
- Town of Oro Valley
- Town of Marana
- Town of Sahuarita

PIMA ASSOCIATION OF GOVERNMENTS (PAG)

PAG facilitates coordination among local government agencies, including the District, on environmental matters affecting the community.

STATE AGENCIES

The District coordinates activities with the following state agencies:

- Arizona Department of Water Resources (ADWR)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Game and Fish (AGFD)
- Arizona State Land Department

FEDERAL GOVERNMENT

Several federal agencies participate in local flood control projects, as listed below:

- U. S. Army Corps of Engineers (USACOE)
- Federal Emergency Management Agency (FEMA)
- Federal Highway Administration (FHWA)
- U. S. Bureau of Reclamation (USBR)
- U. S. Natural Resources Conservation Service (NRCS)
- National Weather Service (NWS)
- U. S. Geological Survey USGS)
- U. S. Fish and Wildlife Service (USFWS)

NONGOVERNMENT ORGANIZATIONS

Other nongovernmental agencies that the District works with include:

- The Nature Conservancy (TNC)
- Cortaro-Marana Irrigation District (CMID)
- Central Arizona Water Conservation District (CAWCD)
- Metropolitan Domestic Water Improvement District (MDWID)
- University of Arizona (UA)

Pima County Regional
FLOOD CONTROL
D I S T R I C T



PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT
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TUCSON, ARIZONA 85701-1797