

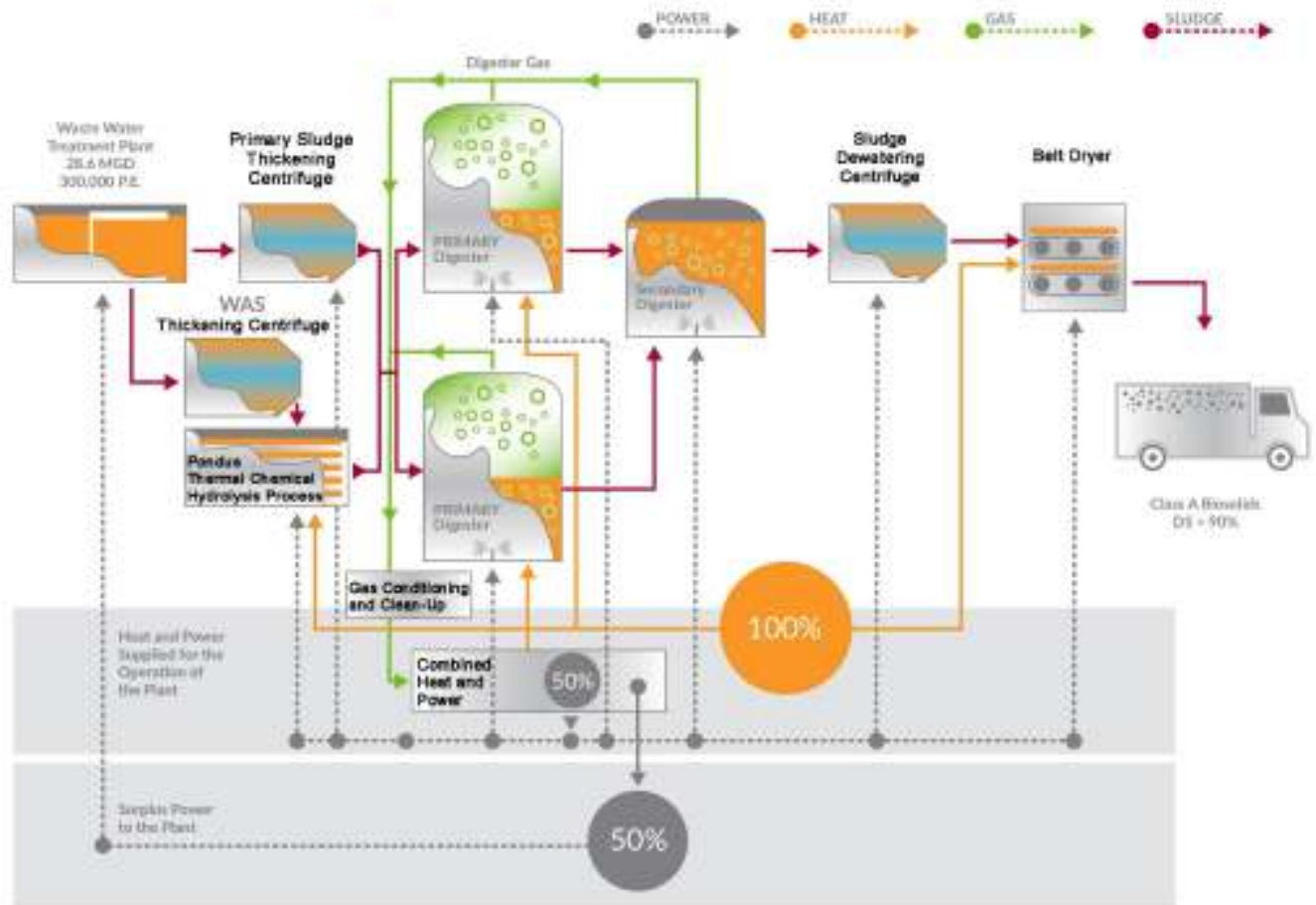


Kenosha Water Utility

2015 Annual Report



Kenosha Energy Optimized Resource Recovery Project



Centrifuges



Pondus Reactor



Belt Dryer



Combined Heat and Power Unit



Gas Conditioning and Clean-Up

"Providing and Protecting Kenosha's Greatest Natural Resource"

2015
ANNUAL REPORT
of the
KENOSHA WATER UTILITY
Kenosha, Wisconsin



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Roger Field, Director of Water Production

Sue Hill, Director of Personnel & Administration

Katrina Karow, Director of Wastewater Treatment

John Rasch, Director of Water Distribution & Sanitary Sewer Collection

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Board of Water Commissioners

G. John Ruffolo, Chairman
Kevin E. Mathewson, Vice Chairman
David Bogdala
Jesse Downing
John Fox
Mitchell Pedersen



**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. . .Water”

June 2016

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

Dear Board Members,

SUBJECT: 2015 Annual Report

I respectfully submit the year 2015 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 position. Revenues in the Water System, Sewerage System and Household Hazardous Waste exceeded expenses for the year 2015.

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 requirements, 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.”** I would like to give special thanks to all of our employees (team members) who diligently work together to be the best that we can be.

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,

Edward St. Peter, General Manager



Board of Water Commissioners

G. John Ruffolo, Chairman
Kevin E. Mathewson, Vice Chairman
David F. Bogdala
Jesse Downing
John Fox
Mitchell Pedersen



David Lewis
Assistant General Manager

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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2016

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

Subject: 2015 Annual Report

Dear Mr. St. Peter,

I respectfully submit my 2015 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 included:

- Painting of the wash water tank at the Water Production facility.
- Rebuilding of low lift pump #113 at the Water Production facility. This pump has been in service since 1999 and needed rebuilding in order to maintain its capacity and efficiency.
- Completion of the Energy Optimized Resource Recovery Facility Project at the Wastewater Treatment Plant. This project is now on line and has created a lot of interest from engineering firms and other utilities. The project included a 1 million dollar grant from Focus on Energy.
- Rebuilding and painting of final clarifier #3 at the Wastewater Treatment Plant. Final clarifier #3 is the oldest clarifier and was in dire need of structural and piping upgrades as well as a new center drive unit.
- Rebuilding of one of the Waukesha engines in the Wastewater Treatment Plant pump station. The engine had been in operation since 1999 and had more than 120,000 hours on it.
- Implementation of a new compensation plan for water utility employees. The plan was initiated based on a study completed by Carlson Dettmann Consulting in Madison. The plan provided streamlining of employee classifications as well as a multi-tiered wage progression for employee compensation in the future.

In 2015, I also assisted with the operation of our Distribution Division. This has afforded me the opportunity to learn more about the staff and the day to day activities. I have been truly impressed with the work ethic of the employees in the department and their dedication to the Kenosha Water Utility.

I thank you, Mr. St. Peter, and all the KWU Directors and Supervisors for your support during 2015. I would also like to thank the Board of Water Commissioners for their support throughout 2015. None of the projects that were undertaken would be possible without your input and approval.

Sincerely,

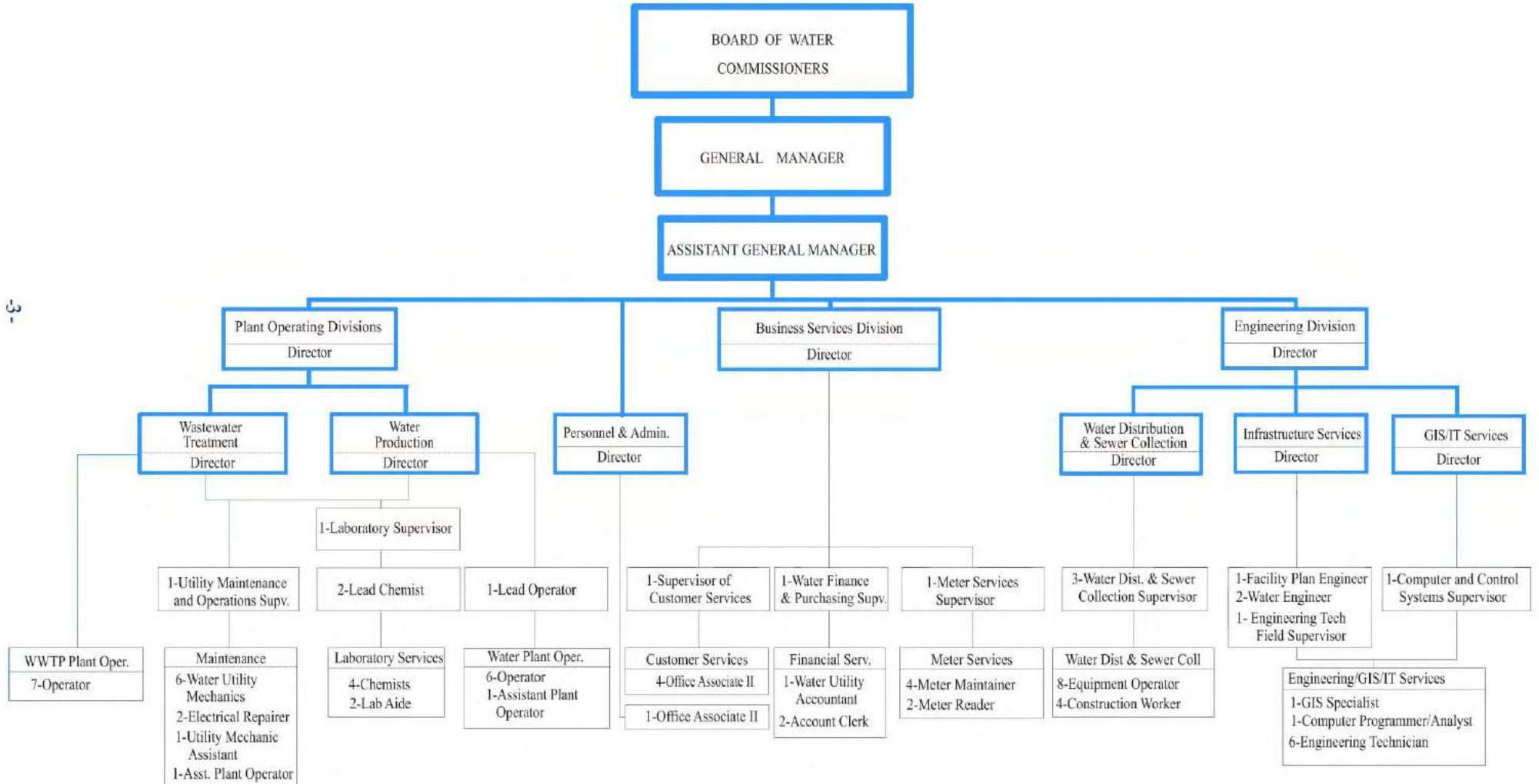
David J. Lewis
Assistant General Manager



www.kenoshawater.org



2016 Organizational Chart



General Statistics

	<u>2015</u>	<u>2014</u>
1. Population of Kenosha, Pleasant Prairie, Somers & Bristol	134,479	134,301
Population of current service area (estimated)	118,507	118,802
Population of City of Kenosha	99,623	99,680
2. Total gallons pumped	5,253,811,000	5,226,854,000
3. Total gallons low lift water used in plant	638,860,000	694,603,000
4. Total gallons water pumped – high lift use	4,614,951,000	4,532,251,000
5. Total gallons high lift water accounted for, not metered	127,419,000	160,763,000
6. Total gallons water pumped to distribution system	4,487,532,000	4,371,488,000
7. Increase (decrease) from previous year	2.66%	(8.48%)
8. Total gallons passed through customers' meters	4,131,849,000	3,847,116,000
9. Percent of water accounted for	90%	85%
10. Consumption:		
Minimum gallons pumped in any one day	9,242,000	8,547,000
	January 1, 2015	May 16, 2014
Maximum gallons pumped in any one day	20,953,000	20,345,000
	August 1, 2015	March 16, 2014
11. Total daily consumption – Average	11,320,134	10,540,044
Average daily consumption per capita – gallons per day	95.52	88.72
12. Total number of services	30,085	29,642
Active accounts (total meters less in stock and deduct meters)	31,064	31,038
Number of services added (net)	443	1
Per mile of pipe	82.94	83.11
Persons per service (City of Kenosha)	3.31	3.36
13. Pipe in distribution system (in miles)	362.73	356.64
Size range in diameter	1" - 48"	1" - 48"
Pressure range – pounds per square inch	40 – 80	40 – 80
Population per mile (City of Kenosha)	274.65	279.5
14. Valves for distribution system (except hydrant valves)	5,861	5,764
Total installed for year	97	65
15. Hydrants for distribution system	3,298	3,234
Total installed for year (76 new - 12 retired = 64 additional)	64	0
Per mile of pipe	9.09	9.07
16. Utility operating revenue	\$ 14,046,013	\$ 13,187,719
Net Operating Income	\$ 2,097,664	\$ 1,176,608
Net Income (all expense and revenue)	\$ 1,467,420	\$ 480,663

	<u>2015</u>	<u>2014</u>
17. Operating and maintenance expenses	\$ 6,861,365	\$ 6,962,788
Per mile of pipe to expense	\$ 19,248.63	\$ 19,533.15
Per million gallons to distribution system	\$ 1,502.20	\$ 1,524.40
18. Tax Equivalent – Water	\$ 2,310,740	\$ 2,309,515
Increase (decrease) from previous year	0.1%	-7.2%
Percent of operating revenue	16.5%	17.5%
19. Depreciation	\$ 2,738,808	\$ 2,738,808
Percent of operating revenue	19.5%	20.8%
20. Production Cost Analysis of Energy Used		
Total electrical costs (high and low lift)	\$ 569,838	\$ 599,473
Cost for pumping (per million gallons)	\$ 108.46	\$ 114.69
Total electrical costs (booster system)	\$ 145,535	\$ 172,195
Cost of re-pumping for booster system (per million gallons)	\$ 70.82	\$ 74.44
Total electrical energy consumed at plant	\$ 569,861	\$ 599,473
Total natural gas energy consumed at plant	\$ 45,840	\$ 73,661
21. Production Cost Analysis of Chemicals Used		
Sand Filters		
Potassium Permanganate – total pounds	–	–
Sulfate of Aluminum – total tons	297.9	293.7
Chlorine – total tons	20.2	20.3
Hydrofluosilicic acid – total tons (liquid weight)	33.3	33.2
Polyphosphate – total tons (liquid weight)	11.7	10.8
Total cost per million gallons of filtered water	\$43.82	\$37.30
Membrane Filters		
Chlorine – total tons	16.0	16.5
Hydrofluosilicic acid – total tons (liquid weight)	26.4	27.8
Polyphosphate – total tons (liquid weight)	9.5	9.0
Total cost per million gallons of filtered water	\$18.01	\$18.38
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)	2,054.91	2,313.34
24. Average number of General Customers by class		
Residential	27,500	27,452
Multifamily Residential (new category in 2013)	1,164	1,115
Commercial	2,114	2,177
Industrial	66	61
Private Fire Services	492	477
Public Authorities	185	185
Irrigation	2	2
Sales for Resale		
Village of Pleasant Prairie	7	7
Village of Somers	8	8
Village of Bristol	2	2

Water Utility Vehicles – 2015

Distribution & Sewer Collection

Water Construction

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
2746	2004 GMC Pickup
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
2960	2008 GMC Pickup
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

Water Production

2771	2004 Jeep Liberty
2842	2006 GMC Pickup
2961	2008 GMC Pickup
3283	2014 GMC Pickup

Engineering Services

2148	1993 GMC Pickup
2523	2000 Jeep Grand Cherokee
2535	2001 Ford Pickup
2649	2003 GMC Pickup
2653	2003 GMC Pickup
2660	2003 Dodge Van
2682	2003 GMC Van
2715	2003 GMC Van
2737	2004 GMC Van
2862	2006 GMC Van
2883	2006 GMC Pickup
3024	2009 Jeep Grand Cherokee
3105	2011 GMC Pickup
3124	2011 GMC Pickup
3253	2013 Chevrolet Suburban
3280	2014 GMC Pickup

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
2472	1999 Sewer Flusher Vacuum
2554	2000 Vactor Sewer Cleaner
2851	2006 GMC Pickup
2884	2006 TV Truck – Ford Chassis
2930	2007 GMC Pickup
3043	2009 Ford F450 w/ Utility Service Body
3202	2012 Sewer Flusher Vacuum
3284	2015 GMC Tandem Axle Dump Truck

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

Administration/Customer Service

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

Wastewater Treatment

2063	1991 Ford w/ Galbraith Container System
2266	1995 GMC Pickup with Crane
2427	1998 Ford Pickup
2428	1998 Ford Pickup
2430	1998 GMC 1 Ton Dump Truck
2559	2001 Sterling Dump Truck
2652	2003 Ford Utility Truck with Crane
2700	2003 GMC Van
2714	2004 Ford Pickup
2843	2006 GMC Pickup with Plow
2866	2006 GMC Pickup
2945	2008 Freightliner Quad Axle Dump Truck
2966	2008 GMC Van
3073	2010 Ford Escape Hybrid
3106	2011 GMC Pickup
3282	2014 GMC Pickup
3297	2014 Ram 4500 w/ Service Body and Crane

Water Utility Major Equipment – 2015

Distribution & Sewer Collection

Water Construction

Fleet #	Description
453-00	1958 Engresser Pipe Thawer
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
2837	2005 JCB Tractor Loader Backhoe
2958	2007 Airman Air Compressor
2968	2007 Case Tractor Loader Backhoe
2970	2008 Case Tractor Loader Backhoe
3326	2015 Case Tractor Loader Backhoe

Water Production

	1998 Mitsubishi Fork Truck
	2005 Kubota Tractor
2890	2006 Kubota Mower

Sewer Repair

Fleet #	Description
2840	2005 JCB Tractor Loader Backhoe

Wastewater Treatment

	1980 6" Marlow Pump
1543	1985 Massey Ferguson Tractor Loader
2018	1990 John Deere Tractor w/ Snowblower
	1995 6" Marlow Pump
	1998 4" Barnes Submersible Pump
	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

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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2016

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

Subject: 2015 Annual Report – Engineering Services Division

Dear Mr. St. Peter,

I respectfully submit the annual report for the Engineering Services Division for the year 2015.

The Engineering 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 proving to be one of the most attractive markets for distribution facilities within the Midwest. In addition to private development KWU put out contracts to help rehabilitate and enhance our aging infrastructure. A summary of these contracts can be found later in this report.

The most notable project for the division was the Energy Optimized Resource Recovery Project at the Wastewater Treatment Facility. Construction finally began in late 2014 and the project was fully commissioned by the end of the 2015 calendar year. This project once again put Kenosha on the map as a utility willing to embrace and implement emerging technologies as a means of becoming more energy efficient and environmentally friendly. Although the new system continues to be optimized the savings associated with the new equipment is already being realized.

Once again major efforts were devoted toward reducing the amount of infiltration and inflow into the sanitary sewer system. Elevated flow within our sanitary sewer system during periods of wet weather continues to plague our collection system and wastewater treatment plant. Efforts to determine the source of this infiltration and inflow included sump pump inspections, a more aggressive sewer televising program, continued flow monitoring and manhole inspections.

Two new initiatives we also implemented in 2015 for the infrastructure associated with our water distribution system. These were a valve exercising program and a leak detection program. The valve exercising program ensures all valves are accessible and functional during emergency repairs to minimize the disruption to our customers. The leak detection program is aimed at locating leaks within the system to minimize water loss and reduce operating expenses.

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 2015 was another productive and successful year.

Sincerely,

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

Curtis Czarniecki, P.E.
Director of Engineering Services



www.kenoshawater.org

**Geographic Information Systems/
Information Technology**

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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2016

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

Subject: 2015 Annual Report - Geographic Information System / Information Technology

Dear Mr. St. Peter,

The Geographic Information System (GIS) / Information Technology (IT) team had a very busy and productive year. The team not only worked on various new projects but made enhancements to the master digital map. Some of these legacy and various new projects are listed below:

- Finalized the process of converting legacy GIS software to an open-source low cost solution. This conversion is now allowing more users to access the GIS system for substantially lower cost.
- Developed and enhanced various Supervisory Control and Data Acquisition (SCADA) programs and alarms at the production and wastewater plants.
- Integrated SCADA telemetry from the new Energy Optimized Resource Recovery Project into Wastewater's legacy SCADA system.
- Implemented a test project that demonstrated a low-cost SCADA Human Machine Interface solution that would replace the existing legacy system.
- Continued the GPS (Global Positioning System) Collector summer internship program for college students. These two students were trained to collect GPS geographic locations of manholes, valve boxes, curb stops, hydrants and many other water/waste water features. This collected information then provides us an extremely high accuracy of mapping data for our master map. 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.
- Developed web content for the city's new web site which will be implemented in 2016.
- Provided many web based input forms, surveys, and informational web pages for our employees to receive and disseminate time critical data.
- Implemented updates and enhancements to both the Linux and Windows operating systems.
- Developed and implemented plans to enhance physical security at both plants.
- Enhanced mobile mapping solution for the meter maintainers using tablets and open source GIS software.

The GIS/IT team would like to thank you and the Board of Water Commissioners for their continued support. I would also like to thank the GIS/IT 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
Director of Geographic Information
Systems/Information Technology



www.kenoshawater.org

2015 Engineering Service Contracts Awarded

<u>Project</u>	<u>Contractor</u>	<u>Description</u>	<u>Awarded Cost</u>
2014-05-WWTP	Porta-Painting, Inc.	Wastewater Treatment Plant Pump Room Painting	\$ 92,000.00
2015-01-W	A.W. Oakes & Son, Inc.	Water Main Relay - Phase 1 - 55th Avenue- 52nd Street to 54th Street; Harrison Road- Pershing Boulevard to 68th Street; 68th Street- 43rd Avenue to 67th Street; 10th Avenue- 35th Street to 900 feet South; 56th Street- 7th Avenue to 8th Avenue; 32nd Avenue- 14th Place to 15th Street	\$ 834,972.00
2015-03-PROD	Landmark Structures, Inc.	Washwater Tank Painting	\$ 348,000.00
2015-04-W	Minda, LLC	Water Main Relay - Phase 2 - 39th Avenue- North and South of 50th Street Intersection;	\$267,703.00

2015 Developer Infrastructure Accepted

	Water Mains	Hydrants	Services
Tirabassi Heights	\$ 149,253.22	\$ 18,505.51	\$ 37,193.01
Tirabassi - 85th Place	19,004.81	1,957.69	2,424.20
Rustoleum	102,234.03	24,220.00	7,780.60
Adams Rd - 55th Ave to North	8,084.08	2,539.82	1,333.66
39th Ave - 18th St to 21st St	264,322.48	9,110.46	-
Tylers Ridge	355,667.38	59,803.26	89,320.00
Neuvillage	96,312.67	13,591.65	28,420.00
Meijer Foods	206,304.27	13,164.00	12,459.00
Amazon	438,757.09	38,700.00	14,830.14

Sanitary Sewer Mains

Tirabassi Heights	\$ 92,242.81
Rustoleum	151,098.39
Adams Rd - 55th Ave to North	9,976.22
Amazon	332,033.25
Hampton Inn	22,660.45

Note: Total cost includes developer and KWU costs.

**2015 Engineering Staff and G.I.S. Personnel
Recap of Significant Projects**

	<u>Hours</u>
<u>Water Production Engineering - Total Hours 634</u>	
Water Treatment Plant & Reservoir Maintenance	613
Standby Generators - 30th Ave & 80th St Tanks	21
<u>Sewerage System Engineering - Total Hours 7,815</u>	
Sanitary Sewer Locates (Digger's Hotline)	1,123
Sump Pump Inspection	1,195
Wastewater Treatment Plant Maintenance	486
Energy-Optimized Resource Recovery System	3,636
Sanitary Sewer System Flow Study/Inspection	517
Sewer Repair, Cleaning and Inspection	858
<u>Water Distribution System - Total Hours 3,204</u>	
Water System Locates (Digger's Hotline)	2,570
Maintenance of Mains, Services and Hydrants	634
<u>Water Main Installed by Kenosha Water Utility Contract - Total Hours 1,343</u>	
Water Main Replacement - Various Locations	1,343
<u>Sanitary Sewer Installed by Kenosha Water Utility Contract - Total Hours 34</u>	
Forest Park Sanitary Sewer Relay	34
<u>Sanitary Sewer Installed by Developers - Total Hours 34</u>	
Hampton Inn	34
<u>New Development - Total Hours 297</u>	
Plan/Project Review	297
<u>GIS Infrastructure Mapping - Total Hours 388</u>	
Water Infrastructure	208
Sewer Infrastructure	180

Business Services

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"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2016

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

Dear Mr. St. Peter,

SUBJECT: 2015 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 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 4.93% based on an average net rate base valued at \$51,104,786. The rate of return for the sewer unit was 3.57% based on an average net rate base valued at \$32,381,100.

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



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Water and Sewerage Service Charges – 2015

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, based on its rate of return, qualified for a simplified rated case which allowed a 3.0% increase. 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 2015	163,532	\$ 449,860.18	\$ 81,627.00	\$ 13,455.50	162,414	\$ 378,314.53	
May 2015	145,623	419,582.05	83,808.00	13,297.00	138,340	331,150.60	
June 2015	147,142	418,907.72	81,618.00	13,454.00	146,106	346,832.86	
July 2015	170,262	467,618.14	83,926.99	13,298.00	161,777	346,217.81	30,644.16
Aug 2015	178,444	485,982.73	82,810.08	13,460.50	177,096	363,824.79	48,740.57
Sept 2015	206,461	551,516.83	86,110.60	13,299.50	195,209	363,668.64	89,541.13
Oct 2015	176,682	489,723.98	84,109.80	13,461.00	175,593	352,074.85	64,121.78
Nov 2015	198,321	536,481.57	86,506.61	13,301.50	185,276	352,115.96	82,618.83
Dec 2015	165,725	468,747.97	84,156.15	13,457.50	163,719	343,918.39	48,631.62
Jan 2016	167,663	476,904.50	86,525.15	13,303.50	158,923	382,309.30	
Feb 2016	173,213	483,365.25	83,895.56	13,417.50	171,962	408,755.18	
March 2016	177,836	497,286.65	86,459.23	13,291.50	169,333	402,974.44	
Totals	2,070,904	\$ 5,745,977.57	\$ 1,011,553.17	\$ 160,497.00	2,005,748	\$ 4,372,157.35	\$ 364,298.09

COMMERCIAL

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2015	32,249	\$ 76,036.66	\$ 7,648.00	29,935	\$ 61,810.42
May 2015	57,583	130,630.82	9,994.00	56,576	112,179.15
June 2015	31,646	74,974.98	7,652.00	29,488	60,904.93
July 2015	70,049	152,352.81	10,024.12	61,751	122,360.18
Aug 2015	37,321	86,527.08	7,740.04	33,110	69,198.52
Sept 2015	92,241	195,480.72	10,307.34	69,111	140,724.09
Oct 2015	44,417	99,902.77	7,826.97	34,572	72,888.48
Nov 2015	89,538	186,059.07	10,862.38	65,837	136,133.92
Dec 2015	37,122	85,510.30	7,812.55	32,397	68,737.27
Jan 2016	67,771	149,461.47	10,807.79	60,516	124,130.29
Feb 2016	32,485	77,831.50	8,016.49	30,421	64,992.82
March 2016	60,406	136,652.79	11,035.42	59,412	121,974.39
Totals	652,828	\$ 1,451,420.97	\$ 109,727.10	563,126	\$ 1,156,034.46

COMMERCIAL RESIDENTIAL

Bill Mo.	Water		Public Fire Protection	HHW Charge	Sewerage	
	Cons.Ccf	Charge			Cons.Ccf	Charge
April 2015	40,941	\$ 87,404.18	\$ 5,667.00	\$ 654.50	40,941	\$ 81,714.19
May 2015	44,826	96,963.10	5,963.00	445.50	43,789	86,213.33
June 2015	38,062	82,209.86	5,667.00	654.50	38,062	76,266.40
July 2015	51,175	108,525.62	5,968.31	445.50	50,153	98,689.76
Aug 2015	42,744	92,077.56	5,754.29	654.00	42,744	86,670.53
Sept 2015	52,109	112,969.58	6,128.59	446.50	51,107	103,189.07
Oct 2015	39,045	86,529.03	5,850.40	655.00	39,087	80,688.89
Nov 2015	56,114	123,484.62	7,086.40	447.50	49,690	98,121.26
Dec 2015	42,694	94,430.43	6,204.72	657.50	41,327	85,163.72
Jan 2016	51,615	114,892.45	7,092.58	448.00	49,712	100,749.40
Feb 2016	44,422	97,653.36	6,315.96	675.00	44,404	91,328.22
March 2016	54,447	119,471.37	6,872.16	427.50	53,395	107,907.15
Totals	558,194	\$ 1,216,611.16	\$ 74,570.41	\$ 6,611.00	544,411	\$ 1,096,701.92

**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 2015	13,131	\$ 18,777.10	\$ 1,666.00	7,776	\$ 15,424.61
May 2015	16,966	18,827.26	1,204.00	8,527	16,581.61
June 2015	15,243	20,037.26	1,658.00	7,928	15,713.15
July 2015	16,417	20,288.87	1,204.79	8,814	17,123.17
Aug 2015	21,388	30,678.69	1,682.43	10,213	20,516.86
Sept 2015	17,850	23,708.08	1,238.18	7,530	15,158.65
Oct 2015	34,429	49,499.20	1,726.28	10,256	20,838.48
Nov 2015	19,369	25,233.06	1,329.73	8,008	16,119.45
Dec 2015	19,971	29,898.82	1,894.17	9,550	19,448.42
Jan 2016	17,468	21,084.00	1,342.09	8,370	16,747.20
Feb 2016	17,102	22,025.12	1,894.17	8,706	17,768.86
March 2016	15,912	19,103.33	1,352.39	8,085	16,243.78
Totals	225,246	\$ 299,160.79	\$ 18,192.23	103,763	\$ 207,684.24

INDUSTRIAL

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2015	45,077	\$ 67,797.42	\$ 305.00	19,137	\$ 73,544.63
May 2015	47,120	72,022.56	547.00	23,306	72,791.43
June 2015	43,247	65,194.24	305.00	24,334	88,239.89
July 2015	53,833	81,966.56	547.23	25,831	91,428.18
Aug 2015	48,130	74,250.64	311.84	26,278	98,665.03
Sept 2015	36,240	57,964.36	563.29	23,820	70,614.06
Oct 2015	42,909	66,479.78	314.15	26,833	91,884.69
Nov 2015	52,399	83,871.93	862.11	29,086	99,954.47
Dec 2015	46,770	72,726.81	392.43	23,429	92,543.73
Jan 2016	46,707	74,530.07	849.75	24,962	87,398.97
Feb 2016	44,111	68,590.01	392.43	25,676	81,664.25
March 2016	43,465	69,778.94	902.28	29,224	81,757.51
Totals	550,008	\$ 855,173.32	\$ 6,292.51	301,916	\$ 1,030,486.84

SALE FOR RESALE

Bill Mo.	Cons.Ccf	Water Charge	Public Fire Protection
April 2015	86,058	\$ 122,745.54	\$ 8,116.00
May 2015	103,798	147,506.14	8,116.00
June 2015	107,062	151,802.86	8,116.00
July 2015	124,360	175,925.48	8,359.48
Aug 2015	129,894	188,927.66	8,359.48
Sept 2015	172,570	250,793.01	8,359.48
Oct 2015	180,781	262,530.67	8,359.48
Nov 2015	177,729	257,425.03	8,359.48
Dec 2015	118,084	172,150.52	8,359.48
Jan 2016	117,955	172,190.40	8,359.48
Feb 2016	114,701	167,051.00	8,359.48
March 2016	123,529	179,549.95	8,359.48
Totals	1,556,521	\$ 2,248,598.26	\$ 99,583.32

IRRIGATION

Bill Mo.	Cons.Ccf	Water Charge	Public Fire Protection
April 2015	—	\$ 980.00	\$ 6.00
May 2015	—	44.00	18.00
June 2015	—	980.00	6.00
July 2015	312	610.36	18.00
Aug 2015	4	17.82	6.09
Sept 2015	2,340	3,959.05	37.06
Oct 2015	37	83.65	6.18
Nov 2015	—	—	—
Dec 2015	—	—	—
Jan 2016	—	—	—
Feb 2016	—	—	—
March 2016	—	—	—
Totals	2,693	\$ 6,674.88	\$ 97.33

Meter Services Report - 2015

<u>Meter Size</u>	<u>New Accounts</u>	<u>Tested/ Upgraded</u>	<u>Total Meters</u>
5/8" Meters	8	1,310	25,102
3/4" Meters	21	428	4,648
1" Meters	4	198	981
1-1/2" Meters	6	237	594
2" Meters	3	207	647
3" Meters	1	48	108
4" Meters	-	37	61
6" Meters	-	32	32
8" Meters	-	9	9
10" Meters	-	1	2
Total	43	2,507	32,184

New Private Fire Lines **2**

Meter Shop Activity

Set New Accounts	43
20 Year Meter Change Outs	881
Install Radio Read Units	85
Remove Meter (test and replace)	351
Check Readings (high/low consumption, etc.)	3,245
Shut Offs, Take Out Seasonals	151
Repair Outside Register/Touch Pad	1,430
Pressure Tests	31
Locate/Clean Curb Box	385
Service Break Checks/Trace Services	51
Shut off at Curb (non-payment & customer requests)	569
Meters Bench Tested/Rebuild & Retest	339
Frozen Services	19
Frozen Meters	102
Pool Fills	0
Large Meter-Field Testing	93
Total Service Calls	7,775

TEN YEAR COMPARISON OF CUSTOMER WATER CONSUMPTION

Average Number of Water Customers	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	% INCR (DECR) 2015 vs. 2014
Residential	26,411	26,775	27,034	27,183	27,278	27,334	27,365	27,410	27,452	27,500	0.17%
Multifamily Residential	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,130	1,115	1,164	4.39%
Commercial	3,195	3,251	3,290	3,306	3,313	3,317	3,315	2,176	2,177	2,114	(2.89%)
Industrial	71	70	69	69	67	66	63	60	61	66	8.20%
Public	181	186	192	192	192	192	185	183	185	185	0.00%
Irrigation	3	3	3	3	3	3	3	3	2	2	0.00%
Private Fire Lines	388	403	417	432	441	455	464	467	477	492	3.14%
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	30,266	30,705	31,022	31,202	31,311	31,384	31,412	31,446	31,486	31,540	0.17%

Annual Consumption (1,000 Gallons)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	% INCR (DECR) 2015 vs. 2014
Residential	1,815,629	1,813,520	1,764,393	1,717,591	1,710,396	1,704,587	1,838,553	1,638,280	1,535,419	1,549,036	0.89%
Multifamily Residential	N/A	N/A	N/A	N/A	N/A	N/A	N/A	430,591	417,147	417,529	0.09%
Commercial	1,016,854	990,851	979,048	931,833	1,054,683	953,963	977,711	495,955	471,956	488,315	3.47%
Industrial	281,308	305,239	291,145	324,720	306,136	396,382	287,364	336,628	419,995	411,406	(2.05%)
Public	104,412	104,303	117,992	90,212	107,094	117,950	183,924	170,517	170,966	168,484	(1.45%)
Irrigation	1,435	1,489	1,621	1,177	1,243	1,204	2,148	1,323	1,744	2,014	15.48%
Sale for Resale											
Pleasant Prairie	696,134	747,724	740,550	701,630	754,021	794,343	842,036	746,097	761,521	1,012,853	33.00%
Village of Somers	145,434	160,816	154,185	151,554	156,848	162,957	179,703	146,385	142,909	145,463	1.79%
Village of Bristol	5,654	5,693	5,574	4,952	5,424	5,464	5,025	4,563	5,673	5,962	5.09%
TOTAL	4,066,860	4,129,635	4,054,508	3,923,669	4,095,845	4,136,850	4,316,464	3,970,339	3,927,330	4,201,062	6.97%

Customer Class as a Percent of Total Consumption

Residential	44.64%	43.91%	43.52%	43.78%	41.76%	41.20%	42.59%	41.26%	39.10%	36.87%
Multifamily Residential	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.85%	10.62%	9.94%
Commercial	25.00%	23.99%	24.15%	23.75%	25.75%	23.06%	22.65%	12.49%	12.02%	11.62%
Industrial	6.92%	7.39%	7.18%	8.28%	7.47%	9.58%	6.66%	8.48%	10.69%	9.79%
Public	2.57%	2.53%	2.91%	2.30%	2.61%	2.85%	4.26%	4.29%	4.35%	4.01%
Irrigation	0.04%	0.04%	0.04%	0.03%	0.03%	0.03%	0.05%	0.03%	0.04%	0.05%
Sale for Resale										
Pleasant Prairie	17.12%	18.11%	18.26%	17.88%	18.41%	19.20%	19.51%	18.79%	19.39%	24.11%
Town of Somers	3.58%	3.89%	3.80%	3.86%	3.83%	3.94%	4.16%	3.69%	3.64%	3.46%
Village of Bristol	0.14%	0.14%	0.14%	0.13%	0.13%	0.13%	0.12%	0.11%	0.14%	0.14%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	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 2016

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

Subject: 2015 Annual Report for the O. Fred Nelson Water Production Plant

Dear Mr. St. Peter,

The Annual Report for the O. Fred Nelson Water Production Plant is hereby respectfully submitted.

The Kenosha Water Utility’s Water Production Division continues to provide the highest quality drinking water to our customers. A total of 4.7 billion gallons were pumped into the distribution system in 2015. The average daily flow was 12.88 million gallons per day, with a maximum day of 20.95 million gallons on August 1st. The average tap water turbidity was 0.029 NTU and the average chlorine residual was 1.2 mg/l. Some significant projects completed in 2015 include:

- **Recoat Washwater Tank**
- **42” Intake Crib Repairs**
- **Rebuild Low Lift Pump**

Production Division would like to thank the Engineering and Business Services Divisions for their support throughout the year. Thanks to the Distribution Division for assisting with the heavier maintenance tasks and to the Wastewater Division for electrical and mechanical upgrades and repairs. We would also like to 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 that reads "R.E. Field".

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



www.kenoshawater.org

Kenosha Water Utility

Production Division

Main Plant Pumping

2015

Month	Pumpage X 1000 Gallons				Electricity	
	High Lift	Daily Average	Low Lift	Daily Average	Pumping	Cost/MG
January	359,959	11,612	406,093	13,100	\$ 49,193	\$ 121.14
February	332,584	11,878	374,039	13,359	45,738	122.28
March	361,823	11,672	406,197	13,103	43,855	107.96
April	345,855	11,529	388,010	12,934	45,961	118.45
May	387,643	12,505	436,326	14,075	46,541	106.67
June	404,836	13,495	456,073	15,202	45,503	99.77
July	472,601	15,245	521,871	16,835	51,267	98.24
August	501,467	16,176	550,506	17,758	56,691	102.98
September	426,882	14,229	460,527	15,351	48,450	105.21
October	396,885	12,803	447,971	14,451	46,387	103.55
November	350,696	11,690	395,527	13,184	46,649	117.94
December	364,875	11,770	410,607	13,245	43,603	106.19
Total	4,706,106		5,253,747		\$ 569,838	
Average	392,176	12,884	437,812	14,383	\$ 47,487	\$ 109.20

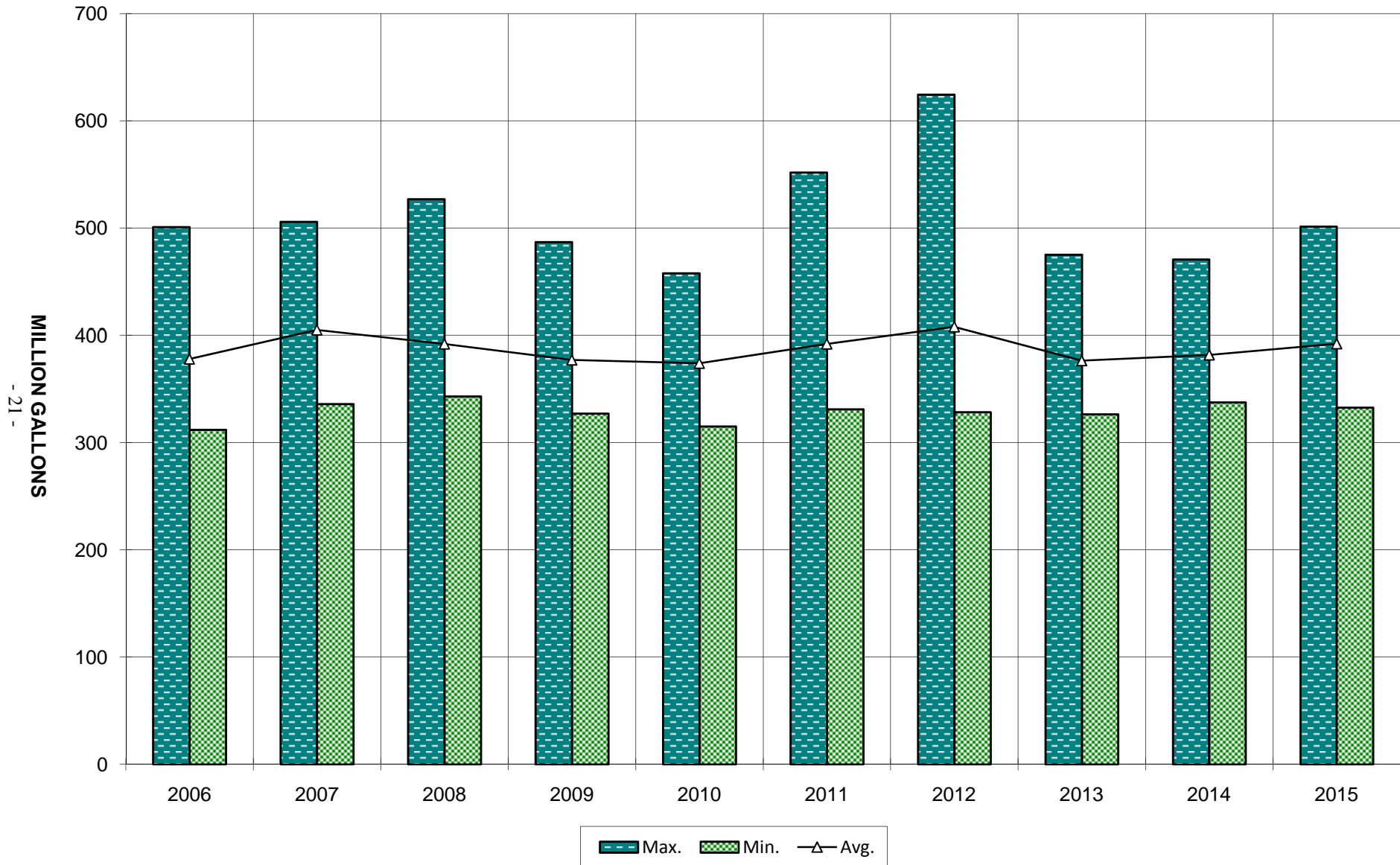
Booster System Pumping

2015

Month	Pumpage X 1000 gal	Total Power Cost	Pumping Power Cost	Total Cost/MG	Pumping Cost/MG
January	179,310	\$ 13,182	\$ 11,511	\$ 73.52	\$ 64.20
February	168,110	13,037	11,438	77.55	68.04
March	184,080	12,066	10,711	65.55	58.19
April	184,760	11,845	11,071	64.11	59.92
May	174,730	11,988	11,359	68.61	65.01
June	176,030	12,954	12,349	73.59	70.15
July	194,460	14,721	14,138	75.70	72.70
August	203,710	15,532	14,967	76.25	73.47
September	140,020	13,457	12,886	96.11	92.03
October	156,620	11,815	11,213	75.44	71.59
November	147,620	13,371	12,320	90.58	83.46
December	145,460	13,365	11,572	91.88	79.55
Total	2,054,910	\$ 157,333	\$ 145,535		
Average	171,243	\$ 13,111	\$ 12,128	\$ 77.41	\$ 71.53

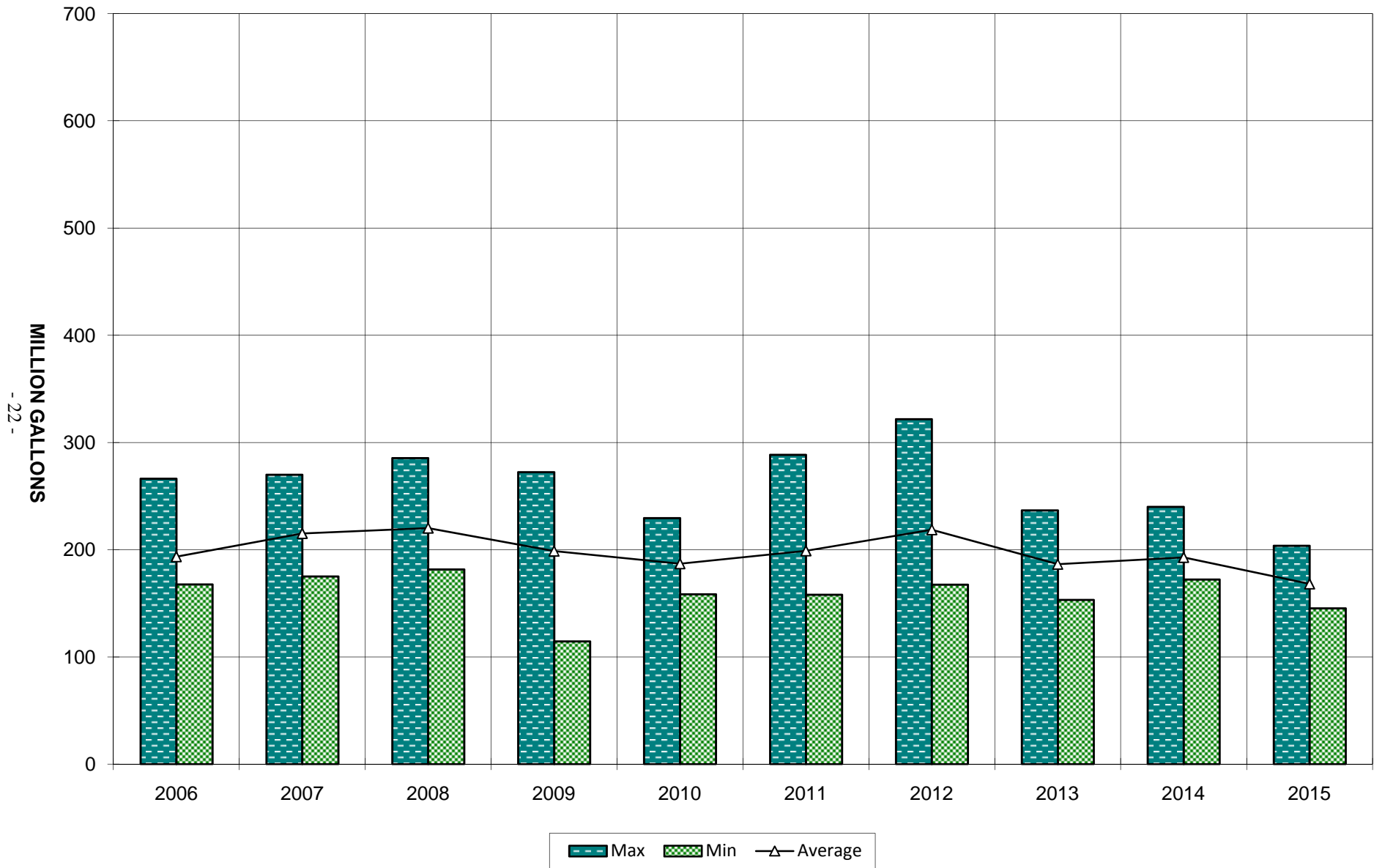
Main Plant Pumping Last Ten Years

Monthly Flow - Million Gallons



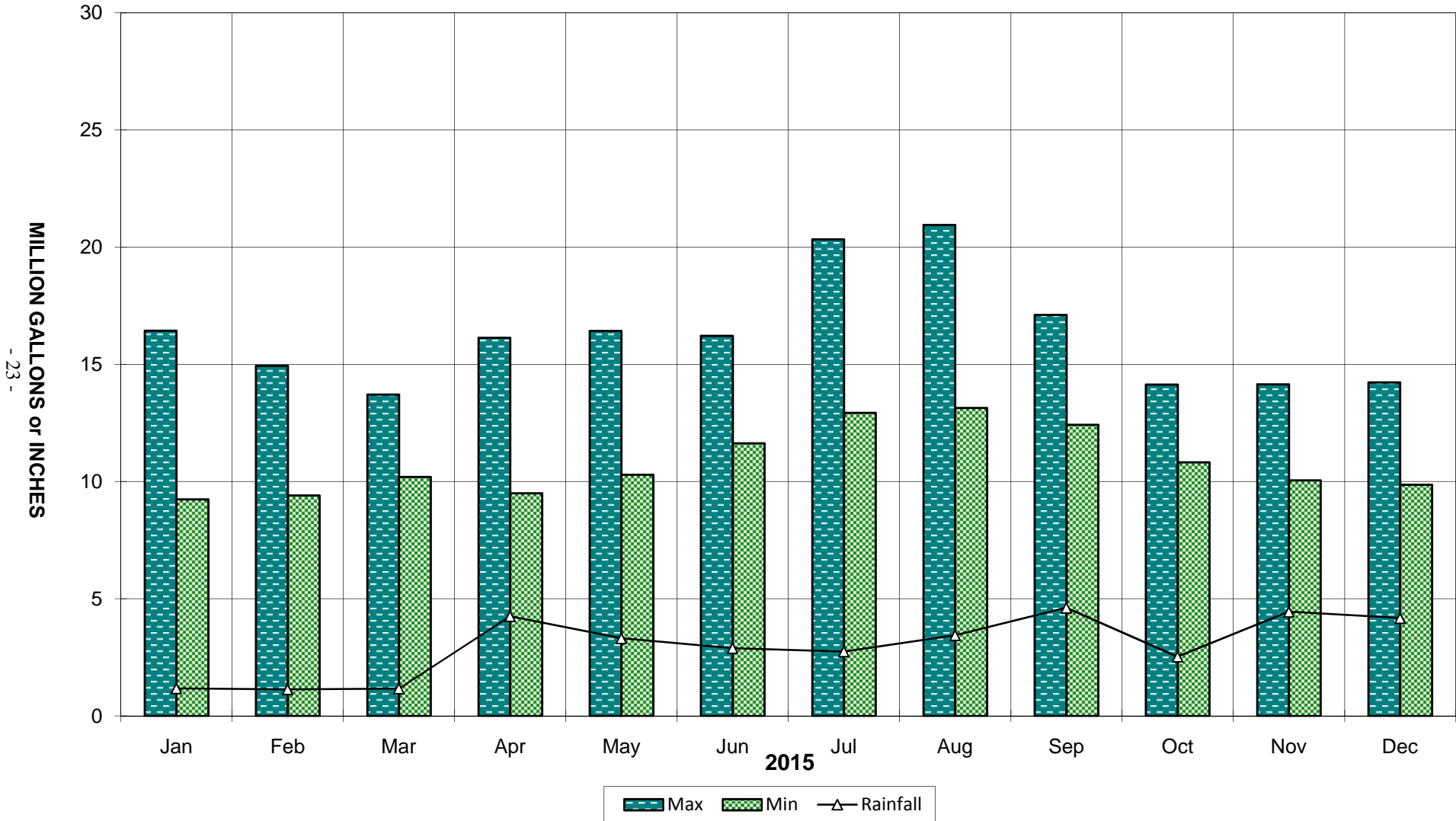
Booster Pumping Last Ten Years

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

2015

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	183,272	10,711	3,527	5,912
February	175,880	9,301	3,712	6,281
March	187,922	8,182	4,541	6,062
April	176,976	10,526	3,934	5,899
May	208,530	10,785	4,671	6,727
June	234,383	10,622	5,983	7,813
July	292,595	14,720	7,302	9,439
August	324,732	15,450	7,539	10,475
September	256,300	11,460	6,420	8,543
October	208,897	8,520	5,213	6,739
November	182,058	8,562	4,461	6,069
December	190,815	8,604	4,238	6,155
Total	2,622,360			
Average	218,530			7,176

Month	Washwater (1000 gal.)	% Rated Capacity	Filter Run Hours		
			Max	Min	Avg
January	2,210	30	80	70	78
February	2,520	31	80	18	71
March	1,900	30	80	70	78
April	1,470	29	80	59	75
May	2,060	34	78	55	64
June	2,030	39	80	50	67
July	3,210	47	72	28	50
August	4,220	52	54	24	39
September	2,581	43	68	22	48
October	1,952	34	77	44	61
November	1,360	30	80	69	78
December	1,490	31	80	77	80
Total	27,003				
Average	2,250	36			66

Kenosha Water Utility

Production Division

Membrane Plant Filtration Report

2015

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	176,687	6,599	5,122	5,700
February	156,704	5,765	2,881	5,597
March	173,901	5,694	5,383	5,610
April	168,879	5,678	5,572	5,629
May	179,113	7,822	5,026	5,778
June	170,453	6,804	5,571	5,682
July	180,006	7,616	4,467	5,807
August	176,735	6,809	5,242	5,701
September	169,951	7,209	4,470	5,665
October	187,988	7,210	4,146	6,064
November	168,638	5,700	5,345	5,621
December	174,060	5,666	5,558	5,615
Total	2,083,115			
Average	173,593			5,706

Month	Washwater Raw (1000 gal.)	% Rated Capacity	CIP Run Hours		
			Max	Min	Avg
January	27,210	37	501	500	500
February	25,580	36	501	500	500
March	29,230	36	500	500	500
April	27,300	36	500	500	500
May	28,750	37	500	500	500
June	35,810	36	500	500	500
July	30,330	37	500	500	500
August	30,280	37	502	500	500
September	25,222	36	501	500	500
October	32,670	39	501	500	500
November	29,550	36	501	500	500
December	35,110	36	500	500	500
Total	357,042				
Average	29,754	37			500

CIP - Clean-in-Place

**Kenosha Water Utility
Production Division
Rapid Sand Plant Chemical Feed Report
2015**

Month	Alum		Chlorine		Fluoride	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	49,673	271.03	2,865	15.63	4,672	25.49
February	48,675	276.75	2,597	14.77	4,671	26.56
March	41,302	219.78	2,999	15.96	4,612	24.54
April	41,975	237.18	2,735	15.45	4,511	25.49
May	53,854	258.26	3,098	14.86	5,495	26.35
June	48,688	207.73	3,598	15.35	5,851	24.96
July	59,884	204.67	4,685	16.01	7,441	25.43
August	61,386	189.04	4,957	15.26	8,278	25.49
September	50,791	198.17	3,898	15.21	6,346	24.76
October	54,580	261.28	3,384	16.20	5,246	25.11
November	41,045	225.45	2,735	15.02	4,512	24.78
December	43,964	230.40	2,818	14.77	4,871	25.53
Total	595,817		40,369		66,506	
Average	49,651	231.64	3,364	15.37	5,542	25.38

Month	Potassium Permanganate		Polyphosphate		Total Chemical Cost	
	Pounds	lb/MG	Pounds	lb/MG	Total \$	Cost/MG
January	0	0.00	1,876	10.24	\$ 9,151	\$ 49.93
February	0	0.00	1,778	10.11	8,895	50.57
March	0	0.00	1,938	10.31	8,202	43.65
April	0	0.00	1,768	9.99	8,081	45.66
May	0	0.00	1,898	9.10	9,957	47.75
June	0	0.00	2,002	8.54	9,637	41.12
July	0	0.00	2,244	7.67	11,871	40.57
August	0	0.00	2,291	7.06	12,384	38.14
September	0	0.00	2,109	8.23	10,172	39.69
October	0	0.00	1,898	9.09	10,053	48.12
November	0	0.00	1,793	9.85	7,984	43.85
December	0	0.00	1,904	9.98	8,519	44.65
Total	0		23,499		\$ 114,906	
Average	0	0.00	1,958	9.18	\$ 9,576	\$ 44.47

**Kenosha Water Utility
Production Division
Membrane Plant Chemical Feed Report
2015**

Cleaning Chemicals								
Month	Sodium Hydroxide		Hydrogen Peroxide		EDTA		Sulfuric Acid	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	4,218	23.87	1,155	6.54	824	4.66	525	2.97
February	5,516	35.20	1,510	9.64	1,077	6.87	687	4.38
March	4,543	26.12	1,243	7.15	887	5.10	566	3.25
April	3,894	23.06	1,066	6.31	760	4.50	485	2.87
May	5,840	32.61	1,599	8.93	1,140	6.36	727	4.06
June	4,543	26.65	1,243	7.29	887	5.20	566	3.32
July	4,543	25.24	1,243	6.91	887	4.93	566	3.14
August	6,165	34.88	1,688	9.55	1,204	6.81	768	4.35
September	2,920	17.18	799	4.70	570	3.35	364	2.14
October	6,489	34.52	1,776	9.45	1,267	6.74	808	4.30
November	5,191	30.78	1,421	8.43	1,014	6.01	646	3.83
December	2,920	16.78	799	4.59	570	3.27	364	2.09
Total	56,782		15,542		11,087		7,072	
Average	4,732	27.24	1,295	7.46	924	5.32	589	3.39

Process Chemicals								
Month	Chlorine		Fluoride		Polyphosphate		Total Cost *	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG	Total \$	\$/MG
January	2,762	15.63	4,504	25.49	1,808	10.23	\$ 3,133	\$ 17.73
February	2,313	14.76	4,161	26.55	1,584	10.11	3,412	21.77
March	2,776	15.96	4,268	24.54	1,794	10.32	3,195	18.37
April	2,609	15.45	4,305	25.49	1,688	10.00	2,918	17.28
May	2,662	14.86	4,721	26.36	1,631	9.11	3,642	20.33
June	2,617	15.35	4,256	24.97	1,456	8.54	2,917	17.11
July	2,882	16.01	4,578	25.43	1,380	7.67	2,853	15.85
August	2,698	15.27	4,505	25.49	1,247	7.06	3,349	18.95
September	2,586	15.22	4,209	24.77	1,399	8.23	2,203	12.96
October	3,046	16.20	4,722	25.12	1,708	9.09	4,003	21.29
November	2,533	15.02	4,178	24.77	1,661	9.85	3,366	19.96
December	2,571	14.77	4,445	25.54	1,738	9.99	2,534	14.56
Total	32,055		52,852		19,094		\$ 37,525	
Average	2,671	15.38	4,404	25.38	1,591	9.18	\$ 3,127	\$ 18.01

* Includes cleaning and process chemicals

MG - million gallons

**Kenosha Water Utility
Production Division
Laboratory Report
2015**

Month	Alkalinity Average mg/l		pH Average pH units		Conductivity µS/cm	
	Raw	Tap	Raw	Tap	Raw	Tap
January	115	108	8.36	7.70	296	297
February	113	106	8.37	7.70	314	321
March	116	110	8.30	7.63	324	326
April	111	105	8.35	7.67	329	330
May	107	102	8.36	7.63	300	296
June	107	103	8.35	7.63	293	299
July	107	102	8.37	7.63	294	295
August	107	102	8.32	7.61	306	303
September	107	103	8.33	7.63	285	287
October	108	102	8.32	7.63	302	305
November	108	103	8.32	7.72	305	307
December	110	104	8.40	7.77	300	305
Average	110	104	8.35	7.66	304	306

Month	Hardness mg/l		Temp Raw ° F		
	Raw	Tap	Max	Min	Avg
January	140	142	34	34	34
February	138	136	34	34	34
March	150	148	39	34	37
April	142	142	46	37	43
May	134	134	50	43	46
June	134	132	59	48	54
July	134	136	63	50	57
August	136	134	63	46	54
September	130	130	63	48	54
October	134	134	59	50	57
November	138	138	50	43	46
December	138	136	45	39	41
Average	137	137	50	42	46

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

**Kenosha Water Utility
Production Division
Laboratory Report
2015**

Month	Turbidity NTU								
	Rapid Sand Raw			Membrane Raw			Tap		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
January	49.9	5.4	19.3	49.9	5.4	19.3	0.042	0.027	0.033
February	157.6	5.7	43.1	130.3	2.8	37.6	0.038	0.028	0.032
March	21.0	2.1	6.6	18.8	1.6	6.5	0.069	0.028	0.032
April	9.2	2.4	4.2	9.0	2.2	4.4	0.035	0.026	0.031
May	8.5	8.3	8.4	29.9	1.4	3.8	0.042	0.025	0.028
June	7.7	1.5	3.4	10.2	2.8	4.8	0.032	0.025	0.028
July	19.3	1.5	4.3	25.3	1.8	6.8	0.033	0.025	0.028
August	3.2	0.9	1.9	4.7	1.0	2.6	0.032	0.025	0.028
September	14.2	0.8	1.9	12.8	1.1	2.2	0.031	0.025	0.028
October	73.3	2.5	13.5	73.3	2.5	13.5	0.028	0.025	0.026
November	46.8	1.2	6.7	46.3	1.1	7.1	0.037	0.024	0.027
December	214.2	2.3	19.2	232.5	2.5	21.5	0.045	0.026	0.032
Average	52.1	2.9	11.0	53.6	2.2	10.8	0.039	0.026	0.029

Month	PO ₄ Average mg/l	Fluoride Composite Average mg/l	Chlorine Residual mg/l		
			Tap		
	Tap	Tap	Max	Min	Avg
January	0.18	0.74	1.2	1.1	1.2
February	0.17	0.77	1.3	1.1	1.2
March	0.16	0.73	1.2	1.0	1.1
April	0.15	0.72	1.2	1.1	1.2
May	0.15	0.74	1.2	1.1	1.2
June	0.14	0.72	1.2	1.0	1.2
July	0.16	0.73	1.2	1.1	1.2
August	0.15	0.75	1.2	1.1	1.2
September	0.16	0.72	1.2	1.0	1.2
October	0.18	0.72	1.2	1.0	1.2
November	0.18	0.71	1.3	1.1	1.2
December	0.18	0.74	1.2	1.1	1.2
Average	0.16	0.73	1.2	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)	0.033	ND	2
Aldicarb Total	0.37	ND	3
Aldicarb Sulfoxide	0.38	ND	4
Aldicarb Sulfone	0.39	ND	2
Aldrin	0.033	ND	na
Atrazine	0.033	ND	3
Benzo(a)pyrene	0.02	ND	0.2
Butachlor	0.033	ND	na
Carbaryl	0.44	ND	na
Carbofuran	0.43	ND	40
Chlordane	0.033	ND	2
2, 4-D	0.086	ND	70
Dalapon	0.81	ND	200
Dicamba	0.13	ND	na
Dieldrin	0.033	ND	na
Di (2-ethylhexyl) adipate	0.6	ND	400
Di (2-ethylhexyl) phthalate	0.006	ND	6
Dinoseb	0.12	ND	7
Diquat	0.37	ND	20
Endothall	0.51	ND	100
Endrin	0.006	ND	2.0
Glyphosate (Round-up)	4.7	ND	700
Heptachlor	0.015	ND	0.4
Heptachlorepoxyde	0.010	ND	0.2
Hexachlorobenzene	0.033	ND	1
Hexachlorocyclopentadiene	0.033	ND	50
3-Hydroxycarbofuran	0.43	ND	na
BHC Gamma (Lindane)	0.0070	ND	0.2
Methoxychlor	0.033	ND	40
Methomyl	0.42	ND	na
Dual (Metolachlor)	0.033	ND	na
Metribuzin (Sencor)	0.033	ND	na
Oxamyl (Vydate)	0.43	ND	200
PCB Total ****	0.1	ND	0.5
Pentachlorophenol	0.037	ND	1
Picloram (Tordan)	0.059	ND	500
Propachlor	0.033	ND	na
2,4,5-TP (Silvex)	0.11	ND	50
Simazine	0.033	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	0.22	ND	5
Bromobenzene	0.17	ND	na
Bromodichloromethane	0.15	4.6	80
Bromoform	0.16	0.19	80
Bromomethane	0.26	ND	na
Carbon Tetrachloride	0.20	ND	5
Chloroethane	0.94	ND	na
Chloroform	0.19	3.5	80
Chloromethane	0.16	ND	na
1,2-Chlorotoluene (o-)	0.18	ND	na
1,4-Chlorotoluene (p-)	0.19	ND	na
Dibromochloromethane	0.15	2.8	80
Dibromomethane	0.22	ND	na
1,3-Dichlorobenzene (m-)	0.21	ND	na
1,2-Dichlorobenzene (o-)	0.17	ND	600
1,4-Dichlorobenzene (p-)	0.17	ND	75
1,1-Dichloroethane	0.20	ND	na
1,2-Dichloroethane	0.16	ND	5
1,1-Dichloroethylene	0.21	ND	7
1,2-Dichloroethylene, cis	0.19	ND	70
1,2-Dichloroethylene, trans	0.14	ND	100
Dichloromethane	0.19	ND	5
1,2-Dichloropropane	0.24	ND	5
1,3-Dichloropropane	0.19	ND	na
2,2-Dichloropropane	0.14	ND	na
1,1-Dichloropropene	0.10	ND	na
1,3-Dichloropropene	0.36	ND	na
Ethylbenzene	0.19	ND	700
Chlorobenzene	0.19	ND	100
Styrene	0.17	ND	100
1,1,1,2-Tetrachloroethane	0.18	ND	na
1,1,1,2,2-Tetrachloroethane	0.15	ND	na
Tetrachloroethylene	0.18	ND	5
Toluene	0.18	ND	1,000
1,2,4-Trichlorobenzene	0.19	ND	70
1,1,1-Trichloroethane	0.15	ND	200
1,1,2-Trichloroethane	0.20	ND	5
Trichloroethylene	0.11	ND	5
1,2,3-Trichloropropane	0.19	ND	na
Vinyl Chloride	0.18	ND	0.2
Xylene Total	0.53	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	117 max	na	Entry point
Antimony Total	0.00013	ND	0.006	Entry point
Arsenic Total	0.0005	0.00065	0.01	Entry point
Barium Total	0.0001	0.022	2	Entry point
Beryllium Total	0.00013	ND	0.004	Entry point
Cadmium Total	0.0001	ND	0.005	Entry point
Chromium Total	.00023	ND	0.1	Entry point
Copper	0.001	0.10	1.3 (AL)	Residential taps
Cyanide	0.005	0.0090	0.2	Entry point
Fluoride Total	0.05	0.85	4	Entry point
Haloacetic Acids	.000092	0.0120	0.06	Maximum residence
Hardness Total CaCO ₃	1	148 max	500	Entry Point
Lead	0.0001	0.0062	0.015 (AL)	Residential taps
Mercury Total	0.00005	ND	0.002	Entry point
Nickel Total	0.0005	0.00086	0.1	Entry point
Nitrate as N	0.025	0.46	10	Entry point
Nitrite	0.0067	ND	1	Entry point
pH Lab	0.01pH	7.96 pH	na	Entry point
Selenium Total	0.002	ND	0.05	Entry point
Sodium Total	0.15	7.90	na	Entry point
Sulfate Total	2.5	28	na	Entry point
Thallium Total	0.0001	ND	0.002	Entry point
Total Trihalomethanes	.00014	0.0243	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
Income Statement – 2015**

Sales of Water

Residential Water Sales	\$ 5,738,762.24
Commercial Water Sales	2,667,753.72
Industrial Water Sales	858,004.92
Unmetered Sales to General Customers	9,456.86
Private Fire Protection	165,072.00
Public Fire Protection	1,325,246.09
Sales to Public Authorities	299,690.17
Sales for Resale	2,204,997.43
Sales to Irrigation Customers	4,752.11

Total Sales of Water

13,273,735.54

Other Operating Revenues

Penalties	166,821.01
Other Water Revenue	67,542.89
Allocated Services	142,905.83
Miscellaneous Service Revenues	395,007.54

Total Other Operating Revenues

772,277.27

Total Operating Revenues

14,046,012.81

Operating Expenses

Production Plant	2,276,674.81
Distribution System	2,113,486.62
Customer Accounting & Collection	366,607.32
Administration	2,104,596.60
Depreciation	2,776,243.71
Taxes	2,310,740.44

Total Operating Expenses

11,948,349.50

Utility Operating Income

2,097,663.31

Other Income

Interest Income	12,356.36
Other Non-operating Income	2,745.34

Total Other Income

15,101.70

Non-operating Expenses

Interest on Long-term Debt	711,322.40
Amortization of Debt Expense	(65,976.78)

Total Non-operating Expenses

273,657.81

645,345.62

Net Income before Capital Contributions

1,467,419.39

Capital Contributions

2,043,766.20

Net Income

\$ 3,511,185.59

**Water System
Statement of Net Position
December 31, 2015**

Assets		
Utility Plant		
Utility Plant in Service	\$ 114,540,702.36	
Work in Progress - Water Plant	-	
Work in Progress - Water System	1,664,033.32	
Accumulated Depreciation	<u>(39,984,482.57)</u>	
Net Plant in Service		76,220,253.11
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	1,632,970.38	
Investments	-	
Restricted Cash and Cash Equivalents	5,760,000.00	
Customer Accounts Receivable	1,504,593.93	
Receivable from Municipality	763,762.26	
Unbilled Revenues	1,596,863.65	
Other Accounts Receivable	27,000.82	
Materials and Supplies	443,621.64	
Accrued Interest Receivable	286.22	
Other Current Assets	<u>79,419.55</u>	
Total Current Assets		11,808,518.45
Other Assets		
Restricted Investments	2,702,963.73	
Deferred Charges	3,033,072.76	
Assessments Receivable	1,037.19	
Pension Asset - Wisconsin Retirement System	<u>590,009.58</u>	
Total Other Assets		6,327,083.26
Total Assets		<u>94,373,854.82</u>
Deferred Outflow of Resources		
Deferred Pension Resources		<u>554,622.69</u>
Liabilities		
Current Liabilities		
Current Portion of Water Revenue Bonds	2,250,000.00	
Accrued Taxes	2,363,371.00	
Accounts Payable	179,699.42	
Accrued Interest Payable	37,234.57	
Current Portion of Advance from Municipality	38,210.07	
Current Portion of Accrued Compensated Absences	33,579.87	
Payable to Municipality	660,724.84	
Deferred Credits	<u>26,079.29</u>	
Total Current Liabilities		5,588,899.06
Non-current Liabilities		
Long-term Debt		
Water Revenue Bonds - Series 2008 (net of unamortized premium in the amount of \$125,296.15)	7,200,296.15	
Advance from Municipality	130,441.26	
Advance from Sewerage Unit	<u>5,000,000.00</u>	
Total Long-term Debt		12,330,737.41
Accrued Compensated Absences		326,843.13
Worker's Compensation Accrued Liability		236,959.00
Other Postemployment Benefits		<u>755,703.00</u>
Total Non-current Liabilities		13,650,242.54
Total Liabilities		<u>19,239,141.60</u>
Net Position		
Invested in Capital Assets, net of related debt	69,173,253.11	
Restricted for Debt Service	6,165,705.40	
Restricted for Pension	590,009.58	
Unrestricted	<u>(239,632.18)</u>	
Total Net Position		<u>\$ 75,689,335.91</u>

Water System
Comparative Operating and Maintenance Expenses

	2015	2014	2013
Source of Supply Expenses			
Maintenance of Lake Intakes	\$ -	\$ 331.15	\$ 26.28
Miscellaneous	22,176.82	30,874.53	9,625.00
	<u>22,176.82</u>	<u>31,205.68</u>	<u>9,651.28</u>
Pumping Expenses			
<u>Operation</u>			
Supervision and Engineering	115,176.35	109,814.44	122,751.32
Fuel - Electricity and Gas	779,771.57	863,868.49	822,932.22
Labor	111,001.82	116,583.53	112,874.17
Miscellaneous Expense	5,568.86	8,280.72	5,237.88
	<u>1,011,518.60</u>	<u>1,098,547.18</u>	<u>1,063,795.59</u>
<u>Maintenance</u>			
Structures and Improvements	24,195.10	34,417.59	21,362.39
Power Production Equipment	4,119.74	67,127.87	38.45
Pumping Equipment	86,599.26	81,396.95	69,879.87
	<u>114,914.10</u>	<u>182,942.41</u>	<u>91,280.71</u>
Water Treatment Expenses			
<u>Operation</u>			
Supervision and Engineering	56,306.62	53,017.57	53,852.46
Lead Testing Program	-	1,888.74	-
Chemicals	135,170.83	149,216.71	143,973.14
Labor	286,874.13	258,935.67	258,257.74
Miscellaneous Expense	34,420.63	49,054.94	21,248.31
	<u>512,772.21</u>	<u>512,113.63</u>	<u>477,331.65</u>
<u>Maintenance</u>			
Structures and Improvements	91,495.87	86,739.09	63,678.71
Water Treatment Expense	523,797.21	522,854.68	506,184.37
	<u>615,293.08</u>	<u>609,593.77</u>	<u>569,863.08</u>
	<u>2,276,674.81</u>	<u>2,434,402.67</u>	<u>2,211,922.31</u>
Transmission and Distribution Expenses			
<u>Operation</u>			
Supervision and Engineering	71,274.92	143,954.62	126,882.90
Transmission and Distribution Lines	49,456.15	57,573.90	24,249.88
Meter Expense	63,179.61	69,794.84	62,744.49
Customer Installation Expense	35,106.57	38,392.54	71,860.65
Miscellaneous Expense	534,367.27	488,431.00	485,763.94
	<u>753,384.52</u>	<u>798,146.90</u>	<u>771,501.86</u>
<u>Maintenance</u>			
Supervision and Engineering	21,401.00	23,249.93	29,853.62
Maintenance of Standpipes/Reservoirs	105,171.23	35,875.76	32,371.35
Transmission Mains	874,461.44	1,294,150.93	736,312.45
Services	256,472.23	326,184.35	176,690.84
Meters	46,336.56	45,284.81	44,365.21
Hydrants	56,259.64	42,598.32	45,410.77
	<u>1,360,102.10</u>	<u>1,767,344.10</u>	<u>1,065,004.24</u>
	<u>2,113,486.62</u>	<u>2,565,491.00</u>	<u>1,836,506.10</u>
Customer Account Expenses			
Customer Accounting and Collector	306,358.31	331,434.80	337,536.89
Meter Reading	60,249.01	71,768.47	66,937.75
	<u>366,607.32</u>	<u>403,203.27</u>	<u>404,474.64</u>
Administrative and General Expenses			
Administrative and General Salaries	202,965.86	172,465.81	166,001.42
Office Supplies and Expense	38,090.92	24,487.97	30,517.33
Outside Services Employed	189,100.64	185,104.02	162,601.02
Property Insurance	78,189.82	73,364.90	65,432.63
Employee Benefits and Pensions	1,557,453.76	1,064,991.47	996,047.69
Regulatory Commission Expense	12,643.76	12,019.14	195,947.82
Miscellaneous Expense	26,151.84	27,257.54	24,756.21
	<u>2,104,596.60</u>	<u>1,559,690.85</u>	<u>1,641,304.12</u>
Total Operation and Maintenance Expenses			
Utility Taxes	2,310,740.44	2,309,514.71	2,487,433.65
Depreciation	2,776,243.71	2,738,808.47	2,742,466.77
Total Operating Expenses	<u>\$ 11,948,349.50</u>	<u>\$ 12,011,110.97</u>	<u>\$ 11,324,107.59</u>

Water System Comparative Income Statement

	2015	2014	2013
Sales of Water			
Residential Water Sales	5,738,762.24	5,588,166.47	5,406,992.22
Commercial Water Sales	2,667,753.72	2,606,107.18	2,471,778.36
Industrial Water Sales	858,004.92	836,946.98	619,872.84
Total Unmetered Sales to General Public	\$ 9,456.86	\$ 10,992.42	\$ 6,158.38
Private Fire Protection	165,072.00	149,898.00	148,217.76
Public Fire Protection	1,325,246.09	1,293,946.74	1,195,278.29
Sales to Public Authorities	299,690.17	285,806.84	262,385.41
Sales for Resale	2,204,997.43	1,726,877.19	1,601,123.72
Sales to Irrigation Customers	4,752.11	4,233.34	3,332.93
Total Sales of Water	13,273,735.54	12,502,975.16	11,715,139.91
Other Operating Revenues			
Penalties	166,821.01	172,874.70	144,985.60
Other Water Revenue	67,542.89	69,041.06	71,563.79
Allocated Services	142,905.83	142,968.37	136,437.37
Miscellaneous Service Revenues	395,007.54	299,859.68	318,136.44
Total Other Operating Revenues	772,277.27	684,743.81	671,123.20
Total Operating Revenues	14,046,012.81	13,187,718.97	12,386,263.11
Operating Expenses			
Source of Supply	22,176.82	31,205.68	9,651.28
Power and Pumping Expense	1,126,432.70	1,281,489.59	1,155,076.30
Water Treatment Expense	1,128,065.29	1,121,707.40	1,047,194.73
Transmission and Distribution Expense	2,113,486.62	2,565,491.00	1,836,506.10
Customer Accounting and Collection Expense	366,607.32	403,203.27	407,474.64
Administrative and General Expense	2,104,596.60	1,559,690.85	1,641,304.12
Depreciation	2,776,243.71	2,738,808.47	2,742,466.77
Taxes	2,310,740.44	2,309,514.71	2,487,433.65
Total Operating Expenses	11,948,349.50	12,011,110.97	11,327,107.59
Utility Operating Income	2,097,663.31	1,176,608.00	1,059,155.52
Other Income			
Interest Earned	12,356.36	14,696.94	20,571.01
Miscellaneous Non-operating Income	2,745.34	9,348.45	3,734.11
Total Other Income	15,101.70	24,045.39	24,305.12
Operating and Other Income	2,112,765.01	1,200,653.39	1,083,460.64
Non-operating Expenses			
Interest on Long-term Debt	711,322.40	796,428.83	895,359.52
Amortization of Debt Expense	(65,976.78)	(76,438.58)	(88,651.15)
Total Non-operating Expenses	645,345.62	719,990.25	806,708.37
Net Income	\$ 1,467,419.39	\$ 480,663.14	\$ 276,752.27
Rate of Return on Average Investment (based on operating income & expense)	4.93%	3.06%	2.69%

**Water System
Utility Plant in Service
For the year ended December 31, 2015**

	Depr. Rate %	Cost of Plant 1/1/2015	2015 Additions	2015 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2015
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	3,775,410.45				3,775,410.45
Other Power Prod Equipment	4.00	577,490.71	236,309.72			813,800.43
Electric Pumping Equipment	3.33	3,878,397.65	54,875.00	170,293.14		3,762,979.51
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				1,315,428.19
Membrane Filtration Equipment	5.56	13,836,627.77				13,836,627.77
Transmission and Distribution						
Land	N/A	314,867.39				314,867.39
Reservoirs and Standpipes	1.86	6,195,422.40				6,195,422.40
Mains	0.93	48,119,669.89	2,449,068.05			50,568,737.94
Services	2.09	7,551,132.01	291,094.59	7,423.11		7,834,803.49
Meters	5.00	4,774,418.25	238,283.41	109,576.84		4,903,124.82
Hydrants	1.59	4,869,930.81	274,702.53	12,454.91		5,132,178.43
General Plant						
Furniture and Equipment	5.88	49,688.88		1,267.08		48,421.80
Computer Equipment	6.67-14.29	246,996.81	41,978.98		1,850.00	290,825.79
Transportation Equipment	12.86	1,276,247.39	144,990.00	55,570.00		1,365,667.39
Stores Equipment	5.88	1,497.75				1,497.75
Tools and Shop Equipment	5.88	308,962.71	3,575.92	6,409.85		306,128.78
Lab Equipment	5.88	103,690.02	6,313.70	4,016.79		105,986.93
Work (Power) Equipment	9.00	554,412.95	97,775.00	50,909.30		601,278.65
Communication Equipment	9.09	-				-
Telephone Equipment	20.00	41,180.70				41,180.70
SCADA System Equipment	10.00	692,506.89				692,506.89
Miscellaneous Equipment	5.88	167,375.95	36,790.30			204,166.25
Total		<u>\$ 111,081,016.18</u>	<u>\$ 3,875,757.20</u>	<u>\$ 417,921.02</u>	<u>\$ 1,850.00</u>	<u>\$ 114,540,702.36</u>

**Water System
Accumulated Depreciation
For the year ended December 31, 2015**

	Balance 1/1/2015	2015 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2015
Source of Supply						
Structures and Improvements	\$ 363,636.16	\$ 22,727.26				\$ 386,363.42
Collect and Impound Reservoirs	166,967.54	4,568.09				171,535.63
Lake Intakes	861,207.85	26,641.06				887,848.91
Supply Mains	100,674.80	8,155.47				108,830.27
Pumping Plant						
Land	-					-
Structures and Improvements	1,030,122.21	75,508.21				1,105,630.42
Other Power Prod Equipment	324,526.11	30,608.40				355,134.51
Electric Pumping Equipment	1,755,884.35	168,110.30	170,293.14			1,753,701.51
Other Pumping Equipment	7,238.71	380.46				7,619.17
Water Treatment						
Land	-					-
Structures and Improvements	3,289,078.47	169,000.64				3,458,079.11
Water Treatment Equipment	1,315,428.19					1,315,428.19
Membrane Filtration Equipment	9,276,065.54	830,197.67				10,106,263.21
Transmission and Distribution						
Land	-					-
Reservoirs and Standpipes	2,589,548.87	119,953.19				2,709,502.06
Mains	7,790,688.64	588,306.76				8,378,995.40
Services	3,433,448.35	160,783.03	7,423.11			3,586,808.27
Meters	1,566,851.43	266,132.43	109,576.84	9,936.49	1,510.00	1,734,853.51
Hydrants	1,413,306.18	110,264.84	12,454.91	22,809.61		1,533,925.72
General Plant						
Furniture and Equipment	35,777.52	2,845.21	1,267.08			37,355.65
Computer Equipment	118,962.75	41,133.35			1,850.00	161,946.10
Transportation Equipment	872,265.74	73,618.40	55,570.00	2,662.19	2,894.51	895,870.84
Stores Equipment	(54,285.25)					(54,285.25)
Tools and Shop Equipment	216,241.07	17,837.66	6,409.85			227,668.88
Lab Equipment	68,832.71	6,080.63	4,016.79			70,896.55
Work (Power) Equipment	349,217.98	27,296.48	50,909.30	6,150.00	(1,059.05)	330,696.11
Communications Equipment	(8,513.49)					(8,513.49)
Telephone Equipment	22,925.74	11,201.37				34,127.11
SCADA System Equipment	599,003.95	4,118.07				603,122.02
Miscellaneous Equipment	74,304.03	10,774.73				85,078.76
Total	<u>\$ 37,579,406.15</u>	<u>\$ 2,776,243.71</u>	<u>\$ 417,921.02</u>	<u>\$ 41,558.29</u>	<u>\$ 5,195.46</u>	<u>\$ 39,984,482.59</u>

Water System
Water System Revenue Refunding Bonds - Series 2008
Debt Service Schedule
December 31, 2015

Year	Interest Rate %	Principal	Interest		Total
		December 1	June 1	December 1	
2016	4.00% - 5.00%	2,250,000.00	223,550.00	223,550.00	2,697,100.00
2017	5.00%	2,350,000.00	176,875.00	176,875.00	2,703,750.00
2018	5.00%	4,725,000.00	118,125.00	118,125.00	4,961,250.00
Totals		\$ 9,325,000.00	\$ 518,550.00	\$ 518,550.00	\$10,362,100.00

**Water System
Advance from Municipality
Debt Repayment Schedule
December 31, 2015**

Year	Interest Rate %	Principal	Interest		Total
		April 1	April 1	October 1	
2016	5.590%	38,210.07	4,712.04	3,756.78	46,678.89
2017	5.760%	40,845.24	3,756.78	2,633.53	47,235.55
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		\$168,651.33	\$ 12,485.82	\$ 7,773.78	\$188,910.93

**Water System
Total Debt Repayment Schedule
December 31, 2015**

Year	Principal	Interest	Total
2016	2,288,210.07	455,568.82	2,743,778.89
2017	2,390,845.24	360,140.31	2,750,985.55
2018	4,768,480.42	240,267.00	5,008,747.42
2019	46,115.60	1,383.47	47,499.07
Totals	\$ 9,493,651.33	\$ 1,057,359.60	\$ 10,551,010.93

Distribution 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 2016

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

Subject: 2015 Annual Report for the Water Distribution and Sewer Collection Division

Dear Mr. St. Peter,

The 2015 Annual Report for the Water Distribution and Sewer Collection Division is hereby submitted. We completed 369 excavation projects last year, a decrease in fifty-eight when compared to 2014. This can be attributed to the much more mild winter when compared to the record setting winter associated with the “polar vortex” we experienced in 2014. In addition to excavation activities our Division cleaned 49.8 miles of sanitary sewer as part of our annual sewer flushing program.

Water Distribution System

The Distribution Division repaired 144 water main breaks in 2015, a 31% decrease from 2014. It should be noted that sixty-three main breaks, or 44% of the yearly total, occurred before April 1st. A related number of valves, fifty-nine, were also repaired or replaced in 2015, a slight increase from 2014. Additionally, twenty-five fire hydrants were repaired or replaced as well as seventy-two water services (including eighteen lead service replacements or abandonments).

Sanitary Sewer Collection System

Sewer projects in 2015 included the cleaning of nearly fifty miles of sewer main, an increase of 9% from 2014. Significant gains were also made as we televised and inspected 9.7 miles of sewer mains, resulting in a 55% increase over 2014. Direct work on the system remained fairly steady with 38 lateral repairs, seven sewer main repairs and eighteen manhole repairs.

Completing our work would be impossible without help from other KWU divisions. We’d like to thank the mechanics for keeping our equipment and vehicles in working order, Engineering Services for technical support and Business Services for communicating and coordinating with our customers. 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,

A handwritten signature in black ink that reads "John Rasch".

John Rasch
Director of Water Distribution and Sewer Collection



www.kenoshawater.org

Water Distribution Pipe System - 2015

<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	60,543
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	29,604
14"	Cast/Ductile Iron Pipe	8,311
12"	Cast/Ductile Iron Pipe	226,465
12"	Plastic Pipe	48,692
10"	Cast/Ductile Iron Pipe	16,265
8"	Cast/Ductile Iron Pipe	365,670
8"	Plastic Pipe	189,004
6"	Cast/Ductile Iron Pipe	706,673
6"	Plastic Pipe	7,049
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		1,915,221
Total Miles of Pipe		362.73

Water Services Added to System - 2015

<u>Number</u>	<u>Size</u>	<u>Material</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
297	1"	Copper Connections	791.13	234,964.17
5	1.5"	Copper Connections	1,567.81	7,839.05
1	4"	PVC	2,445.14	2,445.14
5	6"	PVC	2,656.71	13,283.56
11	8"	PVC	2,236.61	24,602.67
1	10"	PVC	4,443.00	4,443.00
1	12"	PVC	3,517.00	3,517.00
<u>321</u>		Total		<u>\$ 291,094.59</u>

Fire Hydrants Added to System - 2015

<u>Number</u>	<u>Type</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
76	Steamer	\$ 3,614.51	\$ 274,702.53

2015 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						
526	8" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 61st St - 50th Ave to 46th Ave	1,467.50	\$ 196,840.08	
530	8" & 12" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - Washington Rd to 43rd St	2,063.50	379,024.93	
536	6" & 8" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - 52nd St to 500 ft. North	501.00	91,567.00	
546	2" HDPE	R J Underground	60th St - 46th Ave to 48th Ave	595.00	38,792.53	
Subtotal				4,627.00	706,224.54	
Installed by Developers						
408	8" DI	Tirabassi	85th PI - 43rd Ave to East	350.00	19,004.81	
425	12" PVC	Rustoleum		2,169.00	102,234.03	
438	8", 12" & 16" PVC	KTR Wis III LLC	Amazon Fulfillment Center	5,018.00	438,757.09	
440	8" & 12" PVC	Meijer Stores Limited Partnership		2,005.00	206,304.27	
468	8" PVC		Adams Rd - 55th Ave to North	130.50	8,084.08	
472	8" & 12" PVC	Tyler's Ridge Subdivision		8,760.00	355,667.38	
477	8" PVC	Neuvillage Subdivision		2,400.00	96,312.67	
550	16" PVC	City of Kenosha	39th Ave - 18th St to 21st St	2,028.00	264,322.48	
591, 593, 594, 595, 596, 597 & 598	8" DI & 8" PVC	Tirabassi Heights Subdivision - 35th Ct - 85th St to 85th PI; 85th PI - 33rd Ave to 37th Ave; 34th Ave - 85th PI S thru CDS; 35th Ave - 85th PI S thru CDS; 36th Ave - 85th PI S thru CDS; 37th Ave - 86th St to 85th PI; 86th St - 36th Ave to 37th Ave		3,033.00	149,253.22	
Subtotal				25,893.50	1,639,940.03	
Grand total				30,520.50	\$ 2,346,164.57	
<u>By Pipe Size</u>						
546	2" HDPE	R J Underground	60th St - 46th Ave to 48th Ave	595.00	\$ 38,792.53	\$ 65.20
536	6" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - 52nd St to 500 ft. North	14.00	11,115.18	793.94
408	8" DI	Tirabassi	85th PI - 43rd Ave to East	350.00	19,004.81	
593, 594, 595, 596, 597 & 598	8" DI	Tirabassi Heights Subdivision - 35th Ct - 85th St to 85th PI; 85th PI - 33rd Ave to 37th Ave; 34th Ave - 85th PI S thru CDS; 35th Ave - 85th PI S thru CDS; 36th Ave - 85th PI S thru CDS; 37th Ave - 86th St to 85th PI		2,643.00	135,961.43	
Subtotal				2,993.00	154,966.24	51.78
438	8" PVC	KTR Wis III LLC	Amazon Fulfillment Center	614.00	18,354.25	
440	8" PVC	Meijer Stores Limited Partnership		1,616.00	142,905.09	
468	8" PVC		Adams Rd - 55th Ave to North	130.50	8,084.08	
472	8" PVC	Tyler's Ridge Subdivision		7,115.00	286,666.29	
477	8" PVC	Neuvillage Subdivision		2,400.00	96,312.67	
526	8" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 61st St - 50th Ave to 46th Ave	1,467.50	196,840.08	
530	8" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - Washington Rd to 43rd St	101.50	28,903.84	
536	8" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - 52nd St to 500 ft. North	487.00	80,451.82	
591	8" PVC	Tirabassi Heights Subdivision	86th St - 36th Ave to 37th Ave	390.00	13,291.79	
Subtotal				14,321.50	871,809.91	60.87
425	12" PVC	Rustoleum		2,169.00	102,234.03	
438	12" PVC	KTR Wis III LLC	Amazon Fulfillment Center	1,170.00	62,771.98	
440	12" PVC	Meijer Stores Limited Partnership		389.00	63,399.18	
472	12" PVC	Tyler's Ridge Subdivision		1,645.00	69,001.09	
530	12" PVC	A.W. Oakes and Son, Inc.	Water Main Relay, 39th Ave - Washington Rd to 43rd St	1,962.00	350,121.09	
Subtotal				7,335.00	647,527.37	88.28
438	16" PVC	KTR Wis III LLC	Amazon Fulfillment Center	3,234.00	357,630.86	
550	16" PVC	City of Kenosha	39th Ave - 18th St to 21st St	2,028.00	264,322.48	
Subtotal				5,262.00	621,953.34	118.20

**Distribution Division - Water
Operating & Maintenance Report - 2015**

Maintenance Completed

System	Maintenance Type	Quantity
Water Main Breaks	Circumferential	53
	Blow Out	68
	Joint Leaks	6
	Longitudinal	15
	Old Sleeve	–
	Other	2
Total Main Break Repairs		144
Valves	Reset/Replace Box (only)	2
	Replaced	33
	Repaired	21
	New Installation	–
	Removed/VBO	3
Total Valve Repairs		59
Water Services	Reset/Replace Box (only)	11
	Replaced (Lead Svcs: 14)	20
	Repaired	32
	Flow Test	–
	Shut at Main	4
Total Water Service Repairs		67
Hydrants	Replaced	13
	Repaired	10
	Relocated	2
	Abandoned	–
	New Installation	–
Total Hydrant Repairs		25
New Connections & Taps	1"	27
	1 1/2"	4
	2"	–
	4"	–
	6"	4
	8"	–
Total New Connections Installed		35

Meter Shop Request for Assistance: 107
Valves Operated: 1,020

Customer Complaints

(During Normal Work Hours)

Complaint	Quantity
Main Breaks	79
Hydrant Hit/Damaged	10
Hydrant Leaking	18
Service Repairs	11
Signs/Barricades Needed	2
Curb/Valve Box Repair	32
Water Taste/odor/color	16
Low Pressure	1
No Water	5
Service Turn-On	–
Service Turn Off	–
Temporary Road Patch	12
Utility Locates	–
Miscellaneous	25
Total	211

Customer Complaints

(After Normal Work Hours)

Complaint	Quantity
Main Breaks	93
Hydrant Hit/Damaged	6
Hydrant Leaking	8
Service Repairs	28
Signs/Barricades Needed	–
Curb box/Valve Box	4
Water Taste/odor/color	1
Low Pressure	5
No Water	20
Service Turn-On	9
Service Turn Off	29
Temporary Road Patch	1
Utility Locate	25
Miscellaneous	1
Total	230

Total Customer Complaints	441
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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 2016

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

Subject: 2015 Annual Report – Wastewater Treatment Division

Dear Mr. St. Peter,

We respectfully submit the 2015 Annual Report for the Kenosha Water Utility Wastewater Treatment Plant. This past year, the wastewater treatment plant treated 8.012 billion gallons of effluent. The average daily flow for the plant was 21.9 million gallons per day (MGD). 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 entire year to operate, maintain, and improve the wastewater treatment plant and the collection system. In 2015, the largest project was the construction and start-up of the energy optimization project. This took teamwork from the entire staff to learn all of new equipment and operate during the conversion to the new equipment and process. All of the processes were integrated into our SCADA system for easier tracking and monitoring. Some of the other large projects in 2015 included having a contractor rebuild and paint the oldest final clarifier and rebuild and repaint the pump station engine. Gate valves were repaired at the equalization basin. A phosphorous study and aeration system upgrade were performed by a consultant as well as a headworks and lift station study. Numerous lift station and plant pumps and check valves were inspected and repaired. The lab staff was busy with additional testing requirements due to the new equipment. 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.

Thank you for the opportunity to be a part of this team.

Sincerely,

A handwritten signature in black ink that reads 'Melissa Arnot'.

Melissa Arnot
Director of Operations

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

Katrina Karow
Director of Wastewater Treatment



www.kenoshawater.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						
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
2012	17.885	188	59	69	6.7	96
2011	22.872	161	62	61	7.9	95
Five-Day BOD						
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
2012	17.885	190	127	33	8.5	96
2011	22.872	171	108	37	11.7	93
Phosphorus						
2015	21.93	2.91	–	–	0.49	83
2014	21.303	2.95	–	–	0.48	84
2013	20.452	2.61	–	–	0.49	81
2012	17.885	3.08	–	–	0.54	82
2011	22.872	2.85	–	–	0.54	81

mg/L - milligrams per Liter

Summary

	2014	2015
Total wastewater pumped and treated	7,780,247,000	8,012,490,000
Total sludge to digesters - gallons	34,882,529	36,668,663
Total dry solids to digesters - pounds	10,105,790	10,986,137
Total dry volatile solids to digesters - pounds	7,598,608	8,359,717

Digester Data

Total gallons digested sludge removed	27,461,368	26,141,684
Percent dry solids	2.68	2.69
Total pounds dry solids removed	5,966,421	5,160,198
Percent volatile matter	53.8	53.6
Total dry volatile solids removed	3,204,509	2,765,866
Volatile solids destroyed, percent	57.8	66.9
Total gallons removed as supernatant	10,369,248	10,373,592
Percent supernatant solids	0.27	0.26
Total pounds supernatant solids removed	211,144	224,941
Percent supernatant volatile matter	53.2	54.2
Total pounds volatile solids, supernatant	111,640	121,918

Treatment Plant Data and Chemical Usage

	2014	2015
<u>Chemical Data</u>		
<u>Chlorine</u>		
Total pounds	91,576	97,556
Average pounds per day	251	267
Average residual, µg/L	< 100 µg/L	< 100 µg/L
<u>Sulfur Dioxide</u>		
Total pounds	78,679	90,871
Average pounds per day	216	249
<u>Ferric Chloride, Phosphorus</u>		
Total gallons	208,028	198,947
Average gallons per day	570	545
Average pounds of Fe per day	751	719
<u>Polymer</u>		
Tons	97	73
Pounds per pound of dry solids	0.03	0.025

Aeration

Settleable Solids - mg/L	311	278
Mixed Liquor Suspended Solids - mg/L	3,098	3,016
Dissolved Oxygen - mg/L	2.1	2.2
BOD lbs. applied per day	18,244	19,869

Thickener

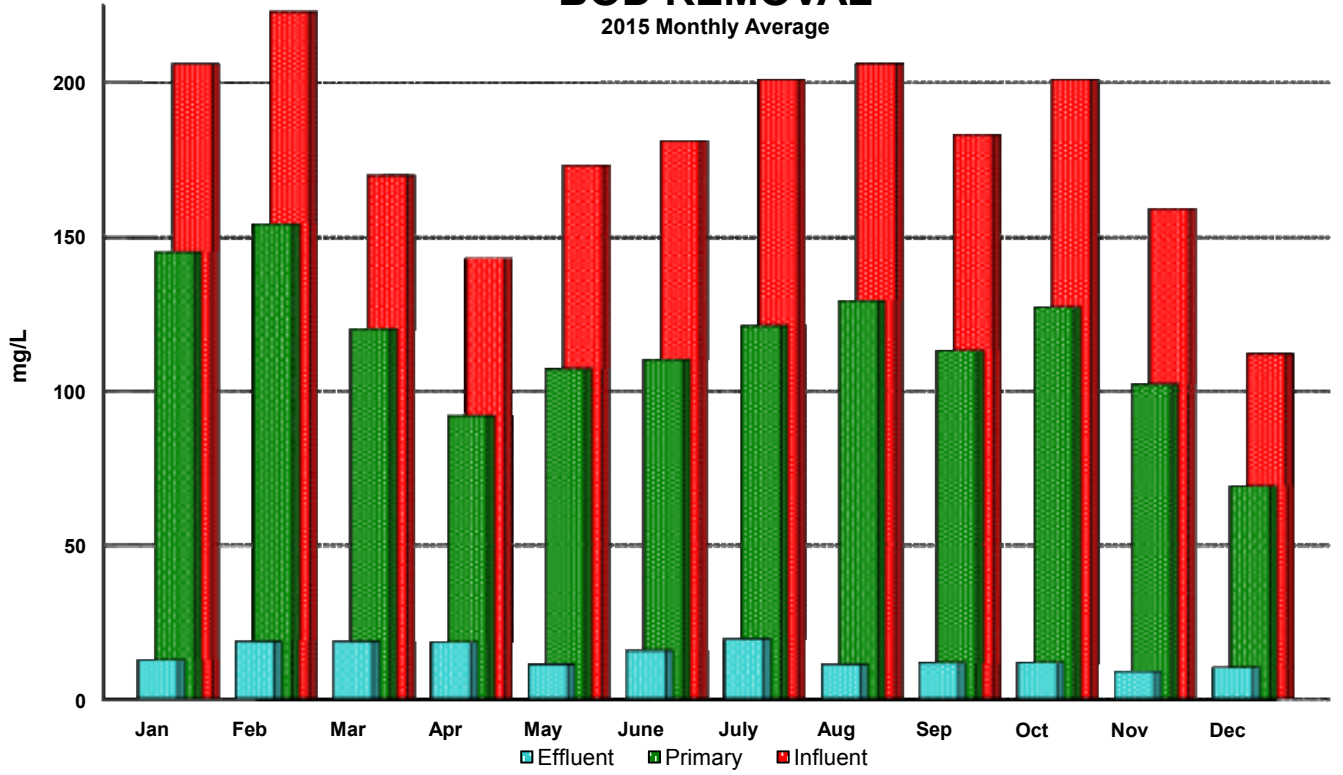
Waste Activated Sludge to Thickener, gallons/day	150,532	133,697
Waste Activated Sludge - % solids	0.96	1.12
Waste Activated Sludge - lbs/day	8,951	12,427
Thickened Sludge - % solids	4.1	4.1
Thickened Sludge - % volatile	72.3	73.1
Thickener Effluent - Suspended Solids - mg/L	553	422
Thickened Sludge - lbs dry solids/day	8,871	11,373
Thickened Sludge - gallons/day	24,766	33,424

mg/L - milligrams per Liter

µg/L - micrograms per Liter

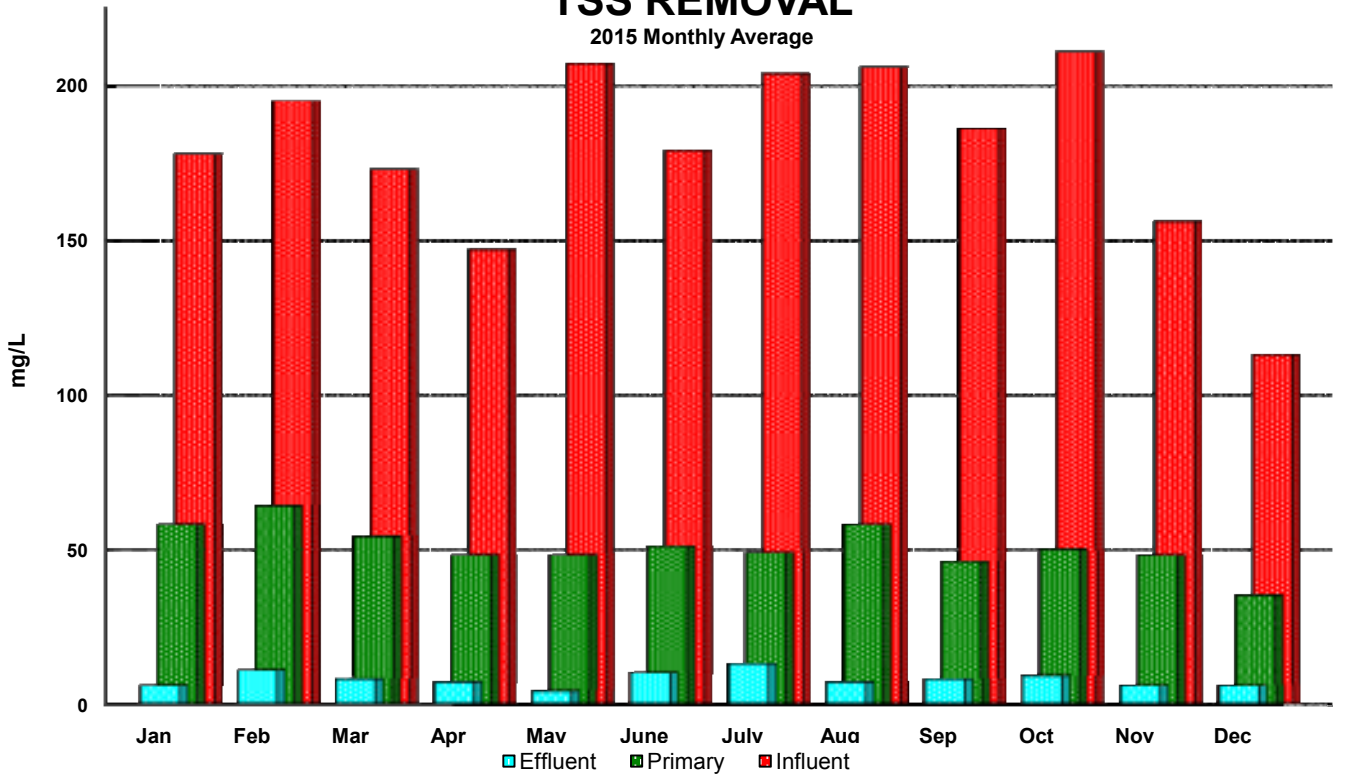
BOD REMOVAL

2015 Monthly Average



TSS REMOVAL

2015 Monthly Average



Wastewater Flow

Annual precipitation and average daily flow for the past five years

	<u>Precipitation, Inches</u>	<u>Average MGD</u>
2015	35.83	21.930
2014	33.20	21.303
2013	39.50	20.452
2012	25.70	17.885
2011	37.73	22.872

Supernatant

Gallons per day	67,361
Percent Solids	0.26
Pounds supernatant solids per day	1,461
Percent volatile	54.2

Sludge to Centrifuge

Gallons per day	117,755
Percent solids	2.69
Pounds per day	26,418
Percent volatile	53.6

Sludge off Centrifuge

Total tons	9,319
Percent solids	26.8
Centrate TSS, mg/l	134.0
Centrate pH	7.8

Solids Disposal

Tons of sludge to landfill, dry tons	2,493
Tons of grit to landfill	708

Annual Energy Usage

		<u>2014</u>	<u>2015</u>
Electricity	Total On and Off Peak kWh	7,174,591	7,479,235
	Total Demand kW	13,235	14,174
	Total cost	\$ 571,444	\$ 597,726
Natural Gas	therms	63,481	86,329
	Total cost	\$ 51,307	\$ 48,910
Methane gas produced by digesters	therms	372,840	356,855
Value of methane gas	Total	\$ 301,340	\$ 202,179

**Sewerage System
Plant Operating Data - 2015**

Month	Precip. Inches	Total Flow Raw Sewage MG	Average Daily Flow MGD	Maximum Daily Flow MGD	Day of Month	Power Cost
January	1.17	526.001	16.968	18.735	4	\$ 53,941
February	1.13	450.730	16.098	16.877	8	43,714
March	1.16	720.012	23.226	32.941	11	41,634
April	4.25	830.342	27.678	64.827	10	51,721
May	3.31	716.927	23.127	29.856	9	49,852
June	2.89	685.976	22.866	37.309	15	53,592
July	2.74	605.398	19.529	27.731	18	47,987
August	3.44	564.351	18.205	22.251	3	56,004
September	4.61	646.788	21.560	55.493	18	49,754
October	2.52	554.914	17.900	26.518	28	48,251
November	4.44	752.092	25.070	59.330	27	52,688
December	4.17	958.962	30.934	48.092	14	48,587
Total	35.83	8,012.493				\$ 597,725
Average	2.99	667.708	21.930	36.663		\$ 49,810

Monthly Averages

Month	BOD		TSS (mg/L)		Phosphorus (mg/L)		Total lbs. Dry Solids from Digester
	Influent	Effluent	Influent	Effluent	Influent	Effluent	
January	206	12.6	178	6.0	3.24	0.47	451,706
February	223	18.6	195	11.0	3.84	0.58	270,889
March	170	18.6	173	8.0	2.82	0.48	667,623
April	143	18.4	147	7.0	2.23	0.35	491,039
May	173	11.2	207	4.0	2.61	0.31	407,750
June	181	15.8	179	10.0	2.53	0.47	430,977
July	201	19.4	204	13.0	3.20	0.71	406,343
August	206	11.2	206	7.0	3.20	0.63	379,326
September	183	11.7	186	8.0	3.30	0.63	409,843
October	201	11.8	211	9.0	3.59	0.57	312,056
November	159	9.0	156	6.0	2.70	0.43	328,892
December	112	10.3	113	6.0	1.71	0.29	432,628
Average	180	14.1	180	7.9	2.91	0.49	415,756

2015 Sewer Main Installation Costs

Project	Size/ Type	Installer	Description	Footage	Total Costs	Cost per Foot
<u>By Job Number</u>						
Installed by Kenosha Water Utility						
619	15" PVC	A.W. Oakes and Son, Inc.	Sanitary Sewer Relay - 61st St - 50th Ave to 46th Ave	1,264.0	\$ 308,666.00	
641	10" PVC	A.W. Oakes and Son, Inc.	Sanitary Sewer Relay - North of 41st St & 24th Ave	222.0	39,775.00	
Subtotal				<u>1,486.0</u>	<u>348,441.00</u>	
Installed by Developers						
638	8", 10" & 12" PVC	KTR Wis III LLC	Amazon Fulfillment Center	4,743.0	332,033.25	
656, 658, 659, 660, 661, 662	8" ESVC	Tirabassi Heights Subdivision - 85th PI - 33rd Ave to 37th Ave; 34th Ave - 85th PI S thru CDS; 35th Ave - 85th PI S thru CDS; 36th Ave - 85th PI S thru CDS; 37th Ave - 86th St to 85th PI; 86th St - 36th Ave to 37th Ave		1,612.0	92,242.81	
725	8" PVC	Rustoleum		2,209.0	151,098.39	
750	8" PVC	Hampton Inn		473.0	22,660.45	
768	8" PVC		Adams Rd - 55th Ave to North	105.0	9,976.22	
772	8" & 10" PVC	Tyler's Ridge Subdivision		7,910.0	407,028.70	
Subtotal				<u>17,052.0</u>	<u>1,015,039.82</u>	
Grand Total				<u>18,538.0</u>	<u>\$ 1,363,480.82</u>	
<u>By Pipe Size</u>						
656, 658, 659, 660, 661, 662	8" ESVC		Tirabassi Heights Subdivision - 85th PI - 33rd Ave to 37th Ave; 34th Ave - 85th PI S thru CDS; 35th Ave - 85th PI S thru CDS; 36th Ave - 85th PI S thru CDS; 37th Ave - 86th St to 85th PI; 86th St - 36th Ave to 37th Ave	1,612.0	\$ 92,242.81	\$ 57.22
638	8" PVC	KTR Wis III LLC	Amazon Fulfillment Center	981.0	48,287.33	
725	8" PVC	Rustoleum		2,209.0	151,098.39	
750	8" PVC	Hampton Inn		473.0	22,660.45	
768	8" PVC		Adams Rd - 55th Ave to North	105.0	9,976.22	
772	8" PVC	Tyler's Ridge Subdivision		6,420.0	315,247.43	
Subtotal				<u>10,188.0</u>	<u>547,269.82</u>	53.72
641	10" PVC	A.W. Oakes and Son, Inc.	Sanitary Sewer Relay - North of	222.0	39,775.00	
638	10" PVC	KTR Wis III LLC	Amazon Fulfillment Center	2,146.0	155,423.76	
772	10" PVC	Tyler's Ridge Subdivision		1,490.0	91,781.27	
Subtotal				<u>3,858.0</u>	<u>286,980.03</u>	74.39
638	12" PVC	KTR Wis III LLC	Amazon Fulfillment Center	1,616.0	128,322.16	79.41
619	15" PVC	A.W. Oakes and Son, Inc.	Sanitary Sewer Relay - 61st St - 50th Ave to 46th Ave	1,264.0	308,666.00	244.20
Grand Total				<u>18,538.0</u>	<u>\$ 1,363,480.82</u>	

Distribution Division - Sanitary Sewer Operating & Maintenance Report - 2015

Maintenance Completed

System	Maintenance Type	Quantity
Sewer Main	Collapse	3
	Broken Pipe	—
	Joint Leaks	1
	Remove Flusher Nozzle	—
	Other	3
Total Sewer Main Repairs		7
Sewer Lateral	Collapse	21
	Broken Pipe	7
	Joint Leaks	6
	Broken at Wye	1
	Remove Parkway Trap	1
	Contractor Damage	—
	Other	2
Total Sewer Lateral Repairs		38
Manholes	Repaired	18
	Replace	—
	Remove/Abandon	—
Total Manhole Repairs		18

Total Sanitary Sewer Repairs	63
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Customer Complaints

(During Normal Work Hours)

Complaint	Quantity
Sewer back-up	154
Sink Hole	7
Sewer Odor	14
Storm Sewer Back-up	9
Televise Lateral	4
Manhole Problem	5
Utility Locate	3
Total	196

Customer Complaints

(After Normal Work Hours)

Complaint	Quantity
Sewer back-up	44
Sink Hole	4
Sewer Odor	2
Storm Sewer Back-up	1
Televise Lateral	-
Manhole Problem	2
Utility Locate	22
Total	75

Total Complaints	271
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Summary of Sewer Cleaning and Televising (feet)

Year	Sewer Cleaning	PM List	Televise	Grand Total
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
2011	325,955	28,965	19,678	374,598
2010	392,879	30,026	32,203	455,108

Sewage Collection Pipe System - 2015

<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	97,126
22"	Clay, Plastic, Steel	5,708
21"	Clay, Plastic	42,065
20"	Clay, Plastic, Steel	19,068
18"	Clay, Plastic, Steel	121,569
16"	Clay, Plastic	910
15"	Clay, Plastic, Steel	160,223
14"	Clay, Plastic	1,156
12"	Clay, Plastic, Steel	263,293
10"	Clay, Plastic, Steel	152,410
8"	Clay, Plastic, Steel	717,494
6"	Clay, Plastic	8,241
Total Feet of Pipe		1,774,228
Total Miles of Pipe		336.03

Sewerage System Income Statement – 2015

Sewerage Service Revenues

Residential Customers	\$ 4,365,421.60
Commercial Customers	2,241,532.46
Industrial Customers	1,034,706.26
Public Customers	206,191.13
Wastehaulers	263,868.92
Wholesale Customers	2,400,449.92
Industrial Monitoring	100,070.92

Total Sewerage Service Revenues 10,612,241.21

Other Operating Revenues

Engineering Services	1,427,360.84
Other Income	86,134.73
Penalties	130,462.93

Total Other Operating Revenues 1,643,958.50

Total Operating Revenues 12,256,199.71

Operating Expenses

Wastewater Treatment Operation and Maintenance	3,343,586.01
Collection System Operation and Maintenance	1,320,372.17
Laboratory Operations	282,134.42
Industrial Waste Monitoring	65,227.55
Engineering Services	1,392,828.51
Customer Accounting and Collection Expense	340,410.65
Administrative and General Expense	2,102,392.78
Depreciation	2,200,466.96
Taxes	52,630.56

Total Operating Expenses 11,100,049.61

Utility Operating Income 1,156,150.10

Other Income

Interest Income	188,016.34
Miscellaneous Income	29,128.71

Total Other Income 217,145.05

Non-operating Expenses

Interest on Long-term Debt	26,612.92
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Net Income before Capital Contributions 1,346,682.23

Capital Contributions 1,117,067.93

Net Income \$ 2,463,750.16

**Sewerage System
Statement of Net Position
December 31, 2015**

Assets		
Utility Plant		
Utility Plant in Service	\$ 134,673,006.31	
Work in Progress - Sewer Plant	11,818,922.09	
Work in Progress - Sewerage System	364,234.53	
Accumulated Depreciation	<u>(63,139,335.59)</u>	
Net Plant in Service		83,716,827.34
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		84,788,434.04
Current Assets		
Cash and Cash Equivalents	10,114,717.42	
Restricted cash equivalents	2,725,000.00	
Restricted cash - Storm Water Utility Collections	317,012.80	
Restricted Investments	110,000.00	
Customer Accounts Receivable	1,165,777.49	
Receivable from Municipality	621,779.28	
Unbilled Revenues	1,074,036.14	
Other Accounts Receivable	502,883.03	
Materials and Supplies	55,679.17	
Accrued Interest Receivable	97.96	
Other Current Assets	<u>3,057.50</u>	
Total Current and Accrued Assets		16,690,040.79
Noncurrent Assets		
Advance to Water Unit		5,000,000.00
Other Assets		
Assessments Receivable		5,067.06
Deferred Charges		2,649,317.85
Pension Asset - Wisconsin Retirement System		<u>595,717.35</u>
Total Other Assets		3,250,102.26
Total Assets		<u>109,728,577.09</u>
Deferred Outflow of Resources		
Deferred Pension Resourceses		<u>559,988.13</u>
Liabilities		
Current Liabilities		
Current Portion of Long Term Obligations	92,749.06	
Accounts Payable	579,812.57	
Accrued Interest Payable	2,609.58	
Current Portion of Advance from Municipality	38,857.43	
Current Portion of Accrued Compensated Absences	36,363.08	
Payable to Municipality	662,211.04	
Due to City of Kenosha - Storm Water Collections	317,012.80	
Deferred Credits	<u>43,132.38</u>	
Total Current and Accrued Liabilities		1,772,747.94
Non-current Liabilities		
Long-term Debt		
Advances from Municipality	132,651.24	
Clean Water Fund Loans	<u>401,334.71</u>	
Total Long-term Debt		533,985.95
Accrued Compensated Absences		192,263.80
Worker's Compensation Accrued Liability		153,127.00
Other Postemployment Benefits		<u>698,725.00</u>
Total Non-current Liabilities		1,578,101.75
Total Liabilities		<u>3,350,849.69</u>
Net Position		
Invested in Capital Assets, net of related debt	84,294,350.27	
Restricted for Debt Service	2,832,390.42	
Restricted for Pension	595,717.35	
Unrestricted	<u>19,215,257.49</u>	
Total Net Position		<u>\$ 106,937,715.53</u>

**Sewerage System
Comparative Operating and Maintenance Expenses**

	<u>2015</u>	<u>2014</u>	<u>2013</u>
Operating Expenses			
Supervision and Labor	\$ 410,829.25	\$ 394,733.68	\$ 414,977.33
Power for Pumping and Aeration	655,438.80	622,675.12	652,794.62
Disinfection Chemicals	57,087.00	56,244.00	50,030.00
Sludge Conditioning Chemicals	391,996.55	467,056.69	448,814.65
Other Chemicals for Sewage Treatment	13,397.09	5,663.59	4,437.85
Laboratory Operations	282,134.42	274,756.41	246,733.37
Industrial Waste Monitoring	65,227.55	58,823.14	67,574.11
Landfill Expense	434,498.15	439,716.85	440,507.50
Transportation Expense	100,403.82	88,615.42	76,960.78
	<u>2,411,012.63</u>	<u>2,408,284.90</u>	<u>2,402,830.21</u>
Maintenance Expenses			
Collection System Operation and Maintenance	1,320,372.17	1,395,082.62	1,243,234.27
Wastewater Treatment Maintenance	1,279,935.35	849,299.39	874,660.98
	<u>2,600,307.52</u>	<u>2,244,382.01</u>	<u>2,117,895.25</u>
Customer Account Expenses			
Customer Accounting and Collection	280,161.69	308,040.81	309,302.09
Meter Reading Expense	60,248.96	71,768.42	66,937.71
	<u>340,410.65</u>	<u>379,809.23</u>	<u>376,239.80</u>
Administrative and General Expenses			
Administrative and General Salaries	272,703.31	219,998.37	210,989.03
Engineering Services	1,392,828.51	1,430,656.06	1,217,003.89
Office Supplies and Expense	38,628.69	42,367.05	40,503.71
Outside Services Employed	284,518.43	294,209.84	322,545.63
Insurance Expense	142,014.39	130,719.33	190,965.62
Employee Benefits and Pensions	1,035,372.01	977,797.82	914,502.43
Meter Operations Expense	322,955.95	325,644.72	318,008.88
Loss on sale of equipment	-	211,185.00	-
Depreciation	2,200,466.96	2,126,883.86	2,186,740.58
Utility Taxes	52,630.56	52,980.29	56,398.35
Miscellaneous Expense	6,200.00	6,100.00	6,100.00
	<u>5,748,318.81</u>	<u>5,818,542.34</u>	<u>5,463,758.12</u>
Total Operating Expenses	<u>\$ 11,100,049.61</u>	<u>\$ 10,851,018.48</u>	<u>\$ 10,360,723.38</u>

Sewerage System Comparative Income Statement

	<u>2015</u>	<u>2014</u>	<u>2013</u>
Sewerage Service Revenue			
Residential Customers	\$ 4,365,421.60	\$ 4,298,136.36	\$ 4,417,094.78
Commercial Customers	2,241,532.46	2,177,288.49	2,219,844.66
Industrial Customers	1,034,706.26	1,001,044.04	1,058,155.79
Public Customers	206,191.13	205,673.00	202,736.15
Wastehaulers	263,868.92	278,933.49	204,993.62
Wholesale Customers	2,400,449.92	2,423,563.54	2,201,615.96
Industrial Monitoring	100,070.92	82,155.55	85,309.41
Total Sewerage Service Revenues	<u>10,612,241.21</u>	<u>10,466,794.47</u>	<u>10,389,750.37</u>
Other Operating Revenues			
Engineering Services	1,427,360.84	1,471,849.43	1,249,326.16
Other Income	86,134.73	86,606.12	86,082.52
Penalties	130,462.93	138,870.97	130,991.48
	<u>1,643,958.50</u>	<u>1,697,326.52</u>	<u>1,466,400.16</u>
Total Operating Revenues	12,256,199.71	12,164,120.99	11,856,150.53
Operating Expenses			
Wastewater Treatment Operation and Maintenance	3,343,586.01	2,924,004.74	2,963,183.71
Collection System Operation and Maintenance	1,320,372.17	1,395,082.62	1,243,234.27
Laboratory Operations	282,134.42	274,756.41	246,733.37
Industrial Waste Monitoring	65,227.55	58,823.14	67,574.11
Engineering Services	1,392,828.51	1,430,656.06	1,217,003.89
Customer Accounting/Meter Reading Expense	340,410.65	379,809.23	376,239.80
Administrative and General Expense	2,102,392.78	1,996,837.13	2,003,615.30
Loss on Sale of Equipment	-	211,185.00	-
Depreciation	2,200,466.96	2,126,883.86	2,186,740.58
Taxes	52,630.56	52,980.29	56,398.35
Total Operating Expenses	<u>11,100,049.61</u>	<u>10,851,018.48</u>	<u>10,360,723.38</u>
Net Operating Income	1,156,150.10	1,313,102.51	1,495,427.15
Non-operating Revenue			
Interest Income	188,016.34	186,905.77	187,157.97
Performance Bond Recovery	-	4,444,574.00	-
Miscellaneous Income	29,128.71	5,248.64	42,538.54
Total Non-operating Revenue	<u>217,145.05</u>	<u>4,636,728.41</u>	<u>229,696.51</u>
Operating Income and Other Revenue	1,373,295.15	5,949,830.92	1,725,123.66
Non-operating Expenses			
Interest on Long-term Debt	26,612.92	31,083.31	40,360.30
Amortization of Debt Expense	-	-	-
Total Non-operating Expenses	<u>26,612.92</u>	<u>31,083.31</u>	<u>40,360.30</u>
Net Income	<u><u>\$ 1,346,682.23</u></u>	<u><u>\$ 5,918,747.61</u></u>	<u><u>\$ 1,684,763.36</u></u>
Rate of Return on Average Investment (based on WWTP net operating income)	3.57%	3.96%	4.24%
Rate of Return on Average Investment (after debt service payment)	3.49%	3.86%	4.12%

**Sewerage System
Utility Plant in Service
For the year ended December 31, 2015**

	Depr. Rate %	Cost of Plant 1/1/2015	2015 Additions	2015 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2015
Collection System						
Land	N/A	\$ 124,713.31	\$531.00			\$ 125,244.31
Structures and Improvements	2.94	-				-
Service Connections	2.00	1,904,640.65				1,904,640.65
Collecting Mains	1.00	45,171,740.00	1,363,480.82	959.14		46,534,261.68
Interceptor Mains	1.00	27,142,083.25				27,142,083.25
Force Mains	1.00	1,336,740.49				1,336,740.49
Collection Equipment	4.00	1,354,782.61		1,980.00		1,352,802.61
Collection Pumping System						
Land	N/A	129,783.09				129,783.09
Structures and Improvements	2.50	5,930,997.79				5,930,997.79
Receiving Wells	2.50	5,523,470.40				5,523,470.40
Electric Pumping Equipment	5.33	8,842,978.95	37,223.00			8,880,201.95
Other Power Pumping Equip.	4.00	225,517.45	150,845.93			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	8,335,141.26		105,076.57		8,230,064.69
Preliminary Equipment	3.80	523,370.16				523,370.16
Primary Treatment Equipment	2.97	4,164,657.81				4,164,657.81
Secondary Treatment Equip.	3.53	6,560,530.87	61,396.60	21,006.34		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	6,052,504.74		24,891.66		6,027,613.08
Flow Metering and Monitoring	4.44	234,158.36		7,565.49		226,592.87
Outfall Sewer	2.31	1,179,759.13				1,179,759.13
Engineering Equipment						
Furniture and Equipment	5.88	41,021.15				41,021.15
Computer Equipment	6.67-14.29	145,978.63		60,703.00	(1,850.00)	83,425.63
Transportation Equipment	14.28	443,375.95		62,145.50		381,230.45
Engineering Equipment	5.88	23,243.32	3,586.25	583.80		26,245.77
Communication Equipment	9.09	(1,610.32)				(1,610.32)
Telephone Equipment	20.00	6,355.76				6,355.76
Miscellaneous Equipment	5.88	-				-
General Plant & Equipment						
Land	N/A	686,629.54				686,629.54
Structures and Improvements	2.50	2,090,370.17	26,096.03			2,116,466.20
Furniture and Equipment	5.88	102,167.49				102,167.49
Computer Equipment	6.67-14.29	65,870.34	11,510.20			77,380.54
Transportation Equipment	12.86	1,921,858.86		50,650.50		1,871,208.36
Work (Power) Equipment	9.00	346,193.09	17,875.00			364,068.09
Tools and Shop Equipment	5.88	262,755.45		9,004.85		253,750.60
Lab Equipment	5.88	159,942.78	15,226.50			175,169.28
Communication Equipment	9.09	7,298.00	2,228.00			9,526.00
SCADA System Equipment	9.20	206,432.13	12,546.82			218,978.95
Telephone Equipment	20.00	9,755.97				9,755.97
Miscellaneous Equipment	5.88	174,529.84	58,685.91			233,215.75
Total		\$ 133,258,191.10	\$ 1,761,232.06	\$ 344,566.85	(\$ 1,850.00)	\$ 134,673,006.31

**Sewerage System
Accumulated Depreciation
For the year ended December 31, 2015**

	Balance 1/1/2015	2015 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2015
Collection System						
Land	-					-
Structures and Improvements	\$ 0.00					\$ 0.00
Service Connections	792,431.17	38,092.81				830,523.98
Collecting Mains	11,738,780.60	464,736.65	959.14			12,202,558.11
Interceptor Mains	5,491,810.87	272,866.97				5,764,677.84
Force Mains	194,941.45	13,367.40				208,308.85
Collection Equipment	706,064.01	67,689.63	1,980.00			771,773.64
Collection System Pumping						
Land	-					-
Structures and Improvements	3,706,007.96	118,619.96				3,824,627.92
Receiving Wells	2,702,999.23	183,931.56				2,886,930.79
Electric Pumping Equipment	8,842,978.95	37,223.00				8,880,201.95
Other Power Pumping Equip.	145,014.29	15,047.02				160,061.31
Miscellaneous Pumping Equip.	10,324.97	1,550.00				11,874.97
Treatment and Disposal						
Land	-					-
Structures and Improvements	6,450,512.92	165,652.06	105,076.57			6,511,088.41
Preliminary Equipment	153,344.13	20,934.81				174,278.94
Primary Treatment Equipment	3,358,352.13	138,683.11				3,497,035.24
Secondary Treatment Equip.	6,560,530.87	61,396.60	21,006.34			6,600,921.13
Advanced Treatment Equip.	73,299.62	8,929.25				82,228.87
Chlorination Equipment	1,243,141.30					1,243,141.30
Sludge Treatment & Disposal	5,212,033.84	302,002.95	24,891.66			5,489,145.13
Flow Metering and Monitoring	151,158.67	15,366.05	7,565.49			158,959.23
Outfall Sewer	823,134.68	29,493.98				852,628.66
Engineering Equipment						
Furniture and Equipment	32,149.44	2,498.14				34,647.58
Computer Equipment	64,461.73	12,051.78	60,703.00		(344.26)	15,466.25
Transportation Equipment	312,105.22	17,183.56	62,145.50	6,938.92	(724.07)	273,358.13
Engineering Equipment	13,815.95	1,531.95	583.80			14,764.10
Communication Equipment	(1,610.32)					(1,610.32)
Telephone Equipment	-	1,271.15				1,271.15
Miscellaneous Equipment	(253.22)					(253.22)
General Plant & Equipment						
Land	-					-
Structures and Improvements	539,295.41	42,068.36				581,363.77
Furniture and Equipment	52,875.95	5,925.71				58,801.66
Computer Equipment	37,626.01	9,345.46				46,971.47
Transportation Equipment	1,365,337.13	76,131.32	50,650.50	7,930.11	(2,865.06)	1,395,883.00
Work (Power) Equipment	259,983.18	18,547.85				278,531.03
Tools and Shop Equipment	161,139.96	14,978.68	9,004.85			167,113.79
Lab Equipment	50,817.42	9,718.25				60,535.67
Communication Equipment	7,298.00	1,261.80				8,559.80
SCADA System Equipment	9,495.88	19,568.91				29,064.79
Telephone Equipment	8,780.36	975.61				9,755.97
Other Equipment	2,320.08	11,824.62				14,144.70
Total	\$ 61,272,499.84	\$ 2,200,466.96	\$ 344,566.85	\$ 14,869.03	(\$ 3,933.39)	\$ 63,139,335.59

**Clean Water Fund Project #4003-07
Loan Payment Schedule
Equalization Basin Modification
December 31, 2015**

<u>Year</u>	<u>Principal</u>	<u>Interest</u>		<u>Total</u>
	<u>May 1</u>	<u>May 1</u>	<u>November 1</u>	
2016	92,749.06	7,828.75	6,359.15	106,936.96
2017	95,688.28	6,359.15	4,842.97	106,890.40
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>\$ 494,083.77</u>	<u>\$ 23,974.55</u>	<u>\$ 16,145.80</u>	<u>\$ 534,204.12</u>

Interest rate is 3.169%

**Sewerage System
Advance from Municipality
Debt Repayment Schedule
December 31, 2015**

<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>	
2016	5.590%	38,857.43	4,791.84	3,820.42	47,469.69
2017	5.760%	41,537.26	3,820.42	2,678.15	48,035.83
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>\$171,508.67</u>	<u>\$ 12,697.32</u>	<u>\$ 7,905.48</u>	<u>\$192,111.47</u>

**Sewerage System
Total Debt Repayment Schedule
December 31, 2015**

<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2016	131,606.49	22,800.16	154,406.65
2017	137,225.54	17,700.69	154,926.23
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>\$ 665,592.44</u>	<u>\$ 60,723.15</u>	<u>\$ 726,315.59</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 2016

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

Subject: 2015 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 DNR through our wastewater treatment plant discharge permit. The DNR 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 wastewater treatment plant effluent and sludge continue to meet or exceed discharge limits. The wastewater sludge is locally landfilled and 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.kenoshawater.org

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

POTW Influent: average pounds/day

Year	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Mercury
1997	< 0.06	0.49	5.6	2.0	1.2	16.1	
1998	< 0.08	0.52	9.2	3.0	2.9	22.0	
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	0.7	22.7	0.010

* 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
1997	< 0.06	< 0.11	0.9	1.4	0.11	4.3	
1998	< 0.06	< 0.1	1.0	1.4	0.17	4.8	
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

**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
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 2016

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

Subject: 2015 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 seventeen collection events throughout the year. As in past years, it was well received. The number of residents disposing waste per event ranged from 17 (November 21, snow storm) to 152 (November 7) with an average of 94 per event. The total number of participants in 2015 was 1,597.

Respectfully Submitted,

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

Katrina Karow
Director of Wastewater Treatment



www.kenoshawater.org

Kenosha Household Hazardous Waste Program Participation

2015 Collection Dates and Number of Participants

February 7	65 participants
March 7	53 participants
April 4	99 participants
May 2	146 participants
May 16	69 participants
June 6	144 participants
June 20	78 participants
July 18	89 participants
August 1	113 participants
August 15	82 participants
September 5	126 participants
September 19	76 participants
October 3	122 participants
October 17	87 participants
November 7	152 participants
November 21	17 participants
December 5	79 participants
Total Participants	1,597

The program averaged 92 participants per collection day.

Household Hazardous Waste Unit Comparative Income Statement

	<u>2015</u>	<u>2014</u>	<u>2013</u>
Operating Revenue			
Residential	\$ 167,353.35	\$ 167,326.67	\$ 167,377.55
Stormwater Administration	14,040.00	14,040.00	14,040.00
Penalties	4,079.80	4,340.19	4,030.14
Total Operating Revenue	185,473.15	185,706.86	185,447.69
Operating Expenses			
Labor and Supplies	38,363.59	43,111.00	41,922.28
Outside Disposal Service	40,565.77	37,548.88	33,968.20
Costs Allocated from Other Funds:			
Wages	67,992.90	67,297.35	66,239.18
Postage	7,527.73	7,501.70	8,292.62
Other	16,858.07	3,253.45	2,923.77
Depreciation	3,063.84	3,125.24	3,125.24
Total Operating Expenses	174,371.90	161,837.62	156,471.29
Operating Income	11,101.25	23,869.24	28,976.40
Other Income			
Interest Income	201.61	148.78	170.69
Net Income	\$ 11,302.86	\$ 24,018.02	\$ 29,147.09

**Household Hazardous Waste Unit
Statement of Net Position
December 31, 2015**

Assets		
Utility Plant		
Plant in Service	\$ 77,230.31	
Work in Progress	5,413.61	
Accumulated Depreciation	<u>(21,327.55)</u>	
Net Plant in Service		61,316.37
Current Assets		
Cash	326,469.48	
Accounts Receivable	26,822.62	
Receivable from Municipality	19,785.48	
Unbilled Revenues	<u>20,951.25</u>	
Total Current Assets		394,028.83
Other Assets		
Pension Asset - Wisconsin Retirement System		5,874.60
Total Assets		<u>461,219.80</u>
Deferred Outflow of Resources		
Deferred Pension Resources		<u>5,522.25</u>
Liabilities		
Current and Accrued Liabilities		
Accounts Payable	12,930.55	
Payable to Municipality	<u>2,050.73</u>	
		14,981.28
Total Liabilities		<u>14,981.28</u>
Net Position		
Invested in Capital Assets	61,316.37	
Restricted for Pension	5,874.60	
Unrestricted	<u>384,569.80</u>	
Total Net Position		<u>\$ 451,760.77</u>

**Household Hazardous Waste Unit
Plant in Service and Accumulated Depreciation
For the year ended December 31, 2015**

		Plant in Service				
	Depr. Rate %	Cost of Plant 1/1/2015	2015 Additions	2015 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2015
General Plant						
Structures and Improvements	4.00	\$ 76,398.31	-	-	-	\$ 76,398.31
Equipment	8.33	832.00	-	-	-	832.00
Total		<u>\$ 77,230.31</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 77,230.31</u>

		Accumulated Depreciation				
	Balance 1/1/2015	2015 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2015
General Plant						
Structures and Improvements	\$ 17,439.62	3,055.93	-	-	-	\$ 20,495.55
Equipment	824.09	7.91	-	-	-	832.00
Total	<u>\$ 18,263.71</u>	<u>3,063.84</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 21,327.55</u>