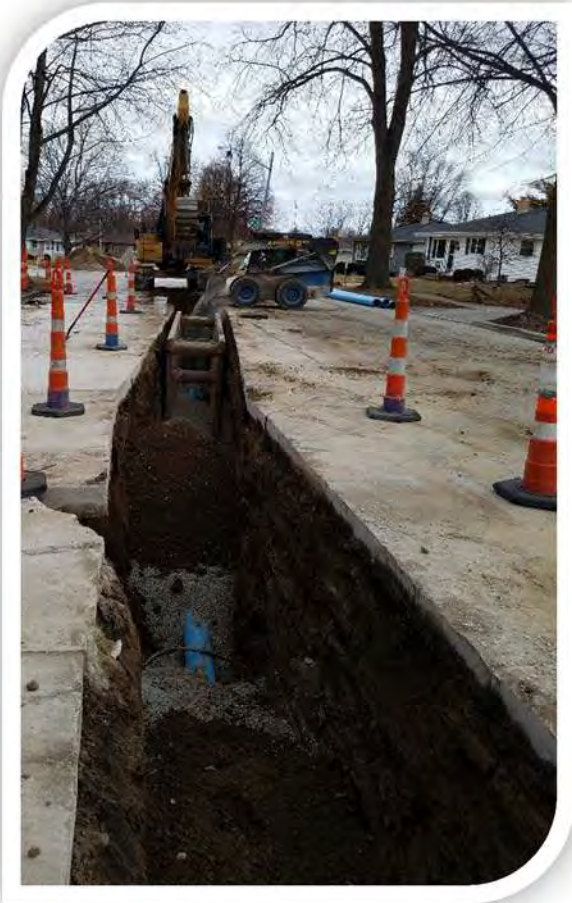




Kenosha Water Utility

2017 Annual Report



KWU distribution crews worked on ten water main relay projects during 2017 installing 6,589 feet of new water main



"Providing and Protecting Kenosha's Greatest Natural Resource"

2017
ANNUAL REPORT
of the
KENOSHA WATER UTILITY
Kenosha, Wisconsin



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Dave Lewis, Assistant General Manager

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Curt Czarnecki, Director of Engineering

Roger Field, Director of Water Production

Sue Hill, Director of Personnel & Administration

Katrina Karow, Director of Wastewater Treatment

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Board of Water Commissioners

David F. Bogdala – Chairperson
Bruce Fox – Vice Chairperson
John Fox
Mitchell Pedersen
Jack Rose
Dominic Ruffalo



**Edward St. Peter
General Manager**

4401 Green Bay Road
Kenosha, WI 53144

Phone (262) 653-4300
Fax (262) 653-4303

“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Board of Water Commissioners
Kenosha Water Utility
4401 Green Bay Road
Kenosha WI 53144

Gentlemen:

SUBJECT: 2017 Annual Report

I respectfully submit the year 2017 Annual Report of the Kenosha Water Utility. The annual report documents the statistics of the operations, capital improvements and financial activity of our three enterprise systems, “Water System, Sewerage System, and Household Hazardous Waste Program.”

The Kenosha Water Utility continues to maintain a strong financial standing. Revenues in the Water System, Sewerage System and Household Hazardous Waste exceeded expenses for the year 2017. Each division has provided detailed descriptions of their activities over the past year. It is encouraging to review these accomplishments and realize that we have an outstanding group of directors, supervisors and staff that not only provide the highest quality water and sewerage service, meeting and exceeding all state and federal requirement, but also a team that works 24 hours/day, 7 days/week, 365 days/year tirelessly in their mission to **“Provide and Protect Kenosha’s Greatest Natural Resource ... Water.”**

Our customers are accustomed to turning on the faucet and the water is there, pure, cold and safe; having safe and flowing sewers; having customer service second to none; and having facilities that will meet their needs well into the future. I doubt our customers give it much thought each day, and we at the Utility are committed to keeping it that way!

I thank the Board for their support and direction as we work together to serve our customers.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward St. Peter".

Edward St. Peter, General Manager



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Board of Water Commissioners

David F. Bogdala – Chairperson
Bruce Fox – Vice Chairperson
John Fox
Mitchell Pedersen
Jack Rose
Dominic Ruffalo



David Lewis
Assistant General Manager
4401 Green Bay Road
Kenosha, WI 53144
Phone (262) 653-4300
Fax (262) 653-4303

“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha WI 53144

Subject: 2017 Annual Report

Dear Mr. St. Peter,

I respectfully submit my 2017 Annual Report. Each year, the Kenosha Water Utility strives to reduce costs, improve performance, and optimize operations. These efforts are highlighted in this year’s Annual Report. Major activities and initiatives that I supported at the Utility this year include:

- Painting of the 75th St. elevated storage tank.
- Installation of two new Envirocare perforated plate screens at the Wastewater Treatment Plant. The new screens have exponentially improved the treatment process at the Wastewater Treatment Plant.
- Conducting an odor control study at the Wastewater Treatment Plant.
- Installation of more than 7000 feet of new water main using KWU staff. This was made possible by the purchase of a used CAT excavator from the Public Works Department.
- Initial building of a new storage garage at the Water Production Plant. The garage was built by staff members from Water Production and Water Distribution.
- Continued implementation of Utility-wide site-specific safety training.

In 2017, I once again shared responsibility for the management of the Distribution Division with Curt Czarnecki, our Director of Engineering. I enjoyed this opportunity very much. We added two equipment operators and one construction/maintenance worker to help us carry out the water main replacement program. I am very proud of the team that we have in place.

I thank you, Mr. St. Peter, and all the KWU Directors and Supervisors for your support during 2017. I would also like to thank the Board of Water Commissioners for their support throughout 2017. Specifically, their idea to add additional staff to handle the workload of installing water mains. None of the projects that were undertaken would have been possible without your input and approval.

Sincerely,

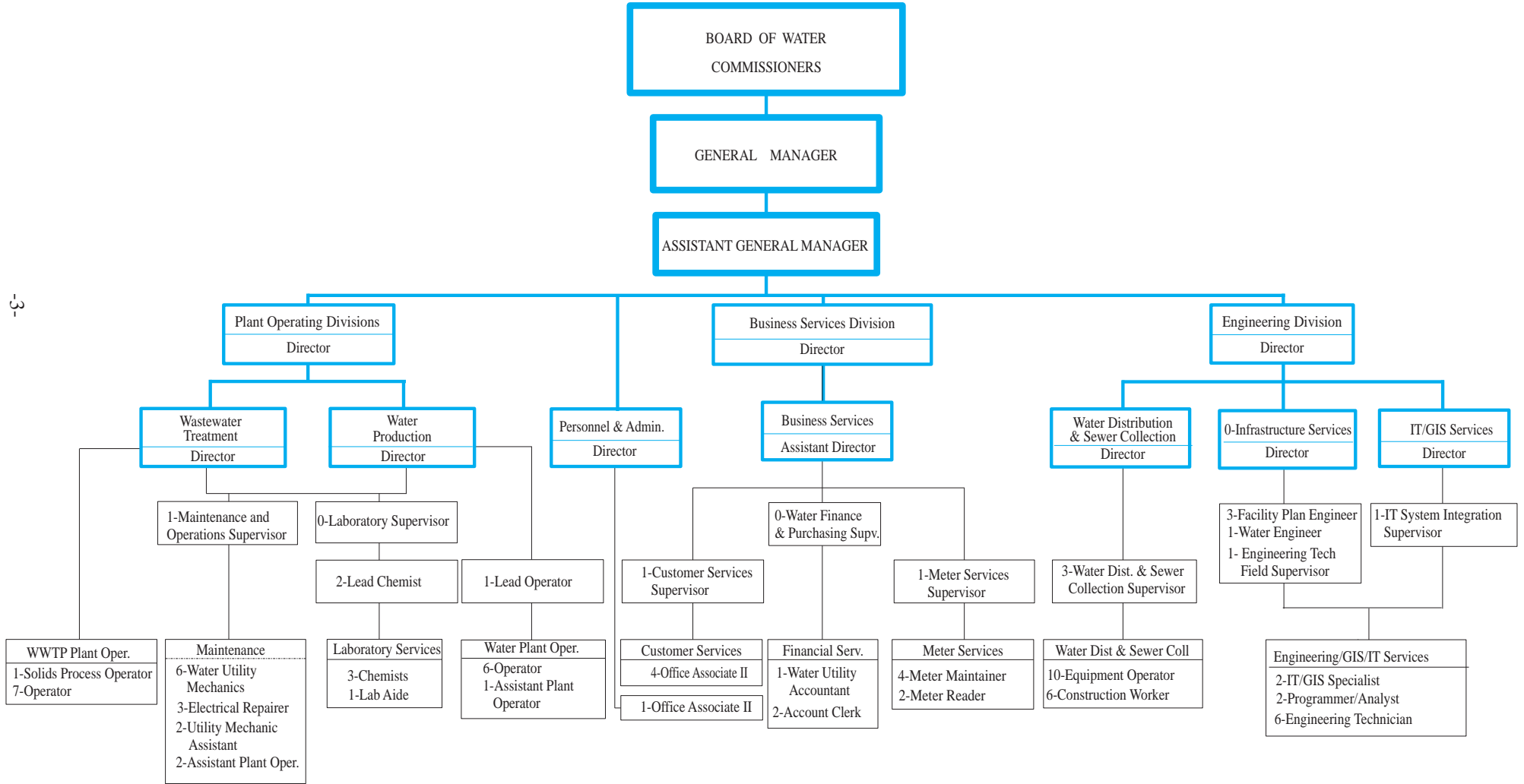
David Lewis
Assistant General Manager



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2018 Organizational Chart



General Statistics Water

| | <u>2017</u> | <u>2016</u> |
|--|----------------|----------------|
| 1. Population of Kenosha, Pleasant Prairie, Somers & Bristol | 134,948 | 134,626 |
| Population of current service area (estimated) | 117,946 | 118,349 |
| Population of City of Kenosha | 99,116 | 99,489 |
| 2. Total gallons pumped | 5,655,597,000 | 5,817,425,000 |
| 3. Total gallons low lift water used in plant | 656,650,000 | 669,257,000 |
| 4. Total gallons water pumped – high lift use | 4,998,947,000 | 5,148,168,000 |
| 5. Total gallons high lift water accounted for, not metered | 45,189,034 | 133,745,000 |
| 6. Total gallons water pumped to distribution system | 4,953,757,966 | 5,014,423,000 |
| 7. Increase (decrease) from previous year | (1.21%) | 11.74% |
| 8. Total gallons passed through customers' meters | 4,402,646,000 | 4,470,933,000 |
| 9. Percent of water accounted for | 88% | 87% |
| 10. Consumption: | | |
| Minimum gallons pumped in any one day | 9,578,000 | 9,872,000 |
| | April 17, 2017 | March 28, 2016 |
| Maximum gallons pumped in any one day | 23,873,000 | 26,510,000 |
| | June 17, 2017 | July 2, 2016 |
| 11. Total daily consumption – Average | 12,062,044 | 12,215,664 |
| Average daily consumption per capita – gallons per day | 102.27 | 103.22 |
| 12. Total number of services | 30,412 | 30,372 |
| Active accounts (total meters less in stock and deduct meters) | 31,134 | 31,090 |
| Number of services added (net) | 40 | 287 |
| Per mile of pipe | 82.26 | 82.57 |
| Persons per service (City of Kenosha) | 3.26 | 3.28 |
| 13. Pipe in distribution system (in miles) | 369.72 | 367.82 |
| Size range in diameter | 1" - 48" | 1" - 48" |
| Pressure range – pounds per square inch | 40 – 80 | 40 – 80 |
| Population per mile (City of Kenosha) | 268.08 | 270.48 |
| 14. Valves for distribution system (except hydrant valves) | 6,028 | 6,014 |
| Total installed for year | 11 | 153 |
| 15. Hydrants for distribution system | 3,380 | 3,359 |
| Total installed for year (34 new - 13 retired = 21 additional) | 21 | 61 |
| Per mile of pipe | 9.14 | 9.13 |
| 16. Utility operating revenue | \$ 14,660,378 | \$ 14,793,816 |
| Net Operating Income | \$ 1,586,814 | \$ 1,717,714 |
| Net Income (all expense and revenue) | \$ 1,211,438 | \$ 1,191,405 |

| | <u>2017</u> | <u>2016</u> |
|---|--------------------|--------------------|
| 17. Operating and maintenance expenses | \$ 7,865,661 | \$ 7,933,566 |
| Per mile of pipe to expense | \$ 21,274.64 | \$ 21,569.15 |
| Per million gallons to distribution system | \$ 1,587.82 | \$ 1,582.15 |
| 18. Tax Equivalent – Water | \$ 2,352,858 | \$ 2,326,403 |
| Increase (decrease) from previous year | 1.1% | 0.7% |
| Percent of operating revenue | 16.0% | 15.7% |
| 19. Depreciation | \$ 2,855,046 | \$ 2,816,133 |
| Percent of operating revenue | 19.5% | 19.0% |
| 20. Production Cost Analysis of Energy Used | | |
| Total electrical costs (high and low lift) | \$ 507,171 | \$ 527,101 |
| Cost for pumping (per million gallons) | \$ 89.68 | \$ 90.61 |
| Total electrical costs (booster system) | \$ 151,635 | \$ 159,110 |
| Cost of re-pumping for booster system (per million gallons) | \$ 73.49 | \$ 77.98 |
| Total electrical energy consumed at plant | \$ 596,668 | \$ 620,534 |
| Total natural gas energy consumed at plant | \$ 37,940 | \$ 35,310 |
| 21. Production Cost Analysis of Chemicals Used | | |
| Sand Filters | | |
| Potassium Permanganate – total pounds | – | – |
| Sulfate of Aluminum – total tons | 359.0 | 322.9 |
| Chlorine – total tons | 23.7 | 22.8 |
| Hydrofluosilicic acid – total tons (liquid weight) | 35.4 | 31.8 |
| Polyphosphate – total tons (liquid weight) | 18.0 | 15.2 |
| Total cost per million gallons of filtered water | \$48.60 | \$37.82 |
| Membrane Filters | | |
| Chlorine – total tons | 17.3 | 18.0 |
| Hydrofluosilicic acid – total tons (liquid weight) | 26.0 | 28.1 |
| Polyphosphate – total tons (liquid weight) | 13.1 | 13.4 |
| Total cost per million gallons of filtered water | \$24.26 | \$23.65 |
| 22. Plant Capacities: | | |
| Treatment plant | 45.0 MGD | 45.0 MGD |
| Low lift pumps | 50.0 MGD | 50.0 MGD |
| High lift pumps | 48.0 MGD | 48.0 MGD |
| Lake intake | 102.0 MGD | 102.0 MGD |
| Emergency intake | 15.0 MGD | 15.0 MGD |
| 23. Water usage in booster service area (million gallons) | 2,063.25 | 2,040.30 |
| 24. Average number of General Customers by class | | |
| Residential | 27,572 | 27,541 |
| Multifamily Residential | 1,091 | 1,077 |
| Commercial | 2,158 | 2,166 |
| Industrial | 83 | 84 |
| Private Fire Services | 507 | 499 |
| Public Authorities | 191 | 191 |
| Sales for Resale (points of sale) | | |
| Village of Pleasant Prairie | 7 | 7 |
| Village of Somers | 8 | 8 |
| Village of Bristol | 2 | 2 |

General Statistics Sewer

| | <u>2017</u> | <u>2016</u> |
|--|---------------|---------------|
| 25. Total gallons wastewater pumped & treated | 9,294,576,000 | 8,281,449,000 |
| 26. Increase (decrease) from previous year | 12.23% | 3.36% |
| 27. Treatment: | | |
| Minimum gallons treated in any one day | 14,581,000 | 15,521,000 |
| Date: | Dec. 25, 2017 | Nov. 25, 2016 |
| Maximum gallons treated in any one day | 97,086,000 | 51,131,000 |
| Date: | July 12, 2017 | April 6, 2016 |
| 28. Total daily wastewater treated – Average | 25,464,592 | 22,626,910 |
| Average daily treatment per capita – gallons per day | 215.17 | 191.19 |
| 29. Total dry solids to digester, tons | 5,531 | 5,638 |
| 30. Sludge to dewatering centrifuge, gallons | 31,800,135 | 33,884,912 |
| Sludge to dewatering centrifuge, wet tons | 132,607 | 141,300 |
| Percent solids | 2.01% | 2.04% |
| 31. Sludge off dewatering centrifuge (to landfill), wet tons | 5,535 | 6,284 |
| Sludge off dewatering centrifuge (to dryer), wet tons | 2,346 | 2,974 |
| Percent solids | 28.3% | 27.0% |
| 32. Sludge from dryer (to landfill), wet tons | 699 | 843 |
| Percent solids | 95.0% | 95.3% |
| 33. Sludge to landfill, dry tons | 1,955 | 2,502 |
| Grit to landfill, tons | 1,165 | 1,133 |
| 34. Pipe in distribution system (in miles) | 342.34 | 339.78 |
| Size range in diameter | 6" - 99" | 6" - 99" |
| Population per mile (City of Kenosha) | 289.53 | 292.80 |
| 35. Utility operating revenue | \$ 13,475,536 | \$ 12,607,332 |
| Net Operating Income | \$ 2,169,979 | \$ 2,237,915 |
| Net Income (all expense and revenue) | \$ 2,497,124 | \$ 2,460,477 |
| 36. Operating and maintenance expenses | \$ 11,305,557 | \$ 10,369,416 |
| Per mile of pipe to expense | \$ 39,047.96 | \$ 30,518.03 |
| Per million gallons collected | \$ 1,216.36 | \$ 1,252.13 |
| 37. Depreciation | \$ 2,186,774 | \$ 2,128,003 |
| Percent of operating revenue | 16.2% | 16.9% |
| 38. Wastewater Treatment Cost Analysis of Energy Used | | |
| Total electrical costs (wastewater treatment) | \$ 553,681 | \$ 558,487 |
| Cost for treatment (per million gallons) | \$ 66.86 | \$ 67.44 |
| Total electrical costs (lift stations) | \$ 78,379 | \$ 72,184 |
| Cost of pumping sewage to treatment plant | | |
| Total natural gas energy consumed at plant | \$ 89,382 | \$ 93,251 |
| Methane gas produced by digesters (therms) | 433,682 | 420,917 |
| Value of methane gas (estimate) | \$ 218,909 | \$ 196,103 |

| | <u>2017</u> | <u>2016</u> |
|--|-------------|-------------|
| 39. Wastewater Treatment Cost Analysis of Chemicals Used | | |
| Ferric Chloride - total gallons | 210,665 | 199,764 |
| Chlorine - total tons | 55.3 | 54.9 |
| Sulfur Dioxide - total tons | 48.1 | 51.9 |
| Polymer - total tons | 97.0 | 104.0 |
| Sodium Hydroxide - total pounds | 161,037 | 169,283 |
| Sulfuric Acid - pounds | 30,368 | 54,392 |
| Total cost per million gallons of treated sewage | \$ 60.27 | \$ 65.80 |
| 40. Plant Capacity | 28.6 MGD | 28.6 MGD |
| 41. Average number of General Customers by class | | |
| Residential | 26,772 | 26,745 |
| Multifamily Residential | 938 | 923 |
| Commercial | 1,977 | 1,983 |
| Industrial | 69 | 69 |
| Public Authorities | 148 | 147 |
| Sales for Resale (points of sale) | | |
| Village of Pleasant Prairie | 4 | 4 |
| Village of Somers | 4 | 4 |
| Village of Bristol | 1 | 1 |

Water Utility Vehicles – 2017

Distribution & Sewer Collection

Water Distribution

| Fleet # | Description |
|---------|--|
| 2091 | 1992 Ford Truck w/ Utility Service Body |
| 2115 | 1993 IHC Tandem Axle Dump Truck |
| 2367 | 1997 Ford Hydro Vac Valve Turner Truck |
| 2420 | 1998 IHC Tandem Axle Dump Truck |
| 2434 | 1999 GMC 1 Ton Dump Truck |
| 2474 | 1999 Ford Utility Van |
| 2701 | 2003 GMC 1 Ton Dump Truck |
| 2850 | 2006 GMC Pickup |
| 2852 | 2006 GMC Pickup |
| 2854 | 2006 GMC 1 Ton Dump Truck |
| 2856 | 2006 GMC Crew Cab w/ Utility Service Body |
| 2878 | 2006 Sterling Tandem Axle Dump Truck |
| 2957 | 2008 Freightliner Tandem Axle Dump Truck |
| 2959 | 2008 GMC Van |
| 3070 | 2010 Ford Crew Cab w/ Utility Service Body |
| 3279 | 2014 GMC Pickup |
| 3281 | 2014 GMC Pickup |
| 3299 | 2015 International Tandem Axle Dump Truck |
| 3303 | 2015 International Tandem Axle Dump Truck |
| 3331 | 2015 Chevrolet Pickup |
| 3376 | 2017 Ram 1 Ton Dump Truck |

Water Production

| | |
|------|-------------------|
| 2771 | 2004 Jeep Liberty |
| 2961 | 2008 GMC Pickup |
| 3280 | 2014 GMC Pickup |
| 3283 | 2014 GMC Pickup |

Engineering Services

| | |
|------|--------------------------|
| 2535 | 2001 Ford Pickup |
| 2653 | 2003 GMC Pickup |
| 2660 | 2003 Dodge Van |
| 2682 | 2003 GMC Van |
| 2715 | 2003 GMC Van |
| 2737 | 2004 GMC Van |
| 2842 | 2006 GMC Pickup |
| 2883 | 2006 GMC Pickup |
| 2960 | 2008 GMC Pickup |
| 3024 | 2009 Jeep Grand Cherokee |
| 3105 | 2011 GMC Pickup |
| 3106 | 2011 GMC Pickup |
| 3124 | 2011 GMC Pickup |
| 3282 | 2014 GMC Pickup |

Administration/Customer Service

| | |
|------|-------------------------|
| 2265 | 1995 GMC Safari Minivan |
| 2962 | 2008 Jeep Liberty |
| 3304 | 2014 Ford Edge |

Sewer Repair/Inspection

| Fleet # | Description |
|---------|--|
| 2089 | 1992 Ford Pickup Flatbed-Shoring Truck |
| 2299 | 1996 IHC Tandem Axle Dump Truck |
| 2364 | 1997 Chevrolet Van |
| 2421 | 1998 IHC Tandem Axle Dump Truck |
| 2430 | 1998 GMC 1 Ton Dump Truck |
| 2472 | 1999 Sewer Flusher Vacuum |
| 2554 | 2000 Vactor Sewer Cleaner |
| 3352 | 2005 Sewer Flusher Vacuum |
| 2851 | 2006 GMC Pickup |
| 2884 | 2006 TV Truck – Ford Chassis |
| 3043 | 2009 Ford F450 w/ Utility Service Body |
| 3093 | 2008 Eager Beaver Lowboy Trailer |
| 3202 | 2012 Sewer Flusher Vacuum |
| 3284 | 2015 GMC Tandem Axle Dump Truck |
| 3370 | 2017 GMC Pickup |

Meter Shop

| | |
|------|--------------------------------------|
| 2849 | 2006 GMC Van w/ Utility Service Body |
| 3004 | 2008 Dodge Grand Caravan |
| 3127 | 2011 GMC Van |
| 3248 | 2014 GMC Van |
| 3257 | 2014 GMC Van |
| 3285 | 2014 GMC Van |

Wastewater Treatment

| | |
|------|---|
| 1965 | 1990 Ford Platform Truck with Crane |
| 2063 | 1991 Ford w/ Galbraith Container System |
| 2427 | 1998 Ford Pickup |
| 2559 | 2001 Sterling Dump Truck |
| 2649 | 2003 GMC Pickup |
| 2652 | 2003 Ford Utility Truck with Crane |
| 2700 | 2003 GMC Van |
| 2714 | 2004 Ford Pickup |
| 2746 | 2004 GMC Pickup |
| 2843 | 2006 GMC Pickup with Plow |
| 2862 | 2006 GMC Van |
| 2866 | 2006 GMC Pickup |
| 2930 | 2007 GMC Pickup |
| 2945 | 2008 Freightliner Quad Axle Dump Truck |
| 2966 | 2008 GMC Van |
| 3073 | 2010 Ford Escape Hybrid |
| 3253 | 2013 Chevrolet Suburban |
| 3297 | 2014 Ram 4500 w/ Service Body and Crane |
| 3371 | 2017 GMC Pickup |

Water Utility Major Equipment – 2017

Distribution & Sewer Collection

Water Construction

| Fleet # | Description |
|---------|----------------------------------|
| 453-00 | 1958 Engresser Pipe Thawer |
| 1011 | 1980 Case Crawler |
| 455-19 | 1986 Tapmate Tap Machine |
| 1943 | 1989 Caterpillar Forklift |
| | 1989 Wach Power Valve Turner |
| | 1991 Dowel Drill Machine |
| | 1992 Wach Power Valve Turner |
| 2206 | 1994 Smith Air Compressor |
| 2366 | 1997 Case Wheel Loader |
| 2958 | 2007 Airman Air Compressor |
| 2968 | 2007 Case Tractor Loader Backhoe |
| 2970 | 2008 Case Tractor Loader Backhoe |
| 3326 | 2015 Case Tractor Loader Backhoe |
| | 2016 Husqvarna Road Saw |

Water Production

| | |
|------|----------------------------|
| | 1998 Mitsubishi Fork Truck |
| | 2005 Kubota Tractor |
| 2890 | 2006 Kubota Mower |

Sewer Repair

| Fleet # | Description |
|---------|----------------------------------|
| 2840 | 2005 JCB Tractor Loader Backhoe |
| 3092 | 2009 Caterpillar Excavator |
| 3334 | 2016 Case Tractor Loader Backhoe |

Wastewater Treatment

| | |
|------|---------------------------------|
| | 1980 6" Marlow Pump |
| | 1995 6" Marlow Pump |
| | 1998 4" Barnes Submersible Pump |
| 1787 | 1998 John Deere Mower |
| | 1999 8" Thompson Pump |
| | 2000 6" Gormann-Rupp Pump |
| | 2000 8" Godwin Pump |
| 2987 | 2003 New Holland Skid Loader |
| 2819 | 2006 Nissan Forklift |
| 2893 | 2007 JCB Wheel Loader |
| 3332 | 2015 Kubota Mower |

Water Service Centre

| | |
|--|---------------------|
| | 1996 Kubota Tractor |
|--|---------------------|

Engineering Services

4401 Green Bay Road
Kenosha WI 53144

Phone (262) 653-4315
Fax (262) 653-4303



“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha WI 53144

Subject: 2017 Annual Report – Engineering Services Division

Dear Mr. St. Peter,

I respectfully submit the annual report for the Engineering Services Division for the year 2017. The Engineering Services Division continues to provide a variety of engineering services for our various operating divisions within the utility as well as City departments, public agencies and developers.

This year once again continued the upward trend of private development as the economy continues to improve. Kenosha is still proving to be one of the most attractive markets within the Midwest. The recently adopted Cooperative Plan and Intergovernmental Agreement between the City of Kenosha, Kenosha Water Utility, Somers, Paris and Kenosha County will no doubt spur development along the I-94 corridor. This agreement coupled with the unprecedented industrial development just north of the Kenosha County line will serve to accelerate the expansion of our service area. Engineering Services Division staff once again was instrumental in the planning, review and oversight of all private development within the city limits.

In addition to private development, the utility put out contracts to help rehabilitate and enhance our aging infrastructure. A summary of these contracts can be found later in this report.

The wide variety of projects undertaken during the 2017 calendar year demonstrate the complexity and diversity our staff and the water and wastewater industries as a whole are tasked with overseeing on an annual basis. We continued our typical initiatives such as water main replacement, reducing infiltration/inflow into the sanitary sewer system, sump pump inspections, Diggers Hotline locate requests, and construction inspection responsibilities. A major focus in 2017 was the planning and budgeting efforts associated with our capital improvement plan for the next five years. A renewed focus on investigating and planning for rehabilitation of our water and wastewater infrastructure was given a high priority in an effort to stay ahead of the aging infrastructure challenges facing our industry. A few of the items that have risen to the forefront are repainting of water towers, rehabilitation and capacity upgrades at lift stations and process improvements at our wastewater treatment facility and water production plant.

On behalf of the staff of the Engineering Services Division, I would like to thank the Board of Water commissioners and all utility employees for working together to ensure 2017 was another safe, productive and successful year.

Sincerely,

A handwritten signature in black ink, appearing to read 'Curtis Czarnecki'.

Curtis Czarnecki, P.E.
Director of Engineering Services



www.kenosha.org

**Information Technology/
Geographic Information Systems**

4401 Green Bay Road
Kenosha WI 53144

Phone (262) 653-4315
Fax (262) 653-4303



“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha WI 53144

Subject: 2017 Annual Report - Information Technology / Geographic Information Systems

Dear Mr. St. Peter,

The Information Technology (IT) / Geographic Information Systems (GIS) team was extremely busy and has a very productive year. The IT/GIS team not only worked on various new projects but continued to make enhancements to the master digital map supplying this information out to all of our users. Some of these legacy and various new projects are listed below:

- Completed the conversion of a SCADA Human Machine Interface solution that replaced the existing legacy automation system at the wastewater plant. This new system runs on a Linux operating system and is called Ignition.
- Continued to enhance our computer architecture system by virtualizing servers at the water production plant, wastewater plant and the main office. This technology enables older computer systems to be run on new hardware without having to upgrade the operating system which in most cases prolongs the life and therefore minimizes costs to upgrade.
- Developed and now transitioned to an enterprise open-source Geographic Information System(GIS) that runs on a Linux operating system. Converting to this GIS software called Quantum GIS allows more users to access the GIS system for substantially lower cost, without the yearly maintenance fees from legacy software companies.
- Continued the GPS (Global Positioning System) Collector summer internship program for college students. This year these students were from Carthage College and the University of Wisconsin-Parkside.
- Enhanced and updated KWU’s website www.kenoshawater.org with valuable customer information.
- Provided many web based input forms, surveys, and informational web pages for our employees to receive and disseminate time critical data.
- Enhanced mobile mapping solutions for not only the meter maintainers, but also engineers, engineering technicians, inspectors, distribution supervisors and locators.

I would like to thank you and the Board of Water Commissioners for their continued support. Additionally, I would also like to thank the IT/GIS staff and all of the divisions within the Water Utility for their support and patience throughout the year.

Respectfully submitted,

A handwritten signature in black ink that reads 'John N. Andersen'.

John N. Andersen
Information Technology /
Geographic Information
Systems Director



www.kenosha.org

2017 Engineering Service Contracts Awarded

| <u>Project</u> | <u>Contractor</u> | <u>Description</u> | <u>Awarded Cost</u> |
|----------------|---------------------------------------|--|---------------------|
| 2017-01-PROD | George Kountoupes Painting Company | 75th Street and Green Bay Road Elevated Storage Tank Exterior Painting | \$ 495,750.00 |
| 2017-02-W | Bradford Contractors LLC | 40th Avenue from 45th to 52nd Streets 22nd Avenue from 79th to 80th Streets | \$ 678,009.25 |
| 2017-03-S | Platinum Terrain LLC | 60th Street Grinder Pump Installation | \$ 50,115.60 |
| 2017-04-WWTP | Sitar Construction | Structural Rehabilitation of the Equalization Basin | \$ 314,575.00 |
| 2017-05-W | Reesman's Excavating and Grading Inc. | 22nd Avenue from 79th to 80th Streets 28th Avenue from 41st Street to 400-ft South 29th Avenue from 43rd Street to 40-ft North | \$ 311,089.10 |

2017 Developer Infrastructure Accepted

| | Water Mains | Hydrants | Services |
|-----------------|-----------------|------------|--------------|
| Uline | \$ 1,099,466.67 | 152,000.00 | \$ 71,617.98 |
| KAT Subdivision | 102,180.97 | 13,840.00 | 26,507.50 |

| | Sanitary Sewer Mains |
|--------------------|-------------------------|
| Uline | \$ 2,480,435.64 |
| KAT Subdivision | 37,343.68 |
| Springs at Kenosha | 283,076.60 |

Note: Total cost includes developer and KWU costs.

2017 Engineering Staff and G.I.S. Personnel Recap of Significant Projects

| | <u>Hours</u> |
|---|--------------|
| <u>Water Production Engineering - Total Hours 622</u> | |
| Water Treatment Plant & Reservoir Maintenance | 545 |
| Painting of Water Storage Tanks | 70 |
| Storage Building | 7 |
| <u>Sewerage System Engineering - Total Hours 3,088</u> | |
| Sanitary Sewer Locates (Digger's Hotline) | 1,558 |
| Sump Pump Inspection | 706 |
| Wastewater Treatment Plant Maintenance | 343 |
| Sanitary Sewer System Flow Study/Inspection | 253 |
| Sewer Repair, Cleaning and Inspection | 229 |
| Headworks Upgrade | |
| <u>Water Distribution System - Total Hours 4,635</u> | |
| Water System Locates (Digger's Hotline) | 2,360 |
| Maintenance of Mains, Services and Hydrants | 1,100 |
| Cross Connection Inspection | 1,175 |
| <u>Water Main Installed by Kenosha Water Utility Crews - Total Hours 916</u> | |
| Water Main Replacement - Water Main Replacement - Various Locations | 916 |
| <u>Water Main Installed by Kenosha Water Utility Contract - Total Hours 1,737</u> | |
| Water Main Replacement - 40th Ave - 45th St to 52nd St | 1,081 |
| Water Main Replacement - Various Locations | 656 |
| <u>Sanitary Sewer Installed by Kenosha Water Utility Contract - Total Hours 59</u> | |
| 60th St - 10901 60th St to 111th Ave force main | 59 |
| <u>Sanitary Sewer Installed by Developers - Total Hours 41</u> | |
| Uline | 41 |
| <u>New Development - Total Hours 346</u> | |
| Plan/Project Review | 346 |
| <u>GIS Infrastructure Mapping - Total Hours 1,659</u> | |
| Water Infrastructure | 977 |
| Sewer Infrastructure | 682 |

Business Services

4401 Green Bay Road
Kenosha WI 53144

Phone (262) 653-4300
Fax (262) 653-4320



"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha, WI 53144

Dear Mr. St. Peter,

SUBJECT: 2017 Annual Report – Business Services Division

I respectfully submit the Annual Report of the Kenosha Water Utility Business Services Division.

This division combines the talents and resources of personnel in the areas of customer service, meter reading, meter maintenance and accounting. This combined group strives to provide prompt and accurate service to both our internal and external customers. In addition to general questions about bills, Business Services attempts to be proactive in resolving matters before they become complaints. Our customer service staff strives to make each customer contact a positive one. Calls are answered by a live body, not an automated system.

Meter shop personnel are required to be certified as cross connection control testers with the State of Wisconsin. They test all RPZ devices for the Utility as well as other City departments. They have continued the meter testing program for meters larger than 1-inch according to Public Service Commission guidelines. The program has been completed for conversion of meters to touch pad remote reading devices. These have proven to be more reliable for reading purposes as well as the assurance that meters are operational. The meter shop provides residential cross connection inspections, sump pump inspections, meter inspections prior to sale of vacant properties as well as doing meter replacements under the twenty year change-out program for small meters. Meter maintainers have been identifying and removing meters containing lead as a part of the utility's ongoing meter change-out program. Meter readers are efficiently reading between 370 and 410 meters per day.

The finance division supports the entire Utility by providing payroll, accounting, accounts payable, budgeting, purchasing and other services. The rate of return for the water unit was 4.57% based on an average net rate base valued at \$50,088,941. The rate of return for the sewer unit was 7.82% based on an average net rate base valued at \$27,763,809.

I would like to thank you and the other members of the utility management for their continued guidance and support. Once again, I wish to thank my staff for their dedication and fine work attitude which are key to getting the job done. Business Services Division employees, together with other divisions, will work to insure that the Kenosha Water Utility continues to "Provide and Protect Kenosha's Greatest Natural Resource."

Sincerely,

A handwritten signature in black ink that reads "Cathy Brnak".

Cathy Brnak
Director of Business Services



www.kenosha.org

Water and Sewerage Service Charges – 2017

Water Rates

Water rates for municipally owned water utilities in Wisconsin must be approved and authorized by the Public Service Commission of Wisconsin. The Kenosha Water Utility policy is to maintain water rates that will provide 1.3 times coverage of maximum annual debt service by net income of the system.

Sewerage Service Rates

Sewer service rates for Kenosha are authorized by the Board of Water Commissioners. The Kenosha Water Utility policy is to maintain sewer rates that will provide 1.2 times coverage of maximum annual debt service by net income of the system.

Water Utility General Service Billing

The Kenosha Water Utility issues water and sewer service bills on a bi-monthly basis to residential, commercial and public customers. High consumption customers are billed monthly. The "Sale for Resale" category was added in 1990 and is billed monthly.

Water Rates Effective June 1, 2015 Public Fire Protection Rates Effective June 1, 2015

| Meter Size | Public Fire Protection Bi-Monthly Charge | Meter Service Bi-Monthly Charge |
|------------|---|------------------------------------|
| 5/8 Inch | \$6.18 | \$10.10 |
| 3/4 Inch | 6.18 | 10.10 |
| 1 Inch | 8.24 | 18.96 |
| 1-1/2 Inch | 12.36 | 32.96 |
| 2 Inch | 18.54 | 45.32 |
| 3 Inch | 24.72 | 78.28 |
| 4 Inch | 30.09 | 117.42 |
| 6 Inch | 37.08 | 206.00 |
| 8 Inch | 43.26 | 306.94 |
| 10 Inch | 49.44 | 432.60 |
| 12 Inch | 55.62 | 560.32 |

Plus volume charges:

First 1,700 cubic feet used each month or
 3,400 cubic feet used each two months - \$ 2.00 / 100 cu. ft.
 Next 23,300 cubic feet used each month or
 46,600 cubic feet used each two months - \$ 1.85 / 100 cu. ft.
 Over 25,000 cubic feet used each month or
 50,000 cubic feet used each two months - \$ 1.50 / 100 cu. ft.

Sewerage Service Rates Effective June 1, 2015

\$2.48 monthly or \$4.96 bi-monthly - Plus \$1.99 / 100 cubic feet

100 cubic feet = 748 gallons

**CONSUMPTION CHARGES BY CUSTOMER CLASS
BASED ON BILLING DATE, NOT ACCRUAL BASIS**

RESIDENTIAL

| Bill Mo. | Water | | Public Fire Protection | HHW Charge | Sewerage | | Spr. Cr. |
|---------------|------------------|------------------------|---------------------------|----------------------|------------------|------------------------|----------------------|
| | Cons.Ccf | Charge | | | Cons.Ccf | Charge | |
| April 2017 | 152,205 | \$ 441,261.05 | \$ 84,015.04 | \$ 13,436.00 | 151,253 | \$ 367,636.03 | |
| May 2017 | 146,591 | 434,947.95 | 86,617.85 | 13,314.50 | 139,131 | 342,949.12 | |
| June 2017 | 149,821 | 437,230.42 | 84,030.49 | 13,438.50 | 148,830 | 362,826.66 | |
| July 2017 | 163,705 | 468,696.93 | 86,642.57 | 13,318.00 | 154,658 | 350,133.73 | \$ 23,706.87 |
| Aug 2017 | 163,215 | 463,879.35 | 84,036.67 | 13,439.50 | 161,731 | 348,670.78 | 39,833.83 |
| Sept 2017 | 195,011 | 530,471.84 | 86,654.93 | 13,320.50 | 182,547 | 355,536.73 | 73,809.10 |
| Oct 2017 | 169,301 | 473,970.13 | 84,030.49 | 13,438.50 | 167,623 | 345,903.70 | 54,321.03 |
| Nov 2017 | 209,881 | 559,086.53 | 86,688.92 | 13,324.00 | 195,925 | 358,613.03 | 97,398.56 |
| Dec 2017 | 171,554 | 479,389.86 | 84,070.66 | 13,446.00 | 170,018 | 343,407.14 | 61,618.36 |
| Jan 2018 | 168,751 | 479,283.39 | 86,701.28 | 13,326.00 | 160,304 | 385,109.41 | |
| Feb 2018 | 158,050 | 453,427.52 | 84,070.66 | 13,444.00 | 156,990 | 379,092.34 | |
| March 2018 | 174,373 | 490,695.54 | 86,713.64 | 13,328.00 | 166,034 | 396,575.83 | |
| Totals | 2,022,458 | \$ 5,712,340.51 | \$ 1,024,273.20 | \$ 160,573.50 | 1,955,044 | \$ 4,336,454.50 | \$ 350,687.75 |

COMMERCIAL

| Bill Mo. | Water | | Public Fire Protection | Sewerage | |
|---------------|----------------|------------------------|---------------------------|----------------|------------------------|
| | Cons.Ccf | Charge | | Cons.Ccf | Charge |
| April 2017 | 36,980 | \$ 88,940.49 | \$ 9,229.83 | 35,538 | \$ 75,967.42 |
| May 2017 | 54,285 | 125,270.84 | 10,878.86 | 53,056 | 109,204.64 |
| June 2017 | 37,238 | 89,267.52 | 9,249.40 | 35,708 | 76,254.09 |
| July 2017 | 65,894 | 145,582.12 | 10,896.37 | 59,961 | 123,067.34 |
| Aug 2017 | 40,738 | 95,563.00 | 9,343.13 | 36,792 | 78,407.97 |
| Sept 2017 | 85,980 | 179,418.69 | 10,937.57 | 64,830 | 132,718.23 |
| Oct 2017 | 49,918 | 110,628.11 | 9,330.77 | 41,999 | 88,768.11 |
| Nov 2017 | 94,679 | 194,054.50 | 10,971.56 | 69,021 | 141,048.55 |
| Dec 2017 | 46,098 | 105,382.11 | 9,352.40 | 39,382 | 83,581.11 |
| Jan 2018 | 60,578 | 137,356.97 | 10,971.56 | 53,732 | 110,666.48 |
| Feb 2018 | 35,582 | 86,736.43 | 9,248.37 | 33,816 | 72,494.62 |
| March 2018 | 56,915 | 130,095.65 | 10,956.11 | 56,261 | 115,299.49 |
| Totals | 664,885 | \$ 1,488,296.43 | \$ 121,365.93 | 580,096 | \$ 1,207,478.05 |

MULTIFAMILY RESIDENTIAL

| Bill Mo. | Water | | Public Fire Protection | HHW Charge | Sewerage | |
|---------------|----------------|------------------------|---------------------------|--------------------|----------------|------------------------|
| | Cons.Ccf | Charge | | | Cons.Ccf | Charge |
| April 2017 | 33,776 | \$ 75,201.33 | \$ 4,999.62 | \$ 494.50 | 33,776 | \$ 69,304.42 |
| May 2017 | 44,613 | 101,859.18 | 7,053.44 | 438.00 | 43,581 | 88,519.64 |
| June 2017 | 34,807 | 76,980.18 | 4,999.62 | 494.50 | 34,807 | 71,377.30 |
| July 2017 | 50,572 | 112,873.07 | 7,100.82 | 441.50 | 49,277 | 99,868.12 |
| Aug 2017 | 36,276 | 79,765.07 | 4,987.26 | 493.50 | 34,514 | 70,747.67 |
| Sept 2017 | 55,214 | 121,804.61 | 7,162.62 | 445.00 | 49,279 | 99,624.13 |
| Oct 2017 | 39,220 | 84,704.96 | 4,960.48 | 489.50 | 36,512 | 74,444.80 |
| Nov 2017 | 58,911 | 128,643.20 | 7,218.24 | 447.50 | 52,001 | 105,040.75 |
| Dec 2017 | 39,498 | 85,407.47 | 4,969.75 | 490.00 | 37,034 | 75,561.42 |
| Jan 2018 | 54,178 | 120,013.00 | 7,263.56 | 450.50 | 49,908 | 100,944.72 |
| Feb 2018 | 36,414 | 79,673.33 | 4,979.02 | 490.50 | 36,360 | 74,210.08 |
| March 2018 | 54,058 | 119,389.05 | 7,263.56 | 450.50 | 52,752 | 106,279.29 |
| Totals | 537,537 | \$ 1,186,314.45 | \$ 72,957.99 | \$ 5,625.50 | 509,801 | \$ 1,035,922.34 |

**CONSUMPTION CHARGES BY CUSTOMER CLASS
BASED ON BILLING DATE, NOT ACCRUAL BASIS**

PUBLIC

| Bill Mo. | Water | | Public Fire Protection | Sewerage | |
|---------------|----------------|----------------------|---------------------------|----------------|----------------------|
| | Cons.Ccf | Charge | | Cons.Ccf | Charge |
| April 2017 | 16,862 | \$ 22,057.67 | \$ 1,887.99 | 9,165 | \$ 18,677.31 |
| May 2017 | 17,389 | 20,432.39 | 1,364.75 | 8,787 | 17,613.68 |
| June 2017 | 17,252 | 21,040.94 | 1,881.81 | 8,051 | 16,457.97 |
| July 2017 | 20,048 | 22,742.98 | 1,377.11 | 9,562 | 19,230.72 |
| Aug 2017 | 28,970 | 38,182.49 | 1,881.81 | 11,167 | 22,658.81 |
| Sept 2017 | 22,060 | 26,075.13 | 1,377.11 | 9,501 | 19,175.00 |
| Oct 2017 | 31,544 | 42,253.89 | 1,894.17 | 10,529 | 21,399.11 |
| Nov 2017 | 24,857 | 29,018.23 | 1,377.11 | 10,847 | 21,844.85 |
| Dec 2017 | 27,625 | 38,754.02 | 1,906.59 | 11,734 | 23,797.06 |
| Jan 2018 | 18,273 | 21,126.23 | 1,377.11 | 8,368 | 16,835.89 |
| Feb 2018 | 15,897 | 21,424.02 | 1,920.95 | 8,740 | 17,843.96 |
| March 2018 | 17,943 | 19,823.48 | 1,383.29 | 8,621 | 17,362.71 |
| Totals | 258,720 | \$ 322,931.47 | \$ 19,629.80 | 115,072 | \$ 232,897.07 |

INDUSTRIAL

| Bill Mo. | Water | | Public Fire Protection | Sewerage | |
|---------------|----------------|----------------------|---------------------------|----------------|------------------------|
| | Cons.Ccf | Charge | | Cons.Ccf | Charge |
| April 2017 | 41,247 | \$ 64,276.29 | \$ 388.31 | 21,944 | \$ 82,944.30 |
| May 2017 | 48,715 | 77,956.78 | 915.67 | 27,983 | 89,154.32 |
| June 2017 | 40,937 | 63,766.69 | 388.31 | 22,980 | 77,034.28 |
| July 2017 | 50,709 | 81,164.08 | 915.67 | 29,341 | 98,100.75 |
| Aug 2017 | 48,813 | 75,667.44 | 388.31 | 25,851 | 84,294.03 |
| Sept 2017 | 49,069 | 79,162.38 | 915.67 | 29,270 | 101,945.91 |
| Oct 2017 | 40,257 | 62,614.90 | 388.31 | 27,853 | 87,070.08 |
| Nov 2017 | 48,871 | 78,779.88 | 915.67 | 28,790 | 85,341.88 |
| Dec 2017 | 47,497 | 73,798.09 | 388.31 | 26,153 | 99,362.05 |
| Jan 2018 | 46,410 | 74,622.67 | 916.70 | 26,882 | 106,224.46 |
| Feb 2018 | 31,660 | 49,900.80 | 385.22 | 37,901 | 101,552.99 |
| March 2018 | 47,095 | 75,578.95 | 920.82 | 28,778 | 100,602.08 |
| Totals | 541,280 | \$ 857,288.95 | \$ 7,826.97 | 333,726 | \$ 1,113,627.13 |

SALE FOR RESALE

| Bill Mo. | Cons.Ccf | Water Charge | Public Fire Protection |
|---------------|------------------|------------------------|---------------------------|
| April 2017 | 122,420 | \$ 178,111.89 | \$ 8,359.48 |
| May 2017 | 118,782 | 173,050.70 | 8,359.48 |
| June 2017 | 113,189 | 165,078.97 | 8,359.48 |
| July 2017 | 155,063 | 224,951.12 | 8,359.48 |
| Aug 2017 | 193,951 | 280,753.90 | 8,359.48 |
| Sept 2017 | 184,207 | 266,969.91 | 8,359.48 |
| Oct 2017 | 189,110 | 274,214.14 | 8,359.48 |
| Nov 2017 | 202,834 | 294,461.83 | 8,359.48 |
| Dec 2017 | 148,087 | 215,238.51 | 8,359.48 |
| Jan 2018 | 138,560 | 201,143.68 | 8,359.48 |
| Feb 2018 | 123,396 | 179,152.46 | 8,359.48 |
| March 2018 | 165,790 | 240,226.40 | 8,359.48 |
| Totals | 1,855,389 | \$ 2,693,353.51 | \$ 100,313.76 |

Meter Services Report - 2017

| <u>Meter Size</u> | <u>New Accounts</u> | <u>Tested/ Upgraded</u> | <u>Total Meters</u> |
|-------------------|-------------------------|-----------------------------|-------------------------|
| 5/8" Meters | 1 | 1,784 | 24,957 |
| 3/4" Meters | 38 | 246 | 4,593 |
| 1" Meters | 8 | 72 | 949 |
| 1-1/2" Meters | 3 | 158 | 571 |
| 2" Meters | 20 | 229 | 639 |
| 3" Meters | 1 | 60 | 114 |
| 4" Meters | - | 30 | 59 |
| 6" Meters | - | 29 | 29 |
| 8" Meters | - | 9 | 9 |
| 10" Meters | - | 2 | 2 |
| Total | 71 | 2,619 | 31,922 |

New Private Fire Lines **11**

Meter Shop Activity

| | |
|--|--------------|
| Set New Accounts | 71 |
| 20 Year Meter Change Outs | 1,127 |
| Install Radio Read Units | 163 |
| Remove Meter (test and replace) | 494 |
| Check Readings (high/low consumption, etc.) | 3,456 |
| Shut Offs, Take Out Seasonals | 162 |
| Repair Outside Register/Touch Pad | 1,151 |
| Pressure Tests | 27 |
| Locate/Clean Curb Box | 337 |
| Service Break Checks/Trace Services | 72 |
| Shut off at Curb (non-payment & customer requests) | 374 |
| Meters Bench Tested/Rebuild & Retest | 270 |
| Frozen Services | 6 |
| Frozen Meters | 29 |
| Pool Fills | 0 |
| Large Meter-Field Testing | 135 |
| Total Service Calls | 7,874 |

TEN YEAR COMPARISON OF CUSTOMER WATER CONSUMPTION

| Average Number of Water Customers | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | % INCR (DECR) 2017 vs. 2016 |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------------|
| Residential | 27,034 | 27,183 | 27,278 | 27,334 | 27,365 | 27,410 | 27,452 | 27,500 | 27,541 | 27,572 | 0.11% |
| Multifamily Residential | N/A | N/A | N/A | N/A | N/A | 1,130 | 1,115 | 1,164 | 1,077 | 1,091 | 1.30% |
| Commercial | 3,290 | 3,306 | 3,313 | 3,317 | 3,315 | 2,176 | 2,177 | 2,114 | 2,166 | 2,158 | (0.37%) |
| Industrial | 69 | 69 | 67 | 66 | 63 | 60 | 61 | 66 | 84 | 83 | (1.19%) |
| Public | 192 | 192 | 192 | 192 | 185 | 183 | 185 | 185 | 191 | 191 | 0.00% |
| Irrigation | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | - | - | 0.00% |
| Private Fire Lines | 417 | 432 | 441 | 455 | 464 | 467 | 477 | 492 | 499 | 507 | 1.60% |
| Sale for Resale | | | | | | | | | | | |
| Pleasant Prairie | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0.00% |
| Town of Somers | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 0.00% |
| Village of Bristol | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0.00% |
| TOTAL | 31,022 | 31,202 | 31,311 | 31,384 | 31,412 | 31,446 | 31,486 | 31,540 | 31,575 | 31,619 | 0.14% |

| Annual Consumption (1,000 Gallons) | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | % INCR (DECR) 2017 vs. 2016 |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------------|
| Residential | 1,764,393 | 1,717,591 | 1,710,396 | 1,704,587 | 1,838,553 | 1,638,280 | 1,535,419 | 1,549,036 | 1,586,610 | 1,512,799 | (4.65%) |
| Multifamily Residential | N/A | N/A | N/A | N/A | N/A | 430,591 | 417,147 | 417,529 | 399,652 | 402,078 | 0.61% |
| Commercial | 979,048 | 931,833 | 1,054,683 | 953,963 | 977,711 | 495,955 | 471,956 | 488,315 | 520,624 | 497,334 | (4.47%) |
| Industrial | 291,145 | 324,720 | 306,136 | 396,382 | 287,364 | 336,628 | 419,995 | 411,406 | 481,031 | 404,877 | (15.83%) |
| Public | 117,992 | 90,212 | 107,094 | 117,950 | 183,924 | 170,517 | 170,966 | 168,484 | 196,639 | 193,523 | (1.58%) |
| Irrigation | 1,621 | 1,177 | 1,243 | 1,204 | 2,148 | 1,323 | 1,744 | 2,014 | - | - | 0.00% |
| Sale for Resale | | | | | | | | | | | |
| Pleasant Prairie | 740,550 | 701,630 | 754,021 | 794,343 | 842,036 | 746,097 | 761,521 | 1,012,853 | 1,188,200 | 1,220,396 | 2.71% |
| Village of Somers | 154,185 | 151,554 | 156,848 | 162,957 | 179,703 | 146,385 | 142,909 | 145,463 | 160,352 | 162,849 | 1.56% |
| Village of Bristol | 5,574 | 4,952 | 5,424 | 5,464 | 5,025 | 4,563 | 5,673 | 5,962 | 6,633 | 6,842 | 3.15% |
| TOTAL | 4,054,508 | 3,923,669 | 4,095,845 | 4,136,850 | 4,316,464 | 3,970,339 | 3,927,330 | 4,201,062 | 4,539,741 | 4,400,698 | (3.06%) |

Customer Class as a Percent of Total Consumption

| | | | | | | | | | | |
|-------------------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|
| Residential | 43.52% | 43.78% | 41.76% | 41.20% | 42.59% | 41.26% | 39.10% | 36.87% | 34.95% | 34.38% |
| Multifamily Residential | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 9.94% | 8.80% | 9.14% |
| Commercial | 24.15% | 23.75% | 25.75% | 23.06% | 22.65% | 12.49% | 12.02% | 11.62% | 11.47% | 11.30% |
| Industrial | 7.18% | 8.28% | 7.47% | 9.58% | 6.66% | 8.48% | 10.69% | 9.79% | 10.60% | 9.20% |
| Public | 2.91% | 2.30% | 2.61% | 2.85% | 4.26% | 4.29% | 4.35% | 4.01% | 4.33% | 4.40% |
| Irrigation | 0.04% | 0.03% | 0.03% | 0.03% | 0.05% | 0.03% | 0.04% | 0.05% | 0.00% | 0.00% |
| Sale for Resale | | | | | | | | | | |
| Pleasant Prairie | 18.26% | 17.88% | 18.41% | 19.20% | 19.51% | 18.79% | 19.39% | 24.11% | 26.17% | 27.73% |
| Town of Somers | 3.80% | 3.86% | 3.83% | 3.94% | 4.16% | 3.69% | 3.64% | 3.46% | 3.53% | 3.70% |
| Village of Bristol | 0.14% | 0.13% | 0.13% | 0.13% | 0.12% | 0.11% | 0.14% | 0.14% | 0.15% | 0.16% |
| TOTAL | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 89.15% | 89.38% | 100.00% | 100.00% | 100.00% |

Water Production Plant

100 51st Place
Kenosha WI 53140

Phone (262) 653-4330
Fax (262) 653-4362



"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Rd.
Kenosha WI 53144

Subject: 2017 Annual Report for the O. Fred Nelson Water Production Plant

Dear Mr. St. Peter,

I hereby respectfully submit the Annual Report for the O. Fred Nelson Water Production Plant.

Kenosha Water Utility's Water Production Division continues to provide the highest quality drinking water to our customers. A total of 5.1 billion gallons were pumped into the distribution system in 2017. The average daily flow was 13.98 million gallons per day, with a maximum day of 23.9 million gallons on June 17th. The average tap water turbidity was 0.029 NTU and the average chlorine residual was 1.2 mg/l. Per the Department of Natural Resource's request, we switched from tracking total chlorine to free chlorine on September 8, 2018. Some significant projects completed in 2016 include:

- **Construction of a garage/storage building by in-house personnel**
- **Recoat 60th St West Ground Storage Tank**
- **Basin Confined Spaces Upgrade**
- **Landscape upgrade**
- **Sedimentation Basin Shaft Seal Replacement**

Special thanks to the Distribution Division for assisting with the construction of our new garage and to the Wastewater Division for electrical and mechanical upgrades and repairs. We would also like to thank the Engineering and Business Services Divisions for their support throughout the year. And thank you, Dave Lewis, and the Board of Water Commissioners for providing us the tools and equipment to ensure we continue providing the best drinking water to Kenosha, Pleasant Prairie, Bristol and Somers.

Sincerely,

A handwritten signature in cursive script that reads "R.E. Field".

Roger E. Field, P.E.
Director of Water Production



www.kenosha.org

Kenosha Water Utility

Production Division

Main Plant Pumping

2017

| Month | Pumpage X 1000 Gallons | | | | Electricity | |
|----------------|------------------------|---------------|-----------|---------------|-------------|----------|
| | High Lift | Daily Average | Low Lift | Daily Average | Pumping | Cost/MG |
| January | 398,392 | 12,851 | 440,749 | 14,218 | \$ 42,870 | \$ 97.27 |
| February | 356,394 | 12,728 | 395,060 | 14,109 | 38,257 | 96.84 |
| March | 375,271 | 12,106 | 415,927 | 13,417 | 36,608 | 88.02 |
| April | 369,411 | 12,314 | 416,051 | 13,868 | 41,481 | 99.70 |
| May | 410,158 | 13,231 | 456,167 | 14,715 | 35,591 | 78.02 |
| June | 493,411 | 16,447 | 554,856 | 18,495 | 50,131 | 90.35 |
| July | 479,476 | 15,467 | 528,450 | 17,047 | 44,266 | 83.77 |
| August | 491,856 | 15,866 | 538,556 | 17,373 | 43,763 | 81.26 |
| September | 507,426 | 16,914 | 549,735 | 18,325 | 48,014 | 87.34 |
| October | 439,951 | 14,192 | 488,463 | 15,757 | 44,612 | 91.33 |
| November | 384,113 | 12,804 | 428,596 | 14,287 | 40,272 | 93.96 |
| December | 395,019 | 12,743 | 442,977 | 14,290 | 41,306 | 93.25 |
| Total | 5,100,878 | | 5,655,587 | | \$ 507,171 | |
| Average | 425,073 | 13,972 | 471,299 | 15,492 | \$ 42,264 | \$ 90.09 |

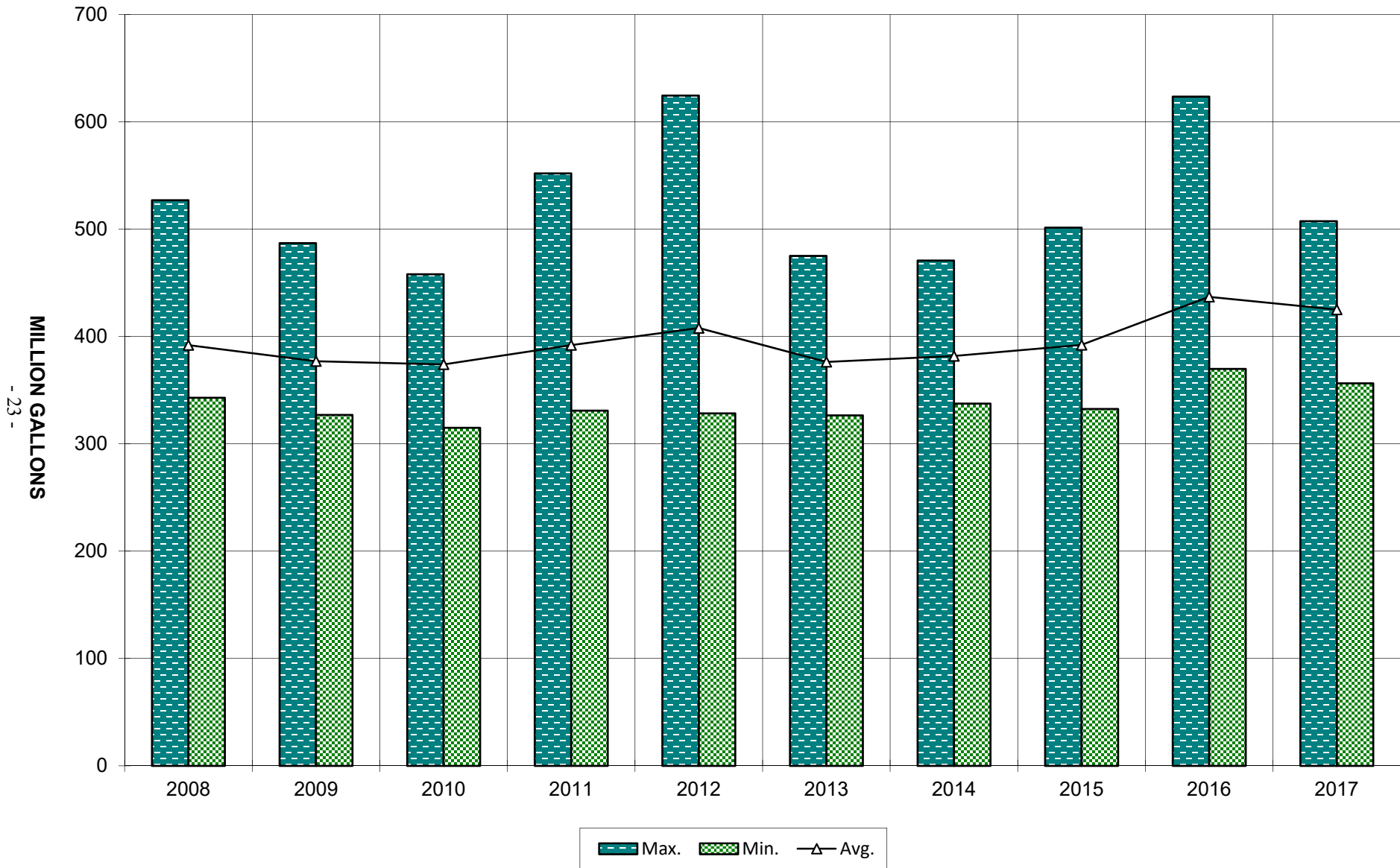
Booster System Pumping

2017

| Month | Pumpage X 1000 gal | Total Power Cost | Pumping Power Cost | Total Cost/MG | Pumping Cost/MG |
|----------------|--------------------|------------------|--------------------|---------------|-----------------|
| January | 152,710 | \$ 13,437 | \$ 11,463 | \$ 87.99 | \$ 75.06 |
| February | 137,650 | 12,694 | 10,900 | 92.22 | 79.19 |
| March | 149,040 | 12,727 | 11,282 | 85.39 | 75.70 |
| April | 142,850 | 12,305 | 11,501 | 86.14 | 80.51 |
| May | 158,040 | 11,932 | 11,316 | 75.50 | 71.60 |
| June | 195,840 | 14,709 | 14,088 | 75.11 | 71.94 |
| July | 198,710 | 13,823 | 13,246 | 69.56 | 66.66 |
| August | 216,220 | 15,395 | 14,815 | 71.20 | 68.52 |
| September | 257,850 | 16,028 | 15,467 | 62.16 | 59.98 |
| October | 170,150 | 13,988 | 13,393 | 82.21 | 78.71 |
| November | 142,510 | 13,404 | 12,453 | 94.06 | 87.38 |
| December | 141,680 | 13,644 | 11,711 | 96.30 | 82.66 |
| Total | 2,063,250 | \$ 164,086 | \$ 151,635 | | |
| Average | 171,938 | \$ 13,674 | \$ 12,636 | \$ 81.49 | \$ 74.83 |

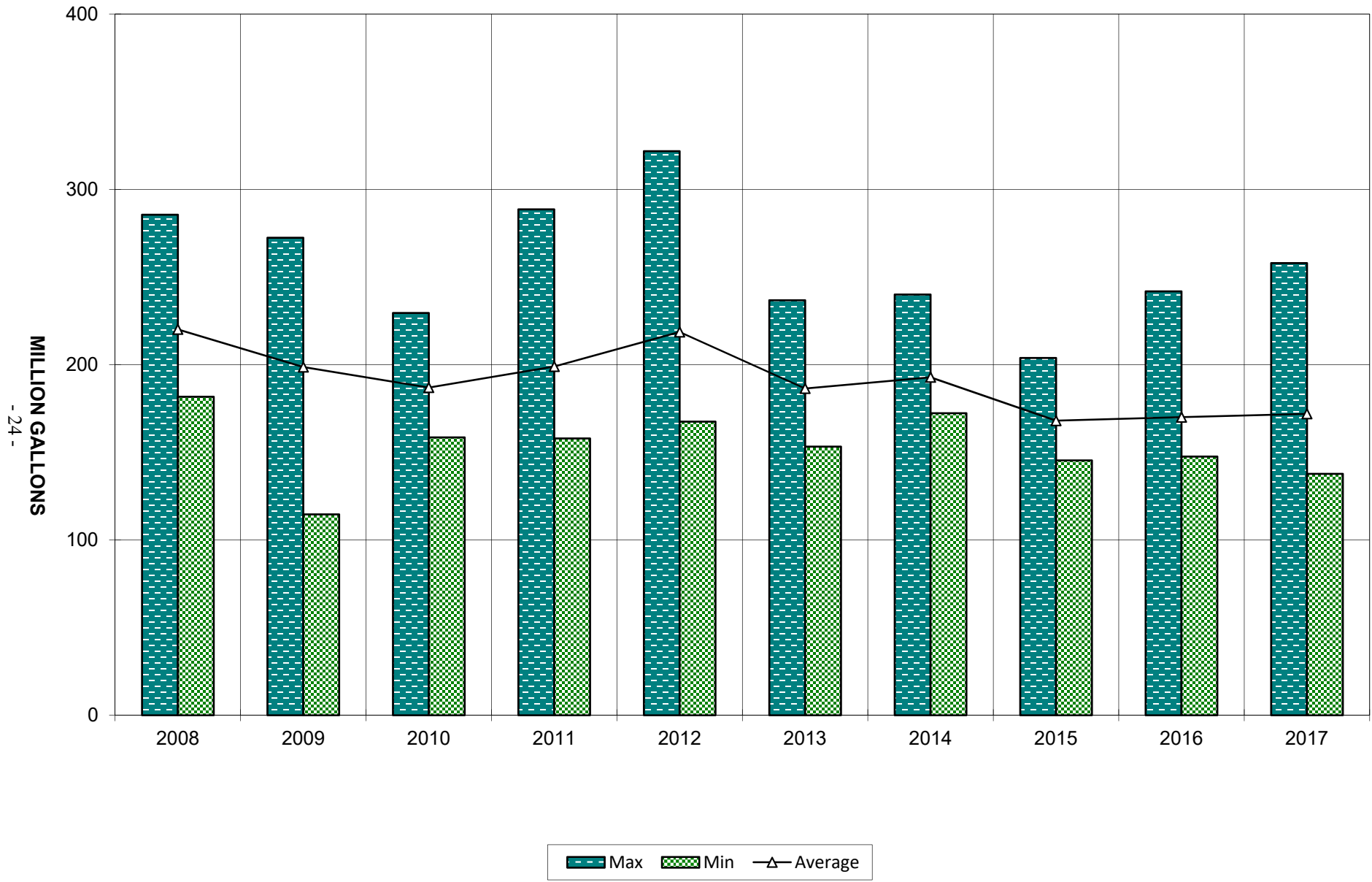
Main Plant Pumping Last Ten Years

Monthly Flow - Million Gallons



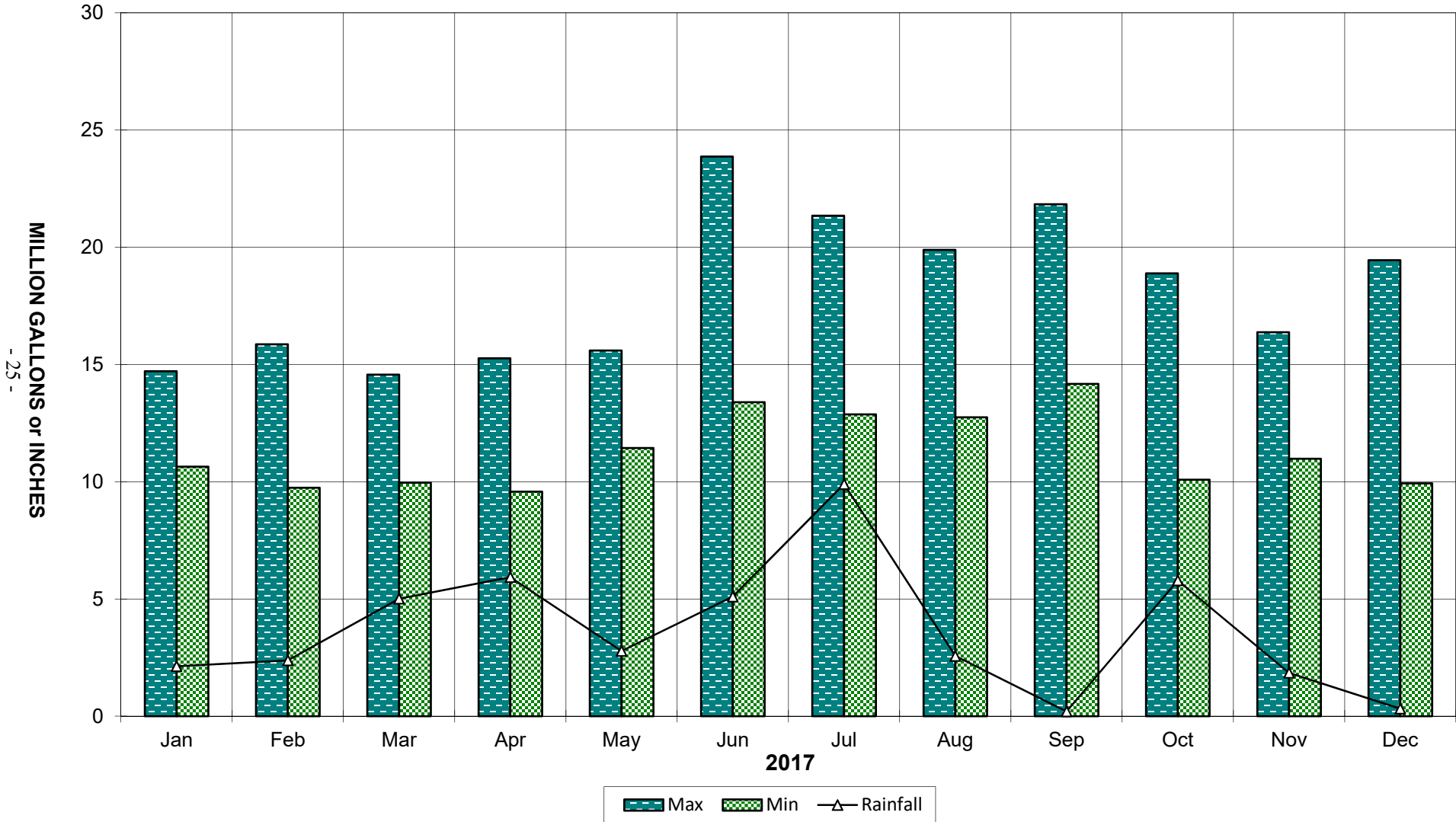
Booster Pumping Last Ten Years

Monthly Flow - Million Gallons



Finished Water Per Month Compared to Rainfall

Daily Flow Min/Max (MG) + Total Precipitation (Inches)



Kenosha Water Utility

Production Division

Rapid Sand Plant Filtration Report

2017

| Month | Pumpage (1000 gal.) | | | |
|----------------|---------------------|---------|---------|---------|
| | Total Water Treated | Max Day | Min Day | Avg Day |
| January | 225,275 | 9,139 | 5,064 | 7,267 |
| February | 202,944 | 10,334 | 4,210 | 7,248 |
| March | 204,228 | 9,001 | 4,675 | 6,588 |
| April | 199,546 | 9,726 | 4,020 | 6,652 |
| May | 222,200 | 9,927 | 5,893 | 7,168 |
| June | 271,622 | 14,015 | 6,489 | 9,054 |
| July | 299,609 | 13,678 | 7,266 | 9,665 |
| August | 311,463 | 14,219 | 7,360 | 10,047 |
| September | 339,969 | 16,275 | 8,637 | 11,332 |
| October | 233,888 | 11,675 | 3,905 | 7,545 |
| November | 214,322 | 10,777 | 5,468 | 7,144 |
| December | 216,554 | 9,908 | 4,393 | 6,986 |
| Total | 2,941,620 | | | |
| Average | 245,135 | | | 8,058 |

| Month | Washwater (1000 gal.) | % Rated Capacity | Filter Run Hours | | |
|----------------|--------------------------|---------------------|------------------|-----|-----|
| | | | Max | Min | Avg |
| January | 2,500 | 36 | 80 | 45 | 75 |
| February | 1,600 | 36 | 80 | 53 | 75 |
| March | 1,760 | 33 | 80 | 50 | 71 |
| April | 1,880 | 33 | 80 | 60 | 72 |
| May | 1,940 | 36 | 80 | 64 | 73 |
| June | 2,630 | 45 | 68 | 38 | 58 |
| July | 2,910 | 48 | 74 | 42 | 55 |
| August | 3,040 | 50 | 74 | 13 | 51 |
| September | 3,590 | 57 | 75 | 32 | 53 |
| October | 2,290 | 38 | 75 | 43 | 58 |
| November | 2,140 | 36 | 80 | 43 | 63 |
| December | 2,970 | 36 | 80 | 57 | 71 |
| Total | 29,250 | | | | |
| Average | 2,438 | 40 | | | 65 |

Kenosha Water Utility

Production Division

Membrane Plant Filtration Report

2017

| Month | Pumpage (1000 gal.) | | | |
|----------------|---------------------|---------|---------|---------|
| | Total Water Treated | Max Day | Min Day | Avg Day |
| January | 173,117 | 5,651 | 5,532 | 5,584 |
| February | 153,450 | 5,605 | 4,064 | 5,480 |
| March | 170,641 | 5,935 | 4,869 | 5,505 |
| April | 170,015 | 7,181 | 5,383 | 5,667 |
| May | 187,958 | 8,441 | 5,295 | 6,063 |
| June | 222,289 | 11,462 | 5,547 | 7,410 |
| July | 179,865 | 7,671 | 5,291 | 5,802 |
| August | 180,393 | 7,881 | 5,356 | 5,819 |
| September | 167,457 | 6,044 | 5,389 | 5,582 |
| October | 200,635 | 11,440 | 4,668 | 6,472 |
| November | 169,791 | 6,918 | 5,435 | 5,660 |
| December | 178,465 | 9,544 | 4,047 | 5,757 |
| Total | 2,154,076 | | | |
| Average | 179,506 | | | 5,900 |

| Month | Washwater Raw (1000 gal.) | % Rated Capacity * | CIP Run Hours | | |
|----------------|------------------------------|-----------------------|---------------|-----|-----|
| | | | Max | Min | Avg |
| January | 35,770 | 36 | 502 | 391 | 486 |
| February | 33,850 | 35 | 502 | 500 | 500 |
| March | 35,790 | 35 | 501 | 500 | 500 |
| April | 38,160 | 36 | 501 | 500 | 500 |
| May | 40,610 | 39 | 501 | 500 | 500 |
| June | 49,590 | 48 | 501 | 500 | 500 |
| July | 39,780 | 37 | 501 | 500 | 500 |
| August | 37,680 | 37 | 501 | 500 | 500 |
| September | 31,260 | 36 | 500 | 105 | 451 |
| October | 44,460 | 42 | 501 | 500 | 500 |
| November | 37,160 | 36 | 501 | 432 | 487 |
| December | 39,710 | 37 | 501 | 301 | 488 |
| Total | 463,820 | | | | |
| Average | 38,652 | 38 | | | 493 |

* Capacity based on winter operations (water temperature below 65° F)
CIP - Clean-in-Place

**Kenosha Water Utility
Production Division
Rapid Sand Plant Chemical Feed Report
2017**

| Month | Alum | | Chlorine | | Fluoride | |
|----------------|---------|--------|----------|-------|----------|-------|
| | Pounds | lb/MG | Pounds | lb/MG | Pounds | lb/MG |
| January | 50,788 | 225.45 | 3,363 | 14.93 | 5,284 | 23.46 |
| February | 50,126 | 246.99 | 3,102 | 15.29 | 5,119 | 25.22 |
| March | 60,812 | 297.77 | 3,171 | 15.53 | 5,306 | 25.98 |
| April | 57,282 | 287.06 | 3,285 | 16.46 | 5,020 | 25.16 |
| May | 65,422 | 294.43 | 3,556 | 16.00 | 5,504 | 24.77 |
| June | 67,544 | 248.67 | 4,228 | 15.57 | 6,908 | 25.43 |
| July | 62,405 | 208.29 | 4,907 | 16.38 | 7,115 | 23.75 |
| August | 64,804 | 208.06 | 5,558 | 17.84 | 7,327 | 23.52 |
| September | 69,654 | 204.88 | 5,756 | 16.93 | 8,063 | 23.72 |
| October | 58,738 | 251.14 | 3,841 | 16.42 | 5,247 | 22.43 |
| November | 52,146 | 243.31 | 3,348 | 15.62 | 4,816 | 22.47 |
| December | 58,250 | 268.99 | 3,358 | 15.51 | 5,045 | 23.30 |
| Total | 717,971 | | 47,473 | | 70,754 | |
| Average | 59,831 | 248.75 | 3,956 | 16.04 | 5,896 | 24.10 |

| Month | Potassium Permanganate | | Polyphosphate | | Total Chemical Cost | |
|----------------|------------------------|-------|---------------|-------|---------------------|----------|
| | Pounds | lb/MG | Pounds | lb/MG | Total \$ | Cost/MG |
| January | 0 | 0.00 | 2,572 | 11.42 | \$ 10,381 | \$ 46.08 |
| February | 0 | 0.00 | 2,302 | 11.34 | 10,045 | 49.50 |
| March | 0 | 0.00 | 2,366 | 11.59 | 11,646 | 57.02 |
| April | 0 | 0.00 | 2,431 | 12.18 | 11,147 | 55.86 |
| May | 0 | 0.00 | 2,777 | 12.50 | 12,654 | 56.95 |
| June | 0 | 0.00 | 3,457 | 12.73 | 13,766 | 50.68 |
| July | 0 | 0.00 | 3,729 | 12.45 | 13,357 | 44.58 |
| August | 0 | 0.00 | 3,902 | 12.53 | 13,335 | 42.81 |
| September | 0 | 0.00 | 4,299 | 12.65 | 14,394 | 42.34 |
| October | 0 | 0.00 | 2,935 | 12.55 | 11,295 | 48.29 |
| November | 0 | 0.00 | 2,629 | 12.27 | 10,058 | 46.93 |
| December | 0 | 0.00 | 2,572 | 11.88 | 10,893 | 50.30 |
| Total | 0 | | 35,971 | | \$ 142,971 | |
| Average | 0 | 0.00 | 2,998 | 12.17 | \$ 11,914 | \$ 49.28 |

**Kenosha Water Utility
Production Division
Membrane Plant Chemical Feed Report
2017**

| Cleaning Chemicals | | | | | | | | |
|--------------------|------------------|--------------|-------------------|-------------|---------------|-------------|---------------|-------------|
| Month | Sodium Hydroxide | | Hydrogen Peroxide | | EDTA | | Sulfuric Acid | |
| | Pounds | lb/MG | Pounds | lb/MG | Pounds | lb/MG | Pounds | lb/MG |
| January | 7,358 | 42.50 | 1,373 | 7.93 | 1,068 | 6.17 | 628 | 3.63 |
| February | 4,905 | 31.96 | 915 | 5.96 | 712 | 4.64 | 419 | 2.73 |
| March | 4,905 | 28.74 | 915 | 5.36 | 712 | 4.17 | 419 | 2.46 |
| April | 8,584 | 50.49 | 1,601 | 9.42 | 1,246 | 7.33 | 733 | 4.31 |
| May | 5,314 | 28.27 | 991 | 5.27 | 771 | 4.10 | 454 | 2.42 |
| June | 7,358 | 33.10 | 1,373 | 6.18 | 1,068 | 4.80 | 628 | 2.83 |
| July | 7,358 | 40.91 | 1,373 | 7.63 | 1,068 | 5.94 | 628 | 3.49 |
| August | 5,442 | 30.17 | 1,387 | 7.69 | 1,074 | 5.95 | 628 | 3.48 |
| September | 4,535 | 27.08 | 1,156 | 6.90 | 895 | 5.34 | 524 | 3.13 |
| October | 4,837 | 24.11 | 1,233 | 6.15 | 955 | 4.76 | 559 | 2.79 |
| November | 4,535 | 26.71 | 1,156 | 6.81 | 895 | 5.27 | 524 | 3.09 |
| December | 4,837 | 27.10 | 1,233 | 6.91 | 955 | 5.35 | 559 | 3.13 |
| Total | 69,968 | | 14,706 | | 11,419 | | 6,703 | |
| Average | 5,831 | 32.60 | 1,226 | 6.85 | 952 | 5.32 | 559 | 3.12 |

| Process Chemicals | | | | | | | | |
|-------------------|---------------|--------------|---------------|--------------|---------------|--------------|------------------|-----------------|
| Month | Chlorine | | Fluoride | | Polyphosphate | | Total Cost * | |
| | Pounds | lb/MG | Pounds | lb/MG | Pounds | lb/MG | Total \$ | \$/MG |
| January | 2,585 | 14.93 | 4,060 | 23.45 | 1,976 | 11.41 | \$ 4,403 | \$ 25.43 |
| February | 2,346 | 15.29 | 3,870 | 25.22 | 1,740 | 11.34 | 3,531 | 23.01 |
| March | 2,650 | 15.53 | 4,433 | 25.98 | 1,977 | 11.59 | 3,840 | 22.50 |
| April | 2,799 | 16.46 | 4,277 | 25.16 | 2,072 | 12.19 | 4,864 | 28.61 |
| May | 3,008 | 16.00 | 4,655 | 24.77 | 2,349 | 12.50 | 4,280 | 22.77 |
| June | 3,460 | 15.57 | 5,653 | 25.43 | 2,829 | 12.73 | 5,392 | 24.26 |
| July | 2,946 | 16.38 | 4,271 | 23.75 | 2,239 | 12.45 | 4,666 | 25.94 |
| August | 3,219 | 17.84 | 4,243 | 23.52 | 2,260 | 12.53 | 4,557 | 25.26 |
| September | 2,835 | 16.93 | 3,971 | 23.71 | 2,117 | 12.64 | 4,039 | 24.12 |
| October | 3,295 | 16.42 | 4,501 | 22.43 | 2,517 | 12.55 | 4,555 | 22.70 |
| November | 2,653 | 15.63 | 3,816 | 22.47 | 2,083 | 12.27 | 3,963 | 23.34 |
| December | 2,768 | 15.51 | 4,157 | 23.29 | 2,120 | 11.88 | 4,168 | 23.35 |
| Total | 34,564 | | 51,907 | | 26,279 | | \$ 52,258 | |
| Average | 2,880 | 16.04 | 4,326 | 24.10 | 2,190 | 12.17 | \$ 4,355 | \$ 24.28 |

* Includes cleaning and process chemicals

MG - million gallons

Kenosha Water Utility
Production Division
Laboratory Report
2017

| Month | Alkalinity Average mg/l | | pH Average pH units | | Conductivity µS/cm | |
|----------------|----------------------------|-----|------------------------|------|-----------------------|-----|
| | Raw | Tap | Raw | Tap | Raw | Tap |
| January | 113 | 107 | 8.35 | 7.74 | 287 | 295 |
| February | 113 | 107 | 8.36 | 7.72 | 322 | 328 |
| March | 112 | 106 | 8.34 | 7.70 | 297 | 302 |
| April | 113 | 107 | 8.25 | 7.61 | 322 | 331 |
| May | 108 | 102 | 8.21 | 7.52 | 297 | 302 |
| June | 106 | 101 | 8.19 | 7.49 | 289 | 293 |
| July | 105 | 98 | 8.09 | 7.40 | 281 | 283 |
| August | 107 | 100 | 8.22 | 7.54 | 287 | 289 |
| September | 107 | 101 | 8.23 | 7.56 | 282 | 285 |
| October | 108 | 103 | 8.17 | 7.58 | 283 | 287 |
| November | 109 | 103 | 8.24 | 7.58 | 282 | 289 |
| December | 110 | 104 | 8.29 | 7.62 | 301 | 302 |
| Average | 109 | 103 | 8.25 | 7.59 | 294 | 299 |

| Month | Hardness mg/l | | Temp Raw ° F | | |
|----------------|------------------|-----|-----------------|-----|-----|
| | Raw | Tap | Max | Min | Avg |
| January | 142 | 144 | 36 | 34 | 34 |
| February | 146 | 146 | 39 | 34 | 36 |
| March | 144 | 146 | 41 | 36 | 39 |
| April | 144 | 144 | 50 | 39 | 45 |
| May | 150 | 150 | 50 | 46 | 48 |
| June | 136 | 136 | 59 | 46 | 52 |
| July | 136 | 134 | 70 | 48 | 57 |
| August | 134 | 130 | 72 | 55 | 66 |
| September | 136 | 136 | 68 | 52 | 63 |
| October | 138 | 138 | 66 | 46 | 52 |
| November | 138 | 138 | 48 | 41 | 45 |
| December | 140 | 138 | 43 | 34 | 37 |
| Average | 140 | 140 | 54 | 43 | 48 |

mg/l - milligrams per Liter
µS/cm - microsiemens per centimeter

**Kenosha Water Utility
Production Division
Laboratory Report
2017**

| Month | Turbidity NTU | | | | | | | | |
|----------------|----------------|-----|-----|--------------|-----|------|-------|-------|-------|
| | Rapid Sand Raw | | | Membrane Raw | | | Tap | | |
| | Max | Min | Avg | Max | Min | Avg | Max | Min | Avg |
| January | 4.5 | 1.2 | 2.7 | 5.3 | 1.4 | 3.2 | 0.040 | 0.026 | 0.030 |
| February | 13.2 | 1.3 | 2.7 | 15.4 | 1.3 | 3.1 | 0.058 | 0.025 | 0.042 |
| March | 27.2 | 2.0 | 9.6 | 26.4 | 1.1 | 9.8 | 0.036 | 0.024 | 0.026 |
| April | 32.5 | 2.4 | 9.2 | 36.2 | 3.1 | 10.4 | 0.037 | 0.024 | 0.028 |
| May | 20.5 | 2.2 | 7.0 | 22.8 | 2.9 | 7.7 | 0.034 | 0.024 | 0.027 |
| June | 12.9 | 1.1 | 3.5 | 12.3 | 1.3 | 3.6 | 0.029 | 0.024 | 0.026 |
| July | 12.0 | 0.8 | 3.6 | 10.8 | 1.2 | 4.1 | 0.048 | 0.023 | 0.028 |
| August | 7.6 | 1.3 | 2.7 | 6.7 | 1.7 | 3.1 | 0.034 | 0.026 | 0.029 |
| September | 15.5 | 1.2 | 3.5 | 17.2 | 1.6 | 4.3 | 0.036 | 0.024 | 0.028 |
| October | 13.9 | 1.3 | 7.6 | 15.3 | 1.9 | 8.6 | 0.031 | 0.023 | 0.026 |
| November | 13.2 | 1.7 | 4.4 | 14.4 | 2.3 | 5.1 | 0.035 | 0.024 | 0.027 |
| December | 16.7 | 1.0 | 5.1 | 17.4 | 1.4 | 5.3 | 0.036 | 0.026 | 0.030 |
| Average | 15.8 | 1.5 | 5.1 | 16.7 | 1.8 | 5.7 | 0.038 | 0.024 | 0.029 |

| Month | PO ₄ Average mg/l | Fluoride Composite Average mg/l | Chlorine Residual mg/l | | |
|----------------|------------------------------------|--|---------------------------|-----|-----|
| | | | Tap | | |
| | Tap | Tap | Max | Min | Avg |
| January | 0.17 | 0.71 | 1.3 | 1.2 | 1.3 |
| February | 0.17 | 0.75 | 1.3 | 1.2 | 1.3 |
| March | 0.16 | 0.75 | 1.3 | 1.2 | 1.3 |
| April | 0.17 | 0.74 | 1.3 | 1.1 | 1.2 |
| May | 0.18 | 0.72 | 1.3 | 1.2 | 1.3 |
| June | 0.18 | 0.75 | 1.3 | 1.2 | 1.3 |
| July | 0.17 | 0.73 | 1.3 | 1.2 | 1.2 |
| August | 0.18 | 0.73 | 1.4 | 1.2 | 1.3 |
| September | 0.19 | 0.74 | 1.3 | 1.0 | 1.2 |
| October | 0.19 | 0.72 | 1.1 | 0.9 | 1.0 |
| November | 0.19 | 0.72 | 1.1 | 1.0 | 1.1 |
| December | 0.18 | 0.73 | 1.1 | 1.0 | 1.1 |
| Average | 0.18 | 0.73 | 1.3 | 1.1 | 1.2 |

NTU - Nephelometric Turbidity Units
 PO₄ - Polyphosphate
 mg/l - milligrams per liter

Synthetic Organic Chemicals

| Parameters | Minimum Detection Level µg/L | Kenosha Results µg/L | Maximum Contaminant Level µg/L |
|-----------------------------|------------------------------------|-------------------------|--------------------------------------|
| Alachlor (Lasso) | 0.015 | ND | 2 |
| Aldicarb Total | 0.50 | ND | 3 |
| Aldicarb Sulfoxide | 0.57 | ND | 4 |
| Aldicarb Sulfone | 0.51 | ND | 2 |
| Aldrin | 0.015 | ND | na |
| Atrazine | 0.024 | ND | 3 |
| Benzo(a)pyrene | 0.02 | ND | 0.2 |
| Butachlor | 0.025 | ND | na |
| Carbaryl | 0.58 | ND | na |
| Carbofuran | 0.55 | ND | 40 |
| Chlordane | 0.033 | ND | 2 |
| 2, 4-D | 0.093 | ND | 70 |
| Dalapon | 0.56 | ND | 200 |
| Dicamba | 0.21 | ND | na |
| Dieldrin | 0.020 | ND | na |
| Di (2-ethylhexyl) adipate | 0.60 | ND | 400 |
| Di (2-ethylhexyl) phthalate | 0.60 | ND | 6 |
| Dinoseb | 0.079 | ND | 7 |
| Diquat | 0.22 | ND | 20 |
| Endothall | 0.51 | ND | 100 |
| Endrin | 0.0090 | ND | 2.0 |
| Glyphosate (Round-up) | 3.0 | ND | 700 |
| Heptachlor | 0.019 | ND | 0.4 |
| Heptachlorepoxyde | 0.015 | ND | 0.2 |
| Hexachlorobenzene | 0.019 | ND | 1 |
| Hexachlorocyclopentadiene | 0.036 | ND | 50 |
| 3-Hydroxycarbofuran | 0.51 | ND | na |
| BHC Gamma (Lindane) | 0.0075 | ND | 0.2 |
| Methoxychlor | 0.016 | ND | 40 |
| Methomyl | 0.49 | ND | na |
| Dual (Metolachlor) | 0.011 | ND | na |
| Metribuzin (Sencor) | 0.019 | ND | na |
| Oxamyl (Vydate) | 0.45 | ND | 200 |
| PCB Total **** | 0.1 | ND | 0.5 |
| Pentachlorophenol | 0.030 | ND | 1 |
| Picloram (Tordan) | 0.086 | ND | 500 |
| Propachlor | 0.014 | ND | na |
| 2,4,5-TP (Silvex) | 0.15 | ND | 50 |
| Simazine | 0.049 | ND | 4 |
| 2,3,7,8-TCDD (Dioxin) | 0.000005 | ND | 0.00003 |
| Toxaphene | 0.33 | ND | 3 |

na – not applicable

ND – not detected

µg/L – micrograms per Liter or parts per billion

**** PCB 1016 (0.030); PCB 1221 (0.042); PCB 1232 (0.091); PCB 1242 (0.11);
PCB 1248 (0.047); PCB 1254 (0.032); PCB 1260 (0.026)

Volatile Organic Chemicals

| Parameters | Minimum Detection Level µg/L | Level Found Kenosha Results µg/L | Maximum Contaminant Level µg/L |
|-----------------------------|------------------------------------|--|--------------------------------------|
| Benzene | 0.23 | ND | 5 |
| Bromobenzene | 0.26 | ND | na |
| Bromodichloromethane | 0.23 | 9.1 | 80 |
| Bromoform | 0.21 | 0.22 | 80 |
| Bromomethane | 0.37 | ND | na |
| Carbon Tetrachloride | 0.22 | ND | 5 |
| Chloroethane | 1.5 | ND | na |
| Chloroform | 0.25 | 12 | 80 |
| Chloromethane | 0.23 | ND | na |
| 1,2-Chlorotoluene (o-) | 0.23 | ND | na |
| 1,4-Chlorotoluene (p-) | 0.20 | ND | na |
| Dibromochloromethane | 0.17 | 4.1 | 80 |
| Dibromomethane | 0.26 | ND | na |
| 1,3-Dichlorobenzene (m-) | 0.25 | ND | na |
| 1,2-Dichlorobenzene (o-) | 0.25 | ND | 600 |
| 1,4-Dichlorobenzene 9 (p-) | 0.28 | ND | 75 |
| 1,1-Dichloroethane | 0.31 | ND | na |
| 1,2-Dichloroethane | 0.25 | ND | 5 |
| 1,1-Dichloroethylene | 0.25 | ND | 7 |
| 1,2-Dichloroethylene, cis | 0.30 | ND | 70 |
| 1,2-Dichloroethylene, trans | 0.47 | ND | 100 |
| Dichloromethane | 0.22 | ND | 5 |
| 1,2-Dichloropropane | 0.23 | ND | 5 |
| 1,3-Dichloropropane | 0.25 | ND | na |
| 2,2-Dichloropropane | 0.15 | ND | na |
| 1,1-Dichloropropene | 0.32 | ND | na |
| 1,3-Dichloropropene | 0.39 | ND | na |
| Ethylbenzene | 0.22 | ND | 700 |
| Chlorobenzene | 0.24 | ND | 100 |
| Styrene | 0.21 | ND | 100 |
| 1,1,1,2-Tetrachloroethane | 0.21 | ND | na |
| 1,1,1,2,2-Tetrachloroethane | 0.20 | ND | na |
| Tetrachloroethylene | 0.28 | ND | 5 |
| Toluene | 0.22 | ND | 1,000 |
| 1,2,4-Trichlorobenzene | 0.25 | ND | 70 |
| 1,1,1-Trichloroethane | 0.32 | ND | 200 |
| 1,1,2-Trichloroethane | 0.27 | ND | 5 |
| Trichloroethylene | 0.30 | ND | 5 |
| 1,2,3-Trichloropropane | 0.30 | ND | na |
| Vinyl Chloride | 0.20 | ND | 0.2 |
| Xylene Total | 0.68 | ND | 10,000 |

na – not applicable

ND – not detected

µg/L – micrograms per Liter or parts per billion

All parameters are sampled at the distribution system entry point every three years per WDNR regulations.

Inorganic Chemicals

| Parameters | Minimum Detection Level mg/L | Level Found Kenosha Results mg/L | Maximum Contaminant Level mg/L | Sample Location |
|------------------------------------|------------------------------------|--|--------------------------------------|-------------------------|
| Alkalinity Total CaCO ₃ | 1.0 | 116 max | na | Entry point |
| Antimony Total | 0.00013 | 0.00021 | 0.006 | Entry point |
| Arsenic Total | 0.0005 | 0.00066 | 0.01 | Entry point |
| Barium Total | 0.0001 | 0.021 | 2 | Entry point |
| Beryllium Total | 0.00013 | ND | 0.004 | Entry point |
| Cadmium Total | 0.0001 | ND | 0.005 | Entry point |
| Chromium Total | 0.00032 | ND | 0.1 | Entry point |
| Copper | 0.001 | 0.11 | 1.3 (AL) | Residential taps |
| Cyanide | 0.005 | ND | 0.2 | Entry point |
| Fluoride Total | 0.05 | 0.85 max | 4 | Entry point |
| Haloacetic Acids | 0.000048 | 0.017 | 0.06 | Maximum residence |
| Hardness Total CaCO ₃ | 1 | 150 | 500 | Highest result obtained |
| Lead | 0.0001 | 0.0089 | 0.015 (AL) | Residential taps |
| Mercury Total | 0.000025 | ND | 0.002 | Entry point |
| Nickel Total | 0.0005 | 0.0009 | 0.1 | Entry point |
| Nitrate as N | 0.050 | 0.45 | 10 | Entry point |
| Nitrite | 0.050 | ND | 1 | Entry point |
| pH Lab | 0.01pH | 7.71 pH avg | na | Entry point |
| Selenium Total | 0.002 | ND | 0.05 | Entry point |
| Sodium Total | 0.15 | 13 | na | Entry point |
| Sulfate Total | 2.5 | 28 | na | Entry point |
| Thallium Total | 0.0001 | ND | 0.002 | Entry point |
| Total Trihalomethanes | 0.00017 | 0.0442 | 0.08 | Maximum residence |

ND – not detected

mg /L – milligrams per Liter or parts per million

AL – Action Level

na – not applicable

Entry Point – Where water enters the distribution system.

Maximum residence – A point of maximum residence time in the distribution system.

**Water System
Statement of Net Position
December 31, 2017**

Assets

Utility Plant

| | | |
|---------------------------------|------------------------|---------------|
| Utility Plant in Service | \$ 120,041,687.15 | |
| Work in Progress - Water Plant | 76,341.31 | |
| Work in Progress - Water System | 2,079,520.92 | |
| Accumulated Depreciation | <u>(45,052,139.31)</u> | |
| Net Plant in Service | | 77,145,410.07 |

Nonutility Property

| | | |
|--|-------------------|-----------|
| Nonutility Property | 20,370.78 | |
| Accumulated Depreciation - Nonutility Property | <u>(2,370.78)</u> | |
| Net Nonutility Property | | 18,000.00 |

Current Assets

| | | |
|--------------------------------------|------------------|--------------|
| Cash and Cash Equivalents | 2,107,386.01 | |
| Investments | - | |
| Restricted Cash and Cash Equivalents | 93,761.56 | |
| Customer Accounts Receivable | 1,484,519.69 | |
| Receivable from Municipality | 692,806.68 | |
| Unbilled Revenues | 1,559,602.89 | |
| Other Accounts Receivable | 33,262.79 | |
| Materials and Supplies | 407,884.93 | |
| Accrued Interest Receivable | 32,946.95 | |
| Other Current Assets | <u>90,098.24</u> | |
| Total Current Assets | | 6,502,269.74 |

Other Assets

| | | |
|------------------------|------------------|---------------|
| Restricted Investments | 8,469,073.31 | |
| Deferred Charges | 2,882,741.52 | |
| Assessments Receivable | <u>32,204.24</u> | |
| Total Other Assets | | 11,384,019.07 |

Total Assets

\$ 95,049,698.88

Deferred Outflow of Resources

| | |
|----------------------------|------------------------|
| Deferred Pension Resources | <u>\$ 1,724,192.39</u> |
|----------------------------|------------------------|

Liabilities

Current Liabilities

| | | |
|---|------------------|--------------|
| Current Portion of Water Revenue Bonds | \$ 4,752,138.74 | |
| Accrued Taxes | 2,405,432.00 | |
| Accounts Payable | 206,019.97 | |
| Accrued Interest Payable | 19,687.50 | |
| Current Portion of Advance from Municipality | 43,480.42 | |
| Current Portion of Accrued Compensated Absences | 37,590.87 | |
| Payable to Municipality | 598,830.00 | |
| Deferred Credits | <u>29,233.57</u> | |
| Total Current Liabilities | | 8,092,413.07 |

Non-current Liabilities

| | | |
|--|---------------------|-------------------|
| Long-term Debt | | |
| Water Revenue Bonds - Series 2008 (net of unamortized premium in the amount of \$125,296.15) | - | |
| Advance from Municipality | 46,115.60 | |
| Advance from Sewerage Unit | <u>5,000,000.00</u> | |
| Total Long-term Debt | | 5,046,115.60 |
| Accrued Compensated Absences | | 369,623.38 |
| Worker's Compensation Accrued Liability | | 155,611.00 |
| Other Postemployment Benefits | | 835,719.00 |
| Pension Liability - Wisconsin Retirement System | | <u>191,161.88</u> |
| Total Non-current Liabilities | | 6,598,230.86 |

Total Liabilities

\$ 14,690,643.93

Deferred Inflow of Resources

| | |
|----------------------------|----------------------|
| Deferred Pension Resources | <u>\$ 856,440.43</u> |
|----------------------------|----------------------|

Net Position

| | | |
|---|-------------------|-------------------------|
| Invested in Capital Assets, net of related debt | 74,729,903.07 | |
| Restricted for Debt Service | 6,251,654.37 | |
| Unrestricted | <u>245,249.47</u> | |
| Total Net Position | | <u>\$ 81,226,806.91</u> |

Water System
Comparative Operating and Maintenance Expenses

| | 2017 | 2016 | 2015 |
|---|--------------------------------|--------------------------------|--------------------------------|
| Source of Supply Expenses | | | |
| Maintenance of Lake Intakes | \$ 0.00 | \$ 54,129.82 | \$ 12,551.82 |
| Miscellaneous | 9,625.00 | 9,625.00 | 9,625.00 |
| | <u>9,625.00</u> | <u>63,754.82</u> | <u>22,176.82</u> |
| Pumping Expenses | | | |
| <u>Operation</u> | | | |
| Supervision and Engineering | 156,516.21 | 144,168.40 | 115,176.35 |
| Fuel - Electricity and Gas | 799,895.01 | 827,827.16 | 779,771.57 |
| Labor | 121,128.99 | 117,653.70 | 111,001.82 |
| Miscellaneous Expense | 8,969.07 | 5,993.01 | 5,568.86 |
| | <u>1,086,509.28</u> | <u>1,095,642.27</u> | <u>1,011,518.60</u> |
| <u>Maintenance</u> | | | |
| Structures and Improvements | 33,858.50 | 21,544.99 | 24,195.10 |
| Power Production Equipment | 31,841.46 | 257.10 | 4,119.74 |
| Pumping Equipment | 69,090.68 | 96,291.42 | 86,599.26 |
| | <u>134,790.64</u> | <u>118,093.51</u> | <u>114,914.10</u> |
| Water Treatment Expenses | | | |
| <u>Operation</u> | | | |
| Supervision and Engineering | 52,777.13 | 54,427.45 | 56,306.62 |
| Lead Testing Program | - | - | - |
| Chemicals | 106,117.89 | 147,765.73 | 135,170.83 |
| Labor | 296,900.31 | 307,646.35 | 286,874.13 |
| Miscellaneous Expense | 508,639.16 | 23,084.32 | 34,420.63 |
| | <u>964,434.49</u> | <u>532,923.85</u> | <u>512,772.21</u> |
| <u>Maintenance</u> | | | |
| Structures and Improvements | 63,245.92 | 440,979.34 | 91,495.87 |
| Water Treatment Expense | 519,177.09 | 503,570.31 | 523,797.21 |
| | <u>582,423.01</u> | <u>944,549.65</u> | <u>615,293.08</u> |
| | <u>2,777,782.42</u> | <u>2,754,964.10</u> | <u>2,276,674.81</u> |
| Transmission and Distribution Expenses | | | |
| <u>Operation</u> | | | |
| Supervision and Engineering | 140,037.85 | 217,662.13 | 71,274.92 |
| Transmission and Distribution Lines | 23,352.35 | 67,008.18 | 49,456.15 |
| Meter Expense | 72,159.63 | 43,379.34 | 63,179.61 |
| Customer Installation Expense | 115,388.96 | 137,366.14 | 35,106.57 |
| Miscellaneous Expense | 507,214.86 | 469,556.51 | 534,367.27 |
| | <u>858,153.65</u> | <u>934,972.30</u> | <u>753,384.52</u> |
| <u>Maintenance</u> | | | |
| Supervision and Engineering | - | 11,131.36 | 21,401.00 |
| Maintenance of Standpipes/Reservoirs | 556,319.28 | 461,455.31 | 105,171.23 |
| Transmission Mains | 740,154.59 | 1,082,052.51 | 874,461.44 |
| Services | 295,634.64 | 119,367.40 | 256,472.23 |
| Meters | 64,682.95 | 41,310.17 | 46,336.56 |
| Hydrants | 54,401.00 | 42,042.75 | 56,259.64 |
| | <u>1,711,192.46</u> | <u>1,757,359.50</u> | <u>1,360,102.10</u> |
| | <u>2,569,346.11</u> | <u>2,692,331.80</u> | <u>2,113,486.62</u> |
| Customer Account Expenses | | | |
| Customer Accounting and Collector | 304,513.35 | 304,003.55 | 306,358.31 |
| Meter Reading | 60,546.16 | 60,952.39 | 60,249.01 |
| | <u>365,059.51</u> | <u>364,955.94</u> | <u>366,607.32</u> |
| Administrative and General Expenses | | | |
| Administrative and General Salaries | 217,462.06 | 211,712.67 | 202,965.86 |
| Office Supplies and Expense | 38,735.72 | 48,094.30 | 38,090.92 |
| Outside Services Employed | 406,995.19 | 223,080.98 | 189,100.64 |
| Property Insurance | 106,061.21 | 109,036.06 | 78,189.82 |
| Employee Benefits and Pensions | 1,345,523.03 | 1,486,634.53 | 1,557,453.76 |
| Regulatory Commission Expense | 14,305.37 | 15,337.13 | 12,643.76 |
| Miscellaneous Expense | 24,390.20 | 27,418.64 | 26,151.84 |
| | <u>2,153,472.78</u> | <u>2,121,314.31</u> | <u>2,104,596.60</u> |
| Total Operation and Maintenance Expenses | | | |
| Utility Taxes | 2,352,857.73 | 2,326,402.98 | 2,310,740.44 |
| Depreciation | 2,855,045.51 | 2,816,132.86 | 2,776,243.71 |
| Total Operating Expenses | <u><u>\$ 13,073,564.06</u></u> | <u><u>\$ 13,076,101.99</u></u> | <u><u>\$ 11,948,349.50</u></u> |

**Water System
Comparative Income Statement**

| | 2017 | 2016 | 2015 |
|---|------------------------|------------------------|------------------------|
| Sales of Water | | | |
| Residential Water Sales | \$ 5,708,386.59 | \$ 5,910,377.04 | \$ 5,738,762.24 |
| Commercial Water Sales | 2,714,429.24 | 2,752,975.79 | 2,667,753.72 |
| Industrial Water Sales | 865,936.50 | 1,000,503.95 | 858,004.92 |
| Total Unmetered Sales to General Public | 11,149.61 | 12,717.86 | \$ 9,456.86 |
| Private Fire Protection | 164,921.00 | 167,223.71 | 165,072.00 |
| Public Fire Protection | 1,355,848.07 | 1,351,071.27 | 1,325,246.09 |
| Sales to Public Authorities | 528,456.56 | 319,338.23 | 299,690.17 |
| Sales for Resale | 2,661,782.42 | 2,616,217.80 | 2,204,997.43 |
| Sales to Irrigation Customers | - | - | 4,752.11 |
| Total Sales of Water | 14,010,909.99 | 14,130,425.65 | 13,273,735.54 |
| Other Operating Revenues | | | |
| Penalties | 159,342.97 | 160,111.53 | 166,821.01 |
| Other Water Revenue | 64,478.68 | 66,443.29 | 67,542.89 |
| Allocated Services | 144,671.55 | 146,531.23 | 142,905.83 |
| Miscellaneous Service Revenues | 280,975.28 | 290,304.55 | 395,007.54 |
| Total Other Operating Revenues | 649,468.48 | 663,390.60 | 772,277.27 |
| Total Operating Revenues | 14,660,378.47 | 14,793,816.25 | 14,046,012.81 |
| Operating Expenses | | | |
| Source of Supply | 9,625.00 | 63,754.82 | 22,176.82 |
| Power and Pumping Expense | 1,221,299.92 | 1,213,735.78 | 1,126,432.70 |
| Water Treatment Expense | 1,546,857.50 | 1,477,473.50 | 1,128,065.29 |
| Transmission and Distribution Expense | 2,569,346.11 | 2,692,331.80 | 2,113,486.62 |
| Customer Accounting and Collection Expense | 365,059.51 | 364,955.94 | 366,607.32 |
| Administrative and General Expense | 2,153,472.78 | 2,121,314.31 | 2,104,596.60 |
| Depreciation | 2,855,045.51 | 2,816,132.86 | 2,776,243.71 |
| Taxes | 2,352,857.73 | 2,326,402.98 | 2,310,740.44 |
| Total Operating Expenses | 13,073,564.06 | 13,076,101.99 | 11,948,349.50 |
| Utility Operating Income | 1,586,814.41 | 1,717,714.26 | 2,097,663.31 |
| Other Income | | | |
| Interest Earned | 98,941.71 | 37,346.29 | 12,356.36 |
| Miscellaneous Non-operating Income | 7,365.09 | 3,603.41 | 2,745.34 |
| Total Other Income | 106,306.80 | 40,949.70 | 15,101.70 |
| Operating and Other Income | 1,693,121.21 | 1,758,663.96 | 2,112,765.01 |
| Non-operating Expenses | | | |
| Interest on Long-term Debt | 524,786.99 | 622,311.98 | 711,322.40 |
| Amortization of Debt Expense | (43,103.48) | (55,053.93) | (65,976.78) |
| Total Non-operating Expenses | 481,683.51 | 567,258.05 | 645,345.62 |
| Net Income | \$ 1,211,437.70 | \$ 1,191,405.91 | \$ 1,467,419.39 |
| Rate of Return on Average Investment (based on operating income & expense) | 4.57% | 4.72% | 4.93% |

**Water System
Utility Plant in Service
For the year ended December 31, 2017**

| | Depr. Rate % | Cost of Plant 1/1/2017 | 2017 Additions | 2017 Retirements | Adjustments Incr/(Decr) | Cost of Plant 12/31/2017 |
|--------------------------------------|--------------------|---------------------------|------------------------|----------------------|----------------------------|-----------------------------|
| Source of Supply | | | | | | |
| Structures and Improvements | 2.00 | \$ 1,136,362.88 | | | | \$ 1,136,362.88 |
| Collect and Impound Reservoirs | 1.67 | 268,710.96 | | | | 268,710.96 |
| Lake Intakes | 1.67 | 1,567,121.31 | | | | 1,567,121.31 |
| Supply Mains | 1.33 | 453,081.81 | | | | 453,081.81 |
| Pumping Plant | | | | | | |
| Land | N/A | 18,657.25 | | | | 18,657.25 |
| Structures and Improvements | 2.00 | 3,772,243.87 | | 900.49 | | 3,771,343.38 |
| Other Power Prod Equipment | 4.00 | 813,800.43 | | | | 813,800.43 |
| Electric Pumping Equipment | 3.33 | 3,767,595.27 | 11,228.82 | 54,963.68 | | 3,723,860.41 |
| Other Pumping Equipment | 4.00 | 8,646.81 | | | | 8,646.81 |
| Water Treatment | | | | | | |
| Land | N/A | 527,047.60 | | | | 527,047.60 |
| Structures and Improvements | 2.00 | 8,450,031.99 | | | | 8,450,031.99 |
| Water Treatment Equipment | 3.24 | 1,315,428.19 | 11,983.00 | 20,261.36 | | 1,307,149.83 |
| Membrane Filtration Equipment | 5.56 | 13,836,627.77 | 2,000.00 | | | 13,838,627.77 |
| Transmission and Distribution | | | | | | |
| Land | N/A | 314,867.39 | | | | 314,867.39 |
| Reservoirs and Standpipes | 1.86 | 6,195,422.40 | 8,631.57 | | | 6,204,053.97 |
| Mains | 0.93 | 53,109,494.07 | 1,656,602.12 | 75,906.17 | | 54,690,190.02 |
| Services | 2.09 | 8,229,621.13 | 376,349.38 | 22,491.42 | | 8,583,479.09 |
| Meters | 5.00 | 4,972,328.44 | 175,103.98 | 131,100.25 | | 5,016,332.17 |
| Hydrants | 1.59 | 5,421,277.69 | 211,122.43 | 9,293.74 | | 5,623,106.38 |
| General Plant | | | | | | |
| Furniture and Equipment | 5.88 | 52,305.41 | | 570.00 | | 51,735.41 |
| Computer Equipment | 6.67-14.29 | 297,249.91 | 19,363.33 | 6,056.81 | | 310,556.43 |
| Transportation Equipment | 12.86 | 1,344,240.39 | 51,467.50 | | 11,482.83 | 1,407,190.72 |
| Stores Equipment | 5.88 | 1,497.75 | | | | 1,497.75 |
| Tools and Shop Equipment | 5.88 | 314,078.78 | 24,119.85 | 2,600.00 | | 335,598.63 |
| Lab Equipment | 5.88 | 105,986.93 | 8,257.01 | | | 114,243.94 |
| Work (Power) Equipment | 9.00 | 549,868.65 | | | | 549,868.65 |
| Communication Equipment | 9.09 | - | | | | - |
| Telephone Equipment | 20.00 | 41,180.70 | | | | 41,180.70 |
| SCADA System Equipment | 10.00 | 692,506.89 | 15,895.30 | | | 708,402.19 |
| Miscellaneous Equipment | 5.88 | 203,366.28 | 1,575.00 | | | 204,941.28 |
| Total | | <u>\$ 117,780,648.95</u> | <u>\$ 2,573,699.29</u> | <u>\$ 324,143.92</u> | <u>\$ 11,482.83</u> | <u>\$ 120,041,687.15</u> |

**Water System
Accumulated Depreciation
For the year ended December 31, 2017**

| | Balance 1/1/2017 | 2017 Depreciation | Less Cost of Retirements | Add Cash Received | Adjustments Incr./Decr. | Balance 12/31/2017 |
|--------------------------------------|-------------------------|------------------------|-----------------------------|----------------------|----------------------------|-------------------------|
| Source of Supply | | | | | | |
| Structures and Improvements | \$ 409,090.68 | \$ 22,727.26 | | | | \$ 431,817.94 |
| Collect and Impound Reservoirs | 176,103.72 | 4,568.09 | | | | 180,671.81 |
| Lake Intakes | 914,489.97 | 26,641.06 | | | | 941,131.03 |
| Supply Mains | 116,985.74 | 8,155.47 | | | | 125,141.21 |
| Pumping Plant | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | 1,177,940.38 | 75,435.88 | 900.49 | | | 1,252,475.77 |
| Other Power Prod Equipment | 390,941.73 | 35,807.22 | | | | 426,748.95 |
| Electric Pumping Equipment | 1,919,374.16 | 164,812.02 | 54,963.68 | 750.00 | | 2,029,972.50 |
| Other Pumping Equipment | 7,999.63 | 380.46 | | | | 8,380.09 |
| Water Treatment | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | 3,627,079.75 | 139,022.39 | | | | 3,766,102.14 |
| Water Treatment Equipment | 1,315,428.19 | 11,783.00 | 20,061.36 | | | 1,307,149.83 |
| Membrane Filtration Equipment | 10,936,460.88 | 830,257.67 | | | | 11,766,718.55 |
| Transmission and Distribution | | | | | | |
| Land | - | | | | | - |
| Reservoirs and Standpipes | 2,829,455.25 | 120,035.19 | | | | 2,949,490.44 |
| Mains | 8,965,126.90 | 642,280.17 | 75,906.17 | | | 9,531,500.90 |
| Services | 3,738,570.50 | 175,696.90 | 22,491.42 | | | 3,891,775.98 |
| Meters | 1,877,735.50 | 274,688.16 | 131,100.25 | 21,020.62 | | 2,042,344.03 |
| Hydrants | 1,647,164.82 | 121,729.85 | 9,293.74 | 15,842.55 | | 1,775,443.48 |
| General Plant | | | | | | |
| Furniture and Equipment | 33,757.34 | 3,017.18 | 570.00 | | | 36,204.52 |
| Computer Equipment | 153,192.43 | 32,555.61 | 6,056.81 | | | 179,691.23 |
| Transportation Equipment | 897,611.81 | 74,796.68 | | | (6,684.69) | 965,723.80 |
| Stores Equipment | 1,497.75 | | | | | 1,497.75 |
| Tools and Shop Equipment | 245,654.90 | 18,840.65 | 2,600.00 | | | 261,895.55 |
| Lab Equipment | 77,043.79 | 6,386.69 | | | | 83,430.48 |
| Work (Power) Equipment | 295,369.09 | 26,490.32 | | | 0.09 | 321,859.50 |
| Communications Equipment | (8,513.49) | | | | | (8,513.49) |
| Telephone Equipment | 41,180.70 | | | | | 41,180.70 |
| SCADA System Equipment | 607,269.80 | 27,096.67 | | | | 634,366.47 |
| Miscellaneous Equipment | 96,097.23 | 11,840.92 | | | | 107,938.15 |
| Total | <u>\$ 42,490,109.15</u> | <u>\$ 2,855,045.51</u> | <u>\$ 323,943.92</u> | <u>\$ 37,613.17</u> | <u>(\$ 6,684.60)</u> | <u>\$ 45,052,139.31</u> |

Water System
Water System Revenue Refunding Bonds - Series 2008
Debt Service Schedule
December 31, 2017

| Year | Interest Rate % | Principal | Interest | | Total |
|--------|--------------------|-----------------|---------------|---------------|-----------------|
| | | December 1 | June 1 | December 1 | |
| 2018 | 5.00% | 4,725,000.00 | 118,125.00 | 118,125.00 | 4,961,250.00 |
| Totals | | \$ 4,725,000.00 | \$ 118,125.00 | \$ 118,125.00 | \$ 4,961,250.00 |

**Water System
Advance from Municipality
Debt Repayment Schedule
December 31, 2017**

| Year | Interest Rate % | Principal | Interest | | Total |
|---------------|----------------------------|---------------------|--------------------|--------------------|---------------------|
| | | April 1 | April 1 | October 1 | |
| 2018 | 5.880% | 43,480.42 | 2,633.53 | 1,383.47 | 47,497.42 |
| 2019 | 6.000% | 46,115.60 | 1,383.47 | — | 47,499.07 |
| Totals | | \$ 89,596.02 | \$ 4,017.00 | \$ 1,383.47 | \$ 94,996.49 |

**Water System
Total Debt Repayment Schedule
December 31, 2017**

| Year | Principal | Interest | Total |
|-------------|------------------------|----------------------|------------------------|
| 2018 | 4,768,480.42 | 240,267.00 | 5,008,747.42 |
| 2019 | 46,115.60 | 1,383.47 | 47,499.07 |
| Totals | <u>\$ 4,814,596.02</u> | <u>\$ 241,650.47</u> | <u>\$ 5,056,246.49</u> |

**Water Distribution &
Sewer Collection Division**

4401 Green Bay Road
Kenosha WI 53144

Phone (262) 653-4306
Fax (262) 653-4303



“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha WI 53144

Subject: 2017 Annual Report for the Water Distribution and Sewer Collection Division

Dear Mr. St. Peter,

The 2017 Annual Report for the Water Distribution and Sewer Collection Division is hereby submitted. We completed 352 excavation projects last year. In addition to excavation activities, our Division cleaned 25.4 miles of sanitary sewer as part of our annual sewer flushing program and flushed and maintained all fire hydrants south of 60th Street as part of our annual hydrant maintenance program.

Water Distribution System:

The Distribution Division repaired 132 water main breaks in 2017, a 6% decrease from 2016. It should be noted that only 28 main breaks, or 21% of the yearly total, occurred before April 1st. This can be attributed to mild weather in the beginning of 2017. A related number of valves, twenty-six, were also repaired or replaced in 2017. Additionally, fifteen fire hydrants were repaired or replaced as well as one hundred and twenty one water services (including thirty-six lead service replacements or abandonments).

Sanitary Sewer Collection System:


Sewer projects in 2017 included the cleaning of over 25 miles of sewer main and televising of 2.4 miles of sewer main. Once again the focus of the televising efforts were the limits of any major projects in the City limits such as roadway resurfacing/reconstruction or sewer/water main relays. Direct work on the sanitary system remained fairly steady with forty-six lateral repairs, two sewer main repairs and thirteen manhole repairs.

In addition to the typical maintenance activities associated with the water distribution and sewer collection systems two new initiatives were undertaken in 2017. The first initiative was completing water main replacements with in-house personnel. For 2017 the Distribution Division replaced nearly 6,600 lineal feet of deteriorated water mains. The second initiative was implementing a valve exercising program in an effort to ensure distribution system valves were clean, accessible and functional for emergency repair purposes.

Completing our work would be impossible without help from other KWU divisions. We would also like to thank the City of Kenosha Streets Division for supporting our operation by salting roads and clearing storm sewer inlets where main breaks occur. Finally, I’d like to acknowledge the outstanding Distribution Division employees. Their willingness to sacrifice their nights, weekends and holidays during inclement weather illustrates their dedication and willingness to provide an unparalleled level of customer service.

Thank you, Ed, and the Board of Water Commissioners for providing us with all the tools and technology necessary to complete our projects in a safe and efficient manner.

Sincerely,


Curtis Czarnecki, P.E.



www.kenosha.org

Water Distribution Pipe System - 2017

| <u>Size</u> | <u>Material</u> | <u>Footage</u> |
|---------------------|------------------------|----------------|
| 48" | Cast/Ductile Iron Pipe | 370 |
| 36" | Cast/Ductile Iron Pipe | 12,586 |
| 30" | Cast/Ductile Iron Pipe | 13,280 |
| 24" | Cast/Ductile Iron Pipe | 60,775 |
| 24" | Concrete Pipe | 7,892 |
| 24" | Plastic Pipe | 4,643 |
| 20" | Cast/Ductile Iron Pipe | 8,327 |
| 18" | Cast/Ductile Iron Pipe | 2,582 |
| 16" | Cast/Ductile Iron Pipe | 173,309 |
| 16" | Plastic Pipe | 42,908 |
| 14" | Cast/Ductile Iron Pipe | 8,311 |
| 12" | Cast/Ductile Iron Pipe | 225,839 |
| 12" | Plastic Pipe | 55,071 |
| 10" | Cast/Ductile Iron Pipe | 16,265 |
| 8" | Cast/Ductile Iron Pipe | 365,462 |
| 8" | Plastic Pipe | 211,960 |
| 6" | Cast/Ductile Iron Pipe | 701,416 |
| 6" | Plastic Pipe | 7,145 |
| 4" | Cast/Ductile Iron Pipe | 30,188 |
| 3" | Copper Pipe | 150 |
| 2" | Copper Pipe | 2,517 |
| 2" | Plastic Pipe | 759 |
| 1.5" | Copper Pipe | 272 |
| 1" | Copper Pipe | 70 |
| Total Feet of Pipe | | 1,952,097 |
| Total Miles of Pipe | | 369.72 |

Water Services Added to System - 2017

| <u>Number</u> | <u>Size</u> | <u>Material</u> | <u>Average Unit Cost</u> | <u>Total Cost</u> |
|---------------|-------------|--------------------|------------------------------|----------------------|
| 113 | 1" | Copper Connections | 2,435.57 | 275,219.07 |
| 1 | 1.5" | Copper Connections | 5,962.69 | 5,962.69 |
| 6 | 6" | PVC | 4,178.87 | 25,073.19 |
| 1 | 8" | PVC | 2,755.83 | 2,755.83 |
| 6 | 12" | PVC | 8,218.10 | 49,308.60 |
| 2 | 16" | PVC | 9,015.00 | 18,030.00 |
| <u>129</u> | | Total | | <u>\$ 376,349.38</u> |

Fire Hydrants Added to System - 2017

| <u>Number</u> | <u>Type</u> | <u>Average Unit Cost</u> | <u>Total Cost</u> |
|---------------|-------------|------------------------------|-------------------|
| 34 | Steamer | \$ 6,209.48 | \$ 211,122.43 |

2017 Water Main Installation Costs

| Project | Size/ Type | Installer | Description | Footage | Total Costs | Cost per Foot |
|---|-----------------------|-----------------------|--|------------------------|-------------------------------|--------------------------|
| <u>By Job Number</u> | | | | | | |
| Installed by Kenosha Water Utility | | | | | | |
| 564 | 24" DI | State of Wisconsin | I-94 & 60th St | 521.0 | \$ 87,842.20 | |
| 578 | 8" PVC | Kenosha Water Utility | Water Main Relay, Johnson Rd - 80th St to 26th Ave | 514.0 | 96,521.27 | |
| 582 | 8" PVC | Kenosha Water Utility | Water Main Relay, Buchanan Rd - 25th Ave to 26th Ave | 579.0 | 92,406.78 | |
| 588 | N/A | State of Wisconsin | I-94 & Hwy 50 no additional main-facility adjustment only | | 51,918.38 | |
| 596 | 8" PVC | Kenosha Water Utility | Water Main Relay, 31st St - 17th Ave to 18th Ave | 361.0 | 70,337.56 | |
| Subtotal | | | | <u>1,975.0</u> | <u>399,026.19</u> | |
| Installed by Developers | | | | | | |
| 422 | 12" & 16" PVC | Uline | 38th St (Hwy S) & 128th Ave | 8,254.2 | 1,099,466.67 | |
| 434 | 8" PVC | KAT Subdivision | 35th/34th Ave - 40th St to 45th St | <u>2,372.0</u> | <u>102,180.97</u> | |
| Subtotal | | | | <u>10,626.2</u> | <u>1,201,647.64</u> | |
| Grand total | | | | <u>12,601.2</u> | <u>\$ 1,600,673.83</u> | |
| <u>By Pipe Size</u> | | | | | | |
| 588 | N/A | State of Wisconsin | I-94 & Hwy 50 no additional main-facility adjustment only | | <u>\$ 51,918.38</u> | |
| 434 | 8" PVC | KAT Subdivision | 35th/34th Ave - 40th St to 45th St | 2,372.0 | 102,180.97 | |
| 578 | 8" PVC | Kenosha Water Utility | Water Main Relay, Johnson Rd - 80th St to 26th Ave | 514.0 | 96,521.27 | |
| 582 | 8" PVC | Kenosha Water Utility | Water Main Relay, Buchanan Rd - 25th Ave to 26th Ave | 579.0 | 92,406.78 | |
| 596 | 8" PVC | Kenosha Water Utility | Water Main Relay, 31st St - 17th Ave to 18th Ave | 361.0 | 70,337.56 | |
| Subtotal | | | | <u>3,826.00</u> | <u>361,446.58</u> | 94.47 |
| 422 | 12" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>110.5</u> | <u>6,192.48</u> | 56.04 |
| 422 | 16" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>8,143.7</u> | <u>1,093,274.19</u> | 134.25 |
| 564 | 24" DI | State of Wisconsin | I-94 & 60th St | <u>521.0</u> | <u>87,842.20</u> | 168.60 |
| Grand total | | | | <u><u>12,601.2</u></u> | <u><u>\$ 1,600,673.83</u></u> | |

**Distribution Division - Water
Operating & Maintenance Report - 2017**

Maintenance Completed

| System | Maintenance Type | Quantity |
|--|--------------------------|------------|
| Water Main Breaks | Circumferential | 53 |
| | Blow Out | 60 |
| | Joint Leaks | - |
| | Longitudinal | 26 |
| | Old Sleeve | 1 |
| | Other | 4 |
| Total Main Break Repairs | | 144 |
| Valves | Reset/Replace Box (only) | 4 |
| | Replaced | 16 |
| | Repaired | 8 |
| | New Installation | - |
| | Removed/VBO | - |
| Total Valve Repairs | | 28 |
| Water Services | Reset/Replace Box (only) | 10 |
| | Replaced (Lead Svcs: 14) | 76 |
| | Repaired | 14 |
| | Flow Test | - |
| | Shut at Main | 3 |
| Total Water Service Repairs | | 103 |
| Hydrants | Replaced | 8 |
| | Repaired | 6 |
| | Relocated | - |
| | Abandoned | - |
| | New Installation | 1 |
| Total Hydrant Repairs | | 15 |
| New Connections & Taps | 1" | 90 |
| | 1 1/2" | 2 |
| | 2" | - |
| | 4" | 1 |
| | 6" | 5 |
| | 8" | 1 |
| Total New Connections Installed | | 99 |

Meter Shop Request for Assistance: 107
Valves Operated: 491

Customer Complaints

(During Normal Work Hours)

| Complaint | Quantity |
|-------------------------|------------|
| Main Breaks | 81 |
| Hydrant Hit/Damaged | 8 |
| Hydrant Leaking | 15 |
| Service Repairs | 6 |
| Signs/Barricades Needed | 4 |
| Curb/Valve Box Repair | 24 |
| Water Taste/odor/color | 14 |
| Low Pressure | 3 |
| No Water | 2 |
| Service Turn-On | - |
| Service Turn Off | - |
| Temporary Road Patch | 18 |
| Utility Locates | - |
| Miscellaneous | 9 |
| Total | 184 |

Customer Complaints

(After Normal Work Hours)

| Complaint | Quantity |
|-------------------------|------------|
| Main Breaks | 126 |
| Hydrant Hit/Damaged | 19 |
| Hydrant Leaking | 19 |
| Service Repairs | 14 |
| Signs/Barricades Needed | 5 |
| Curb box/Valve Box | 4 |
| Water Taste/odor/color | 3 |
| Low Pressure | 8 |
| No Water | 22 |
| Service Turn-On | 8 |
| Service Turn Off | 20 |
| Temporary Road Patch | 1 |
| Utility Locate | 35 |
| Miscellaneous | 1 |
| Total | 285 |

| | |
|----------------------------------|------------|
| Total Customer Complaints | 469 |
|----------------------------------|------------|

Wastewater Treatment Plant

7834 3rd Avenue
Kenosha WI 53143

Phone (262) 653-4335
Fax (262) 653-4340



“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2018

Mr. Edward St. Peter, General Manager
Kenosha Water Utility
4401 Green Bay Road
Kenosha, WI 53144

Subject: 2017 Annual Report – Wastewater Treatment Division

Dear Mr. St. Peter,

We respectfully submit the 2017 Annual Report for the Kenosha Water Utility Wastewater Treatment Plant. This past year, the wastewater treatment plant treated 9.295 billion gallons of effluent with an average daily flow of 25.417 million gallons per day (MGD). The volume entering the treatment was well above past years due to the higher than average rainfall (2017 precipitation = 43.96 inches; 2013-2016 average precipitation = 35.56 inches). The final effluent biological oxygen demand (BOD) and total suspended solids (TSS) were well within the permitted discharge limits.

The staff at the wastewater treatment plant works very hard throughout the year to operate, maintain, and improve the wastewater treatment plant and the collection system. In 2017, we continued to work on efficient operation of the energy optimization project equipment and processes. These new processes, and the entire plant, were on display during a public open house on June 10. These processes were also displayed on October 3 as an official tour site for the national Water Environment Federation Technical Exhibition and Conference (WEFTEC).

In 2016, staff and our engineering consultant selected perforated plates with 6 mm holes to replace the existing ½ inch bar screens in the headworks. Construction took place in the beginning of 2017 and ultimately improved operations and maintenance throughout the plant by removing more debris in the beginning of the treatment process. Another large project was the completion of an odor study at the wastewater plant, whereas improvements to reduce odors were made and are ongoing.

The wastewater treatment plant and collection system were challenged during the flood in July where a total of 7.6 inches of rain fell over 3 days. The flood resulted in 6 times the average volume of water in the collection system. Staff worked around the clock for several days to ensure that pumps and equipment continued to operate under the stressed conditions.

We are very proud of the entire staff at the wastewater treatment plant. It is their attitude, dedication, and teamwork that make this place run smoothly. We would like to thank Ed St. Peter and the Board of Water Commissioners for their continued support and guidance. The Wastewater Treatment Plant and collection system have a lot of potential for improvement projects, which is why it is such an exciting place to work.

Sincerely,

Melissa Arnot
Director of Operations

Katrina Karow
Director of Wastewater Treatment



www.kenosha.org

Treatment Data - 5 Year Comparison

| <u>YEAR</u> | <u>MGD</u> | <u>Influent mg/L</u> | <u>Primary Effluent mg/L</u> | <u>Primary Efficiency %</u> | <u>Final Effluent mg/L</u> | <u>Overall Efficiency %</u> |
|-------------------------|------------|--------------------------|--------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| Suspended Solids | | | | | | |
| 2017 | 25.417 | 168 | 46 | 72 | 10.1 | 94 |
| 2016 | 22.627 | 178 | 48 | 73 | 6.9 | 96 |
| 2015 | 21.930 | 180 | 51 | 72 | 7.9 | 96 |
| 2014 | 21.303 | 176 | 51 | 71 | 7.5 | 96 |
| 2013 | 20.452 | 160 | 50 | 69 | 6.4 | 96 |
| Five-Day BOD | | | | | | |
| 2017 | 25.417 | 159 | 105 | 34 | 13.2 | 92 |
| 2016 | 22.627 | 177 | 114 | 36 | 10.9 | 94 |
| 2015 | 21.93 | 180 | 116 | 36 | 14.1 | 92 |
| 2014 | 21.303 | 175 | 110 | 37 | 12.9 | 93 |
| 2013 | 20.452 | 162 | 109 | 33 | 11.2 | 93 |
| Phosphorus | | | | | | |
| 2017 | 25.417 | 2.71 | – | – | 0.52 | 81 |
| 2016 | 22.627 | 2.8 | – | – | 0.45 | 84 |
| 2015 | 21.93 | 2.91 | – | – | 0.49 | 83 |
| 2014 | 21.303 | 2.95 | – | – | 0.48 | 84 |
| 2013 | 20.452 | 2.61 | – | – | 0.49 | 81 |

mg/L - milligrams per Liter

Summary

| | 2017 | 2016 |
|---|---------------|---------------|
| Total wastewater pumped and treated | 9,294,576,000 | 8,281,449,000 |
| Total sludge to digesters - gallons | 30,949,193 | 33,037,351 |
| Total dry solids to digesters - pounds | 11,061,185 | 11,275,931 |
| Total dry volatile solids to digesters - pounds | 8,396,051 | 8,672,440 |

Digester Data

| | | |
|---|------------|------------|
| Total gallons digested sludge removed | 31,800,135 | 33,884,912 |
| Percent dry solids | 2.01 | 2.04 |
| Total pounds dry solids removed | 5,334,634 | 5,430,952 |
| Percent volatile matter | 55.0 | 54.4 |
| Total dry volatile solids removed | 2,936,183 | 2,954,438 |
| Volatile solids destroyed, percent | 65.0 | 65.9 |
| Total gallons removed as supernatant | 0 | 256,800 |
| Percent supernatant solids | 0.00 | 0.06 |
| Total pounds supernatant solids removed | 0 | 1,285 |
| Percent supernatant volatile matter | 0.0 | 66.7 |
| Total pounds volatile solids, supernatant | 0 | 857 |

Treatment Plant Data and Chemical Usage

| | 2017 | 2016 |
|---|------------|------------|
| <u>Chemical Data</u> | | |
| <u>Chlorine</u> | | |
| Total pounds | 110,581 | 109,718 |
| Average pounds per day | 303 | 301 |
| Average residual, µg/L | < 100 µg/L | < 100 µg/L |
| <u>Sulfur Dioxide</u> | | |
| Total pounds | 96,254 | 103,797 |
| Average pounds per day | 264 | 284 |
| <u>Ferric Chloride, Phosphorus</u> | | |
| Total gallons | 210,665 | 199,764 |
| Average gallons per day | 577 | 547 |
| Average pounds of Fe per day | 761 | 722 |
| <u>Polymer</u> | | |
| Tons | 97 | 104 |
| Pounds per pound of dry solids | 0.036 | 0.038 |
| <u>Sodium Hydroxide *</u> | | |
| Total Pounds | 161,037 | 169,283 |
| Pounds per pound of lysed WAS | 0.039 | 0.041 |
| <u>Sulfuric Acid *</u> | | |
| Total pounds | 30,368 | 54,392 |
| Pounds per CF through air scrubber | 0.023 | 0.034 |

* Sodium Hydroxide and Sulfuric Acid added in 2016 for new biosolids processing

Aeration

| | | |
|--------------------------------------|--------|--------|
| Settleable Solids - mg/L | 255 | 278 |
| Mixed Liquor Suspended Solids - mg/L | 3,050 | 3,007 |
| Dissolved Oxygen - mg/L | 2.0 | 2.1 |
| BOD lbs. applied per day | 19,768 | 20,480 |

Thickener

| | | |
|--|---------|---------|
| Waste Activated Sludge to Thickener, gallons/day | 132,269 | 149,581 |
| Waste Activated Sludge - % solids | 1.04 | 1.01 |
| Waste Activated Sludge - lbs/day | 11,533 | 12,514 |
| Thickened Sludge - % solids | 5.0 | 5.9 |
| Thickened Sludge - % volatile | 74.02 | 73.6 |
| Thickener Effluent - Suspended Solids - mg/L | 233 | 542 |
| Thickened Sludge - lbs dry solids/day | 11,550 | 13,071 |
| Thickened Sludge - gallons/day | 25,248 | 26,925 |

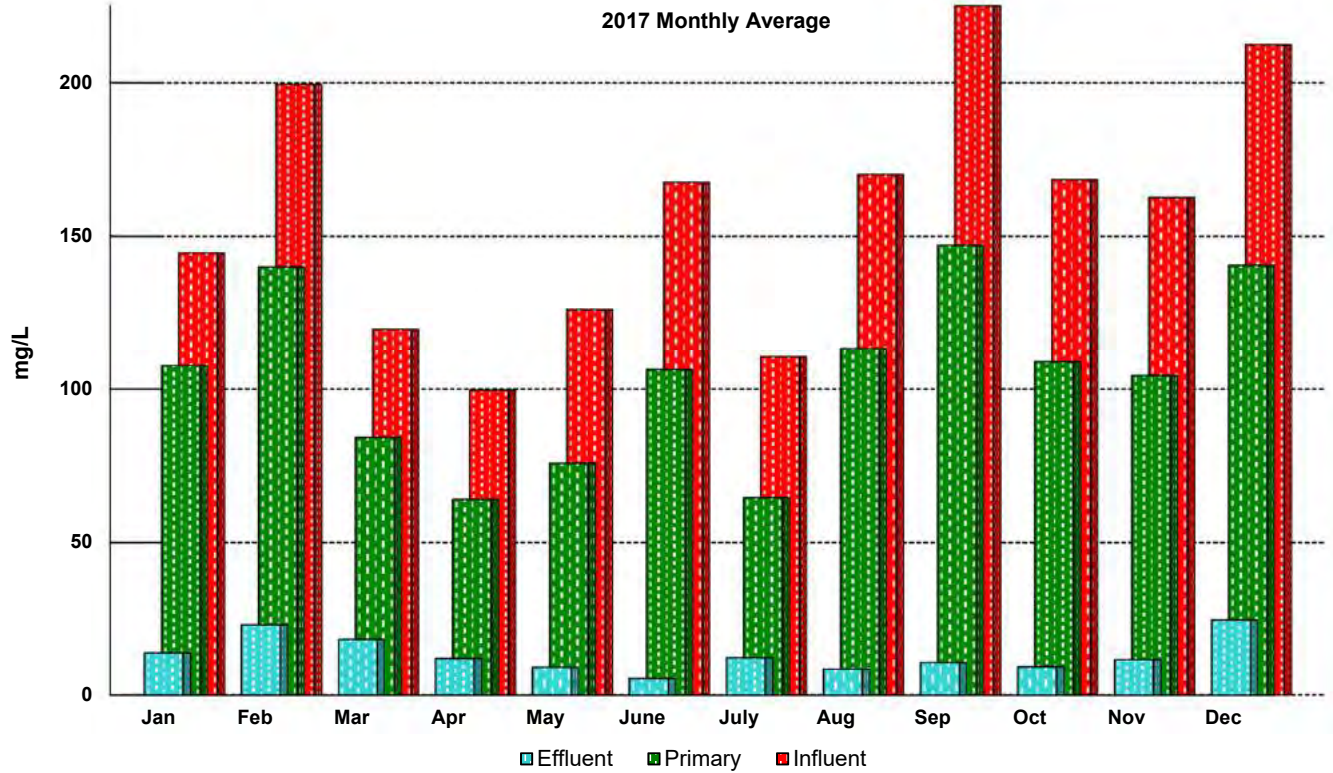
mg/L - milligrams per Liter

µg/L - micrograms per Liter

WAS - Waste Activated Sludge

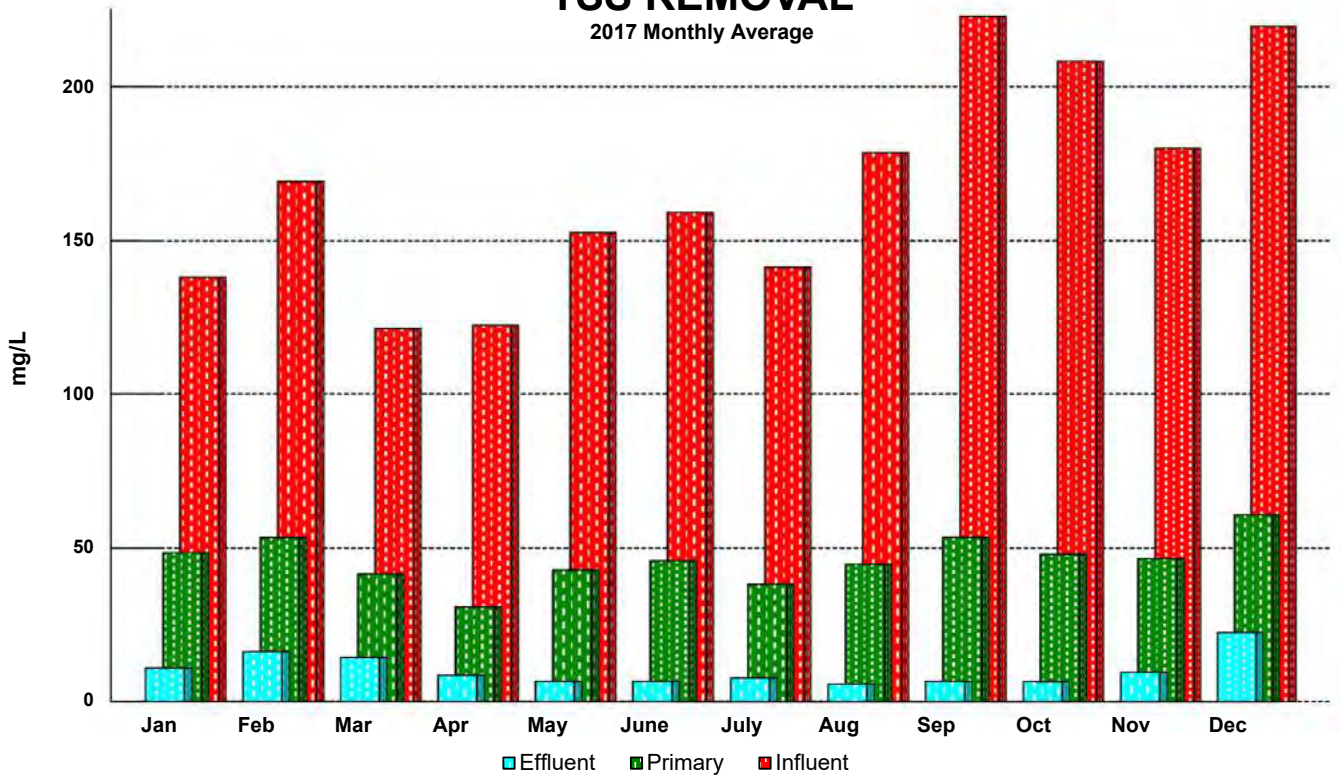
BOD REMOVAL

2017 Monthly Average



TSS REMOVAL

2017 Monthly Average



Wastewater Flow

Annual precipitation and average daily flow for the past five years

| | <u>Precipitation, Inches</u> | <u>Average MGD</u> |
|------|------------------------------|--------------------|
| 2017 | 43.96 | 25.465 |
| 2016 | 33.70 | 22.630 |
| 2015 | 35.83 | 21.930 |
| 2014 | 33.20 | 21.303 |
| 2013 | 39.50 | 20.452 |

Supernatant

| | |
|-----------------------------------|------|
| Gallons per day | 0 |
| Percent Solids | 0.00 |
| Pounds supernatant solids per day | 0 |
| Percent volatile | 0.0 |

Sludge to Centrifuge

| | |
|------------------|--------|
| Gallons per day | 88,580 |
| Percent solids | 2.01 |
| Pounds per day | 14,860 |
| Percent volatile | 55.0 |

Sludge off Centrifuge

| | |
|--------------------|-------|
| Total tons | 5,535 |
| Percent solids | 28.3 |
| Centrate TSS, mg/l | 699.0 |
| Centrate pH | 95.0 |

Solids Disposal

| | |
|--------------------------------------|-------|
| Tons of sludge to landfill, dry tons | 1,955 |
| Tons of grit to landfill | 1,165 |

Annual Energy Usage

| | | <u>2017</u> | <u>2016</u> |
|-----------------------------------|---------------------------|-------------|-------------|
| Electricity | Total On and Off Peak kWh | 6,374,541 | 6,546,865 |
| | Total Demand kW | 15,183 | 14,523 |
| | Total cost | \$ 550,802 | \$ 554,663 |
| Natural Gas | therms | 179,537 | 200,153 |
| | Total cost | \$ 89,382 | \$ 93,250 |
| Methane gas produced by digesters | therms | 433,682 | 420,917 |
| Value of methane gas | Total | \$ 215,909 | \$ 196,103 |

**Sewerage System
Plant Operating Data - 2017**

| Month | Precip. Inches | Total Flow Raw Sewage MG | Average Daily Flow MGD | Maximum Daily Flow MGD | Day of Month | Power Cost |
|-----------|-------------------|--------------------------------|------------------------------|------------------------------|-----------------|---------------|
| January | 2.13 | 724.071 | 23.357 | 36.333 | 17 | \$ 42,331 |
| February | 2.38 | 575.037 | 20.537 | 30.489 | 24 | 41,366 |
| March | 5.01 | 1,034.672 | 33.377 | 72.787 | 31 | 40,318 |
| April | 5.93 | 1,145.873 | 38.196 | 55.913 | 6 | 50,050 |
| May | 2.78 | 951.381 | 30.690 | 72.434 | 1 | 42,235 |
| June | 5.10 | 703.176 | 23.439 | 34.437 | 29 | 48,505 |
| July | 9.90 | 1,183.376 | 38.173 | 94.086 | 12 | 55,065 |
| August | 2.57 | 642.368 | 20.722 | 28.931 | 4 | 49,669 |
| September | 0.20 | 499.044 | 16.635 | 18.095 | 1 | 46,710 |
| October | 5.79 | 702.752 | 22.669 | 46.677 | 24 | 43,795 |
| November | 1.85 | 617.556 | 20.585 | 25.692 | 18 | 49,734 |
| December | 0.32 | 515.270 | 16.622 | 18.091 | 1 | 41,025 |
| Total | 43.96 | 9,294.576 | | | | \$ 550,803 |
| Average | 3.66 | 774.548 | 25.417 | 44.497 | | \$ 45,900 |

Monthly Averages

| Month | BOD | | TSS (mg/L) | | Phosphorus (mg/L) | | Total lbs. Dry Solids from Digester |
|-----------|----------|----------|------------|----------|-------------------|----------|---|
| | Influent | Effluent | Influent | Effluent | Influent | Effluent | |
| January | 145 | 13.9 | 138 | 10.9 | 2.47 | 0.43 | 363,690 |
| February | 200 | 23.0 | 169 | 16.3 | 2.58 | 0.47 | 349,156 |
| March | 120 | 18.3 | 121 | 14.4 | 1.95 | 0.42 | 411,089 |
| April | 100 | 12.0 | 123 | 8.5 | 2.27 | 0.37 | 308,167 |
| May | 126 | 9.2 | 153 | 6.5 | 2.25 | 0.31 | 379,267 |
| June | 168 | 5.5 | 159 | 6.5 | 2.49 | 0.44 | 381,412 |
| July | 111 | 12.3 | 141 | 7.6 | 1.72 | 0.52 | 387,529 |
| August | 170 | 8.4 | 179 | 5.7 | 3.13 | 0.67 | 417,704 |
| September | 227 | 10.7 | 223 | 6.6 | 3.59 | 0.73 | 349,998 |
| October | 168 | 9.3 | 208 | 6.5 | 2.95 | 0.52 | 365,026 |
| November | 163 | 11.6 | 180 | 9.6 | 3.25 | 0.56 | 388,967 |
| December | 212 | 24.8 | 219 | 22.5 | 3.84 | 0.80 | 355,782 |
| Average | 159 | 13.3 | 168 | 10.1 | 2.71 | 0.52 | 371,482 |

2017 Sewer Main Installation Costs

| Project | Size/ Type | Installer | Description | Footage | Total Costs | Cost per Foot |
|---|-------------------------------------|--------------------|--------------------------------------|-----------------|------------------------|--------------------------|
| Installed by Kenosha Water Utility | | | | | | |
| By Job Number | | | | | | |
| 688 | 12" PVC | State of Wisconsin | Sewer Main Relocation, I-94 & Hwy 50 | 451.0 | \$ 91,019.22 | |
| Subtotal | | | | <u>451.0</u> | <u>91,019.22</u> | |
| Installed by Developers | | | | | | |
| 722 | 8", 12", 15", 16", 18" & 24" PVC | Uline | 38th St (Hwy S) & 128th Ave | 11,519.6 | 2,480,435.64 | |
| 734 | 8" PVC | KAT Subdivision | 35th/34th Ave - 40th St to 45th St | 670.0 | 37,343.68 | |
| 760 | 12" PVC | Springs at Kenosha | | <u>1,356.0</u> | <u>283,076.60</u> | |
| Subtotal | | | | <u>13,545.6</u> | <u>2,800,855.92</u> | |
| Grand Total | | | | <u>13,996.6</u> | <u>\$ 2,891,875.14</u> | |
| By Pipe Size | | | | | | |
| 722 | 8" PVC | Uline | 38th St (Hwy S) & 128th Ave | 1,795.2 | \$ 333,506.71 | |
| 734 | 8" PVC | KAT Subdivision | 35th/34th Ave - 40th St to 45th St | <u>670.0</u> | <u>37,343.68</u> | |
| Subtotal | | | | 2,465.2 | 370,850.39 | 150.43 |
| 688 | 12" PVC | State of Wisconsin | Sewer Main Relocation, I-94 & Hwy 50 | 451.0 | 91,019.22 | |
| 722 | 12" PVC | Uline | 38th St (Hwy S) & 128th Ave | 229.3 | 64,590.87 | |
| 760 | 12" PVC | Springs at Kenosha | | <u>1,356.0</u> | <u>283,076.60</u> | |
| Subtotal | | | | 2,036.3 | 438,686.69 | 215.43 |
| 722 | 15" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>6,021.3</u> | <u>1,256,139.27</u> | 208.62 |
| 722 | 16" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>409.4</u> | <u>88,585.94</u> | 216.38 |
| 722 | 18" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>2,519.2</u> | <u>579,069.21</u> | 229.86 |
| 722 | 24" PVC | Uline | 38th St (Hwy S) & 128th Ave | <u>545.2</u> | <u>158,543.64</u> | 290.80 |
| Grand Total | | | | <u>13,996.6</u> | <u>\$ 2,891,875.14</u> | |

Distribution Division - Sanitary Sewer Operating & Maintenance Report - 2017

Maintenance Completed

| System | Maintenance Type | Quantity |
|------------------------------------|-----------------------|-----------|
| Sewer Main | Collapse | - |
| | Broken Pipe | - |
| | Joint Leaks | - |
| | Remove Flusher Nozzle | - |
| | Other | - |
| Total Sewer Main Repairs | | - |
| Sewer Lateral | Collapse | 18 |
| | Broken Pipe | 8 |
| | Joint Leaks | 1 |
| | Broken at Wye | 12 |
| | Remove Parkway Trap | 3 |
| | Contractor Damage | 2 |
| | Other | 4 |
| Total Sewer Lateral Repairs | | 48 |
| Manholes | Repaired | 13 |
| | Replace | - |
| | Remove/Abandon | - |
| Total Manhole Repairs | | 13 |

| | |
|-------------------------------------|-----------|
| Total Sanitary Sewer Repairs | 61 |
|-------------------------------------|-----------|

Customer Complaints

(During Normal Work Hours)

| Complaint | Quantity |
|---------------------|------------|
| Sewer back-up | 178 |
| Sink Hole | 3 |
| Sewer Odor | 2 |
| Storm Sewer Back-up | 11 |
| Televise Lateral | - |
| Manhole Problem | 3 |
| Miscellaneous | 1 |
| Total | 198 |

Customer Complaints

(After Normal Work Hours)

| Complaint | Quantity |
|---------------------|------------|
| Sewer back-up | 75 |
| Sink Hole | - |
| Sewer Odor | - |
| Storm Sewer Back-up | - |
| Televise Lateral | - |
| Manhole Problem | 2 |
| Utility Locate | 35 |
| Total | 112 |

| | |
|-------------------------|------------|
| Total Complaints | 310 |
|-------------------------|------------|

Summary of Sewer Cleaning and Televising (feet)

| Year | Sewer Cleaning | PM List | Televise | Grand Total |
|------|----------------|---------|----------|-------------|
| 2017 | 90,878 | 30,828 | 12,440 | 134,146 |
| 2016 | 567,460 | 72,996 | 16,057 | 656,513 |
| 2015 | 224,107 | 38,995 | 51,360 | 314,462 |
| 2014 | 184,187 | 56,549 | 32,991 | 273,727 |
| 2013 | 164,028 | 38,459 | 18,071 | 220,558 |
| 2012 | 265,050 | 27,459 | 20,064 | 312,573 |

Sewage Collection Pipe System - 2017

| <u>Size</u> | <u>Material</u> | <u>Footage</u> |
|---------------------|--------------------------------|----------------|
| 99" | Concrete | 3,318 |
| 96" | Concrete | 75 |
| 84" | Concrete | 9,774 |
| 78" | Concrete | 4,899 |
| 72" | Concrete | 4,242 |
| 66" | Concrete, Steel | 3,151 |
| 60" | Concrete, Steel | 24,556 |
| 54" | Concrete, Steel | 3,465 |
| 48" | Concrete, Steel, Brick | 13,309 |
| 42" | Concrete, Steel, Brick | 20,527 |
| 36" | Concrete, Clay, Steel | 39,054 |
| 33" | Concrete, Clay | 699 |
| 30" | Concrete, Clay, Steel | 48,329 |
| 27" | Concrete, Clay, Steel | 9,567 |
| 24" | Clay, Concrete, Plastic, Steel | 97,762 |
| 22" | Clay, Plastic, Steel | 5,708 |
| 21" | Clay, Plastic | 42,065 |
| 20" | Clay, Plastic, Steel | 19,068 |
| 18" | Clay, Plastic, Steel | 125,241 |
| 16" | Clay, Plastic | 1,352 |
| 15" | Clay, Plastic, Steel | 167,910 |
| 14" | Clay, Plastic | 1,156 |
| 12" | Clay, Plastic, Steel | 266,498 |
| 10" | Clay, Plastic, Steel | 153,763 |
| 8" | Clay, Plastic, Steel | 733,813 |
| 6" | Clay, Plastic | 8,241 |
| Total Feet of Pipe | | 1,807,542 |
| Total Miles of Pipe | | 342.34 |

Sewerage System Income Statement – 2017

Sewerage Service Revenues

| | |
|-----------------------|-----------------|
| Residential Customers | \$ 4,330,367.27 |
| Commercial Customers | 2,233,433.38 |
| Industrial Customers | 1,148,742.84 |
| Public Customers | 691,827.12 |
| Waste haulers | 325,610.45 |
| Wholesale Customers | 2,835,447.03 |
| Industrial Monitoring | 108,921.47 |

Total Sewerage Service Revenues

11,674,349.56

Other Operating Revenues

| | |
|----------------------|--------------|
| Engineering Services | 1,586,132.89 |
| Other Income | 90,669.54 |
| Penalties | 124,384.26 |

Total Other Operating Revenues

1,801,186.69

Total Operating Revenues

13,475,536.25

Operating Expenses

| | |
|--|--------------|
| Wastewater Treatment Operation and Maintenance | 3,152,068.23 |
| Collection System Operation and Maintenance | 960,972.00 |
| Laboratory Operations | 301,761.59 |
| Industrial Waste Monitoring | 60,020.46 |
| Engineering Services | 1,543,553.06 |
| Customer Accounting and Collection Expense | 337,210.60 |
| Administrative and General Expense | 2,480,234.96 |
| Loss on disposal of equipment | 230,387.93 |
| Depreciation | 2,186,774.20 |
| Taxes | 52,574.27 |

Total Operating Expenses

11,305,557.30

Utility Operating Income

2,169,978.95

Other Income

| | |
|----------------------|------------|
| Interest Income | 304,727.80 |
| Miscellaneous Income | 39,041.48 |

Total Other Income

343,769.28

Non-operating Expenses

| | |
|----------------------------|------------------|
| Interest on Long-term Debt | <u>16,624.15</u> |
|----------------------------|------------------|

Net Income before Capital Contributions

2,497,124.08

Capital Contributions

3,037,880.24

Net Income

\$ 5,535,004.32

**Sewerage System
Statement of Net Position
December 31, 2017**

| Assets | | |
|---|------------------------|--------------------------|
| Utility Plant | | |
| Utility Plant in Service | \$ 139,915,025.49 | |
| Work in Progress - Sewer Plant | 11,916,264.90 | |
| Work in Progress - Sewerage System | 248,012.22 | |
| Accumulated Depreciation | <u>(66,241,802.62)</u> | |
| Net Plant in Service | | 85,837,499.99 |
| Other Property | | |
| Other Utility Plant & Equipment for Future Use | 1,071,992.38 | |
| Accumulated Depreciation | <u>(385.68)</u> | |
| Net Other Property | | <u>1,071,606.70</u> |
| Total Net Utility Plant | | 86,909,106.69 |
| Current Assets | | |
| Cash and Cash Equivalents | 8,524,473.05 | |
| Investments | 10,004,000.00 | |
| Restricted cash equivalents | 86,233.61 | |
| Restricted cash - Storm Water Utility Collections | 324,938.85 | |
| Restricted Investments | 2,799,875.08 | |
| Customer Accounts Receivable | 1,207,327.88 | |
| Receivable from Municipality | 563,794.03 | |
| Unbilled Revenues | 1,012,828.08 | |
| Other Accounts Receivable | 679,234.93 | |
| Materials and Supplies | 72,947.42 | |
| Accrued Interest Receivable | 85,022.75 | |
| Other Current Assets | <u>18,687.10</u> | |
| Total Current and Accrued Assets | | 25,379,362.78 |
| Noncurrent Assets | | |
| Advance to Water Unit | | 5,000,000.00 |
| Other Assets | | |
| Assessments Receivable | | 29,805.30 |
| Deferred Charges | | <u>2,488,471.83</u> |
| Total Other Assets | | 2,518,277.13 |
| Total Assets | | <u>\$ 119,806,746.60</u> |
| Deferred Outflow of Resources | | |
| Deferred Pension Resources | | <u>\$ 1,779,501.84</u> |
| Liabilities | | |
| Current Liabilities | | |
| Accounts Payable | \$ 459,696.34 | |
| Accrued Interest Payable | 1,614.32 | |
| Current Portion of Long Term Obligations | 98,720.64 | |
| Current Portion of Advance from Municipality | 44,217.08 | |
| Current Portion of Accrued Compensated Absences | 40,022.35 | |
| Payable to Municipality | 630,377.18 | |
| Due to City of Kenosha - Storm Water Collections | 324,938.85 | |
| Deferred Credits | <u>16,253.44</u> | |
| Total Current and Accrued Liabilities | | 1,615,840.20 |
| Non-current Liabilities | | |
| Long-term Debt | | |
| Advances from Municipality | 46,896.90 | |
| Clean Water Fund Loans | <u>206,925.79</u> | |
| Total Long-term Debt | | 253,822.69 |
| Accrued Compensated Absences | | 218,105.37 |
| Worker's Compensation Accrued Liability | | 139,666.00 |
| Other Postemployment Benefits | | 765,466.00 |
| Pension Liability - Wisconsin Retirement System | <u>230,149.23</u> | |
| Total Non-current Liabilities | | 1,607,209.29 |
| Total Liabilities | | <u>\$ 3,223,049.49</u> |
| Deferred Inflows of Resources | | |
| Deferred Pension Resources | | <u>\$ 889,094.85</u> |
| Net Position | | |
| Invested in Capital Assets, net of related debt | 86,603,460.26 | |
| Restricted for Debt Service | 2,884,494.37 | |
| Unrestricted | <u>27,986,149.47</u> | |
| Total Net Position | | <u>\$ 117,474,104.10</u> |

**Sewerage System
Comparative Operating and Maintenance Expenses**

| | <u>2017</u> | <u>2016</u> | <u>2015</u> |
|---|--------------------------------|--------------------------------|--------------------------------|
| Operating Expenses | | | |
| Supervision and Labor | \$ 489,417.45 | \$ 435,363.37 | \$ 410,829.25 |
| Power for Pumping and Aeration | 647,223.56 | 654,878.37 | 655,438.80 |
| Disinfection Chemicals | 47,895.00 | 56,230.00 | 57,087.00 |
| Sludge Conditioning Chemicals | 488,409.07 | 457,762.78 | 391,996.55 |
| Other Chemicals for Sewage Treatment | 64,851.07 | 37,044.74 | 13,397.09 |
| Laboratory Operations | 301,761.59 | 303,614.92 | 282,134.42 |
| Industrial Waste Monitoring | 60,020.46 | 58,994.06 | 65,227.55 |
| Landfill Expense | 268,443.05 | 309,612.28 | 434,498.15 |
| Transportation Expense | 78,453.99 | 82,050.25 | 100,403.82 |
| | <u>2,446,475.24</u> | <u>2,395,550.77</u> | <u>2,411,012.63</u> |
| Maintenance Expenses | | | |
| Collection System Operation and Maintenance | 960,972.00 | 1,017,964.94 | 1,320,372.17 |
| Wastewater Treatment Maintenance | 1,067,375.04 | 704,343.65 | 1,279,935.35 |
| | <u>2,028,347.04</u> | <u>1,722,308.59</u> | <u>2,600,307.52</u> |
| Customer Account Expenses | | | |
| Customer Accounting and Collection | 276,664.46 | 278,745.32 | 280,161.69 |
| Meter Reading Expense | 60,546.14 | 60,952.35 | 60,248.96 |
| | <u>337,210.60</u> | <u>339,697.67</u> | <u>340,410.65</u> |
| Administrative and General Expenses | | | |
| Administrative and General Salaries | 309,648.80 | 299,204.91 | 272,703.31 |
| Engineering Services | 1,543,553.06 | 1,350,840.57 | 1,392,828.51 |
| Office Supplies and Expense | 48,254.85 | 51,538.59 | 38,628.69 |
| Outside Services Employed | 413,841.43 | 313,101.49 | 284,518.43 |
| Insurance Expense | 144,846.00 | 167,085.43 | 142,014.39 |
| Employee Benefits and Pensions | 1,205,847.90 | 1,195,049.50 | 1,035,372.01 |
| Meter Operations Expense | 351,495.98 | 348,412.40 | 322,955.95 |
| Loss on sale of equipment | 230,387.93 | - | - |
| Depreciation | 2,186,774.20 | 2,128,002.52 | 2,200,466.96 |
| Utility Taxes | 52,574.27 | 52,374.02 | 52,630.56 |
| Miscellaneous Expense | 6,300.00 | 6,250.00 | 6,200.00 |
| | <u>6,493,524.42</u> | <u>5,911,859.43</u> | <u>5,748,318.81</u> |
| Total Operating Expenses | <u><u>\$ 11,305,557.30</u></u> | <u><u>\$ 10,369,416.46</u></u> | <u><u>\$ 11,100,049.61</u></u> |

Sewerage System Comparative Income Statement

| | <u>2017</u> | <u>2016</u> | <u>2015</u> |
|--|------------------------|------------------------|------------------------|
| Sewerage Service Revenue | | | |
| Residential Customers | \$ 4,330,367.27 | \$ 4,393,738.09 | \$ 4,365,421.60 |
| Commercial Customers | 2,233,433.38 | 2,245,706.03 | 2,241,532.46 |
| Industrial Customers | 1,148,742.84 | 1,261,564.00 | 1,034,706.26 |
| Public Customers | 691,827.12 | 217,807.39 | 206,191.13 |
| Wastehaulers | 325,610.45 | 326,725.49 | 263,868.92 |
| Wholesale Customers | 2,835,447.03 | 2,454,371.99 | 2,400,449.92 |
| Industrial Monitoring | 108,921.47 | 106,414.35 | 100,070.92 |
| Total Sewerage Service Revenues | 11,674,349.56 | 11,006,327.34 | 10,612,241.21 |
| Other Operating Revenues | | | |
| Engineering Services | 1,586,132.89 | 1,385,535.89 | 1,427,360.84 |
| Other Income | 90,669.54 | 89,651.87 | 86,134.73 |
| Penalties | 124,384.26 | 125,816.70 | 130,462.93 |
| | 1,801,186.69 | 1,601,004.46 | 1,643,958.50 |
| Total Operating Revenues | 13,475,536.25 | 12,607,331.80 | 12,256,199.71 |
| Operating Expenses | | | |
| Wastewater Treatment Operation and Maintenance | 3,152,068.23 | 2,737,285.44 | 3,343,586.01 |
| Collection System Operation and Maintenance | 960,972.00 | 1,017,964.94 | 1,320,372.17 |
| Laboratory Operations | 301,761.59 | 303,614.92 | 282,134.42 |
| Industrial Waste Monitoring | 60,020.46 | 58,994.06 | 65,227.55 |
| Engineering Services | 1,543,553.06 | 1,350,840.57 | 1,392,828.51 |
| Customer Accounting/Meter Reading Expense | 337,210.60 | 339,697.67 | 340,410.65 |
| Administrative and General Expense | 2,480,234.96 | 2,380,642.32 | 2,102,392.78 |
| Loss on Sale of Equipment | 230,387.93 | - | - |
| Depreciation | 2,186,774.20 | 2,128,002.52 | 2,200,466.96 |
| Taxes | 52,574.27 | 52,374.02 | 52,630.56 |
| Total Operating Expenses | 11,305,557.30 | 10,369,416.46 | 11,100,049.61 |
| Net Operating Income | 2,169,978.95 | 2,237,915.34 | 1,156,150.10 |
| Non-operating Revenue | | | |
| Interest Income | 304,727.80 | 214,171.88 | 188,016.34 |
| Miscellaneous Income | 39,041.48 | 30,214.42 | 29,128.71 |
| Total Non-operating Revenue | 343,769.28 | 244,386.30 | 217,145.05 |
| Operating Income and Other Revenue | 2,513,748.23 | 2,482,301.64 | 1,373,295.15 |
| Non-operating Expenses | | | |
| Interest on Long-term Debt | 16,624.15 | 21,824.59 | 26,612.92 |
| Total Non-operating Expenses | 16,624.15 | 21,824.59 | 26,612.92 |
| Net Income | \$ 2,497,124.08 | \$ 2,460,477.05 | \$ 1,346,682.23 |
| Rate of Return on Average Investment (based on WWTP net operating income) | 7.82% | 7.56% | 3.57% |
| Rate of Return on Average Investment (after debt service payment) | 7.76% | 7.49% | 3.49% |

**Sewerage System
Utility Plant in Service
For the year ended December 31, 2017**

| | Depr. Rate % | Cost of Plant 1/1/2017 | 2017 Additions | 2017 Retirements | Adjustments Incr/(Decr) | Cost of Plant 12/31/2017 |
|--------------------------------------|--------------------|---------------------------------|-------------------------------|-------------------------------|------------------------------|---------------------------------|
| Collection System | | | | | | |
| Land | N/A | \$ 125,244.31 | | | | \$ 125,244.31 |
| Structures and Improvements | 2.94 | - | | | | - |
| Service Connections | 2.00 | 1,904,640.65 | | | | 1,904,640.65 |
| Collecting Mains | 1.00 | 47,922,193.82 | 736,656.30 | 2,131.08 | | 48,656,719.04 |
| Interceptor Mains | 1.00 | 27,260,714.48 | 2,155,218.84 | | | 29,415,933.32 |
| Force Mains | 1.00 | 1,336,740.49 | | | | 1,336,740.49 |
| Collection Equipment | 4.00 | 1,352,802.61 | | 2,913.22 | | 1,349,889.39 |
| Collection Pumping System | | | | | | |
| Land | N/A | 129,783.09 | | | | 129,783.09 |
| Structures and Improvements | 2.50 | 5,930,997.79 | | 47,571.17 | | 5,883,426.62 |
| Receiving Wells | 2.50 | 5,523,470.40 | | | | 5,523,470.40 |
| Electric Pumping Equipment | 5.33 | 8,885,569.43 | 57,838.00 | 253,717.30 | | 8,689,690.13 |
| Other Power Pumping Equip. | 4.00 | 376,363.38 | | | | 376,363.38 |
| Miscellaneous Pumping Equip. | 4.00 | 31,000.00 | | | | 31,000.00 |
| Treatment and Disposal | | | | | | |
| Land | N/A | 331,080.05 | | | | 331,080.05 |
| Structures and Improvements | 2.50 | 8,230,963.43 | 4,440.00 | 408,688.88 | | 7,826,714.55 |
| Preliminary Equipment | 3.80 | 523,370.16 | 1,346,999.00 | 407,599.85 | | 1,462,769.31 |
| Primary Treatment Equipment | 2.97 | 4,164,657.81 | | | | 4,164,657.81 |
| Secondary Treatment Equip. | 3.53 | 6,600,921.13 | | | | 6,600,921.13 |
| Advanced Treatment Equip. | 2.86 | 223,231.28 | | | | 223,231.28 |
| Chlorination Equipment | 4.41 | 1,243,141.30 | | | | 1,243,141.30 |
| Sludge Treatment & Disposal | 4.17 | 5,970,393.08 | | 27,926.79 | | 5,942,466.29 |
| Flow Metering and Monitoring | 4.44 | 226,592.87 | 26,452.58 | 5,663.15 | | 247,382.30 |
| Outfall Sewer | 2.31 | 1,179,759.13 | | | | 1,179,759.13 |
| Engineering Equipment | | | | | | |
| Furniture and Equipment | 5.88 | 49,831.15 | | 18,695.00 | | 31,136.15 |
| Computer Equipment | 6.67-14.29 | 91,880.03 | 26,090.00 | 2,064.03 | | 115,906.00 |
| Transportation Equipment | 14.28 | 353,913.95 | 1,335.00 | 15,466.50 | (14,933.14) | 324,849.31 |
| Engineering Equipment | 5.88 | 28,416.65 | 6,479.10 | 9,634.60 | | 25,261.15 |
| Communication Equipment | 9.09 | (1,610.32) | | | | (1,610.32) |
| Telephone Equipment | 20.00 | 6,355.76 | | | | 6,355.76 |
| General Plant & Equipment | | | | | | |
| Land | N/A | 686,629.54 | | | | 686,629.54 |
| Structures and Improvements | 2.50 | 2,149,938.47 | 41,831.59 | 59,332.13 | | 2,132,437.93 |
| Furniture and Equipment | 5.88 | 98,799.49 | | | | 98,799.49 |
| Computer Equipment | 6.67-14.29 | 84,754.52 | 18,950.07 | | | 103,704.59 |
| Transportation Equipment | 12.86 | 1,994,880.36 | 151,944.50 | 2,183.00 | 3,450.31 | 2,148,092.17 |
| Work (Power) Equipment | 9.00 | 444,887.79 | 186,746.60 | 964.19 | | 630,670.20 |
| Tools and Shop Equipment | 5.88 | 283,236.60 | 19,761.96 | | | 302,998.56 |
| Lab Equipment | 5.88 | 175,947.47 | 10,899.20 | 2,414.49 | | 184,432.18 |
| Communication Equipment | 9.09 | 9,526.00 | | 7,298.00 | | 2,228.00 |
| SCADA System Equipment | 9.20 | 218,978.95 | 10,821.00 | | | 229,799.95 |
| Telephone Equipment | 20.00 | 9,755.97 | | | | 9,755.97 |
| Miscellaneous Equipment | 5.88 | 233,215.75 | 2,541.93 | | | 235,757.68 |
| Total | | <u>\$ 136,392,968.82</u> | <u>\$ 4,805,005.67</u> | <u>\$ 1,274,263.38</u> | <u>(\$ 11,482.83)</u> | <u>\$ 139,912,228.28</u> |

**Sewerage System
Accumulated Depreciation
For the year ended December 31, 2017**

| | Balance 1/1/2017 | 2017 Depreciation | Less Cost of Retirements | Add Cash Received | Adjustments Incr./Decr. | Balance 12/31/2017 |
|--------------------------------------|-------------------------|------------------------|-----------------------------|----------------------|----------------------------|-------------------------|
| Collection System | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | - | | | | | - |
| Service Connections | \$ 868,616.79 | 38,092.81 | | | | \$ 906,709.60 |
| Collecting Mains | 12,681,047.03 | 489,101.21 | 2,131.08 | | | 13,168,017.16 |
| Interceptor Mains | 6,038,137.97 | 284,829.37 | | | | 6,322,967.34 |
| Force Mains | 221,676.25 | 13,367.40 | | | | 235,043.65 |
| Collection Equipment | 839,413.77 | 67,567.30 | 2,913.22 | | | 904,067.85 |
| Collection System Pumping | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | 3,943,247.88 | 118,144.25 | 47,571.17 | | | 4,013,820.96 |
| Receiving Wells | 3,070,862.35 | 183,931.56 | | | | 3,254,793.91 |
| Electric Pumping Equipment | 8,885,569.43 | 57,838.00 | 253,717.30 | | | 8,689,690.13 |
| Other Power Pumping Equip. | 178,879.48 | 18,818.17 | | | | 197,697.65 |
| Miscellaneous Pumping Equip. | 13,424.97 | 1,550.00 | | | | 14,974.97 |
| Treatment and Disposal | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | 6,642,742.69 | 160,576.78 | 408,688.88 | | | 6,394,630.59 |
| Preliminary Equipment | 195,213.75 | 39,722.79 | 407,599.85 | 1,040.00 | 230,387.93 | 58,764.62 |
| Primary Treatment Equipment | 3,635,718.35 | 138,683.11 | | | | 3,774,401.46 |
| Secondary Treatment Equip. | 6,600,921.13 | | | | | 6,600,921.13 |
| Advanced Treatment Equip. | 91,158.12 | 8,929.25 | | | | 100,087.37 |
| Chlorination Equipment | 1,243,141.30 | | | | | 1,243,141.30 |
| Sludge Treatment & Disposal | 5,731,875.28 | 238,042.80 | 27,926.79 | 475.00 | | 5,942,466.29 |
| Flow Metering and Monitoring | 174,072.97 | 15,807.07 | 5,663.15 | | | 184,216.89 |
| Outfall Sewer | 882,122.64 | 29,493.98 | | | | 911,616.62 |
| Engineering Equipment | | | | | | |
| Furniture and Equipment | 37,401.21 | 2,466.96 | 18,695.00 | | | 21,173.17 |
| Computer Equipment | 23,317.33 | 16,349.19 | 2,064.03 | | | 37,602.49 |
| Transportation Equipment | 261,742.83 | 14,008.14 | 15,466.50 | | 9,561.84 | 269,846.31 |
| Engineering Equipment | 15,779.97 | 1,653.42 | 9,634.60 | | | 7,798.79 |
| Communication Equipment | (1,610.32) | | | | | (1,610.32) |
| Telephone Equipment | 2,542.30 | 1,271.15 | | | | 3,813.45 |
| Miscellaneous Equipment | (253.22) | | | | | (253.22) |
| General Plant & Equipment | | | | | | |
| Land | - | | | | | - |
| Structures and Improvements | 624,027.81 | 42,823.76 | 59,332.13 | | | 607,519.44 |
| Furniture and Equipment | 61,261.70 | 5,730.37 | | | | 66,992.07 |
| Computer Equipment | 46,871.86 | 12,916.99 | | | | 59,788.85 |
| Transportation Equipment | 1,454,223.47 | 91,257.67 | 2,183.00 | | 7,240.11 | 1,550,538.25 |
| Work (Power) Equipment | 278,150.74 | 25,322.63 | 964.19 | | 96.42 | 302,605.60 |
| Tools and Shop Equipment | 181,086.41 | 17,000.82 | | | | 198,087.23 |
| Lab Equipment | 68,724.39 | 10,451.01 | 2,414.49 | | | 76,760.91 |
| Communication Equipment | 9,526.00 | | 7,298.00 | | | 2,228.00 |
| SCADA System Equipment | 49,210.85 | 20,643.83 | | | | 69,854.68 |
| Telephone Equipment | 9,755.97 | | | | | 9,755.97 |
| Other Equipment | 27,671.21 | 13,600.23 | | | | 41,271.44 |
| Total | \$ 65,087,272.66 | \$ 2,179,992.02 | \$ 1,274,263.38 | \$ 1,515.00 | \$ 247,286.30 | \$ 66,241,802.60 |

**Clean Water Fund Project #4003-07
 Loan Payment Schedule
 Equalization Basin Modification
 December 31, 2017**

| <u>Year</u> | <u>Principal</u> | <u>Interest</u> | | <u>Total</u> |
|-------------|----------------------|--------------------|--------------------|----------------------|
| | <u>May 1</u> | <u>May 1</u> | <u>November 1</u> | |
| 2018 | 98,720.64 | 4,842.97 | 3,278.74 | 106,842.35 |
| 2019 | 101,849.10 | 3,278.74 | 1,664.94 | 106,792.78 |
| 2020 | 105,076.69 | 1,664.94 | – | 106,741.63 |
| | <u>\$ 305,646.43</u> | <u>\$ 9,786.65</u> | <u>\$ 4,943.68</u> | <u>\$ 320,376.76</u> |

Interest rate is 3.169%

**Sewerage System
Advance from Municipality
Debt Repayment Schedule
December 31, 2017**

| <u>Year</u> | <u>Interest Rate %</u> | <u>Principal April 1</u> | <u>Interest</u> | | <u>Total</u> |
|-------------|----------------------------|------------------------------|--------------------|--------------------|---------------------|
| | | | <u>April 1</u> | <u>October 1</u> | |
| 2018 | 5.880% | 44,217.08 | 2,678.15 | 1,406.91 | 48,302.14 |
| 2019 | 6.000% | 46,896.90 | 1,406.91 | - | 48,303.81 |
| Totals | | <u>\$ 91,113.98</u> | <u>\$ 4,085.06</u> | <u>\$ 1,406.91</u> | <u>\$ 96,605.95</u> |

**Sewerage System
Total Debt Repayment Schedule
December 31, 2017**

| <u>Year</u> | <u>Principal</u> | <u>Interest</u> | <u>Total</u> |
|-------------|----------------------|---------------------|----------------------|
| 2018 | 142,937.72 | 12,206.77 | 155,144.49 |
| 2019 | 148,746.00 | 6,350.59 | 155,096.59 |
| 2020 | <u>105,076.69</u> | <u>1,664.94</u> | <u>106,741.63</u> |
| Totals | <u>\$ 396,760.41</u> | <u>\$ 20,222.30</u> | <u>\$ 416,982.71</u> |

Wastewater Treatment Plant

7834 3rd Avenue
Kenosha WI 53143

Phone (262) 653-4335
Fax (262) 653-4340



"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2018

Mr. Edward St. Peter
Kenosha Water Utility
4401 Green Bay Road
Kenosha, WI 53144

Subject: 2017 Industrial Pretreatment Program Annual Report

Dear Mr. St. Peter,

The Industrial Pretreatment Program is a requirement of the Clean Water Act and is regulated by the Wisconsin Department of Natural Resources (WDNR) through our wastewater treatment plant discharge permit. The WDNR designates the Kenosha Water Utility as the Control Authority to carry out the required elements of the program. The program regulates and monitors local industries, waste haulers, and adjoining communities discharging to Kenosha's wastewater collection system. The program is designed 1) to prevent the discharge of pollutants to the wastewater treatment plant (WWTP) which could interfere with operations or disposal of biosolids; 2) to prevent the introduction of pollutants to the WWTP that may pass through to the lake; and 3) to protect employee health and safety.

Significant dischargers are monitored at the regulated process and/or where their wastewaters enter the Kenosha sanitary sewer collection system. Haulers are monitored at the wastewater treatment plant. The adjoining communities are monitored weekly for conventional parameters being discharged to the collection system. We receive wastewater from the Villages of Bristol, Pleasant Prairie and Somers.

The WDNR conducted an on-site audit of our wastewater laboratory on April 4. The laboratory performs analytical analyses for wastewater plant influent, effluent, sludges and industrial wastewater samples. The DNR staff conducted a thorough review of all files and operating procedures. It went very well. This WDNR audit is scheduled to be conducted once every three years.

The wastewater treatment plant effluent and sludge continue to meet or exceed discharge limits. The wastewater biosolids meets the state of Wisconsin's requirements for a high-quality sludge.

While we must monitor and enforce local and federal sanitary sewer discharge limits, our goal is to work cooperatively with significant industrial users to achieve continued compliance.

Respectfully Submitted,

A handwritten signature in black ink that reads "Katrina Karow".

Katrina Karow
Director of Wastewater Treatment



www.kenosha.org

**SUMMARY OF INFLUENT METALS TO THE
KENOSHA WASTEWATER TREATMENT PLANT**

POTW Influent: average pounds/day

| Year | Cadmium | Chromium | Copper | Nickel | Lead | Zinc | Mercury |
|-------------|----------------|-----------------|---------------|---------------|-------------|-------------|----------------|
| 1999 | 0.15 | 1.3 | 7.7 | 1.3 | 2.0 | 19.9 | |
| 2000 | 0.35 | 7.4 | 7.7 | 9.1 | 2.1 | 18.3 | |
| 2001 | < 0.20 | 1.8 | 11.0 | 1.4 | 1.4 | 25.9 | |
| 2002 | < 0.18 | 1.9 | 9.7 | 1.6 | 1.6 | 27.4 | 0.015 |
| 2003 | < 0.16 | 1.4 | 9.4 | 1.7 | 1.2 | 19.1 | 0.032 |
| 2004 | < 0.38 | 1.1 | 23.0 | 1.1 | 1.1 | 34.3 | 0.012 |
| 2005 | < 0.31 | 1.1 | 10.4 | 0.78 | 1.1 | 23.7 | 0.030 |
| 2006 | < 0.34 | 0.85 | 7.8 | 1.0 | 0.85 | 16.5 | 0.016 |
| 2007 | < 0.5 | 1.1 | 12.0 | 1.3 | 2.4 | 23.0 | 0.022 |
| 2008 | < 0.7 | 0.9 | 8.4 | 0.9 | < 0.7 | 18.3 | 0.031 |
| 2009 | < 0.4 | 0.6 | 7.6 | 1.0 | < 0.6 | 18.0 | 0.018 |
| 2010 | 0.075 | 1.4 | 9.7 | 0.63 | 0.88 | 23.4 | 0.006 |
| 2011 | < 0.14 | 0.8 | 8.5 | 0.58 | 0.56 | 20.9 | 0.008 |
| 2012 | < 0.13 | 0.85 | 8.5 | 0.73 | 0.68 | 28.8 | 0.010 |
| 2013 | < 0.12 | 1.3 | 7.9 | 0.78 | 1.8* | 32.3 | 0.011 |
| 2014 | < 0.12 | 1.2 | 11.7 | 0.99 | 1.0 | 32.3 | 0.006 |
| 2015 | <0.061 | 1.0 | 9.1 | 1.12 | 0.70 | 22.7 | 0.010 |
| 2016 | <0.066 | 1.3 | 9.0 | 0.94 | 0.53 | 19.7 | 0.005 |
| 2017 | <0.066 | 1.0 | 10.2 | 1.14 | 0.70 | 20.4 | 0.005 |

* Average may be biased high due to a few uncharacteristically elevated results.

**SUMMARY OF EFFLUENT METALS FROM THE
KENOSHA WASTEWATER TREATMENT PLANT**

POTW Effluent: average pounds/day

| Year | Cadmium | Chromium | Copper | Nickel | Lead | Zinc | Mercury |
|-------------|----------------|-----------------|---------------|---------------|-------------|-------------|----------------|
| 1999 | < 0.08 | < 0.2 | 0.80 | 0.76 | < 0.64 | 4.3 | |
| 2000 | < 0.16 | < 0.33 | 0.82 | 0.86 | < 0.66 | 4.1 | |
| 2001 | < 0.20 | < 0.41 | < 1.2 | 0.97 | < 0.71 | 7.6 | |
| 2002 | < 0.18 | 0.30 | < 1.2 | 0.97 | 0.71 | 7.6 | 0.0028 |
| 2003 | < 0.16 | 0.18 | < 1.1 | 1.43 | 0.64 | 4.8 | 0.0016 |
| 2004 | < 0.38 | < 0.38 | 1.5 | 0.75 | < 0.94 | 5.3 | 0.0005 |
| 2005 | < 0.31 | < 0.31 | 0.94 | 0.62 | < 0.47 | 5.1 | 0.0005 |
| 2006 | < 0.34 | < 0.34 | 1.0 | 0.51 | 0.51 | 6.3 | 0.0008 |
| 2007 | < 0.5 | < 0.5 | 1.6 | 0.8 | 0.8 | 8.2 | 0.0008 |
| 2008 | < 0.7 | < 0.7 | 1.0 | < 0.7 | < 0.7 | 5.2 | 0.0006 |
| 2009 | < 0.4 | < 0.6 | < 1.0 | 0.8 | < 0.6 | 4.6 | 0.0004 |
| 2010 | < 0.03 | 0.37 | 1.3 | < 0.22 | 0.47 | 5.8 | 0.0004 |
| 2011 | < 0.14 | < 0.27 | 0.8 | < 0.36 | < 0.17 | 5.4 | 0.0002 |
| 2012 | < 0.05 | < 0.16 | 1.0 | < 0.44 | < 0.14 | 6.2 | 0.0002 |
| 2013 | < 0.11 | < 0.22 | 1.8 | < 0.47 | < 0.25 | 4.9 | 0.0003 |
| 2014 | < 0.06 | < 0.21 | 1.6 | < 0.55 | < 0.15 | 8.2 | 0.0002 |
| 2015 | < 0.06 | < 0.28 | 2.0 | 0.84 | < 0.15 | 5.3 | 0.0002 |
| 2016 | < 0.06 | 0.28 | 1.3 | 0.59 | < 0.17 | 5.0 | 0.0002 |
| 2017 | < 0.06 | 0.31 | 2.7 | 0.94 | < 0.17 | 5.1 | 0.0002 |

**SUMMARY OF DEWATERED SLUDGE METALS FROM THE
KENOSHA WASTEWATER TREATMENT PLANT**

POTW Anaerobic Digested Sludge (Dewatered): average mg/kg

| Year | Arsenic | Cadmium | Chromium | Copper | Nickel | Lead | Zinc | Selenium | Molybdenum | Mercury |
|---------------------------|----------------|----------------|-----------------------|---------------|---------------|-------------|-------------|-----------------|-----------------------|----------------|
| 2011 | 7.8 | 2.3 | 72.3 | 415 | 23.8 | 55.4 | 996 | 4.2 | 13.7 | 0.332 |
| 2012 | 8.1 | 3.5 | | 372 | 21.2 | 36.4 | 1,114 | 6.1 | 17.7 | 0.598 |
| 2013 | 7.5 | 2.1 | 64.1 | 402 | 25.2 | 55.8 | 1,117 | 3.6 | 17.9 | 0.603 |
| 2014 | 10.9 | 1.8 | 55.4 | 364 | 24.0 | 44.8 | 909 | 2.1 | 17.1 | 0.475 |
| 2015 | 9.4 | 3.0 | 70.5 | 406 | 28.4 | 45.7 | 905 | 2.7 | 20.4 | 0.377 |
| 2016 | 10.2 | 2.6 | 86.9 | 433 | 31.2 | 29.1 | 895 | 5.0 | 18.2 | 0.497 |
| 2017 | 12.3 | 2.6 | 76.6 | 441 | 30.7 | 38.1 | 866 | 5.5 | 19.4 | 0.470 |
| High Quality Limit | 41 | 39 | No established limits | 1,500 | 420 | 300 | 2,800 | 100 | No established limits | 17 |

mg/kg – milligrams per kilogram

Wastewater Treatment Plant

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"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2018

Mr. Edward St. Peter
Kenosha Water Utility
4401 Green Bay Road
Kenosha, WI 53144

Subject: 2017 Household Hazardous Waste Collection Program Annual Report

Dear Mr. St. Peter,

The Water Utility organizes and staffs a Residential Household Hazardous Waste (HHW) Program on the first Saturday of the month (February-April & December) and on the first and third Saturdays of the month (May-November). The goal of the program is to offer City of Kenosha residents a convenient disposal option for household hazardous wastes in an effort to minimize waste disposed to sanitary and storm sewers. Additionally, the Kenosha Water Utility carries out a Mercury Minimization Program as a requirement of our wastewater discharge permit. The HHW events are one way to keep mercury out of the environment. Along with household chemicals, we also accept mercury containing products such as thermometers and fluorescent light bulbs.

All events are staffed solely by Water Utility employees. There are at least five to six employees plus a chemist in charge for each event. The employees collect acceptable chemicals for disposal and offer educational materials to customers about where they can dispose of unacceptable chemicals (i.e. oil, antifreeze, medicine, needles). The collected chemicals are disposed through a contracted disposal company.

The Water Utility conducted eighteen collection events throughout the year. As in past years, it was well received. The number of residents disposing waste per event ranged from 46 (November 18) to 137 (May 6 and August 5) with an average of 84 per event. The total number of participants in 2017 was 1,514. This program continues to be a fantastic service to our customers and the environment.

Respectfully Submitted,

A handwritten signature in black ink that reads "Katrina Karow".

Katrina Karow
Director of Wastewater Treatment



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Kenosha Household Hazardous Waste Program Participation

2017 Collection Dates and Number of Participants

| | |
|--------------------|------------------|
| February 4 | 73 participants |
| March 4 | 64 participants |
| April 1 | 66 participants |
| May 6 | 137 participants |
| May 20 | 72 participants |
| June 3 | 118 participants |
| June 17 | 57 participants |
| July 1 | 99 participants |
| July 15 | 91 participants |
| August 5 | 137 participants |
| August 19 | 73 participants |
| September 2 | 79 participants |
| September 16 | 65 participants |
| October 7 | 99 participants |
| October 21 | 70 participants |
| November 4 | 80 participants |
| November 18 | 46 participants |
| December 2 | 88 participants |
| | |
| Total Participants | 1,514 |

The program averaged 84 participants per collection day.

Household Hazardous Waste Unit Comparative Income Statement

| | <u>2017</u> | <u>2016</u> | <u>2015</u> |
|-----------------------------------|---------------------|---------------------|---------------------|
| Operating Revenue | | | |
| Residential | \$ 166,428.62 | \$ 166,174.74 | \$ 167,353.35 |
| Stormwater Administration | 14,040.00 | 14,040.00 | 14,040.00 |
| Penalties | 3,962.21 | 3,901.42 | 4,079.80 |
| Total Operating Revenue | 184,430.83 | 184,116.16 | 185,473.15 |
| Operating Expenses | | | |
| Labor and Supplies | 38,209.81 | 31,937.84 | 38,363.59 |
| Outside Disposal Service | 43,114.06 | 27,263.94 | 40,565.77 |
| Costs Allocated from Other Funds: | | | |
| Wages | 72,462.06 | 72,121.74 | 67,992.90 |
| Postage | 7,717.39 | 7,440.90 | 7,527.73 |
| Other | 3,433.39 | 3,592.48 | 16,858.07 |
| Depreciation | 3,481.70 | 3,268.82 | 3,063.84 |
| Total Operating Expenses | 168,418.41 | 145,625.72 | 174,371.90 |
| Operating Income | 16,012.42 | 38,490.44 | 11,101.25 |
| Other Income | | | |
| Interest Income | 260.01 | 222.73 | 201.61 |
| Miscellaneous Income | 45.00 | 173.08 | - |
| Net Income | \$ 16,317.43 | \$ 38,886.25 | \$ 11,302.86 |

**Household Hazardous Waste Unit
Statement of Net Position
December 31, 2017**

| Assets | | |
|---|--------------------|-----------------------------|
| Utility Plant | | |
| Plant in Service | \$ 87,874.56 | |
| Accumulated Depreciation | <u>(28,078.07)</u> | |
| Net Plant in Service | | 59,796.49 |
| Current Assets | | |
| Cash | 384,250.10 | |
| Accounts Receivable | 27,130.89 | |
| Receivable from Municipality | 18,083.91 | |
| Unbilled Revenues | <u>20,823.00</u> | |
| Total Current Assets | | 450,287.90 |
| Total Assets | | <u>510,084.39</u> |
| Deferred Outflow of Resources | | |
| Deferred Pension Resources | | <u>16,908.73</u> |
| Liabilities | | |
| Current and Accrued Liabilities | | |
| Accounts Payable | 8,600.28 | |
| Payable to Municipality | <u>1,626.94</u> | |
| Total Current Liabilities | | 10,227.22 |
| Non-current Liabilities | | |
| Pension Liability - Wisconsin Retirement System | | 1,571.44 |
| Total Liabilities | | <u>11,798.66</u> |
| Deferred Inflow of Resources | | |
| Deferred Pension Resources | | <u>8,230.01</u> |
| Net Position | | |
| Invested in Capital Assets | 59,796.49 | |
| Unrestricted | <u>447,167.96</u> | |
| Total Net Position | | <u><u>\$ 506,964.45</u></u> |

**Household Hazardous Waste Unit
Plant in Service and Accumulated Depreciation
For the year ended December 31, 2017**

| | | Plant in Service | | | | |
|--------------------------------|-----------------------------|-----------------------------------|---------------------------|-----------------------------|------------------------------------|-------------------------------------|
| | Depr. Rate % | Cost of Plant 1/1/2017 | 2017 Additions | 2017 Retirements | Adjustments Incr/(Decr) | Cost of Plant 12/31/2017 |
| General Plant | | | | | | |
| Structures and Improvements | 4.00 | \$ 87,042.56 | - | - | - | \$ 87,042.56 |
| Equipment | 8.33 | 832.00 | - | - | - | 832.00 |
| Total | | <u>\$ 87,874.56</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>\$ 87,874.56</u> |

| | | Accumulated Depreciation | | | | |
|--------------------------------|-----------------------------|---------------------------------|-------------------------------------|------------------------------|------------------------------------|-------------------------------|
| | Balance 1/1/2017 | 2017 Depreciation | Less Cost of Retirements | Add Cash Received | Adjustments Incr./Decr. | Balance 12/31/2017 |
| General Plant | | | | | | |
| Structures and Improvements | \$ 23,764.37 | 3,481.70 | - | - | - | \$ 27,246.07 |
| Equipment | 832.00 | - | - | - | - | 832.00 |
| Total | <u>\$ 24,596.37</u> | <u>3,481.70</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>\$ 28,078.07</u> |