

NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT

Regional. Reliable. Everyday.

2016-2017 ANNUAL REPORT



WATER
SERVICES



WASTEWATER
SERVICES



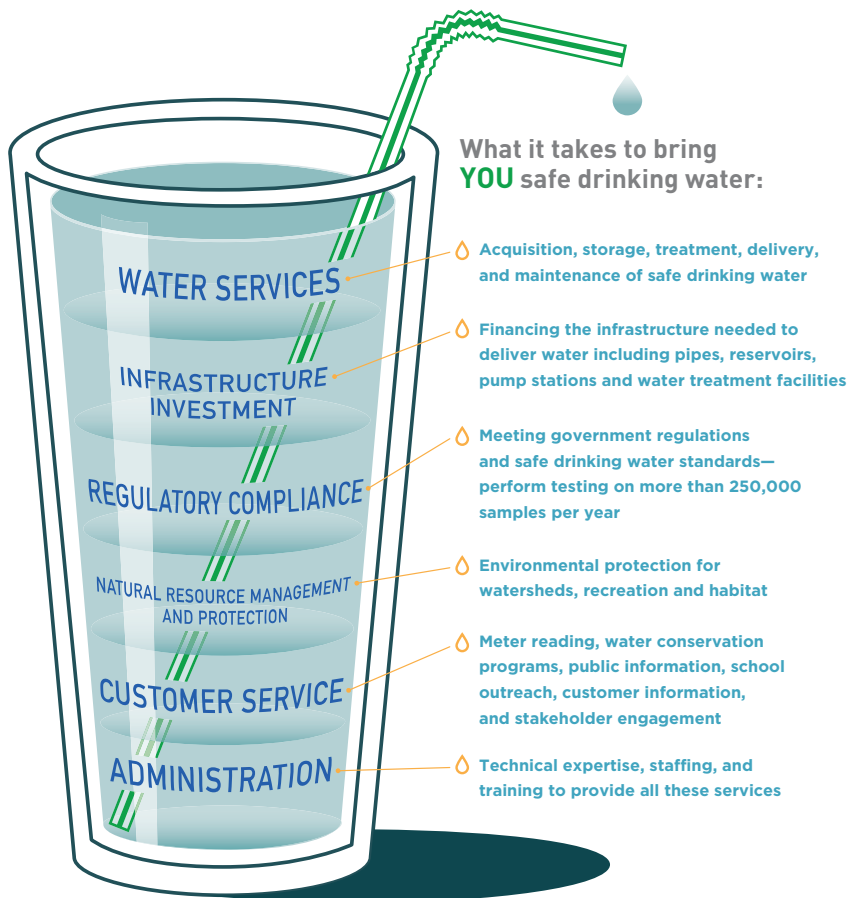
SOLID WASTE
SERVICES



MORE THAN WATER

WATER IS ESSENTIAL FOR LIFE,
BUT IT TAKES MUCH MORE THAN WATER
TO KEEP IT FLOWING TO NEARLY
80 NORTH TEXAS COMMUNITIES.

YOUR WATER SYSTEM



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OUR EXECUTIVE DIRECTOR

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DIRECTORS
EXECUTIVE TEAM

MESSAGE FROM OUR EXECUTIVE DIRECTOR

IT TAKES MORE THAN WATER

Did you know that only 15 percent of the cost of water actually pays for the amount of water you use? The remaining 85 percent covers the vast and complex system of infrastructure to deliver it and a dedicated team of experts who make it all happen. Delivering water requires more than water.

Over the past year, North Texas Municipal Water District has worked to educate our stakeholders about what it takes to deliver clean, safe drinking water at a reasonable rate. We have begun using #MoreThanWater in our education efforts. It's an important part of the story because "making drinking water" is complex. Most people turn on the faucet without understanding how much really goes into the process.

As one of the largest wholesale water providers in Texas, NTMWD is continually investing in upgrades to our existing system, including some components that are 60 years old. And we are looking ahead to ensure we have enough water and the required infrastructure to meet the demands of one of the fastest-growing regions in the country.

In 2017, we advanced the much-needed rehabilitation and critical upgrades to our 60-year-old original Wylie Water Treatment Plant to bring it up to modern standards and significantly increase treatment capacity. Forward-thinking projects, such as the planned construction of the Lower



THOMAS KULA
Executive Director
and General Manager

Bois d'Arc Creek Reservoir, are essential to providing continual, dependable water services to all the communities we serve. We made important advances in 2017 on this new reservoir and are preparing to start construction in 2018.

And we do much more than deliver drinking water. We also manage wastewater and solid waste for our communities. All of these services require a dedicated team of more than 750 employees who work in many cases 24/7 every day of the year to make sure our cities' needs are met.

At the end of our 2017 fiscal year, we had 81 water, 42 wastewater and 9 solid waste projects underway. You can read more about the work we have in progress on page 14 of this report.

We appreciate the dedication of our board of directors, staff and our cities who work tirelessly to provide indispensable services to our region. The next time you take a sip of water, use a drain or toss a piece of trash, remember that there are complex systems and a team of people working behind the scenes to make all that possible.

Thomas Kula
Executive Director and General Manager



WATER SERVICES

CLEAN WATER IS CRITICAL FOR THE QUALITY OF LIFE WE ENJOY IN NORTH TEXAS, FOR OUR BUSINESSES TO OPERATE, AND FOR PUBLIC HEALTH AND SAFETY.



Getting clean, safe water to 1.7 million people is no easy task, but it's one that NTMWD takes very seriously.

In addition to a multi-step, water treatment process, our team must transport water through hundreds of miles of pipeline both to our treatment plants and then on to distribution systems within the communities we serve. This work requires an extensive network of pumps, pipes, storage tanks, technology and staff that must all be factored into the cost of our service.

To keep all these components running smoothly and to ensure the best water quality possible, our team operates, monitors and repairs various components of the water system. Not only do they run our systems, but they also direct treated water to the members and customers we serve and make sure their tanks have the water needed 24/7.

In addition to these operations tasks, our laboratory staff collects over 250,000 water samples each year to test for bacteria, viruses, suspended solids, pollutants and metals to verify that our water continues to meet health and safety requirements.

Our pipes and plants, some of which are over six decades old, require regular upgrades and repairs due to natural deterioration. New infrastructure projects such as additional pipelines, plants and reservoirs are essential for us to continue supplying clean water to a region whose population is projected to double over the next 50 years.

Together, these many pieces create the complete picture of our water delivery service. It is only with every one of these components that we are able to continue providing wholesale water to one of the nation's fastest-growing areas for only about one-quarter penny per gallon.

QUICK FACTS:

- **Water Sources: Lavon Lake, Chapman Lake, Lake Texoma, Lake Fork, Lake Tawakoni, Lake Bonham, Wetland**
- **Member Cities, Customer Cities and Communities Served: about 80 on a daily basis**

FAST FACTS

WATER SERVICES

COMMUNITIES SERVED

461
WATER STAFF



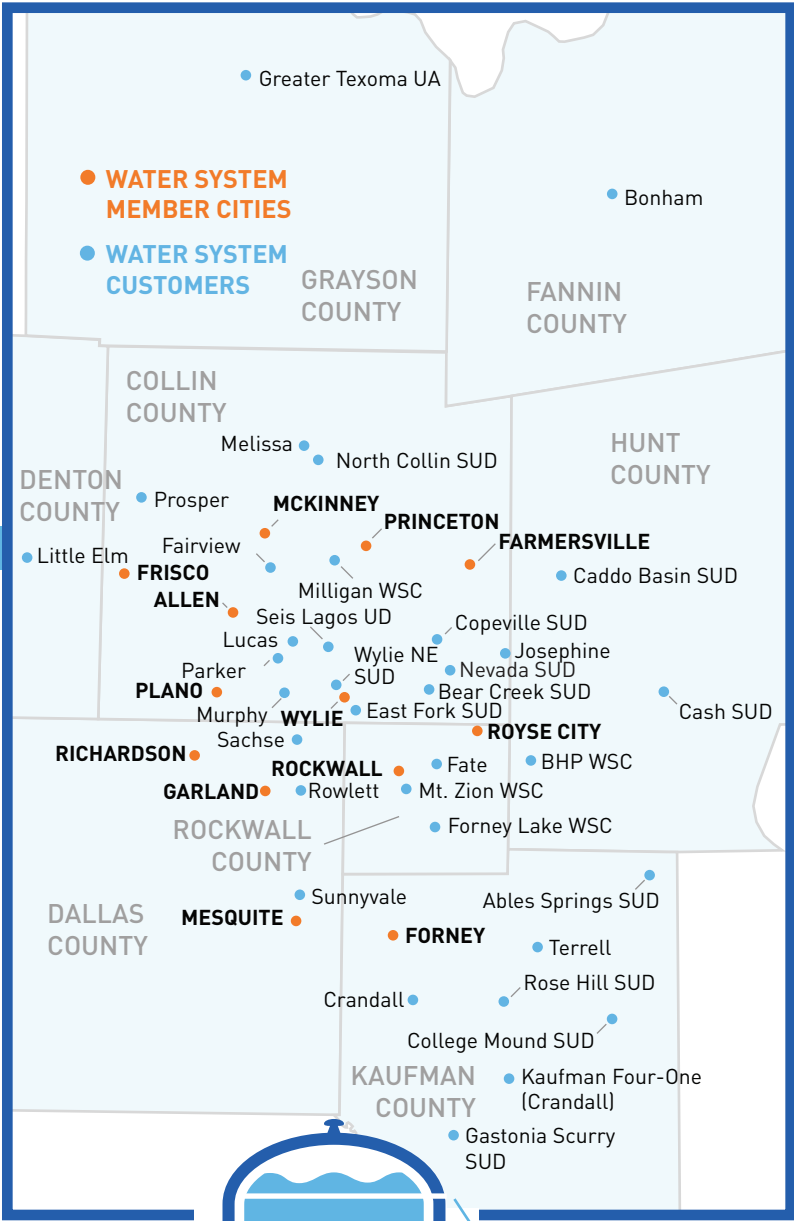
576
Miles of water
transmission lines



6
Water treatment
PLANTS

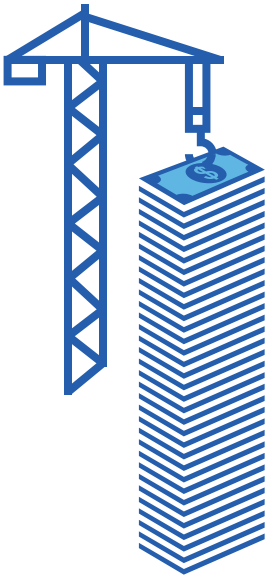
Up to
32 BILLION

Gallons of water
re-used
annually



\$346
MILLION

In water system
construction
contracts



Annual Water Use

85% Member
Cities
15% Customers

95.1 BILLION

Gallons of treated water
delivered this year

MAJOR WATER PROJECTS

The customers we serve today benefit from water projects previous generations planned, built and financed. Future generations depend on us to continue planning wisely to ensure an adequate water supply for their economy and livelihood. While water conservation is important to meeting future needs by stretching existing supplies, NTMWD cannot meet the demand without new water supplies and projects.

LOWER BOIS D'ARC CREEK RESERVOIR

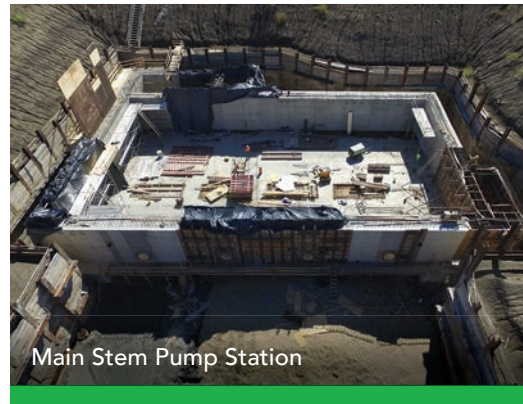
NTMWD is developing several raw water supplies to meet water demands for the next 50 years. We are nearing the approval and the start of construction of the Lower Bois d'Arc Reservoir, the first reservoir to be built in Texas for nearly three decades. Water delivery should begin in 2022. The project encompasses five major components including 60 miles of pipeline and an additional water treatment plant.

QUICK FACTS:

- Lake surface area: **16,641 acres** (slightly smaller than Cooper Lake)
- Storage capacity: **367,609 acre-feet**
- Yield: Up to **108 million gallons per day** (about same as Lavon Lake)
- Environmental mitigation: Improvements on nearly **17,000 acres**
- Estimated cost: **Over \$1.2 billion** (2016 dollars)

TRINITY RIVER MAIN STEM PROJECT

NTMWD is a state leader in water reuse, and the Trinity River Main Stem Pump Station and Pipeline project will allow us to expand our water reuse supplies. Key project components include an up to 100 million gallons per day (MGD) pump station and 17 miles of 72-inch-diameter pipeline.



Main Stem Pump Station

Once completed in 2019, the Main Stem Pump Station and Pipeline will divert water from the Trinity River to the East Fork Water Reuse Project, commonly known as the "wetland." As the water passes through 1,840 acres of wetland, aquatic plants and sunlight naturally filter the water through a process that removes about 95 percent of the sediment, 80 percent of the nitrogen and 65 percent of the phosphorus. The cleansed water will then be piped over 40 miles through an existing pipeline to the north end of Lavon Lake and blended with our other raw water sources.

CONSERVATION: A KEY SOURCE OF SUPPLY



Launched in 2004, the NTWMD-supported WaterIQ campaign was the first public awareness program in Texas to educate residents about their local water resources and provide easy tips on how they can help conserve. [#KnowBetterWaterBetter](#)



WATER4OTTER.ORG

As part of the Water4Otter youth education program, Otis the Otter and his friends Farrah and Bob encourage students to stop wasteful water use habits and protect the wildlife sharing Lavon Lake. The program launched in 2014 and received the 2017 Blue Legacy Award for responsible water resource management.

WaterMyYard.org

About 50 percent of landscape water is wasted due in large part to overwatering. To reduce waste, NTMWD sponsors WaterMyYard.org, a weather-based irrigation tool that guides the public on when and how much to water.

#PledgeToPlantSmart

This public services campaign features prominent Texas leaders who educate residents on the importance of selecting plants native and adapted to the state or well suited for our North Texas climate.

\$17 MILLION+
in conservation
education since 2006

WaterIQ
celebrates
13 YEARS

Water4Otter
reached more than
22,000 STUDENTS

2017
Blue Legacy
AWARD

Weekly watering
recommendations to
7,000+
SUBSCRIBERS



WASTEWATER SERVICES

OUR WATER FLOWS THROUGH ONE LARGE SYSTEM THAT INCLUDES MORE THAN TREATMENT FOR DRINKING. WATER USED IN HOMES AND BUSINESSES MUST BE COLLECTED, TREATED AND RETURNED TO OUR WATERWAYS.

Wastewater treatment is often overlooked because it is primarily accomplished behind the scenes. This service, however, provides the equally important other half of our region's water equation. Since treated wastewater eventually cycles back to our streams and lakes and becomes part of our future water supply, proper management after using water is essential to protecting our public health and environment.

NTMWD staff test about 750 wastewater laboratory samples for 97 individual compounds each week to make sure the water we put back into the environment is as clean or cleaner than the stream water it will be blended with.

NTMWD's wastewater system serves 24 communities and about one million residents through another extensive treatment process and system carefully run by our team of wastewater employees.

As with the regional water system, our wastewater system requires continual maintenance, upgrades and expansion.

Our operators daily battle clogs of wipes, twigs and grease to keep pipes clear and make sure that the systems we currently have continue to function properly.

Our engineers are constantly planning and managing the construction of new infrastructure for the growing communities we serve. The regional wastewater conveyance system and 14 treatment plants operated by NTMWD are in the process of over \$215 million in upgrades and expansions, including at the Rowlett Creek treatment plant in Plano, the Stewart Creek West plant in Frisco and the Wilson Creek plant in Lucas.



Wilson Creek Plant Improvements

Through the integration and harmony of these many aspects, we are able to responsibly contribute to both halves of our region's water cycle and preserve clean water for decades to come.

FAST FACTS

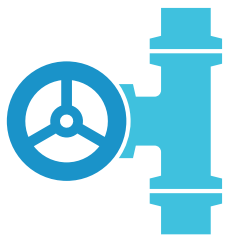
WASTEWATER SERVICES

COMMUNITIES SERVED

211
WASTEWATER
STAFF

\$215+
MILLION

In regional
wastewater
conveyance system
construction
contracts



252
MILES

large-diameter
wastewater
pipelines

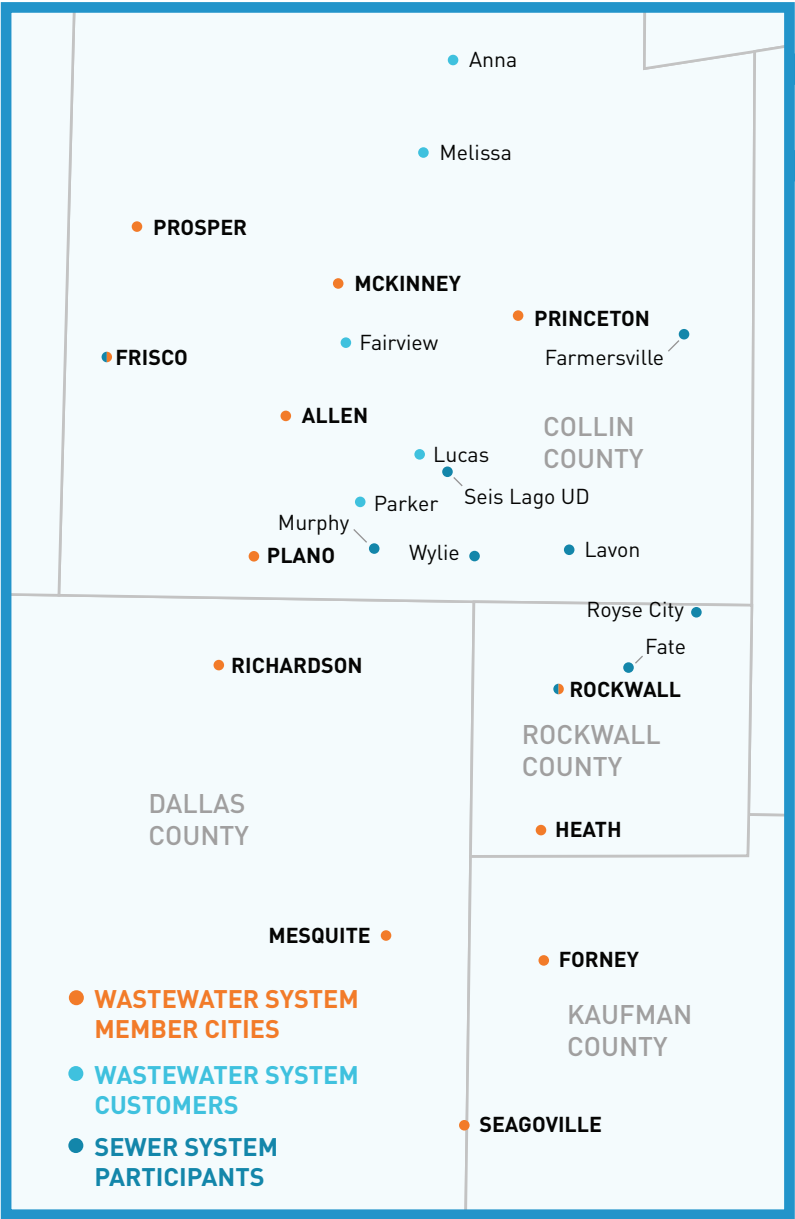
Up to
152 MGD
(MILLION GALLONS/DAY)

Total wastewater
treatment capacity



14

WASTEWATER
treatment plants



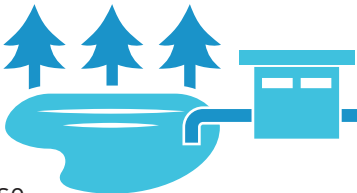
37.5
BILLION

Gallons of wastewater
treated this year



13.9
BILLION

Gallons treated
in wetland for reuse



18 BILLION

Gallons treated
wastewater
returned to Lavon
Lake for reuse

NTMWD MEMBER CITIES

OUR MEMBER CITIES ARE FREQUENTLY RECOGNIZED NATIONALLY AS DESIRABLE PLACES TO RAISE FAMILIES, DO BUSINESS AND ENJOY A HIGH QUALITY OF LIFE. NTMWD IS PROUD TO PROVIDE VITAL SERVICES THAT SUPPORT THESE THRIVING COMMUNITIES AND THE PEOPLE WHO CALL THEM HOME.

Best Texas Cities for Young Families 2017



ALLEN

FORNEY

FRISCO

ROYSE CITY

WYLIE



FARMERSVILLE



PLANO



GARLAND



PRINCETON



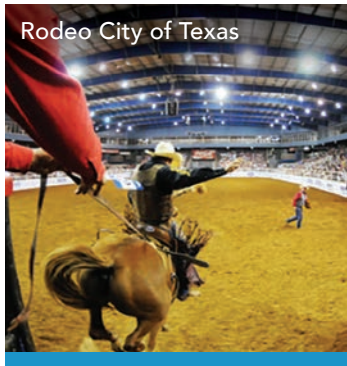
Best Place to Live in America (2017)



International Business Capital of North Texas (2011)



Rodeo City of Texas



Second in the Nation for Job Growth (2013)





SOLID WASTE SERVICES

WASTE REMOVAL AND PROCESSING SERVICES ALSO PLAY A KEY ROLE IN MEETING THE DEMANDS OF NORTH TEXAS' GROWING POPULATION.

This past year alone, we processed 1,009,236 tons of solid waste for Allen, Frisco, McKinney, Plano and Richardson, as well as Collin County and surrounding areas.

Solid waste is picked up from residents and businesses and delivered to one of our three transfer stations (two in Plano and one in Richardson), where it is loaded onto larger NTMWD trucks for cost efficiency and emission reduction, then transported to the 121 Regional Disposal Facility (landfill) in Melissa. Residents and contractors may also drop off waste directly at the landfill facility.

MAJOR PROJECTS COMPLETED

To help control odor at the landfill, NTMWD installed 89 gas collection wells to capture landfill gas before it leaves the facility. Additionally, we partnered with Morrow Renewables on construction of a gas-to-energy plant that was completed in late 2017. The plant will harvest methane produced by the landfill and convert it to clean-burning renewable natural gas that will be sold commercially to offset the landfill's operating costs.

In January 2016, construction also began on the new Lookout Drive Transfer Station adjacent to the existing, outdated facility in Richardson. Construction is now complete and crews accepted the first load from the City of Richardson on August 14, 2017. We are already seeing significant operational benefits from the new facility's top-load, state-of-the-art design, including reduced trips to the landfill, fuel costs, emissions and vehicle wear.



Gas-to-Energy Plant



Lookout Drive Transfer Station

FAST FACTS

SOLID WASTE SERVICES

COMMUNITIES SERVED

101
SOLID WASTE
STAFF

4 Regional
Citizen
CONVENIENCE
CENTERS



48,547

tons of yard waste
composted
annually



3,900

tons of solid waste
disposed per day
at 121 Regional
Disposal Facility

1,009,236

TONS
of solid waste
accepted yearly



3 Transfer stations
process up to

3,295 TONS
of solid waste per day



COMMUNITY OUTREACH

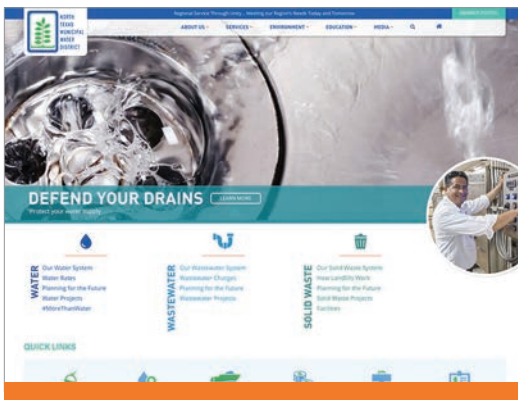
NTMWD has been working to enhance its communications program. Our community outreach not only looks new with updated e-newsletters and website, but we have also increased the avenues of engagement with member and customer cities through regular facility tours, new videos and several new social media campaigns.

This past year, we began the distribution of two regular newsletters: a quarterly Project Pipeline that provides a snapshot of projects in progress or recently completed, and a monthly News Stream that highlights key NTMWD happenings and information relevant to our cities.

Our website has also been completely re-organized and re-designed to improve ease of use and overall appearance. In

addition, several new sections were created to fill informational gaps and provide website users with charts, infographics and information on hot topics.

We have also recently expanded our methods of outreach. To further highlight the services that NTMWD is delivering in a memorable way, our facilities began offering an increased number of facility tours, with over 200 participants in the past year alone. These opportunities enabled city staff, administrators and elected officials to explore our Wylie Water Treatment Plant, Laboratory and our East Fork Water Reuse Project to learn more about what it takes to deliver water to our customers.



To share our role and work behind the scenes with the general public, we also created three new videos and several social media campaigns. Our videos *Who We Are*, *Journey of Water* and *#MoreThanWater* explain our history and services, the water treatment process and the significant value our services provide to support the economic growth and daily lives of North Texans. These can all be found on our YouTube channel and website. The *#MoreThanWater* video aired on American Airlines flights in June.

Similarly, our social media campaigns emphasized all the *#MoreThanWater* that goes into providing our services while also playing on iconic Texan “BiggerInTexas” terminology and highlighting how our services support North Texans where they live, work and play—whether that be on our lakes or under the Friday Night Lights. These campaigns increased overall traffic to and engagement on our social media channels, which remain key places where our communities’ residents seek information.



LAVON LAKE WATERSHED PROTECTION

Throughout 2017, we partnered with other agencies and the cities within the Lavon Lake watershed to develop a plan for protecting the quality of our water supplies. The initiative had valuable stakeholder input and resulted in the Lavon Lake Watershed Protection Plan. The plan encourages best practices in areas like stormwater management and green infrastructure, and has been accepted by the Environmental Protection Agency (EPA) as meeting all requirements of EPA's nine element guidance for watershed-based plans.

KEEPING OUR INFRASTRUCTURE RELIABLE

3 Key Drivers of Infrastructure Needs

Increasing regulatory requirements



6%

Aging pipes and systems



22%

Building new supply sources & delivery systems for growth



72%

* stats based on FY2017 budget

#MoreThanWater means maintaining the shared regional systems for water, wastewater and solid waste. To do this, our capital improvements budget supports work in three crucial areas: meeting regulatory standards, repairing aging infrastructure and investing in new projects and improvements.

All these critical efforts are necessary to ensure uninterrupted services both today and tomorrow.

COMPLYING

While it occurs behind the scenes, work to meet increasing regulatory requirements is essential to our services. NTMWD's laboratory conducts more than one-quarter million tests annually on 97 compounds to ensure that our water complies with state and federal laws.

UPDATING AND MAINTAINING

Critical updates and repairs are also central to our operations. In 2017, we made electrical improvements to the Wilson Creek Regional Wastewater Treatment Plant and extensive renovations to our 60-year-old original Wylie Water

Treatment Plant. This work included improving underground storage tanks, sedimentation basins and filters. On top of these major projects, our team also repaired 35 pipelines to stop or prevent both raw and treated water leaks, including a major emergency repair on the Chapman pipeline which included replacement of 700 linear feet of pipe.

BUILDING AND IMPROVING

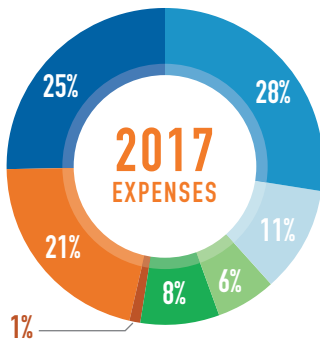
Building new supply sources, treatment facilities and delivery systems is the final piece absolutely essential to the future of the growing communities we serve. The Lower Bois d'Arc Reservoir and Trinity Main Stem Pump Station and Pipeline projects will add more than 200 million gallons of water each day to our system once complete.



Chapman Pipeline Repair

FINANCIAL HIGHLIGHTS

	2017	2016	2015	2014	2013	2012
Total Operating Revenues	\$ 439,923,445	\$ 398,068,222	\$ 338,513,458	\$ 310,571,544	\$ 294,318,335	\$ 266,482,345
Total Operating Expenses	\$ 253,691,088	\$ 224,688,538	\$ 208,587,026	\$ 206,640,634	\$ 185,544,056	\$ 172,604,883
Interest Expense	\$ 68,257,962	\$ 54,997,252	\$ 49,531,332	\$ 53,416,490	\$ 56,060,066	\$ 49,572,489
Net Position (end of year)	\$ 1,334,208,144	\$ 1,210,161,660	\$ 1,084,270,528	\$ 1,022,463,377	\$ 965,529,463	\$ 919,747,737
Capital Asset, Net	\$ 2,732,146,098	\$ 2,510,962,344	\$ 2,355,048,633	\$ 2,267,375,583	\$ 2,156,727,306	\$ 1,890,251,199
Total Assets	\$ 3,700,676,525	\$ 3,244,085,198	\$ 3,022,589,757	\$ 2,796,203,756	\$ 2,756,662,837	\$ 2,738,286,856
Total Liabilities	\$ 2,397,722,744	\$ 2,064,940,305	\$ 1,961,150,528	\$ 1,791,521,163	\$ 1,791,133,374	\$ 1,818,539,119
Total Outstanding Debt	\$ 2,065,757,110	\$ 1,787,809,381	\$ 1,719,386,205	\$ 1,613,849,003	\$ 1,615,909,154	\$ 1,654,227,993
Long-Term Bond Ratings						
Water System	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA
Wastewater System	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA	Aa2/AAA
Solid Waste System	Aa2/AA	Aa3/AA-	Aa3/AA-	Aa3/AA	Aa3/AA	Aa3/AA
Interceptor System	Aa1/AAA	Aa1/AAA	Aa1/AAA	Aa1/AAA	Aa1/AAA	Aa1/AAA
Debt Coverage Ratio	1.46	1.48	1.27	1.19	1.13	1.31



PERSONNEL
\$70,226,647

CHEMICALS
\$27,629,538

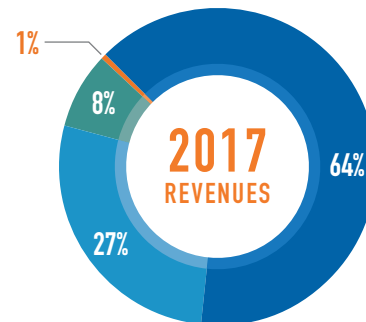
OTHER SUPPLIES
\$15,493,153

ELECTRIC POWER
\$19,894,130

WHOLESALE WATER PURCHASES
\$3,195,449

OTHER SERVICES
\$53,665,478

DEPRECIATION AND AMORTIZATION
\$63,586,693



WATER SALES
\$282,595,391

WASTEWATER SERVICE FEES
\$120,803,096

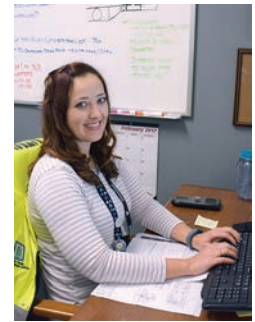
SOLID WASTE SERVICE FEES
\$34,206,532

OTHER OPERATING REVENUES
\$2,318,426

VISION:



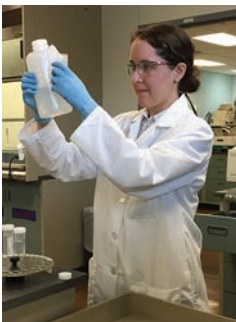
REGIONAL SERVICE THROUGH UNITY:
MEETING OUR REGION'S NEEDS TODAY AND TOMORROW



MISSION:



TO PROVIDE HIGH-QUALITY AND DEPENDABLE WATER, WASTEWATER
AND SOLID WASTE SERVICES IN A COST-EFFICIENT MANNER



GOALS:

- PROVIDE SUPERIOR SERVICES TODAY
- SECURE FUTURE SUPPLIES AND SERVICES
- MAINTAIN STRONG RELATIONSHIPS
- MAINTAIN OUR INFRASTRUCTURE
- TAKE CARE OF OUR PEOPLE



BOARD OF DIRECTORS JUNE 2016 TO MAY 2017

LEFT TO RIGHT:

Joe Stankiewicz, Deputy Director, Bobby Robinson (Mesquite), Lynn Shuyler (Frisco), John Murphy (Richardson), Bill Forbus (Royse City), Richard Peasley (Frisco), Michael Lopez (Forney), Larry Parks (Rockwall), James Kerr (Allen), Bill Lofland (Rockwall), John Sweeden, Secretary (Richardson), Wayne May (Farmersville), Marvin Fuller (Wylie), Bob Thurmond, Vice President (Wylie), Don Gordon (Garland), Terry Sam Anderson, President (Mesquite), Joe Farmer (Allen), Tom Kula, Executive Director, Bill Glass (Princeton), Jim Mellody (Royse City), Jack May (Garland), Phil Dyer (Plano), Rod Hogan (Plano), Judd Sanderson, Deputy Director, Mike Rickman, Deputy Director

Not Pictured: Don Cates (Forney), Charles McKissick (McKinney), Joe Joplin, Past President (McKinney), Bill Glass (Princeton), Richard Sheehan (Princeton)

EXECUTIVE TEAM 2016–2017

Tom Kula
Executive Director
and General Manager

Joe Stankiewicz
Deputy Director,
Engineering,
Capital Improvement
Programs/Planning

Mike Rickman
Deputy Director,
Operations,
Maintenance &
Technology

Judd Sanderson
Deputy Director,
Finance & Personnel

Billy George, P.E.
Assistant Deputy
Director, Water

Jenna Covington, P.E.
Assistant Deputy
Director, Wastewater

Jeff Mayfield, P.E.
Assistant Deputy
Director, Solid Waste

Cesar Baptista, P.E.
Assistant Deputy
Director, Engineering

R.J. Muraski, PMP
Assistant Deputy Director,
Capital Improvement
Programs/Planning

Rodney Rhoades
Assistant Deputy Director,
Finance & Personnel

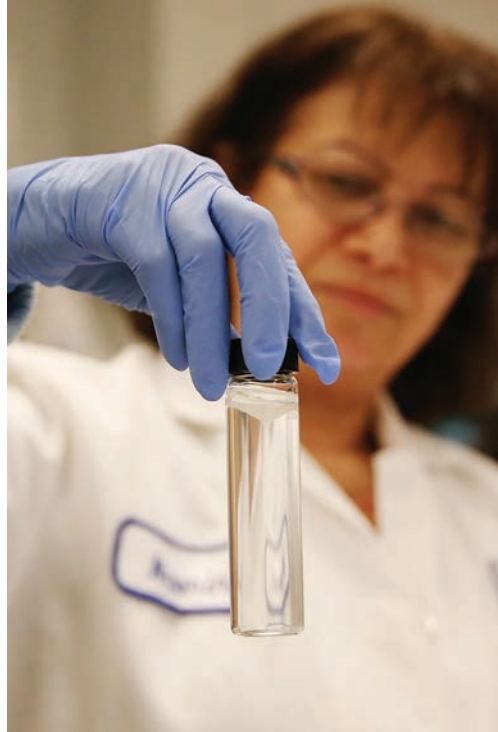
Jim Shirley
Chief Information Officer

Dave Patton
Maintenance Officer

Janet Rummel
Public Relations and
Communications Officer

Brian Brooks
Process Improvement
Advisor

Melisa Fuller
Executive Assistant



**NORTH
TEXAS
MUNICIPAL
WATER
DISTRICT**

NORTH TEXAS MUNICIPAL WATER DISTRICT

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