

City of Newark, Ohio
Division of Water and Wastewater
2021 Hind Sight Annual Report



Division of Water and Wastewater

City of Newark, OH



“To provide essential services that protect public health, preserve the environment and support sustainable growth of the community”

There is not much more that can be said about the current pandemic that hasn't already been said especially when it comes to providing essential services. Our mission of providing essential services continues to be a struggle during this pandemic. But even with the difficulties, we continue to move forward on many projects and as funding has become more readily available in the last part of the year, new projects have been moved forward and we continue to improve the City infrastructure. So, in a time like no other, where we continue to struggle to keep our own employees healthy so that we can provide those essential services to our customers, major projects continue to progress. I certainly would like to offer kudos to our essential workers who work under difficult circumstances in order to keep the water clean and flowing.

We had two major projects that continued throughout 2021. The 4th Street project continued to progress during the year. This project will replace existing combined sewer lines with new sanitary and storm sewers along State Route 13 from National Drive to Granville Street. New water lines will be installed as part of this project as well. This work is now about halfway completed and work on a roundabout in the middle of this work will begin soon. The second major project, 40th Street Transmission Line was substantially completed before the end of the year. This project will supply additional water volume to the southwest portion of the city and provide a redundant connection to that portion of the City. Two major directional bores, one under State Route 16 and one under Raccoon Creek were completed as part of this work. Work on a project to upgrade the existing control system at the water plant was also started in late 2020 and will continue this coming year.

As we look into the future of the City, one of our major projects will be replacement of lead service lines. Thanks to funding from the American Recovery Plan, the City will be able to replace all lead service lines within the City including the private lines into the house. This work will be bid in early 2022. Design for further sewer separation north of State Route 16 and on South Second Street will continue throughout 2022 and hopefully those project will be ready for bidding sometime after 2023.

Again, the impact of Covid -19 on our department, while not as significant as other experiences, did have an impact and we all look forward to its elimination so we can better continue our work. Throughout all this continued craziness we feel confident that our goal of **quality and reliable service at an affordable rate will be attainable with a little good planning and personnel** dedicated to provide top quality service. All of our projects are to improve infrastructure which ultimately will provide support to the community for sustainable growth. Long-term planning on the execution of our large capital projects is vital to this affordability. We must continue to be effective and efficient in our utility operation so that we can continue to provide quality, reliable service at rates that citizen can afford, this remains our primary goal.

Roger Loomis, Water Administrator

Financial Pages

“How you pay for it matters”

Wastewater Department

Active Customers	17,193
Million Gallons Treated	2,764
Miles of Sewer Line	182
Miles of Combined Line	57
Lift Stations	16

Water Department

Active Customers	18,696
Total Volume Billed (MG)	1,587
Total Water Produced (MG)	2,798
Miles of Water Line	244
Booster Stations	3
Storage Facilities	2

Expenses: (excluding capital items and projects)

Wastewater – Operating Expenses

Administration	\$2,107,194
Project Transfers	\$1,195,990
Treatment	\$2,489,394
Sewer Maintenance	\$ 470,173
Environmental Lab	\$ 382,359
Debt Retirement	<u>\$4,366,148</u>
Total	\$11,011,438

Water – Operating Expenses

Administration	\$2,085,285
Treatment	\$2,717,719
Distribution	\$1,221,071
Meter Shop	\$ 237,291
Debt Retirement	<u>\$1,548,577</u>
Total	\$7,809,943

Revenues:

Sewer

Rental <i>(sewer service)</i>	\$3,587,300
Administration	\$1,467,518
Debt Retirement	\$2,936,768
Surcharge	\$ 353,514
Capacity Fees	\$ 30,797
Trucked Wastes	\$ 344,340
Transfers	\$ 340,000
Miscellaneous*	\$ 97,502

Totals \$9,157,735

Water

Sales	\$5,647,688
Bulk Water	\$ 20,646
Delinquent	\$ 186,927
Meters	\$ 21,848
Permits	\$ 236,731
Capacity Fees	\$ 42,063
Deposits	\$ 146,120
On Account	\$ 374,748
Miscellaneous*	\$1,290,952

Totals \$7,967,723

Includes \$1,068,136 in transfers from sewer fund and \$194,639 from stormwater for water administration costs.

Debt Service Cover Ratio/% Debt/Working Capital Days

Wastewater – 2.1, (45%), 104 Water – 5.2, (19%), 102

Water Rate Comparison for 6000 Gallons of Usage (8 Units):

	<i>Granville</i>	<i>Heath</i>	<i>Johnstown</i>	<i>SWLCWS</i>	<i>Cols</i>	<i>Lancaster</i>	<i>Newark</i>
<i>Water</i>	\$36.84	\$49.36	\$60.54	44.73	35.87	\$54.86	\$25.44
<i>Wastewater</i>	\$43.98	\$51.37	\$40.36	93.38	47.33	\$71.30	\$35.65
Total	\$80.82	\$100.73	\$110.90	138.11	83.20	\$126.16	\$61.09



Major Facilities

The Division of Water and Wastewater is made up of six departments at four different base locations throughout the City. Other Facilities include 16 Sanitary Lift Stations, 3 Water Booster Stations, 2 Water Storage Facilities and 2 Auxiliary Water Wells.



Water Treatment Plant:

North Newark on the North Fork of the Licking River, 164 Waterworks Road.



Wastewater Treatment Plant:

East Newark on the Licking River at East Main Street and Ecology Row.



Water Distribution & Sewer Maintenance Complex:

East Newark, 1275 East Main Street.



Water Administration Office & Meter Shop:

Downtown Newark, 34 South 5th Street



Water Office

Goals - 2022

- ② Integrate our new position of Customer Services Coordinator into the front office and meter shop. This new role will help us to continue delivering quality customer service and improve our meter-to-cash processes and procedures.
- ② Address non-revenue water loss by focusing on our larger meters and conducting frequent testing and replacements where needed.
- ② Reestablish Customer Service Skills Training to assist us with our goal of providing exceptional customer service.
- ② Increase focus to encourage customers to participate in the ACH program to relieve the cost of credit card merchant fees and overall transaction costs.

Account Delinquency Report

Amount Delinquent as of 12-31-2021 (>90 days) - \$138,000

Amount Delinquent as of 12-31-2020 (>90 days) - \$153,000

Delinquent Collection: Delinquent amounts are being collected through withholding of services, placing liens on properties and in-house collection services.

Accomplishments – 2021

- ② Migrated the AMI network control computer to a hosted infrastructure provided by Aclara. This relieves us of server hardware and software maintenance, and ensures we are continually on the most relevant version of software.
- ② The front office lobby renovation was completed this year. This provides a safer environment by eliminating ease of access to our employees which reduces altercations with the public.
- ② Upgraded/installed 645 new meters, which remains hindered by the pandemic.
- ② Finalized 2,764 accounts and activated 2,772 new accounts. Currently have 19,359 active accounts with 6,563 of those being rentals.
- ② Recuperated \$39,362.88 in unpaid services through liens placed with Licking County.
- ② Customer Service answered 13,006 phone calls with an average wait time of 1:20.
- ② Busiest phone day was 9/30/21 with 135 answered calls. Wednesdays are the busiest day of the week with 11:00am -11:59am being the busiest time of day.

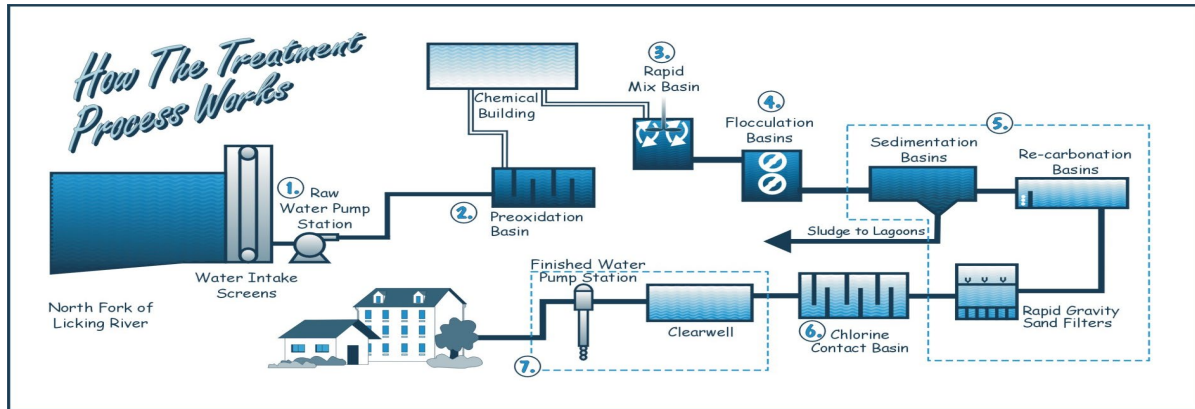
Customer Service Lobby



Top 5 Consumers of Water & Wastewater Services

Owens	542,699 gpd
Anomatic	379,092 gpd
Tamarack Farms Dairy	191,629 gpd
Licking Memorial Hospital	116,644 gpd
Mobile Power Wash (Industrial Water)	58,313 gpd





Ohio EPA Chemical Monitoring Averages for 2021

pH	8.79	S.U.
Phen. Alk.	3	mg/L
Total Alkalinity	44	mg/L
Stability	-10.08	mg/L
Hardness	109	mg/L
Phosphate	0.75	mg/L
Free Chlorine	1.29	mg/L
Combined Chlorine	0.084	mg/L
Fluoride	0.99	mg/L
Nitrate	1.732	mg/L
Turbidity	0.061	NTU
TOC (raw)	3.04	mg/L
TOC (finished)	1.275	mg/L
Lead (90 th percentile)	0	ug/L
Copper (90 th percentile)	0	mg/L

Production Data for 2021

Daily Average Production	6.55	MGD
Yearly Total Production	2,394.4	MG

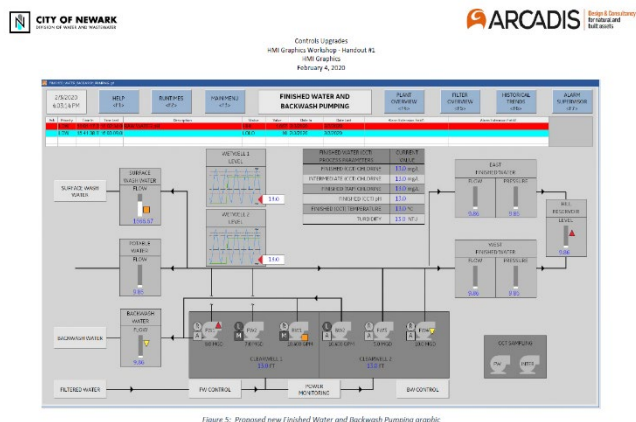
Major Project Goals for 2022

- Lime Sludge #3 lagoon hauling (Cont.)
- Filter Turbidity meter (10) Replacement Project
- River Dredging
- PLC/SCADA upgrade (Cont.)
- Fiber optic cable project (Cont.)
- Recycle Pump Replacement Project
- Replace backwash flow meter
- Metal Roof Replacement, Admin buildings
- Replace all filter flow controllers
- Source Water Equipment Monitoring Project
- Chlorine Storage Tank Replacement
- CO2 Storage System Upgrade
- Fluoride inline meter install and program

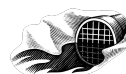
Major Projects Completed in 2021

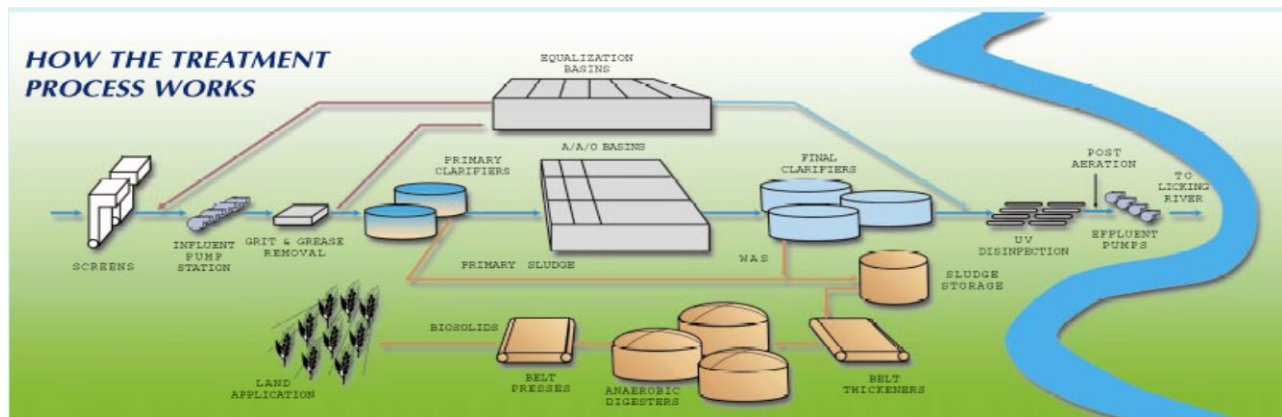
- PLC/SCADA upgrade project (in progress)
- Concrete pad for Bulk Chemical Unloading
- Dredged River
- Filter Chlorine Analyzer replacement & connected to New SCADA (2 of 2)
- Replaced 5 of 5 UV control touch screen
- Fiber optic cable project (90% completed)
- Backwash Pump Repair
- Filter Flow Controllers 1 & 5 repaired
- Lime Sludge Removed #3 lagoon (2,367 Tons)
- Filter panel control replacement & programming

Visit our website for more information on your water
<http://www.newarkohio.net/city-services/water-wastewater-main>



Page 5 of 10





2021 Plant Operation Data

Annual Average

Ave. Flow	Raw Suspended Solids	Final Suspended Solids	% Removal Suspended Solids	Raw CBOD	Final CBOD	% Removal CBOD	Raw Ammonia	Final Ammonia	% Removal Ammonia
MGD	mg/l	mg/l		mg/l	mg/l		mg/l	mg/l	
7.8	147.2	1.9	98.7%	104.6	2.6	97.5%	10.9	0.34	96.9%

Major Projects Completed in 2021

- Rebuilt both Dewatering belt presses.
- Disassembled, cleaned, inspected and replaced bearings on both Turblex blowers.
- Rebuilt one Flygt effluent pump.
- Replaced the 3 main control valves for the aeration basins.
- Replaced mag meters for Dewatering presses.
- Replaced 30 plus year old main generator control panel.
- Continued engineering and planning for replacement UV system.
- Paint floors in Digester building.
- Replaced Dewater building overhead crane assembly.
- Rebuilt several pumps and motors.

Major Project Goals for 2022

- Replace 1998 Trojan UV 4000 disinfection unit with new Trojan Signa unit.
- Recommission #1 Thickener – New PLC and flow meter.
- Add radar level indicators to influent wet well.
- Continue repairing and/or replacing all doors that are showing signs of wear after 30 plus years of use.
- Replace impellers on Return Activated Sludge pumps.
- Replace mag meter for sludge storage pumping.
- Replace last of 3 aging Mixed Liquor Suspended Solids meter.
- Replace #1 Influent pump wear rings.
- Inspect building roofs and replace or repair as needed.
- Continue replacement of aging equipment.



Dewatering Belt Refurbishing

During this year we contracted with Alfa-Laval to refurbish both of our belt presses. The cost of the project was \$385,825. The original presses were purchased in in the late 1980's. The belt presses had previously been rebuilt in 2004. Rollers, bearings, chicanes, pans, and belts were replaced, everything but the frame. Hydraulic pumps and belt drive motors were also replaced. We believe this rebuild will last at least another 15 years or until a better technological piece of equipment takes its place. These particular belt presses consistently deliver solids over 20%.

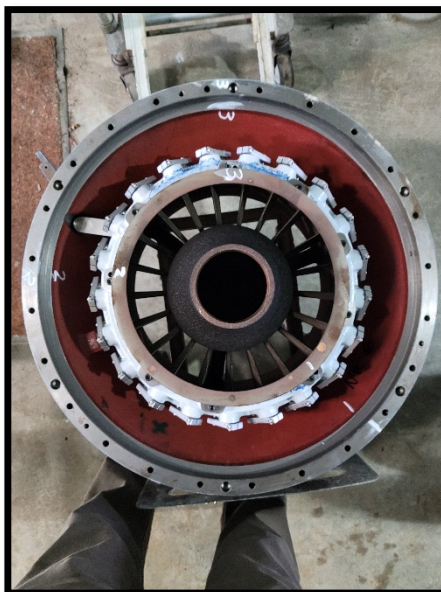


Dewatering Belt Press



Compressor Blower Maintenance

In 2013/2014 two of the original aeration blowers were replaced with Turblex compressor blowers. These blowers have been running 24/7 for the last 8 years. According to manufacture recommendations they were due to be serviced. Each blower had approximately 35,000 hours run time. The treatment plant contracted with a blower service company at a cost of \$29,000 to have both blowers torn down, cleaned, inspected for wear and bearings replaced. Both blowers showed a small bit of wear but were overall in very good shape. Hopefully with preventative maintenance we can avoid any costly breakdowns and loss of run time.



2021 Accomplishments:

- Renewed 112 water services.
- Repaired streets and other property as needed.
- Installed 10 new water taps.
- Discontinued 15 water services.
- Repaired 35 water main breaks.
- Replaced 6 fire hydrants.
- Repaired 95 fire hydrants.
- Annual flushing program, flushed 984 fire hydrants.
- Painted 315 fire hydrants.
- Assisted with 4th street project, installed line stops, new valves, etc.
- Leak detection, 10,661ft of water main completed.
- Continued valve maintenance program, repaired 21 valves, worked 841 valves, replaced 11 valves.

2022 Goals:

- Upgrade water main on Pierce Ave.
- Continue to upgrade old galvanized water services.
- Continue fire hydrant flushing.
- Resume valve maintenance program.
- Continue valve and leak detection program.
- Continue high quality service to water customers of Newark.



2021 Accomplishments:

- Responded to 22 plugged sewer orders on city mains.
- Responded to 52 plugged orders on private laterals.
- Televised 18.72 miles of sewer main.
- Cleaned 26.94 miles of sewer main.
- Inspected CSO overflows 67 times after rain events.
- Manhole work, 13 repaired or replaced.
- Manhole inspections, 305 completed.

2022 Goals:

- Continue televising sewer mains to determine if repairs are needed in an effort to reduce the chances of catastrophic sewer failure.
- Complete upgrade of sanitary and storm lift stations with SCADA monitoring system.
- Continue to monitor for long term control plan.
- Continue with preventive maintenance work on manholes and sewers to provide customers with reliable and uninterrupted service.



Current Projects:

Fourth Street Combined Sewer Separation Project

Estimated Budget: \$ 25,500,000.00

Estimated Completion: July, 2024

Project Scope:

The existing combined (sanitary and storm) brick sewer will be replaced with new separated sanitary and storm sewers. Due to the scope of the excavation required for the sewer replacement, this project will also include waterline, roadway, sidewalk and green infrastructure work. The project will begin on National Dr. between 4th St. and 5th St., continue on 4th St. to Locust St., then onto Granville St. to S.R. 16.

Project Progress:

Nearly 1.5 miles of buried piping was installed between Harrison St. and Church St. New asphalt, sidewalks, street lighting, landscaping and green infrastructure was installed from National Dr. to Main St.

2022 Projection:

The project is expected to complete all work on Fourth St. this year and begin working on Locust St./Granville Rd.



40th Street Transmission Line

Estimated Budget: \$ 6,500,000.00

Estimated Completion: May, 2022

Project Scope:

A new 16" water transmission line will be extended from Country Club Dr. at Granville St. to W. Main St. and Coffman Rd. This project will also include the reconstruction of 40th St. including new storm sewers along 40th St. and the installation of additional storm sewer piping to accommodate future storm sewer projects in this area.

Project Progress:

Over two miles of water main and nearly a mile of new storm sewers were installed. 40th St. was completely reconstructed with new sidewalks along both sides of the roadway.

2022 Projection:

A small amount of sidewalk along 40th St. will be completed, pending utility relocation. A failing culvert on Granville Rd. will be replaced as part of this project.



2022 Major Projects:

Lead Service Line Replacement

The EPA has mandated all lead service lines be removed from our water system by 2024. A project currently under design will identify and replace all lead service lines within the city. The total number of services of unknown material type is approximately 4,000. This project is being funded with ARPA funds and is expected to begin construction in 2022.

East Side Transmission Main

A new 16" water transmission main is planned from Alston Ave. to Dayton Rd. along New Haven Ave and Butler Rd. This new transmission line will provide additional flow and better chlorine protection to the east end of Newark. This new water main may also provide for future water needs east of Newark. This project is being funded by a grant from the Ohio Department of Development and is scheduled to bid in 2022.

West Side Booster Stations

Two new water booster stations are planned for the west side, one on Faye Dr. and one to replace the existing station on Thornwood Dr. These new stations will replace the aging Thornwood Dr. station and provide additional capacity and reliability. This project expected to bid in 2022.

South Second Street Sewer Separation

This project is required by EPA to comply with our NPDES permit. The existing combined (sanitary and storm) brick sewer will be replaced with new separated sanitary and storm sewers. Due to the scope of the excavation required for the sewer replacement this project will also include waterline, roadway, sidewalk and green infrastructure work. The project will begin at Ohio St. and extend to E. Walnut St. along S. 2nd St. Design of this project is expected to begin in 2022.

16 North Sewer Separation

This project is required by EPA to comply with our NPDES permit. The existing combined (sanitary and storm) sewer will be replaced with separated sanitary and storm sewers. This project will be located from St. Clair St. to Stevens St. between Mt. Vernon Rd. and Hudson Ave. and from Moull St. to Rugg Ave. between Mt. Vernon Rd. and 12th St. Design of this project is expected to begin in 2022.



SAFETY AND TRAINING

Annual Report 2021

Safety continues to be an important part of our daily duties. Training whether done under the category of “Safety” or “Education” is tracked by this department. Training time is then logged as “contact hours” which are then used by employees to renew their job-required Ohio Environmental Protection Agency (OEPA) licenses. In 2021, the Division of Water and Wastewater made available a total of 38 contact hours per employee. In all, employees earned 417.5 creditable hours. Safety training accounted for 221.5 of the 417.5 hours. Some of this year’s topics included Excavation Safety, Excavation Competent Person Training, Distracted Driving, Hand and Power Tool Safety, and Forklift Safety Training. Employees again received a refresher in Excavation/Trench Safety and Confined Space Entry Procedures. Excavation/Trench Safety and Confined spaces are serious dangers in the water and wastewater industry and yearly refresher training is a top priority.

Working with our online training provider, 360water.com, employees have access to a total of 95 courses including five new courses this year. These training courses are site-specific to our Wastewater Treatment Plant, Water Treatment Plant, High Rate Treatment Plant, and Safety Program. In 2021 employees earned 240 hours of OEPA approved training from this online training platform.

We applied for and received a grant from the Bureau of Workers Compensation (BWC) for the purchase of new trench safety equipment. For every dollar we put toward the purchase of trench safety equipment, the BWC contributed four dollars towards the purchase, the city was able to save nearly \$10,000 on this essential equipment.



Ray Sizemore from Xylem came to Water Distribution and Sewer Maintenance to give our employees a hands-on class for troubleshooting, general maintenance, and a total rebuild tutorial for our Flygt Pumps. Each attendee was able to use this class for 4.5 hours of continuing education approved by the OEPA.



Bill Roome from Hydra-Stop instructed a class on Hydra-Stop valve installation best practices and general do's and don'ts. Hydra-Stop valves can be installed into an existing watermain without turning the water off, eliminating water outages. Each attendee was able to use this class for 4 hours of continuing education approved by the OEPA.



Human Resources

Over 30 Years of Service

Don Dyar	Water Plant	77 & 11
Roger Loomis	Water Office	1985
John Kreager	Dist./Collection	1986
Randy McDaniel	Wastewater	1988
Jon Moulton	Wastewater	1989
Trent Johnson	Meter Shop	1990
Nancy Taylor	Wastewater	1990

25 to 29 Years of Service

Jeff Krauskopf	Wastewater	1992
Bryan Curry	Wastewater	1993
Joe Hickman	Water Office	75 & 06
Jeff Postle	Distribution	1996
Paula Carpenter	Water Office	1996*

20 to 24 Years of Service

Andrea Beichler	Water Office	1997
Lori Bane	Water Office	1997*
Ed Metzger	Water Plant	1997
Catherine Austin	Water Office	2000
Keith Hampshire	Water Plant	2000
Mary Hull	Water Office	2001*

15 to 19 Years of Service

Jay Fisher	Wastewater	2002*
Drew Forgrave	Dist./Collection	2003
Bill Charles	Water Plant	2004
Jeremy Moore	Distribution	2004
James Robb	Collection	2004
Angela Reischman	Wastewater	2004
Trophy Iler	Water Office	2005*
Shawn Wagner	Water Plant	2005
Mark Patznick	Water Office	2006
Josh Wilson	Dist./Collection	2006

10 to 14 Years of Service

John Lee II	Water Plant	2007
Leslie Redman	Water Office	2007*
Kevin Rodeniser	Distribution	2008
Patrick Thompson	Water Plant	2008*
Mike Troyer	Water Plant	2010
Fred Nance	Wastewater	2011*
Bob Walton	Water Office	2011
Cole Tharp	Water Plant	2011

*includes service time outside Division of Water and Wastewater

Avg. Age as of 1/2020 – 49.06
Avg. Years of Service with the City – 13.49

