



ANNUAL REPORT 2017

**3 RIVERS
PROUD**



ALLEGHENY COUNTY SANITARY AUTHORITY ANNUAL REPORT AS OF DECEMBER 31, 2017



Authority employees compete in the 2017 ALCOSAN 3 Rivers Proud "Anything That Floats Race" at the Three Rivers Regatta

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ALCOSAN is one of the region's premier environmental and public health organizations, treating wastewater for 83 Allegheny County communities, including the city of Pittsburgh. The authority, which is Green by Mission and Green by Choice, enhances the community's quality of life and safety. ALCOSAN's 59-acre treatment plant processes up to 250 million gallons of wastewater daily and is one of the largest such facilities in the Ohio River Valley.

This report was prepared by ALCOSAN staff and produced by the authority's Public Relations Department.

Editor: Susan Mannella
Designer: Michael Anthony



A MESSAGE FROM THE EXECUTIVE DIRECTOR



Arletta Scott Williams
Executive Director
ALCOSAN

The foundation of our work at the Allegheny County Sanitary Authority is providing efficient, effective and affordable wastewater treatment to our customers. But just who are our ALCOSAN's customers?

Technically speaking, ALCOSAN only has 83 customers, the municipalities that rely on us to treat their wastewater and transform it from dirty to clean. The authority has legally binding agreements with those 83 cities and towns, from the largest - Pittsburgh and Penn Hills - to the smallest - Ben Avon Heights and Thornburg. Regardless of size, ALCOSAN treats all of our customers equally. And that means we must offer a broad range of programs to meet their needs. Of particular note in 2017 were ALCOSAN's investment in its Green Revitalization of Our Waterways program and advances toward better integration of the region's largest sewer lines.

Obviously, the 83 municipal customers aren't the full picture. Nearly 900,000 people in the region rely on our services. That means we have an obligation to treat what they flush down their toilets and drains, provide financial assistance to those in need, and educate the community about what we all can do to contribute to a clean environment and bright future for the region.

To that end, in August, we launched our 3 Rivers Proud campaign, designed to introduce ourselves to the many people and organizations in the community that don't fully comprehend ALCOSAN's role in making the region a great place to live, work and play. I am also particularly gratified by the participation in our new Clean Water Assistance Fund, which provides financial help to lower-income homeowners throughout the service area.

ALCOSAN does not operate in a vacuum. The authority is required to submit regular financial and environmental reports to the federal Environmental Protection Agency, the Pennsylvania Department of Environmental Protection and the Allegheny County Health Department, among others. In addition, we must prove that we follow appropriate fiscal practices. To that end, a summary letter and detailed financial statement, prepared on ALCOSAN's behalf by MaherDuessel Certified Public Accountants, are provided on pages 17-19 of this report.

I appreciate you taking the time to read this report. To learn more about the work performed at ALCOSAN every day, I encourage you to check out our website at www.alcosan.org, to read my blog at 3riversproud.com and to visit us on September 15, when we will hold our annual Open House. I'd love to meet you there.

A handwritten signature in blue ink, which appears to read "Arletta Scott Williams". The signature is fluid and cursive.

BOARD OF DIRECTORS

2017 BOARD OF DIRECTORS

Incorporated under the Pennsylvania Municipal Authorities Act in 1946, ALCOSAN is governed by a seven-member board of directors - three appointed by the mayor of Pittsburgh, three appointed by the county executive, and one joint city-county appointee - with each serving a five-year term.



Chair: Sylvia C. Wilson
*Board Member
Pittsburgh Board of Education*



Vice-Chair: Gregory Jones
*Executive Director
Economic Development South*



Secretary: Harry Readshaw
*PA House of Representatives
District 36*



Treasurer: Jack Shea
*President
Allegheny-Fayette Labor Council*

ELECTED JANUARY 26,
SYLVIA C. WILSON
BECAME THE FIRST WOMAN
AND FIRST AFRICAN-AMERICAN
BOARD CHAIR IN
ALCOSAN HISTORY



Corey O'Connor
*Council Member
City of Pittsburgh*



Brenda Smith
*Executive Director
Nine Mile Run Watershed Assn.*



John K. Weinstein
*Treasurer
Allegheny County*





FINANCE AND ADMINISTRATION



On August 10, ALCOSAN welcomed 42 former employees back to the plant for a retiree reunion, which included a facility tour, a luncheon and an overview of the authority's Clean Water Plan

The mission of the Finance and Administration Division is the implementation and maintenance of sound fiscal policies, competent customer service and safeguarding of the assets of the authority including funds, personnel and the physical plant. This division includes responsibility for management information systems, customer service and billing, purchasing, accounting, human resources, safety and security.

The division's success in fiscal management was most evident in the fall of 2017, when ALCOSAN's Board of Directors set new rates for users. Rates are the sole source of revenue for the authority. Assuring that they are set at appropriate levels is fundamental, which is why ALCOSAN plans for them strategically.

In 2013, ALCOSAN's board adopted a four-year rate plan that was necessary to pay for implementation of its green first Clean Water Plan, to maintain a strong credit rating in the face of unprecedented capital expenditures, and to prevent "sticker shock" in rates going forward. Those needs persist, and the Board of Directors again adopted a four-year rate plan.

The amount paid by customers was raised by 7.5 percent effective in 2018 - a \$2.43 monthly increase for the average residential customer - and by 7 percent in each of the next three years. Going forward, ALCOSAN estimates that single-digit rate increases should be sufficient for the next two decades.

Without these modest, steady increases, ALCOSAN's bond rating for long-term borrowing would drop,

resulting in increased borrowing costs and a corresponding increase in the cost of the Clean Water Plan beyond the threshold considered affordable for families. In addition, some authority programs that are the basis of the Clean Water Plan would be imperiled.

Among those programs is ALCOSAN's Green Revitalization of Our Waterways program. In 2017, its first year of operation, ALCOSAN allocated \$18 million for 59 GROW projects designed to keep excess stormwater and groundwater out of the system. The grant program - one of the largest of its kind in the United States - provided a funding match of 25 to 85 percent of eligible costs for selected projects, which are projected to remove approximately 109 million gallons of flow from the conveyance system annually.

Another is the Clean Water Assistance Fund. Administered for ALCOSAN by the Dollar Energy Fund, the program provides a \$30-per-quarter subsidy toward wastewater treatment bills for eligible recipients. Enrollment opened on January 3, with 73 applications submitted and 64 approved in the first month alone. By year's end, 859 homeowners were receiving assistance of a total \$100,620.

The majority of fund recipients were households with children, and nearly half were individuals receiving Social Security benefits, indicating that the program is reaching both senior homeowners and young families. While the largest number of applicants were residents of the city of Pittsburgh, the broad reach of the program, with recipients in 66 of the 83 municipalities in ALCOSAN's service area, demonstrates that need is not entirely dependent on geography.

CLEAN WATER ASSISTANCE BY MUNICIPALITY

MUNICIPALITY	FUND RECIPIENTS	MUNICIPALITY	FUND RECIPIENTS	MUNICIPALITY	FUND RECIPIENTS
Aspinwall Borough	1	Green Tree Borough	9	Pleasant Hills Borough	0
Avalon Borough	12	Heidelberg Borough	3	Plum Borough	1
Baldwin Borough	6	Homestead Borough	11	Rankin Borough	3
Baldwin Township	1	Indiana Township	0	Reserve Township	18
Bellevue Borough	18	Ingram Borough	3	Robinson Township	0
Ben Avon Borough	0	Kennedy Township	5	Ross Township	22
Ben Avon Heights Borough	0	Kilbuck Township	0	Rosslyn Farms Borough	0
Bethel Park	5	McCandless Township	2	Scott Township	9
Blawnox Borough	11	McDonald Borough	1	Shaler Township	33
Braddock Borough	11	McKees Rocks Borough	9	Sharpsburg Borough	7
Braddock Hills Borough	2	Millvale Borough	11	South Fayette Township	12
Brentwood Borough	11	Monroeville	9	Stowe Township	12
Bridgeville Borough	9	Mt. Lebanon	3	Swissvale Borough	27
Carnegie Borough	6	Mt. Oliver Borough	7	Thornburg Borough	0
Castle Shannon Borough	6	Munhall Borough	22	Trafford Borough	9
Chalfant Borough	0	Neville Township	5	Turtle Creek Borough	10
Churchill Borough	1	North Braddock Borough	20	Upper St. Clair Township	7
Collier Township	0	North Fayette Township	0	Verona Borough	6
Crafton Borough	7	North Huntingdon Township	0	Wall Borough	5
Dormont Borough	4	North Versailles Township	5	West Homestead Borough	3
East McKeesport Borough	5	O'Hara Township	4	West Mifflin Borough	1
East Pittsburgh Borough	6	Oakdale Borough	1	West View Borough	11
Edgewood Borough	2	Ohio Township	0	Whitaker Borough	2
Emsworth Borough	5	Penn Hills	72	Whitehall Borough	12
Etna Borough	17	Penn Township	5	Wilkins Township	11
Forest Hills Borough	0	Peters Township	0	Wilkesburg Borough	24
Fox Chapel Borough	0	Pitcairn Borough	7	Wilmerding Borough	4
Franklin Park Borough	1	Pittsburgh (City)	249		

2017 RECIPIENTS: 859

ENVIRONMENTAL COMPLIANCE



ALCOSAN operates under federal, state and local regulations, and it is the responsibility of the Environmental Compliance Division to ensure that permit requirements are met, the byproducts of wastewater treatment are either reused or disposed of properly, and industries under its jurisdiction are inspected.

The division, the primary contact point for regulators, continues to be a key participant in ongoing talks involving modifications to the Clean Water Plan for the region.

One of the highlights of 2017 was the integration of the latest technology into the work of the division's Industrial Waste Department, innovation that makes the workplace safer for employees in the field and for the public at large.

The department investigates sewer-related environmental incidents, which protects the region's residents and the ALCOSAN treatment system. In doing so, it oversees the authority's 1,210 customers that contribute higher-strength waste to the treatment system, such as fats, oils and grease from restaurants, and 118 industries that operate under special discharge permits.

It is vital that managers and clerks at the plant are able to communicate easily with field samplers and investigators who work throughout the service area.



When land applied, the organic nitrogen in ALCOSOIL is converted to nitrates, which allow nitrogen to be available over multiple growing seasons and reduces the chance that nutrients will cause pollution.

Using portable equipment, the staff now has instantaneous access to files, step-by-step instructions and the latest mapping data. They can quickly identify sources of pollution, industries that need attention and trouble spots. The technology means staff can transmit information from the field prior to delivering samples to ALCOSAN's lab for analysis, contributing to efficiency in a laboratory that conducts more than 30,000 tests a year.

GREEN WORKPLACE CHALLENGE MEDIUM NON-PROFIT DIVISION		2016-2017 POINTS
 ALCOSAN		1,097
Children's Museum of Pittsburgh		245
Carnegie Museums of Pittsburgh		184
Pittsburgh Zoo & Aquarium		131
Urban Redevelopment Authority		36
YWCA of Greater Pittsburgh		4

ALCOSAN's commitment to the environment won accolades again in 2017. ALCOSAN had the highest score by far in the category of medium-sized non-profits for the 2016-17 Green Workplace Challenge. ALCOSAN ramped up its efforts after coming in second the previous year, and it expects to continue to lead the way for a cleaner environment in 2018.

The division's residuals program oversees testing and the disposal or reuse of byproducts of the wastewater treatment process. This includes coordinating recycling and developing beneficial use for some of the waste. One such product is ALCOSOIL, a soil amendment used on some reclamation projects and farms.

In 2017, the division signed a new beneficial use contractor with an incentive clause in the agreement that encourages a more robust approach. The contractor must reuse at least two-thirds of the material provided by ALCOSAN; if that rate is exceeded, the firm receives a bonus and, if it is not met, a financial penalty is imposed.

ALCOSAN recycled approximately 25 tons of mixed recyclables in 2017, including paper, plastic bottles, metal cans and cardboard. Additionally, 1.6 tons of E-waste, 0.35 tons of compostable materials, and 0.09 tons of plastic film were diverted from landfills. The annual Open House achieved an impressive 94 percent waste diversion rate, with compostables representing 55 percent of total event waste.

OPEN HOUSE WASTE CATEGORY	DESCRIPTION OF WASTE ITEMS	TOTAL WEIGHT	PERCENT COMPOSITION
Mixed Recycling	Small and large plastic bottles, metal trays, ALCOSAN promotional bottles	99.5 lbs.	8.5%
Cardboard	Boxes from food and promotional items	240 lbs.	20.5%
Plastic Film	Visquine from food area, film from water bottles, table cloths, ice bags, candy wrappers	105 lbs.	9%
Nitrile Gloves	Green nitrile gloves	12 lbs.	1%
Compostables	Food waste, paper towels, compostable serviceware	640 lbs.	55%
Trash	Lids and ties, table covering for Mad Scientist, broken bucket, sterno cans, candy/fruit bags, dirty film, rags, duct tape, empty concrete bag, plastic face mask packs, #6 planter trays	75.5 lbs.	6%
		1,172 lbs.	100%



ENGINEERING AND CONSTRUCTION



The Engineering and Construction Division is responsible for engineering planning, design and project management, administering public bidding procedures, maintaining all engineering and construction-related records, and providing technical assistance for compliance with local regulations. The work of the division involves the use of consulting engineering firms for projects within the ALCOSAN system.

In 2017, ALCOSAN built on the process initiated a year earlier to manage the enormous workload that will be required under ALCOSAN's multi-decade Clean Water Plan. Under the direction of various departments, Engineering selected firms to manage its regionalization program, inflow/infiltration/green infrastructure program and preliminary planning. Professional services contracts will be awarded going forward for property acquisition needed for infrastructure improvements associated with implementing the plan.

A considerable amount of work already has been undertaken. The 2017 Capital Improvement Program included 31 major projects necessary to maintain current facilities, to upgrade and enhance the treatment plant and interceptor system, and to make other long-term capital improvements required by federal, state and county regulators.

Although the Clean Water Plan is still subject to ongoing negotiations, the regulatory agencies have agreed that plant expansion is a key component and ALCOSAN has been proceeding with its implementation. In 2017, ALCOSAN prepared a Sewage Facilities Act 537 Special Study for the plant expansion in compliance with PaDEP requirements. The study was distributed to municipal customers and posted on the ALCOSAN website.



Planned upgrades include a new pump station (1), expanded headworks (2), additional primary tanks (3), and a new wet weather bypass and disinfection system (4) required to expand maximum wet weather flow to 600 MGD. In addition, secondary treatment will be expanded to 295 MGD with a new disinfection system and a relocated outfall (5)

Significant improvements were made during 2017 to the Energy Recovery Building. Tubes in the waste heat recovery system and manifolds in one of the incinerators were replaced, and the boiler water treatment system was upgraded. This multi-million-dollar project was necessary to keep the incinerator running, to more efficiently transfer energy during processes, and to allow reuse of heat generated during incineration to produce steam used to heat most of the plant's buildings.

A new vehicle maintenance facility opened in 2017 to make room for expansion in the middle of the treatment plant, and demolition of the old garage is anticipated in 2018. The expansion program management firm is in the process of evaluating various components of the plan, setting the stage for design work to begin in 2018, and construction to start in 2019.

Contracts were awarded for on-call work as needed for various forms of ongoing maintenance and facility modifications.

Training began on use of the E-BUILDER software program. This streamlining and tracking tool will be essential in managing the large number of Clean Water Plan projects. It is more efficient than using paper forms, speeds up the process of obtaining necessary approvals and provides effective workflow monitoring.

EXISTING PLANT PROJECTS	2017 EXPENDITURES	TOTAL ESTIMATED PROJECT COST
Biosolids Strategic Plan	\$0	\$1,525,600
Plant Energy Efficient Upgrades	\$34,939	\$2,319,000
Demineralization System Replacement	\$2,695,605	\$3,200,000
Energy Recovery Facility Improvements (2016-2017)	\$1,619,289	\$2,500,000
Plant Facilities and Safety Upgrades (2016-2017)	\$1,137,246	\$3,400,000
Subtotal Existing Plant Projects	\$5,487,078	\$12,944,600
EXISTING INTERCEPTOR SYSTEM PROJECTS	2017	TOTAL
Grit Chambers	\$69,365	\$1,805,900
PennDOT Bridge and Highway Improvements	\$4,337	\$2,191,000
Squaw Run FM Replacement	\$59,481	\$1,710,400
Sewer Rehabilitation (Various Locations)	\$108,516	\$8,892,000
Flap Gate Improvements at Various Locations	\$92,046	\$2,769,000
Conveyance Rehab and Enhancements (2016-2017)	\$1,254,446	\$3,330,000
Sewer Improvement Contract (2017-2018)	\$217,590	\$952,000
Sonar Investigations	\$39,792	\$1,845,000
Subtotal Existing Interceptor System Projects	\$1,845,572	\$23,495,300
GREEN INFRASTRUCTURE PROJECTS	2017	TOTAL
Sheraden Park WRDA Sec. 206	\$2,353	\$801,700
Ravine St. Stream Removal and Sewer Separation	\$14,382	\$3,095,000
Four Mile Run DSI Removal and System Improvements	\$27,883	\$3,599,000
Source Control - Municipal Green Infrastructure Projects	\$488,923	\$47,683,600
Green Infrastructure Program Manager	\$14,533	3,687,000
Subtotal Green Infrastructure Projects	\$533,541	\$58,866,300
MUNICIPAL I&I REDUCTION PROJECTS	2017	TOTAL
Source Control-Municipal Infiltration & Inflow	\$6,004	\$38,340,400
Municipal Source Control Program	\$1,461,253	\$11,637,000
Delafield Storm Separation	\$0	\$4,549,600
Panther Hollow DSI	\$0	\$8,006,600
Subtotal I&I Reduction Projects	\$1,467,257	\$62,533,600
WET WEATHER - PLANT EXPANSION PROJECTS	2017	TOTAL
New Vehicle Maintenance Garage	\$2,481,506	\$11,000,000
Wet Weather Plant Expansion Program	\$3,254,554	\$14,000,000
Demolition of old Operations and Maintenance Facility	\$27,601	\$2,100,000
Subtotal Wet Weather - Plant Expansion Projects	\$5,763,661	\$27,100,000
WET WEATHER PLAN - REGIONAL PROJECTS	2017	TOTAL
Preliminary Planning	\$1,889,645	\$12,500,000
Regionalization	\$7,457,770	\$49,635,000
Interim Wet Weather Planning Compliance	\$3,074,742	\$22,750,000
Property Acquisitions	\$3,904	\$3,880,000
Program Management Information System (PMIS)	\$571,630	\$2,295,000
Subtotal Wet Weather Plan - Regional Projects	\$12,997,691	\$91,060,000
OTHER CAPITAL PROJECTS	2017	TOTAL
Mobile Equipment (2017)	\$1,013,476	\$1,118,800
2017 Low Cost Capital Improvements	\$1,119,533	\$2,115,000
Subtotal Other Capital Projects	\$2,133,009	\$3,233,800
TOTAL 2017 CAPITAL PROGRAM	\$30,227,810	\$279,233,600

OPERATIONS AND MAINTENANCE



The work of ALCOSAN's Operations and Maintenance Division is a 24/7 responsibility. The employees of the division assure that the ongoing process of treating wastewater runs smoothly. They maintain all of the buildings, structures, machinery, equipment and vehicle fleet of the 59-acre plant, regional conveyance system and auxiliary buildings. The division's planned maintenance and housekeeping efforts mean the facilities are well-maintained and in optimal operating condition.

The division also is responsible for providing formal wastewater education and training to various plant personnel. In 2017, that included about 800 hours of training related to permit compliance, operator qualification, and basic wastewater, pretreatment and laboratory needs.

The most obvious change in the division occurred in the fall of 2017 when the old vehicle maintenance garage was closed for eventual demolition and a new, three-building vehicle maintenance facility opened adjacent to the treatment plant. The facility was constructed to meet the needs of a growing organization, and its design incorporates environmentally conscious features including solar panels, a green building roof, and a rain garden and storage basin to manage water runoff.

The new buildings provide sufficient space for ALCOSAN's skilled, in-house staff to maintain its fleet of more than 130 gasoline, diesel, hybrid and electric vehicles. The 11 working bays include



ALCOSAN's new vehicle maintenance facility went into service in October, allowing for the planned 2018 demolition of the existing garage as part of the plant expansion plan

five vehicle lifts that have a capacity of 10,000 to 60,000 pounds, which can accommodate the largest vacuum and water trucks in ALCOSAN's fleet.

Also during 2017, the maintenance department upgraded 72 critical valves in the plant's primary basins to electric operators that provide more reliable service. The 12 return-activated sludge pumps were upgraded with new, more efficient, variable-speed drive units.

Significant upgrades also were made throughout the year to the treatment plant's automated process control system, which is used to monitor and control the wastewater treatment process and to monitor the operation of the regional collection system.

Going forward, the plant will undergo a major expansion, increasing the current treatment capacity from the 250 to 600 million gallons per day.



Approximately 2,250 work orders were completed by the ALCOSAN Maintenance Department in 2017

PLANT OPERATIONS BY THE NUMBERS

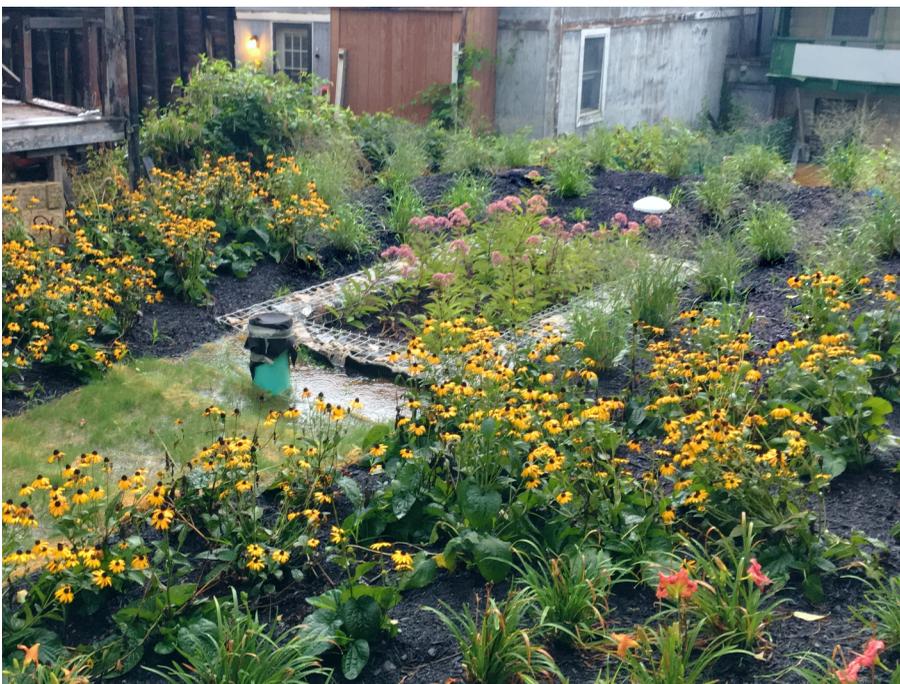
TREATMENT PLANT PERFORMANCE	2017
TOTAL Volume of Wastewater Treated	73.5 billion gallons
Average Daily Flow	201 million gallons/day
Solid Waste Removed	73.5 million pounds
Dewatered Sludge Incinerated	23,488 dry tons
Dewatered Sludge Land-Applied	5,689 dry tons
Dewatered Sludge Landfilled	8,122 dry tons
Effluent Water Recycled for Internal Use	2.75 billion gallons
RESOURCES CONSUMED	2017
Pebble Lime	3,070 tons
Polymer	866,460 pounds
Sodium Hypochlorite	1,254,432 gallons
Caustic Soda	468,410 pounds
Sulfuric Acid	19,080 pounds
Sodium Bisulfate	755,216 pounds
Diesel Fuel	26,018 gallons
#2 Heating Oil	30,221 gallons
UTILITY COSTS	2017
Electricity	\$5.7 million
Natural Gas	\$705,091
Public Water	\$961,614

The volume of wastewater treated in 2017 was 73.5 billion gallons, with an average daily flow of 201 million gallons. In all, 73.5 million pounds of solid waste was removed during treatment. As part of the incineration/energy recovery process, a portion of those solids removed are utilized to produce approximately 22,000 pounds of steam per hour, which provides a significant portion of the heating source needs of the plant.

Approximately 2.75 billion gallons of the treatment plant effluent water is recycled for internal plant use to reduce the overall dependency on the public water supply.



REGIONAL CONVEYANCE



Partially funded through ALCOSAN's GROW program, this rain garden park in Etna's business district is one component of the borough's multi-phase stormwater management program

The fundamental mission of ALCOSAN's Regional Conveyance Division is the management, operation and maintenance of the interceptor systems and sewer service provided to its 83 municipal customers, as well as development of plans and policies for compliance with regulations related to combined sewer overflows and sanitary sewer overflows.

In the past few years, Regional Conveyance has launched major initiatives that will improve the ALCOSAN system by helping our customer municipalities.

With a solid foundation laid in 2016, the Green Revitalization of Our Waterways got off to an impressive start in 2017. This

multi-year, competitive matching grant program is a way for ALCOSAN to provide funding and technical expertise for projects that might otherwise be prohibitive for our municipalities. We have been pleased with the number of applications for the grants, which largely are based on the cost per gallon of stormwater or groundwater removed from the collection system.

In February 2017, ALCOSAN's Board of Directors awarded \$9 million for the first cycle of this program. The 30 projects combined, to be installed in 18 municipalities and 10 Pittsburgh neighborhoods, are expected to remove nearly 70 million gallons of stormwater and groundwater from the ALCOSAN system annually. In Cycle II, announced in October, the board selected 29 projects for \$9 million in grants. The recipients include 25 municipalities and four city neighborhoods, with projected removal of 30 million gallons from the system.

In the first two cycles, projects broke down this way: 25 utilize green stormwater infrastructure; 17 reduce the inflow of stormwater runoff and/or infiltration of groundwater; 13 are sewer separation projects; and four are direct stream removal projects. Because ALCOSAN didn't want to penalize municipalities that were proactive in trying to control water at its source, it allowed reimbursement for projects that were started after 2014 but before the GROW program began. With the third funding cycle in 2018, only projects built after January 2016 will be eligible.

The second major initiative of the Regional Conveyance Division is regionalization. This effort will streamline the local sewer systems by extending ALCOSAN ownership and maintenance beyond the 90 sewer miles it currently operates. For more than a year, crews have been conducting closed-circuit inspections of many of the region's largest sewers. The goal is for ALCOSAN to take on pipes that are at least 10 inches in diameter and receive flow from more than one municipality. So far, 180 of 265 sewer miles of pipe and 4,500 manholes have been inspected. Regionalization also is to include four equalization tanks, four pump stations and 83 regulating structures.

ALCOSAN is preparing extensive reports on any defects found in each municipal sewer or structure, and meetings with each municipality have begun. Those sessions are expected to continue through most of 2018. Some repairs will be the responsibility of the municipalities, but the majority will be assumed by ALCOSAN, with long-term repairs and wet weather requirements along regionalized sewers becoming a part of ALCOSAN's Capital Improvement Program.

The division's third major initiative of 2017 was the longest in coming. ALCOSAN's original towboat, "The Alcosan," was retired and sold for salvage at the ripe old age of 59. Although the vessel served the authority well during its term of service, it no longer could perform the daily work of carrying crews to inspect and service parts of the system not accessible by land. The new boat, christened in honor of long-time Board Member Harry Readshaw, was delivered in March. The new, 50-foot, 660 horsepower vessel was built by Blank River Services in Elizabeth, and a new crane and barge to go with it were delivered in August.



Delivered in March, the 660hp "ATB Readshaw" gives ALCOSAN more power and maneuverability to maintain system structures inaccessible by land.



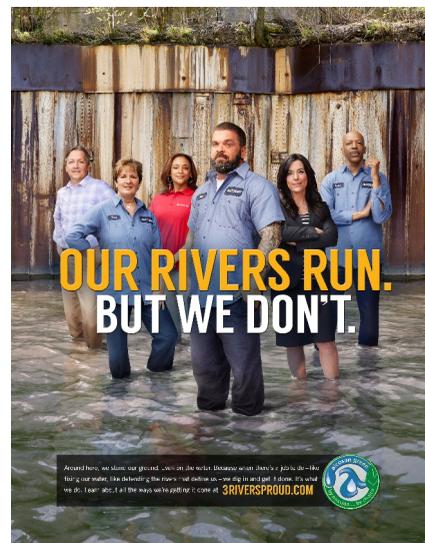
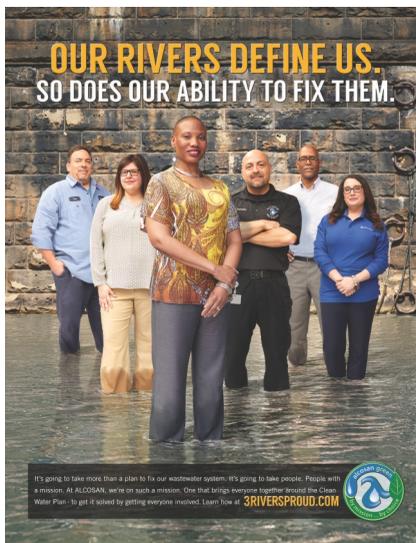


COMMUNICATIONS

The mission of the Communications Division is to educate and inform the public, elected officials and local government staff members about the work that ALCOSAN performs in its 83 member municipalities. This work takes three forms – public relations, municipal relations and scholastic outreach and education.

In August, ALCOSAN launched its largest campaign, 3 Rivers Proud, to tell ALCOSAN's story and the many reasons the organization has to be proud of its role in creating a cleaner environment for the region. At its core, 3 Rivers Proud is the story of the people of ALCOSAN and our pride in our work. That's why employees, not models, were used in print advertisements, on billboards and on the campaign's 3riversproud.com website. They are best at explaining our shared role.

"I like to take care of the Earth," is how Pete Bruner of the Regional Conveyance Division, puts it. He's the uniformed man in the center of the "Our Rivers Run" ad. "In cleaning the water so it's safe for us, we're doing something about it and not just talking about it," said executive assistant Camille Smith, who is in the center of the "Our Rivers Define Us" ad.



ALCOSAN employees became familiar faces on billboards and in print advertising as part of the 3 Rivers Proud campaign launch

ALCOSAN employees are members of the community, and every year they raise thousands of dollars for local charities. They carry the message of the importance of clean water wherever they go. The Public Relations team schedules group plant tours at ALCOSAN and staffs dozens of events throughout the region, including festivals, parades, community days and our largest event, the

DOG WASTE STATION

alcosan green
by mission ... by choice

Pet waste left on the ground is not only unsightly. It can wash into storm drains and contaminate our rivers and streams with bacteria and parasites.

Protecting our waterways from harmful pet waste is as easy as snagging it and bagging it in biodegradable bags that can be thrown into any trash can.

Our pups need clean water, and it's up to us to make it happen.

To learn more, visit www.pups4cleanwater.com

3 RIVERS PROUD

Courtesy of ALCOSAN and your municipality

As part of the Pups 4 Clean Water campaign, ALCOSAN began offering branded dog waste stations to municipalities with corresponding clean water messaging.

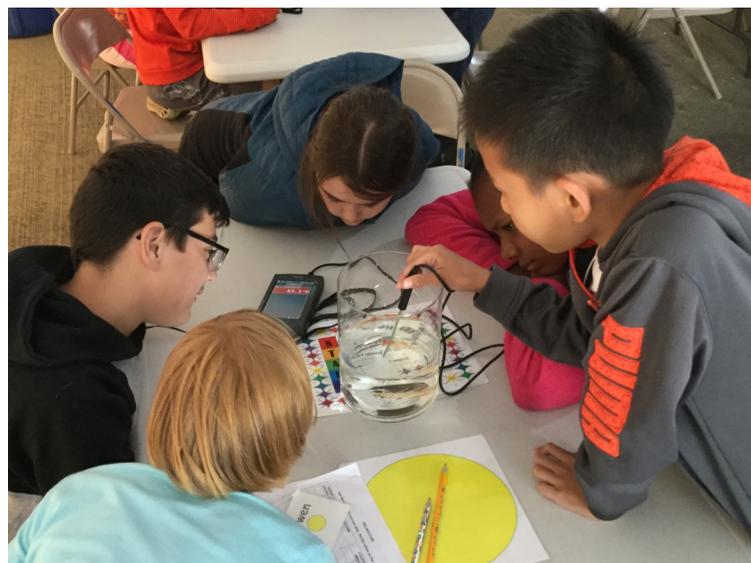
more. The department is a liaison between ALCOSAN and the municipalities, arranges for community events to be included on the 3riversproud.com events page, and handles requests for free dog waste stations for municipal parks.

The Scholastic Outreach and Education team is most visible to our youngest residents. Certified teachers create and lead age-appropriate lessons for students in preschool through high school. They conduct after-school and weekend programs to prepare young people for the skilled labor force and for other STEM-related careers, they assist interns, provide plant tours for student groups, and hold popular summer day camps, including the Summer Science program for students in grades four through eight and the Clean Water Academy for high school students.

In addition to youth programming, Scholastic Outreach provides continuing education opportunities for professional educators in the ALCOSAN service area through the Science and Environmental Education Advisory Collaborative. Program topics in the 2016-2017 school year included green infrastructure, water quality assessment techniques, engineering and environmental art.

annual Open House. On September 16, the plant was packed with 2,378 visitors who toured the facility, participated in 50 different activities for all ages, enjoyed a free lunch, and watched as we honored 2017's Clean Water Stars – Christopher D'addario of Just Ducky Tours, Mary Turner of Larimer, Shaler Manager Tim Rogers and Avalon Elementary students Tyler Harold and Alex McLellan.

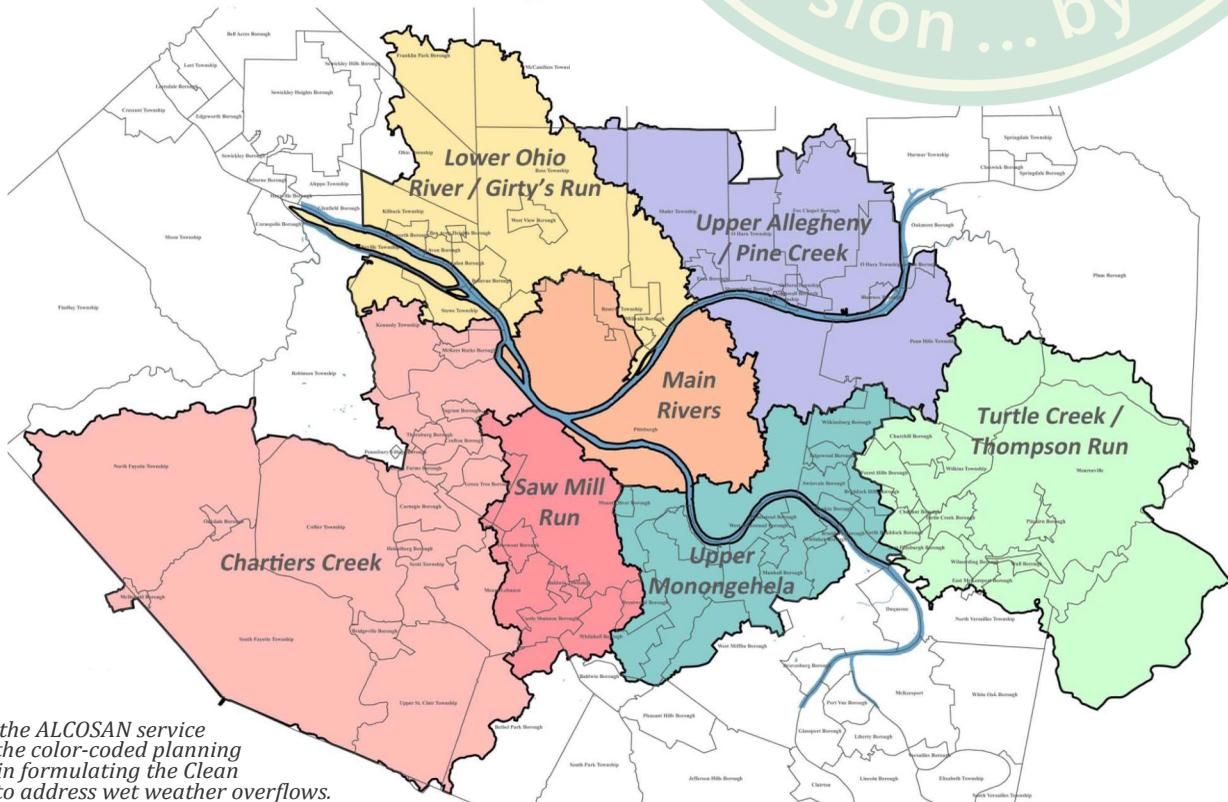
The Municipal Relations and Outreach team meets with local elected officials and their staffs so they are up to date on services ALCOSAN offers. In addition to meeting with representatives from all of ALCOSAN's municipalities, the team manager and staff also participate in the Allegheny League of Municipalities, CONNECT, the 3 Rivers Wet Weather organization and



Participants in ALCOSAN's Summer Science day camp experience environmental science through interactive hands-on activities



ALCOSAN SERVICE AREA



This map of the ALCOSAN service area shows the color-coded planning basins used in formulating the Clean Water Plan to address wet weather overflows.

Customer Municipalities

Aspinwall Borough
 Avalon Borough
 Baldwin Borough*
 Baldwin Township
 Bellevue Borough
 Ben Avon Borough
 Ben Avon Heights Borough
 Bethel Park*
 Blawnox Borough
 Braddock Borough
 Braddock Hills Borough
 Brentwood Borough
 Bridgeville Borough
 Carnegie Borough
 Castle Shannon Borough
 Chalfant Borough
 Churchill Borough
 Collier Township*
 Crafton Borough
 Dormont Borough
 East McKeesport Borough*
 East Pittsburgh Borough

Edgewood Borough
 Emsworth Borough
 Etna Borough
 Forest Hills Borough
 Fox Chapel Borough*
 Franklin Park Borough*
 Green Tree Borough
 Heidelberg Borough
 Homestead Borough
 Indiana Township*
 Ingram Borough
 Kennedy Township
 Kilbuck Township
 McCandless Township*
 McDonald Borough
 McKees Rocks Borough
 Millvale Borough
 Monroeville
 Mt. Lebanon
 Mt. Oliver Borough
 Munhall Borough
 Neville Township

North Braddock Borough
 North Fayette Township*
 North Huntingdon Twp.*
 North Versailles Township
 O' Hara Township
 Oakdale Borough
 Ohio Township*
 Penn Hills*
 Penn Township*
 Peters Township*
 Pitcairn Borough
 Pittsburgh, City of
 Pleasant Hills Borough*
 Plum Borough*
 Rankin Borough
 Reserve Township
 Robinson Township*
 Ross Township
 Rosslyn Farms Borough
 Scott Township
 Shaler Township
 Sharpsburg Borough

South Fayette Township
 Stowe Township
 Swissvale Borough
 Thornburg Borough
 Trafford Borough
 Turtle Creek Borough
 Upper St. Clair Township
 Verona Borough*
 Wall Borough
 West Homestead Borough
 West Mifflin Borough*
 West View Borough
 Whitaker Borough
 Whitehall Borough
 Wilkins Township
 Wilkinsburg Borough
 Wilmerding Borough

*Communities not served in their entirety



Independent Auditor's Report

Board of Directors Allegheny County Sanitary Authority

The accompanying summary financial statements of the Allegheny County Sanitary Authority (Authority), Pennsylvania, as of and for the years ended December 31, 2017 and 2016, and the related notes, are derived from the audited financial statements of the Authority, as of and for the years ended December 31, 2017 and 2016, and the related notes. We expressed an unmodified audit opinion on those audited financial statements in our report dated March 20, 2018.

The summary financial statements do not contain all the disclosures required by accounting principles generally accepted in the United States of America. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of the Authority.

Management's Responsibility for the Summary Financial Statements

Management is responsible for the preparation of the summary financial statements on the accrual basis of accounting.

Auditor's Responsibility

Our responsibility is to express an opinion about whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which were conducted in accordance with auditing standards generally accepted in the United States of America. The procedures consisted principally of comparing the summary financial statements with the related information in the audited financial statements from which the summary financial statements have been derived, and evaluating whether the summary financial statements are prepared in accordance with the accrual basis of accounting.

Opinion

In our opinion, the summary financial statements of the Authority as of and for the years ended December 31, 2017 and 2016 referred to above are consistent, in all material respects, with the audited financial statements from which they have been derived, on the accrual basis of accounting.

Maher Duessel

Pittsburgh, Pennsylvania

March 20, 2018

FINANCIAL STATEMENT

CONDENSED STATEMENTS OF NET POSITION

DECEMBER 31, 2017 AND 2016

Cash and Cash Equivalents

These balances represent unrestricted assets that the Allegheny County Sanitary Authority (Authority) can use at its discretion.

Accounts Receivable

Accounts receivable represent funds owed to the Authority for fees billed and unbilled to users that have not yet been paid.

Restricted/Designated Cash and Investments

Restricted cash and investments are primarily comprised of funds provided by bond issuances that are unspent and are to be used by the Authority to implement its capital improvement plan. Designated cash and investments are to be used for specific purposes specified by management.

Property, Plant, & Equipment, Net

Property, plant, and equipment, net, such as incinerators, administrative buildings, and land are items used to provide the Authority's services.

Sewer Revenue Bonds

Sewer revenue bonds represent amounts that will be paid over future years. The proceeds of these bonds were/will be used to fund capital improvements.

Deferred Outflows of Resources

Deferred outflows of resources are comprised of the refunding adjustment on bonds issued in prior years and changes in the pension funds.

Deferred Inflows of Resources

Deferred inflows of resources are comprised of changes in the pension funds.

	<u>2017</u>	<u>2016</u>
Assets		
Cash and cash equivalents	\$ 119,248,255	\$ 91,684,772
Accounts receivable	57,423,069	50,027,856
Restricted/designated cash and investments	100,289,509	123,874,561
Property, plant, and equipment, net	608,600,195	595,367,416
Other	12,904,742	13,335,703
Total Assets	898,465,770	874,290,308
Deferred Outflows of Resources		
Related to pensions	21,247,515	19,454,240
Refunding adjustment	8,074,203	9,259,327
Total Deferred Outflows of Resources	29,321,718	28,713,567
Total Assets and Deferred Outflows of Resources	\$ 903,003,875	\$ 903,003,875
Liabilities		
Accounts payable and accrued expenses	\$ 24,201,733	\$ 23,657,698
Net pension liability	16,421,705	10,265,284
Sewer revenue bonds	621,682,220	651,449,841
Total Liabilities	662,305,658	685,372,823
Deferred Inflows of Resources		
Related to pensions	2,935,957	4,102,436
Net Position	262,545,873	213,528,616
Total Liabilities, Deferred Inflows of Resources, and Net Position	\$ 927,787,488	\$ 903,003,875



CONDENSED STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2017 AND 2016

	<u>2017</u>	<u>2016</u>
<u>Operating Revenues</u>	\$ 170,182,173	\$ 151,390,618
<u>Operating Expenses:</u>		
Sewer treatment operations	52,409,889	51,303,695
Administrative and other	21,990,218	19,287,066
Total operating expenses before depreciation	74,400,107	70,590,761
Depreciation	22,426,718	21,271,326
Operating Income	73,355,348	59,528,531
<u>Non-Operating Revenues</u>	1,096,517	310,794
<u>Non-Operating Expenses</u>	(25,434,608)	(24,602,341)
Change in Net Position	49,017,257	35,236,984
<u>Net Position:</u>		
Beginning of year	213,528,616	178,291,632
End of year	\$ 262,545,873	\$ 213,528,616

Operating Revenues and Expenses

Operating revenues are primarily fees received from users to cover the total operating expenses associated with the services provided by the Authority

Non-Operating Revenues and Expenses

Non-operating revenues are primarily received from interest earned on restricted cash and investments, as well as pension adjustments. Non-operating expenses are primarily interest paid on bonds.

Independent Audit

Section 8 of the Municipality Authority Act of 1945 requires an annual audit by independent certified public accountants. The accounting firm of Maher Duessel, Certified Public Accountants, was selected by the Authority's Board of Directors. The audit was performed without any limitations as to scope and resulted in an unqualified opinion being rendered. A copy of the audit report is available for inspection at the Authority's administrative offices.

Closing Remarks

This report provides a snapshot of the financial position and activity of the Authority. Management has taken significant measures over the past several years to maintain and improve both the financial condition and operational efficiency of the Authority while maintaining competitive user rates.

ALCOSAN AT A GLANCE

HISTORY



ALCOSAN was created under the Pennsylvania Municipal Authorities Act in 1946 to design, construct and operate an interceptor system and treatment plant for residential, commercial and industrial wastewater. The plant went into service in 1959 as a primary treatment facility. As national environmental awareness grew, it became clear that primary treatment was insufficient in meeting increasing river quality standards. The design of secondary (biological) treatment processes began in the late 1960s and operation of the secondary treatment plant commenced in 1973.

SERVICE

ALCOSAN maintains approximately 90 miles of interceptor sewers that convey wastewater from municipal sewer systems to the 59-acre treatment plant on Pittsburgh's North Side. The service area extends over 310 square miles and provides wastewater treatment to 83 municipalities, including the city of Pittsburgh. Plant treatment capacity is 250 million gallons per day, with an average daily flow of 195 million gallons and a total processing time of nine to 12 hours.



PEOPLE

ALCOSAN employs 412 people, with 119 employees designated as salaried, including directors, managers, first-line supervisors and professionals. The rest of the workforce is made up of members of the Utility Workers Union of America Local 433 and a security staff represented by the General Teamsters, Chauffeurs and Helpers Local 249. Most ALCOSAN employees work Monday through Friday, with Operations Department personnel and security staff working a rotating shift schedule.

Senior staff includes:

Arletta Scott Williams, Executive Director

Arthur Tamilia, Director of Environmental Compliance

William Inks, Director of Finance & Administration

David Borneman, P.E., Director of Engineering & Construction

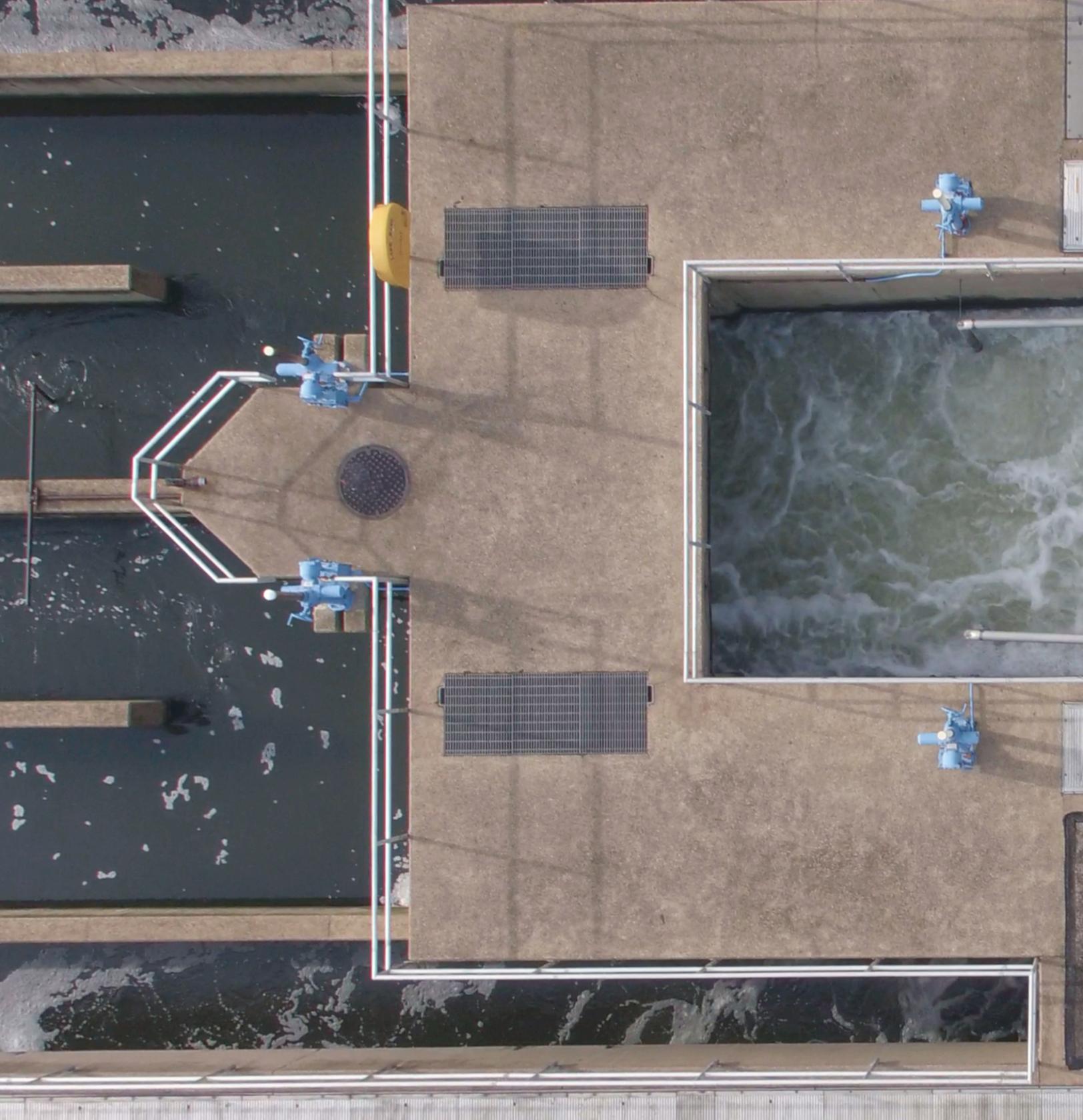
Jan Oliver, Director of Regional Conveyance

Douglas Jackson, Director of Operations & Maintenance

Jeanne K. Clark, Director of Communications

Suzanne Thomas, Procurement Officer





3 RIVERS PROUD

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WWW.ALCOSAN.ORG

