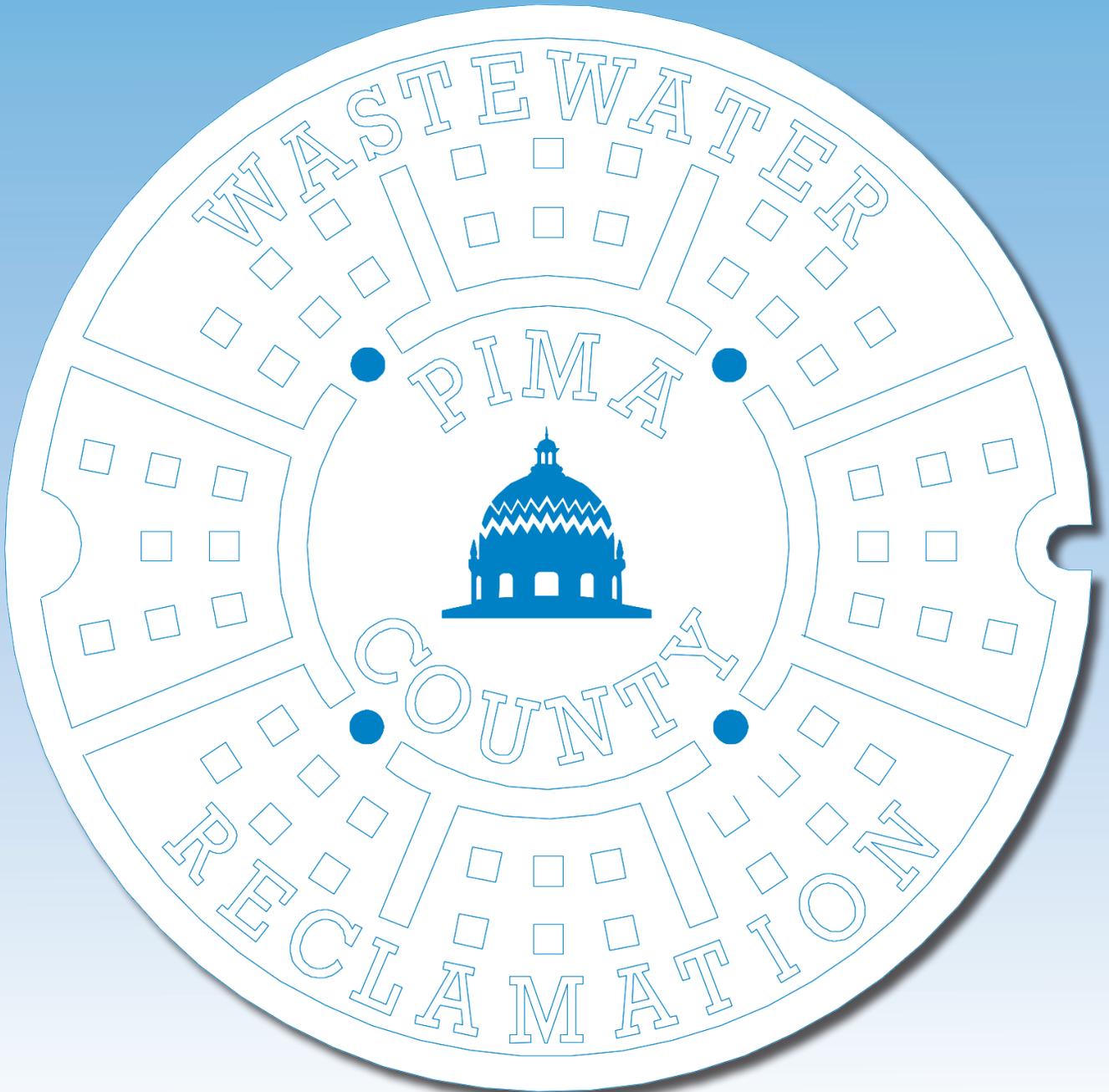


ANNUAL REPORT



FISCAL YEAR 2016/2017



RWRAC Mission...

To review and make recommendation on policies and procedures for the Regional Wastewater Reclamation Department; the department's short and long range capital improvement needs; proposals concerning rate structure formulation; and, proposed State and Federal legislation regarding wastewater reclamation issues.



FROM THE DIRECTOR

Jackson Jenkins, *Director*

The Regional Wastewater Reclamation Advisory Committee (RWRAC) made great strides in FY 2016/2017 and overcame some significant challenges in the process. The Committee invested considerable time engaging in thoughtful dialog regarding the validity of a rate increase.

I am proud of the continued improvements and efficiencies that have kept Operations & Maintenance costs flat for the third year in a row in spite of inflation and the rising costs associated with the conveyance and treatment of wastewater. Budgetary constraints often mean doing more with less, and RWRD staff continue to rise to the challenge of producing high-quality work with limited resources. The Committee is instrumental in providing guidance and suggestions for cost-saving measures that will save the Department and rate-payers money for years to come.

The Committee remained hands-on throughout the year in discussing and proposing recommendations related to the Raftelis rate structure study. RWRAC members continue to delve deeply into matters related to the intricacies of formulating an efficient and equitable rate structure. I anticipate that during this fiscal year, a healthy discussion will lead to

robust recommendations to the Board of Supervisors for the user fee rate structure formula.

This fiscal year, the North Rillito Interceptor project, a 10-mile large diameter pipeline transporting wastewater from the City's far east side to the Tres Rios Water Reclamation Facility, was completed in April of 2017. In addition, the award winning 22nd Street Sewer Augmentation project, which extended from Alvernon Way to Swan Road, was completed two months ahead of schedule in October 2016. The Capital Improvement Projects (CIP) Sub-Committee, as well as the full Committee, have continued to explore and come to a better understanding of the RWRD CIP Program. The Committee has asked important questions and examined the intricacies associated with the successful implementation of our CIP Program.

The Committee has been kept abreast of technology improvements currently being evaluated for full-scale inclusion into the process. Negotiations are still ongoing regarding the selling of the biogas generated by the digesters at the Tres Rios Water Reclamation Facility. A phosphorous recovery program to eliminate the build-up of struvite is currently on the CIP Plan for the current fiscal year and we

are looking forward to going out to bid. Our commitment to staying on the cutting-edge of our industry will result in additional cost savings for the Department and for rate payers.

I anticipate that future discussions will center around preparations for the loss of institutional knowledge due to retirement demographics. As 40% of the RWRD workforce will be eligible to retire over the next five years, the Department must look to incorporate innovative knowledge retention solutions to ensure a seamless transition into the future. RWRD promotes a culture of continuous learning and its robust Staff Development and Training program works hard to encourage growth in each employee that desires to learn, and developing clear career paths for those wishing to promote internally.

RWRD will continue to be fiscally responsible of the taxpayer's monies, and with the guidance, and oversight of the Committee, we can work to meet our goals of protecting the public health and the environment in spite of inflation and the rising costs associated with the conveyance and treatment of wastewater. I look forward to our working cooperatively and collaboratively with the Committee in the coming year and am grateful to each member.

DEPARTMENT AWARDS

Each year, the National Association of Clean Water Agencies (NACWA) recognizes the commitment of member agencies in the clean-water community through its Peak Performance Awards. These awards acknowledge excellence in wastewater treatment, through compliance with the National Pollutant Discharge Elimination System (NPDES) permit requirement limits, in meeting clean water discharge standards.

As a multi-year Platinum Peak Performance honoree, RWRD was recognized in a video presentation during an awards ceremony on June 25, 2017, during NACWA's Utility

Leadership Conference, *Peer-to-Peer Partnership... Solving Today's Utility Changes Together*, in St. Louis, Missouri.

Congratulations on this great accomplishment!

Platinum Awards: 100% compliance with no NPDES permit violations for a consecutive five year period.

Platinum Award:

Avra Valley Water Reclamation Facility
Green Valley Water Reclamation Facility
Mt. Lemmon Water Reclamation Facility



Since 1998, RWRD has received a total of 76 NACWA awards.



FROM THE CHAIR

Amber Smith, *Chair*

Fiscal Year 2016/17 has been another significant year for the Regional Wastewater Reclamation Advisory Committee (RWRAC) as committee members have collectively spent hundreds of hours reviewing, evaluating and analyzing different business aspects of the Regional Wastewater Reclamation Department (RWRD).

Mirroring the past fiscal year when the Financial Plan recommended two three-percent (3%) user fee increases that were ultimately not approved by the Board of Supervisors, once again the committee was tasked with making a difficult decision about rate increases. Thorough in their evaluation, most committee members actively participated in one of two subcommittees—the Financial Subcommittee, or the Capital Improvement Project (CIP) Subcommittee. The Financial Subcommittee is charged with understanding RWRD’s financial position to include: bond terms, Water Infrastructure Finance Authority (WIFA) loans, revenue sources, and operational expenses as they relate to

proposals concerning rates and rate structure. The CIP Subcommittee is tasked with understanding short and long range capital improvement needs of the Department.

Throughout the year, the subcommittees displayed acute knowledge during RWRAC meetings. The entire committee regularly engaged with RWRD staff to understand and assess different components of the Financial Plan. The Department provided monthly updates on a variety of topics including debt service ratios, the impact of conservation, inflationary costs and other items that directly impact the Department’s revenue and expenses. Questions were vetted, addressed, and explained over dozens of hours throughout the process.

In tandem with the Financial Plan, RWRAC members worked with RWRD staff to create a Scope of Work for a Rate Structure Study. The Committee regularly reviewed presentations by the consultant, Raftelis, Consultants, Inc., and learned of options to streamline user fees, especially in the

case of non-residential properties. The goal was to create a more stable billing structure reflecting fixed costs of the system. This effort is only one example of how the Department continually works at business process improvements to streamline and be more efficient. We also were advised of grants awarded to the Department, alternative methods RWRD has taken to reduce electricity costs, and examples of departmental succession-planning.

After multiple years of reviewing the Financial Plan, the committee once again supported a recommendation to the Board of Supervisors requesting a four-percent (4%) sewer user fee increase. Eventually, the Board of Supervisors approved an increase of three-percent (3%) for sewer user fees and three-percent (3%) for sewer connection fees. The number of hours the RWRAC members spent thoroughly evaluating the Financial Plan is a testament to their commitment to the citizens of Pima County and the Members of Board of Supervisors they represent.

REGIONAL WASTEWATER RECLAMATION ADVISORY COMMITTEE MEMBERS

The Regional Wastewater Reclamation Advisory Committee (RWRAC) was established by the Pima County Board of Supervisors in 1986 to act as its official advisory body on wastewater management matters. Each appointed member serves a four (4) year term.

Ally Miller District 1	Ramón Valadez District 2	Sharon Bronson District 3	Steve Christy District 4	Richard Elías District 5
William Garner Shaun McClusky**	Sheila Bowen Armando Membriola*	John Lynch* Amber Smith**	Bill Katzel Charles Matthewson**	Rob Kulakofsky Ann Marie Wolf**
Citizens’ Water Advisory Committee		Arizona Water Association		Ex-Officio
Mark Taylor*		Mark Stratton*		Jackson Jenkins, <i>Director</i> , RWRD
Environmental Planning Advisory Committee				Timothy Thomure, <i>Director</i> , Tucson Water
Corin Marron*				

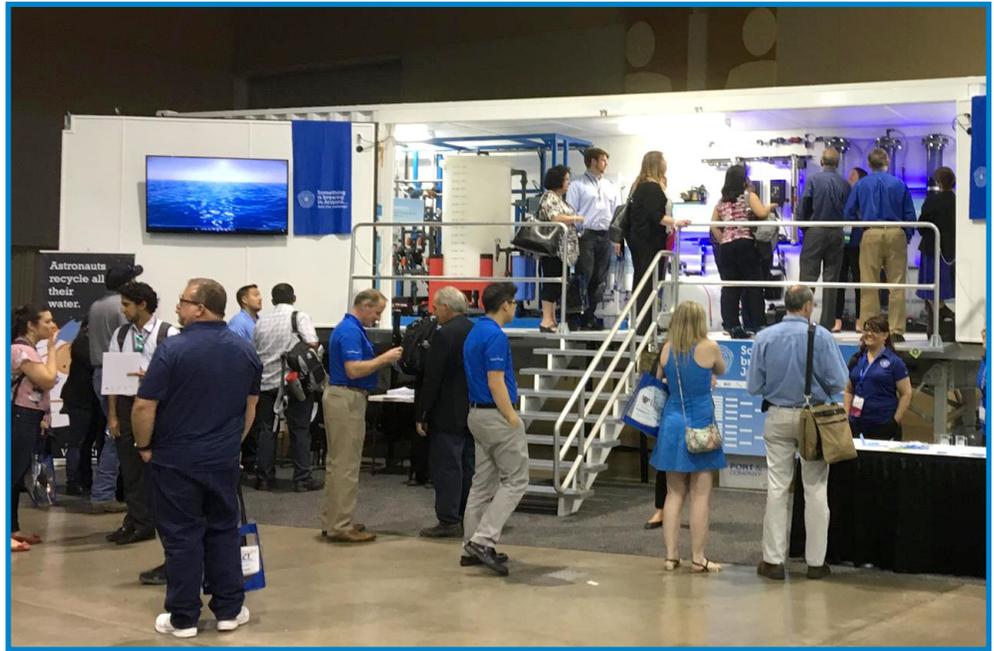
* Financial Sub-Committee member ** Capital Improvement Program Sub-Committee member

AZ Pure Water Brew Challenge

On November 3, 2017, the Pima County Southwest Water Campus team was announced as the winner of the New Arizona Prize: Water Innovation Challenge for developing the most innovative and inventive market-based, technological or entrepreneurial solution to advance the sustainability of our water future. Sponsored by the Arizona Community Foundation, Arizona State University's Morrison Institute, and Republic Media, the team received a total of \$302,500 to fully execute their vision: the *AZ Pure Water Brew Challenge*.

The AZ Pure Water Brew Challenge is a statewide campaign with the intent of increasing awareness throughout Arizona regarding water issues, water reuse, and new technologies currently available to purify recycled wastewater to produce safe, high-quality drinking water. Wastewater treatment facilities throughout the state are teaming up with 36 local brewers in a competition, similar in style to a NCAA basketball tournament bracket, to produce craft beer using Pure Water. Breweries will compete for prizes at the Pure Brew Challenge to be held September 10-13, 2017 at the Annual WaterReuse Symposium in Phoenix, Arizona. The One Water Solution is a mobile portable reuse treatment facility that is currently traveling throughout the state to heighten awareness and generate public interest in the use of reclaimed wastewater.

Integral members of the Pima County Southwest Campus team consists of accomplished water professionals representing a variety of water related industries in Arizona, including Regional Wastewater Reclamation



Above: AZ Water Conference attendees tour the mobile treatment facility.

Below: A view of the exterior of the mobile facility.



Advisory Committee's newly elected Chair, **Corin Marron** who serves as the UV, AOP, GAC & Cl2 designer for the project. RWRD leadership, **Dr. Jeff Prevatt**, is the project leader and creator of the Southwest Campus initiative. **Barbara Escobar**, oversees the analytical testing protocols, laboratory analysis, and data reporting for the project, and City of Tucson Water Director, **Tim Thomure**, the Committee's Ex-Officio, is the Site logistics & water production of the project. In all, the Pima County Southwest Water Campus team

is comprised of additional staff from the Town of Marana, University of Arizona, Carollo Engineers, CH2M, Clean Water Services, and WaterReuse,

The Water Innovation Challenge Award recognizes the Pima County Southwest Water Campus' innovative leadership in bringing regional

partners together to solve real problems, especially one as crucial as water sustainability for our present and our future. The State must maintain our water supply, and that means we must consider reusing our reclaimed water. Without the innovative vision and collaboration displayed throughout this project, including members of the Committee, Pima County's efforts to beneficially reuse our water resources would not have been possible.

FINANCIAL SUBCOMMITTEE UPDATE

RWRAC's Financial Subcommittee, working collaboratively with the Pima County Finance and Risk Management Department, reviews the Financial Plan and reports back to the full committee at regularly-held committee meetings. This review is important as it helps determine optimal sewer rates to ensure that the Department has sufficient revenues to meet its operating and maintenance expenses. The Department must also meet debt service payments, have required reserves on-hand, and maintain a debt service ratio necessary to obtain favorable bond ratings.

An analysis of the RWRD's financial status shows that our utility runs in a very cost-effective manner. Further measures to save money could jeopardize the safe operation of the system. Costs of service were evaluated and are aligned with industry standards. Revenues were evaluated, and it should be noted until 2017 RWRD had not raised sewer user rates since July 2013. A history of those rates are delineated in Figure 1. The research indicated that several local utilities had raised their rates since 2013. Those rates are delineated in Figure 2.

Aligned with Pima County's commitment to transparency and openness in government, and to ensure that the public is adequately informed, four public meetings were held on December 12, 2016, December

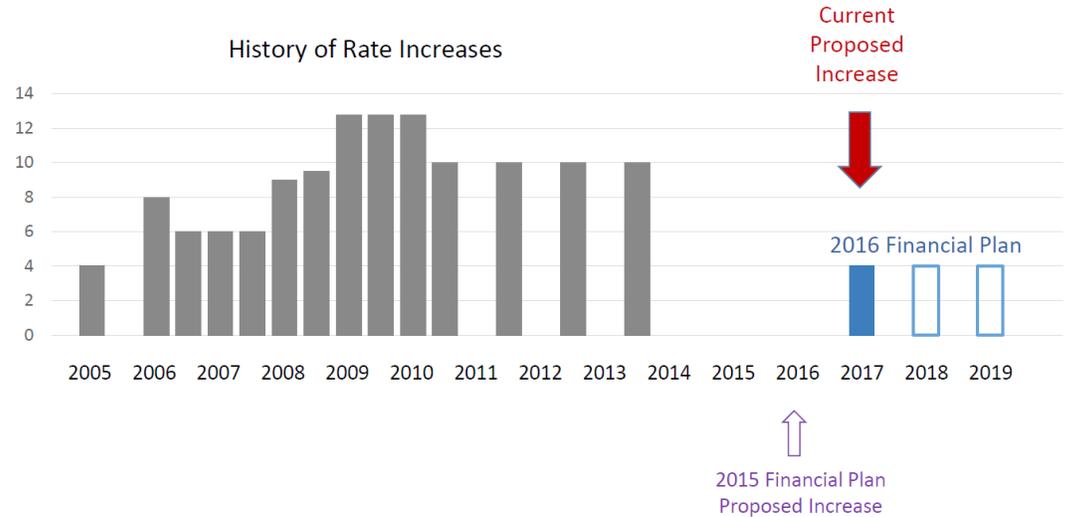


Figure 1. History of Rate Increases.

Utility	Percentage Increase Since 2013
Tucson Water	32.6
Tucson Electric Power	30.9
Metropolitan Water	11.3
Southwest Gas	2.8
Pima County RWRD	0.0

Figure 2. Utility Rate Increases.

15, 2016, January 26, 2017, and March 23, 2017. The 2016 Financial Plan recommended the adoption of a series of revenue increases with the first increase of four percent to be implemented as early as possible in Calendar Year 2017, and similar revenue increases of four percent or more on January 1, 2018, and January 1, 2019. The three recommended increases to be implemented in three separate years were reduced to a request to the Board of Supervisors for one four percent user fee increase. At the April 18, 2017 meeting, the Board of Supervisors voted 3-2 in favor of a three percent user fee increase, as well as a three percent connection fee increase that took effect on June 1, 2017. A historical perspective of past, present and projected operating and maintenance expenses are delineated in Figure 3.

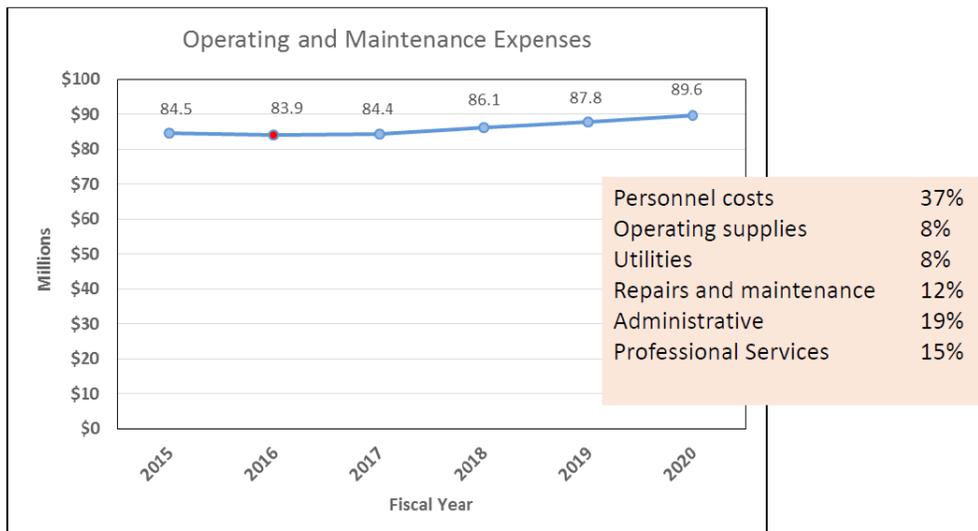


Figure 3. Projected Operating and Maintenance Expenses

CAPITAL IMPROVEMENT PROGRAM SUBCOMMITTEE UPDATES

The \$3.2 million **22nd Street Augmentation project** was completed in October of 2016, two months ahead of schedule. It consisted of the installation of approximately 1 mile of new 12-inch sewer pipes, as well as rehabilitation of sections of existing 10-inch sewer pipes along the south side of 22nd Street. Construction took place along 22nd Street from Alvernon Way to Swan Road, including both the Alvernon Way and Swan Road intersections.

This work was necessary because the existing pipe was at or near its maximum flow capacity. This project increased sewer volume and improved the lifespan of the sewer infrastructure in the area.

The \$22 million **North Rillito Interceptor (NRI) project** began in November 2013, and was completed in April 2017, and consisted of the rehabilitation of a 10-mile long, large-diameter pipeline which now transports wastewater from the City's far east side (in the Woodland Road/Bear Canyon area), along the north bank of the Tanque Verde Creek and Rillito River, and finally, to the Tres Rios Wastewater Treatment Facility which serves major portions of north and east Tucson.

The method of work that was chosen for this project was a

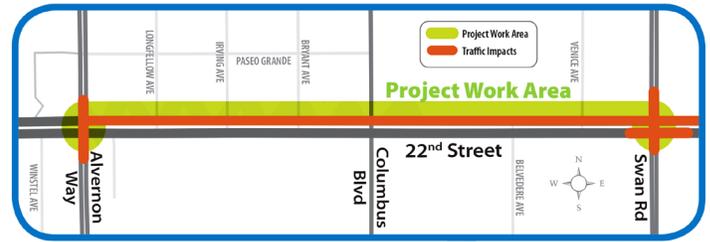


Map of the NRI project along the Rillito River.

Cured-In-Place Pipe (CIPP) Lining Process. This process allowed the contractor, B&F Contracting, Inc. to rehabilitate the pipes “in place” rather than the traditional more costly and more time-consuming method of excavating pipes. Excavation would have had construction, traffic, and other impacts to nearby neighborhoods and businesses.

This was the second project performed with a “modified Construction Manager at Risk (CMAR)” concept initiated by John Warner, RWRD Deputy Director for Conveyance. Utilizing this concept, the project was driven by the CMAR instead of the Designer. This decision resulted in the contractor assuming more responsibility for successful completion of the project, and more direct issue-resolution capability throughout the project.

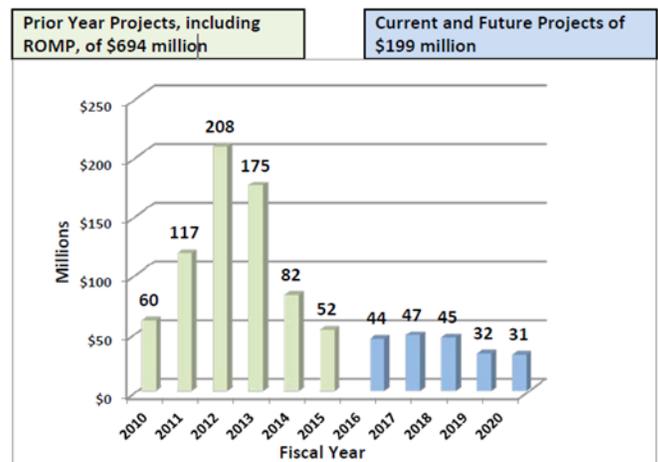
The \$19.5 million **Old Nogales Interceptor (ONI) – Aerospace Corridor Augmentation project** consists of three interrelated projects. Because the planned projects for the Old Nogales and Park Avenue Augmentations are closely related to the Aerospace Parkway development, a joint design to address the total capacity required in the ONI Augmentation was needed, and an alignment study was procured to address



Construction area map during the 22nd Street Augmentation project.

the three interrelated projects. In 2015 an amendment was submitted to merge these adjacent projects in the interest of cost savings during design and construction. The amendment was based on the completed alignment study which identified all the easement acquisition needs, utility and railroad crossings, and other impacts.

- The \$9.2 million **Old Nogales Highway Interceptor Augmentation Project** was developed in 2009 to address hydraulic modeling of the Old Nogales Highway Interceptor (ONI) and Valencia Road from Park Avenue to Air Guard Way. The project is being conducted due to surcharging, and potential sanitary sewer overflows in the area between Drexel Road and First Avenue, and Valencia Road and First Avenue.
- The \$2.3 million **Park Avenue Augmentation Project** was created in 2013 to address repairing/replacing pipes that are at 70 and 80 percent full pipe capacity. Arizona Administrative Code R18-9-E301.D.2.e.iii dictates “The ratio of flow depth in the pipe to the diameter of the pipe (d/D) shall not exceed 0.75 in peak dry weather flow conditions”.
- The \$8 million **Aerospace Corridor Augmentation Project** was originally envisioned to address the needs of County property south of the Tucson International Airport and Raytheon properties. In 2015 an amendment to the Project Charter was submitted to merge adjacent projects in the interest of cost-savings during design and construction. When complete, it will provide relief to the Park Avenue sewer alignment, the Old Nogales Highway sewer alignment, and allow for the decommissioning of the Arizona Department of Corrections lift station.



2016 Wastewater Facility Plan

Pima County Regional Wastewater Reclamation Department (PCRWRD) has undergone significant changes since the 2006 Metropolitan Area Facility Plan Update - including a minor update in 2010. Early 2014 marked the end of operations for aging infrastructure and the completion of the largest and much needed Public Works Capital Investment Program ever undertaken in Pima County. PCRWRD must periodically revisit the Department's Facility Plan Expansion and incorporate high-end technology into the Facility Plan. Because upgrades were quite significant, the resources to update the content of the Facility Plan were more than warranted.

The RWRAC was provided a presentation of the update to the Facility Plan at its November 17, 2016 meeting, and committee members found it to be extremely beneficial to understand the processes that each division of the Department is responsible for.

Efficient and well-maintained wastewater treatment and conveyance systems are critical to the economic health of the region. RWRAC is aligned together with the department's ultimate goal, to serve the health and welfare of the residents of Pima County and to maintain the department's valuable assets that have been funded over the years by the citizens of Pima County.

"FINANCIAL" FROM PAGE 5

Moving forward to FY 2017/18, the Financial Subcommittee will look at a more equitable establishment of rate structure for residential and commercial high-strength users. We look forward to reviewing the Raftelis report and making further recommendations that are favorable to the Department and the citizens of Pima County.

Raftelis Rate Study

Raftelis Financial Consultants are currently under contract to review the County's methodology and rate structure for sewer user charges. They are looking at the formulaic rate structure and balance between fixed and variable costs and charges of the Department. The Raftelis Study points RWRD in the direction of increasing fixed revenue charges, as opposed to variable charges, and suggests that commercial or high-strength users such as restaurants, bakeries, and car washes are paying less than their fair share as compared to residential users. The expectation is that recommendations will be made to the Pima County Board of Supervisors regarding increasing the fixed revenue charges and shifting costs from residential to commercial users.

COMINGS AND GOINGS

This year, the RWRAC welcomed three new members:



Marron

Corin Marron was appointed in September 2016 by the Environmental Planning Advisory Committee of the Pima Association of Governments to serve on the RWRAC. Corin brings a wealth of knowledge to the committee in the areas of master planning, water quality assessment, conceptual design of advanced water treatment facilities, and team coordination. Corin is currently a Lead Engineer with Carollo

Engineering here in Tucson, Arizona. She holds a bachelor's degree in biological engineering from Ohio State University and a master's degree in environmental and water resources engineering from the University of Texas at Austin.



McClusky

Supervisor Ally Miller appointed two new members to serve as representatives for District 1, **Shaun McClusky** was appointed in October 2016. Mr. McClusky attended the University of Findlay, Ohio and served in the United States Air Force. He achieved the rank of Staff Sergeant and was stationed at Davis-Monthan Air Force as a Dedicated Crew Chief before serving a tour in Operation Enduring

Freedom. Shaun is a designated Broker and co-owner of Rincon Ventures Property Management and Real Estate. Shaun has been a Tucson resident since 1999, and is a member

of the Tucson Association of Realtors, the Tucson Multiple Listing Service, Arizona Association of Realtors, and a certified instructor for the Arizona Department of Real Estate.



Garner

William Garner appointed in February 2017 by Supervisor Miller, is a clinical research coordinator for Merck Pharmaceuticals Company. He served eight years as a member of Oro Valley's Town Council and also serves on many local civic organizations. He lives in Oro Valley, Arizona with his wife Darlene and their two daughters.

The committee bid farewell to **Bob Iannarino** who served on the committee since 2010. Bob also served as the Chair of the Capital Improvement Program Subcommittee since its formation in 2015. Bob is an Engineer for Psomis, Inc., and also holds a registered engineering license in several states. He brought a wealth of knowledge in infrastructure development and master planning.

Thank you, Bob, for your dedication and expertise. The committee wishes Bob well in his future endeavors.

The committee looks forward to continuing to work collaboratively and develop innovated means to be fiscal stewards for the taxpayer and the Board Members we serve.

RWRAC MEETING HIGHLIGHTS: JULY 2016 - JUNE 2017

July 2016: No meetings were held.

August 2016: The RWRAC voted to send a letter to the Board of Supervisors regarding their comments and involvement with the 2016 Financial Plan. The Planning and Engineering Division staff provided updates on staff activities, the permitting process, Key Performance Indicators, and Development Liaison goals, as well as an overview of flow metering and hydraulic modeling. RWRD Director **Jackson Jenkins** announced the department received the Utility of the Future Award.

September 2016: **Corin Marron** was welcomed to the committee. **Jeff Prevatt Ph.D.**, Research and Innovation Manager, gave a presentation on *Innovations in Wastewater* and how RWRD is working to advance research and improve technology. The committee also had an opportunity to view the video entry that was submitted by the RWRD Team for the *Water Innovation Challenge* competition.

October 2016: The Financial Subcommittee held two meetings in October in which the subcommittee discussed the Rate Structure Study and the proposed rate increases, as well as the 2016 Financial Plan. **Greg Hitt**, Program Manager Sr., presented the 2016 Facility Plan to the CIP Subcommittee.

November 2016: The committee welcomed **Shaun McClusky** as the newest RWRAC member. Director Jenkins announced RWRD's Fee Recovery Amnesty Program was approved to run from January 1, 2017 through June 30, 2017. The 2016 Facility Plan was presented to the full committee. The committee also received updates from the Conveyance and Treatment Divisions. The committee was informed that RWRD won the Water Innovation Challenge.

December 2016: The committee held two special public meetings on December 12th and December 15th to discuss the proposed four percent (4%) rate increase to the existing sewer user fees. The committee received a presentation from Raftelis Financial Consultants on the Rate Structure Study preliminary results at their regular monthly meeting.

January 2017: The committee held a special public meeting to discuss the proposed four percent (4%) rate increase to existing sewer user fees. Director

Jenkins and **Keith Dommer**, Director, Finance and Risk Management Department, answered various questions from the committee and members of the public. **Mark Taylor** was elected to serve as the Vice-Chair to the RWRAC.

February 2017: The committee welcomed **William Garner** to the committee. **Peter Mayer**, P.E., Principal, Water Demand Management, gave a presentation on *Avoided Costs of Water Conservation*. The presentation covered topics, such as: historical water analysis, the impact on water and wastewater rates due to conservation, additional costs to water and wastewater system infrastructures, and the challenges with decreasing demand and increasing costs.

March 2017: Shaun McClusky was elected to serve as the Vice-Chair to the CIP Subcommittee. The CIP Subcommittee received a presentation from **Jaime Rivera**, Program Manager Sr., on the Wastewater Aerospace Corridor Projects. The full committee received a presentation from Raftelis Financial Consultants on the Rate Structure Study. Director Jenkins provided an update on the Sewer Amnesty Program. The committee was extended an invitation to attend the Arizona Water Reception at the Fox Theater in April.

April 2017: No meetings were held.

May 2017: Director Jenkins updated the committee on various departmental matters, to include topics such as: the Sewer Amnesty Program, the Rate Structure Study, and the approval by the Board of Supervisors of a 3% increase to both the user fees and connection fees. Mr. Jenkins also announced that the Tres Ríos Water Reclamation Facility received the 2017 Large Plant of the Year Award at the AZ Water Conference in Phoenix.

June 2017: The Financial Subcommittee reviewed and discussed RWRD's future financial projections and other financial matters. The CIP Subcommittee discussed the goals and objectives of the subcommittee and set a tentative schedule for future meetings. The full committee received departmental updates, as well as updates on the activities of both RWRAC subcommittees and the Citizens' Water Advisory Committee. Corin Marron and Matt Matthewson were elected to serve as the RWRAC Chair and Vice-Chair for the upcoming fiscal year 2017/2018.

REGIONAL WASTEWATER RECLAMATION ADVISORY COMMITTEE MEETINGS: FY 2017/2018

August 24, 2017
September 28, 2017
October 26, 2017

November 16, 2017
December 14, 2017

January 25, 2018
February 22, 2018
March 22, 2018

April 26, 2018
May 24, 2018
June 28, 2018

General Regional Wastewater Reclamation Department activities can be viewed on the Department's website: www.pima.gov/wastewaterreclamation

To view agendas and minutes from the Regional Wastewater Reclamation Advisory Committee visit the Department's website and click on the right sidebar button:

Boards, Commissions & Committees

Regional Wastewater Reclamation Advisory Committee meetings are held monthly on the fourth Thursday (with the exception of November and December due to the holidays) at 8:00 a.m., at the Water Campus, 2955 W. Calle Agua Nueva, Tucson. Times and dates are subject to change.

Committee Coordinator: Veronica Lopez - Phone: (520) 724-6561, Email: veronica.lopez@pima.gov