NEW Water

The brand of the Green Bay Metropolitan Sewerage District

2018 ANNUAL REPORT

NEW Water Leadership

Commission

Row one, left to right:

Kathryn Hasselblad, President, Term Ends: 12/31/21
James Blumreich, Secretary, Term Ends: 12/31/19
Tom Meinz, Vice President, Term Ends: 12/31/23
Mark Tumpach, Vice President, Term Ends: 12/31/20
Lee Hoffmann, Vice President, Term Ends: 12/31/22

Executive Staff

Row two, left to right:

Trisha Brown, Human Resources Manager
Brian Vander Loop, Director of Business Services
Nathan Qualls, P.E., Director of Technical Services
Patrick Wescott, Director of Operations
Jeff Smudde, Director of Environmental Programs

Front cover: Pollinators thrive thanks to native plantings at a new stormwater pond at NEW Water's Green Bay Facility. This is one of many examples of a sustainable approach to our most valuable resource, water.

Photo by Tricia Garrison

View an interactive Flipbook of this Annual Report online!
www.newwater.us/about

Look for this icon throughout this report - which signifies videos featured on our YouTube Channel (www.youtube.com/user/gbmsd)

A Message from the Executive Director

From Compliance to Innovation

As NEW Water looks back at 2018, we embrace a future with sustainability principles to propel us from compliance to innovation. With a proud history of protecting public health through efficient and effective conveyance and treatment of wastewater, we demonstrate our commitment to community service through our vision: "Protecting our most valuable resource, water." That vision illustrates the hard work that goes into achieving 16 years of 100% permit compliance at the Green Bay Facility and seven years at the De Pere Facility.

On the journey to become a Utility of the Future among clean water agencies in our industry, we have adopted a set of unified organizational cultural attributes:

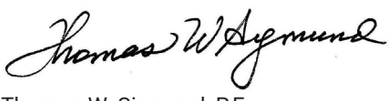
- **Safety** is our most important value
- We **Respect** and value diverse individuals and values
- One **Team** that communicates openly and honestly while encouraging and supporting one another in achieving common goals
- Leaders in the **Environment** always looking beyond compliance

Launched in 2018, our Resource Recovery and Electrical Energy (R2E2) project moved beyond compliance to recover and reuse valuable resources. The R2E2 facilities generate electricity from digester gas, recover heat energy, and recover phosphorus in the form of struvite to be reused as a slow-release agricultural fertilizer. This project was NEW Water's first significant foray into resource recovery, and shifted our utility from that of a consumer of resources to a producer.

Through our Silver Creek Pilot Project, which neared completion in 2018, we learned a plethora of valuable lessons in agricultural best management practices to give us the confidence to move full scale into an Adaptive Management Program. This program allows us to achieve permit compliance at a lower cost, and also yields more benefit for the environment. Working in the 31,000 acres in the Dutchman and Ashwaubenon Creeks, our program will span 20 years, and save our customers over $50 million compared to traditional compliance alternatives.

Collectively, these activities and others provide NEW Water with the solid foundation necessary to launch the next era in our evolution as a regional clean water utility.

Like so many utilities in our shared and proud industry, working out of sight and out of mind is no longer an option. Our communities demand, and deserve, more. Treading the path to become a Utility of the Future is an arduous journey requiring great fortitude, perseverance, and introspection. Given the great responsibility we have to the communities we serve, it is one well worth the effort as we continue protecting our most valuable resource, water.



Thomas W. Sigmund, P.E.

Our Most Valuable Asset: Our Staff

New Hires

Sara Georgel — Pretreatment Program Coordinator

Jaci Valenta — Administrative Assistant II

Julie Rosinsky — LTE Administrative Assistant

Adam Butry — Health, Safety & Security Coordinator

Kayli Van Effen — LTE Operator-in-Training

Simon Yang — IT Support Specialist

Job Changes

Kim Schwake — LTE Operator to Operator-in-Training

Ryne Koehler — LTE Operator to Operator-in-Training

Brian Shikoski — Mechanic to Electrical & Instrumentation Apprentice

Jeff Smudde — Watershed Programs Manager to Director of Environmental Programs

Ethan Wanderseee — Operator-in-Training to Operator

Retirements

Curt Schweiner — Electrical & Instrumentation Technician

Tom Nitka — Operator

Terri Lealou — Administrative Assistant II

Pat Linssen — Utility Worker

Emerging Utility Leaders Program

Congratulations to the graduates of this water utility leader program! Matt Schmidt and Jake Becken (2017); Lisa Sarau and Pat Smits (2018).

NEW Water Peer Awards

Peer Excellence Award — Mike Wells, *for excellence in adhering to NEW Water's culture attributes of Safety, Respect, Team, and Environment*

Jack Day Award — Jeff Czypinski *for honoring the spirit and commitment of visionary Dr. Harold "Jack" Day, former NEW Water Commission President*

Staff Honored by National Water Peers

Photo right, left to right:

Tom Sigmund received the Water Environment Federation (WEF) William D. Hatfield Award for outstanding performance and professionalism in the operation of a wastewater treatment facility; Craig Lawniczak received the Central States Water Environment Association Operations Award for Wisconsin in recognition of outstanding wastewater treatment plant operation; Erik Hepp received the WEF Laboratory Excellence Award that recognizes an individual for outstanding performance, professionalism, and contributions to the water quality analysis profession.

NEW Watershed Champion: Kelly Ellis

NEW Water teamed up with the Green Bay Water Utility for the fifth annual World Water Day event, to call attention to water issues in Northeast Wisconsin, and to celebrate efforts to improve water quality.

Kelly Ellis was presented the NEW Watershed Champion award for her contributions to advance educational opportunities in science, technology, engineering and mathematics (STEM), through her role as Executive Director of the Einstein Project, and founder of the Greater Green Bay STEM Network. STEM skills are essential to effectively care for, and manage, our precious water resources.

"We are blessed to live in a region where it isn't hard to encourage individuals and organizations to work together to amplify efforts and to create a bigger impact," said Ellis. "The Greater Green Bay STEM Network continues to grow through new strategic partnerships, which fosters the sharing of our community's precious resources."

To learn more, visit www.einsteinproject.org and www.greatergbstem.org

Photo top, left to right: Tom Sigmund, Chancellor Gary Miller (University of Wisconsin-Green Bay), Troy Streckenbach (Brown Country Executive), Kelly Ellis, Jim Schmitt (Green Bay Mayor), Nancy Quirk (Green Bay Water Utility General Manager).

Photo right: NEW Water partners with many organizations, including the Einstein Project, on educational initiatives about our most valuable resource, water.

13,608,860,000

gallons of clean water returned to the Fox River from NEW Water's Green Bay and De Pere Facilities

Reducing Our Carbon Footprint

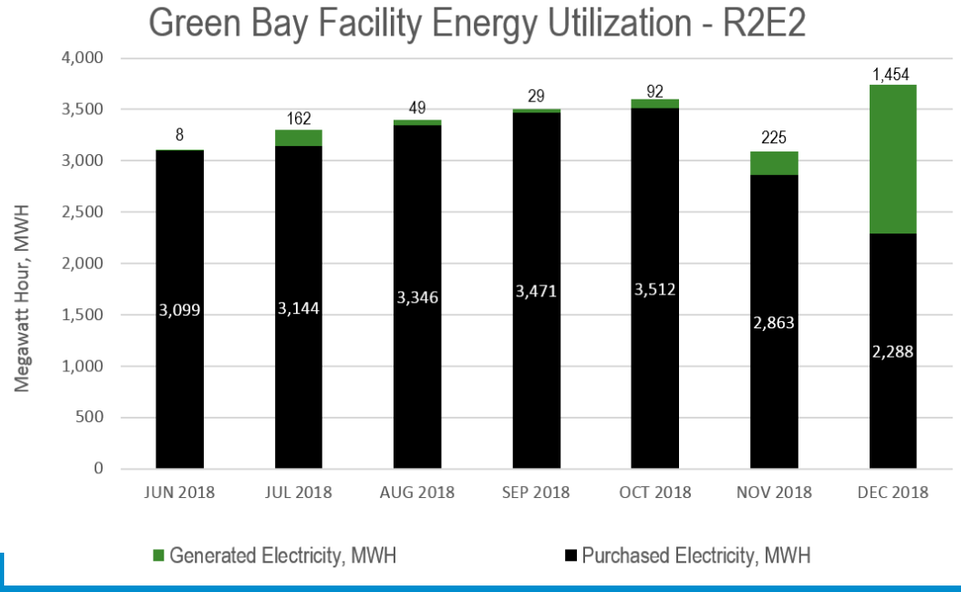
R2E2 Launch

In 2018, NEW Water launched the new Resource Recovery and Electrical Energy Facility (R2E2), which embraces principles of sustainability to manage solids handling. Through this project, NEW Water expects to reduce greenhouse gas emissions by approximately 22,000 metric tons per year, the equivalent of removing 4,600 vehicles from roads. R2E2 incorporates a number of new technologies into one system: Anaerobic digestion, fluid bed incineration, and nutrient harvesting. By the end of 2018, NEW Water was producing nearly 40% of its own electricity for the Green Bay Facility, well on its way to its goal of 50%, thanks to the new system. The graph below shows the trajectory of energy production.

"This approach represents a new era in resource recovery for this organization, and this community. It's the ability to take what others consider waste, and recover value for our customers," said Tom Sigmund, Executive Director.

Photos feature the R2E2 media event held at NEW Water in 2018 to celebrate the official launch of the facility. The top photo features the ribbon cutting, from left to right: State Rep. John Macco, State Sen. Robert Cowles, State Sen. Dave Hansen, NEW Water Commissioner Tom Meinz, Brown County Executive Troy Streckenbach, Tom Sigmund, U.S. Rep. Mike Gallagher, and Kurt Hellerman of CH2M (now Jacobs).

Energy Production Report: By the end of 2018, electrical production increased to 40%, reducing the need for purchased energy.



Teamwork for More Sustainable Service

In order to provide the nonstop service our community has come to expect, NEW Water's staff collaborate on cross-departmental and cross-divisional initiatives to work more efficiently, cost effectively, and to move beyond compliance to protect area waters.

In 2018, staff rallied to get R2E2 operational, conducting 1,000s of hours of training to learn a plethora of new processes, equipment, and systems. By year's end, staff simultaneously started up the new system, and shut down the old system, with no interruption of service to the community. "NEW Water staff have demonstrated their skill and commitment at every opportunity in this project," Sigmund said.

Staff continually strive to find ways to work smarter and more cost effectively, from Lean Projects to joint goals.

In 2018, the Business Services Division led a project to refinance a general obligation bond resulting in $800,000 savings to ratepayers, over the remaining life of the 10-year bond.

600
pumps throughout our facilities keep water flowing

In 2018, NEW Water achieved
100% PERMIT COMPLIANCE
for 16 years in a row

4,408
work orders to keep our processes running smoothly

NEW Water teamwork in action, clockwise from top left: Tricia Garrison (Public Affairs & Education [PA&E] Manager), Patrick Wescott (Director of Operations), Erin Schroth (PA&E Specialist); Julie Maas (Environmental Compliance Specialist), Rob Bocik (Treatment Operator); Don Brice (Mechanic), Bobby Zepnick (Mechanic Apprentice), Todd Wanta (Electrical & Instrumentation [E&I] Technician), Kayli Van Effen (Operator-in-Training); Paul Schmidt (Mechanic) Bobby Zepnick; Marty Pyke (E&I Leader), Todd Wanta; Terri Lealou (Administrative Assistant II); Don Brice, Dalton Aderholdt (Mechanic Apprentice); Bob Brown (Engineer), Jason Swoboda (Mechanic), Todd Wanta.

"What if we banded together for water?" This video posits that we can accomplish more by partnering for water. The video won the 2018 Public Information & Education Award from the National Association of Clean Water Agencies.

Community Connection & Outreach

NEW Water leverages the power of brand, partnerships, and story to inform, engage, and inspire our community.

In 2018, experiential engagement efforts included tours and hands-on educational activities. Children from the Boys & Girls Club of Greater Green Bay used STEM skills to defeat evil villains at the annual "STEM Superheroes Camp." High school students conducted scientific field work as part of outreach for the Silver Creek Project. In partnership with the University of Wisconsin-Green Bay (UWGB), NEW Water staff helped area Girl Scout troops earn "Wonders of Water" badges. More than 4,000 visited NEW Water's #OneWater booth at the Einstein Expo, where children enjoyed STEM activities while adults engaged in a water perception survey. Asked to rank what they value most about their water services, 59% said health and sanitation; 30% said reliability; 5% said environmental protection; 4% said cost; 2% said support of economic development.

"We are extremely grateful to partner with NEW Water for the 'WOW! Wonders of Water Journey' for Brownie Girl Scouts ... The partnership allows our girls to have a creative, hands-on learning experience delivered by the expert role models like the women engineers and scientists at NEW Water!"

*~ **Karmen Lemke**, Chief Executive Officer, Girl Scouts of the Northwestern Great Lakes*

900+ people toured NEW Water

Caring for Our Community

NEW Water staff donate their resources and talents to numerous community charities and causes including the United Way, American Red Cross, Northeast Wisconsin Veteran's Treatment Court, Veteran's Manor, Paul's Pantry, area school districts, and the Einstein Project.

Photos left page, top to bottom: Science fun at STEM Superheroes camp; Lisa Sarau (Engineer), Erin Schroth (PA&E Specialist) with Girl Scouts.

Right page, clockwise from top left: Kevin Schuettpelz (Field Services Tech), Will Sarau (Seasonal Utility Helper) as STEM camp villains "Phosphorus Phury" and "Sinister Sediment"; #OneWater booth with the Green Bay Water Utility at "Mayor's Kids Day" ; UWGB exchange students from Beijing tour NEW Water (via Dr. Kevin Fermanich, right); Nicole Oldenburg from Brown County United Way with Tom Sigmund and Beth Hudak from House of Hope, at the 2018 United Way employee giving campaign kickoff.

Understanding Our Water

Waterways in Green Bay have served as a workhorse for the economic development of the community, from "wet" industries that capitalize on area waters, to the rivers serving as transportation hubs. In recent years, great strides have been taken to mitigate the accompanying industrial water pollution; however, nonpoint pollution coming from runoff has provided excess phosphorus and sediment loadings, which have led to a "dead zone" in the Bay, devoid of oxygen. Cyanobacteria, or blue-green algae, thrives in these conditions. Each summer, this bacteria, which resembles "pea soup," appears in area waters.

In 2018, NEW Water's Aquatic Monitoring Program (AMP) continued participation on a study of cyanobacteria with the Wisconsin Department of Natural Resources and the University of Wisconsin-Milwaukee Zilber School of Public Health. After the City of Green Bay announced plans to open a swimming beach, NEW Water submitted a white paper on the ongoing study (www.newwater.us/amp). Owing to Green Bay's excessive cyanobacteria, and to the well-established monitoring program, in 2018, the National Aeronautics and Space Administration (NASA) contacted NEW Water to initiate a partnership to advance the scientific knowledge of this phenomenon, through deployment of equipment to monitor water color from space.

Photos, top to bottom: Sarah Bartlett (Water Resources Specialist); Ben Young (Watershed Department); Rick Reetz (E&I Technician), Brian Shikoski (E&I Technician) ensure the Bay Guardian is operating properly; NEW Water monitoring station identified for the NASA partnership. Photo by Ben Young, who is a certified Federal Aviation Administration drone pilot.

12,809 water quality samples since 1986

34 monitoring sites on East and Fox Rivers; and bay of Green Bay

The Land & Water Connection

35
acres of pollinator habitat established

82%
of cropland in winter cover

Impaired waterways in Northeast Wisconsin have sparked more stringent limits on phosphorus and sediment discharge for point source utilities like NEW Water. As part of an alternative compliance option, the state of Wisconsin allows point sources to work in the watershed to achieve permit compliance at a lower cost, with more environmental gain.

In 2014, NEW Water entered into watershed work, or Adaptive Management, with a pilot project in Silver Creek, a 4,800 acre sub-watershed dominated by agricultural land. This project aims to improve conservation and soil health, which in turn prevents runoff and improves area waters.

In 2018, best management practices implemented included grassed waterways, no-till practices, filter strips, wetland construction, and cover crops, in addition to the execution of conservation and enhanced nutrient management plans.

Healthy land and water leads to an improved ecosystem, which yields opportunities for habitat and wildlife to thrive.

On the heels of the successful pilot project in Silver Creek, NEW Water is moving full scale into watershed work in the Ashwaubenon Creek and Dutchman Creek area, ten times the size of the pilot. Silver Creek will continue to be monitored and lessons learned applied to the new watershed effort.

Photos, top to bottom: Erin Houghton (Watershed Specialist) narrates a video "A Day in the Life of the Watershed"; winter cover crops in Silver Creek help prevent soil runoff into area waters during spring snow melt; Ashwaubenon Creek.

7
wetland basins

The Silver Creek Project has received a $1.67 million grant from the Great Lakes Restoration Initiative of the U.S. Environmental Protection Agency (EPA) under an assistance agreement to NEW Water. The contents of this document do not necessarily reflect the views and policies of the EPA, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.

Great Lakes RESTORATION

Research & Innovation

16,130
samples
analyzed

The Science of Water

NEW Water's laboratory analyzes wastewater and solid samples for our customers using state-of-the-art equipment and following approved methodology. Data generated from NEW Water's laboratory is used to monitor the treatment plant's effectiveness, generate bills to our customers, ensure compliance with our Sewer Use Ordinance, and evaluate the environmental health of the Fox River and lower Green Bay.

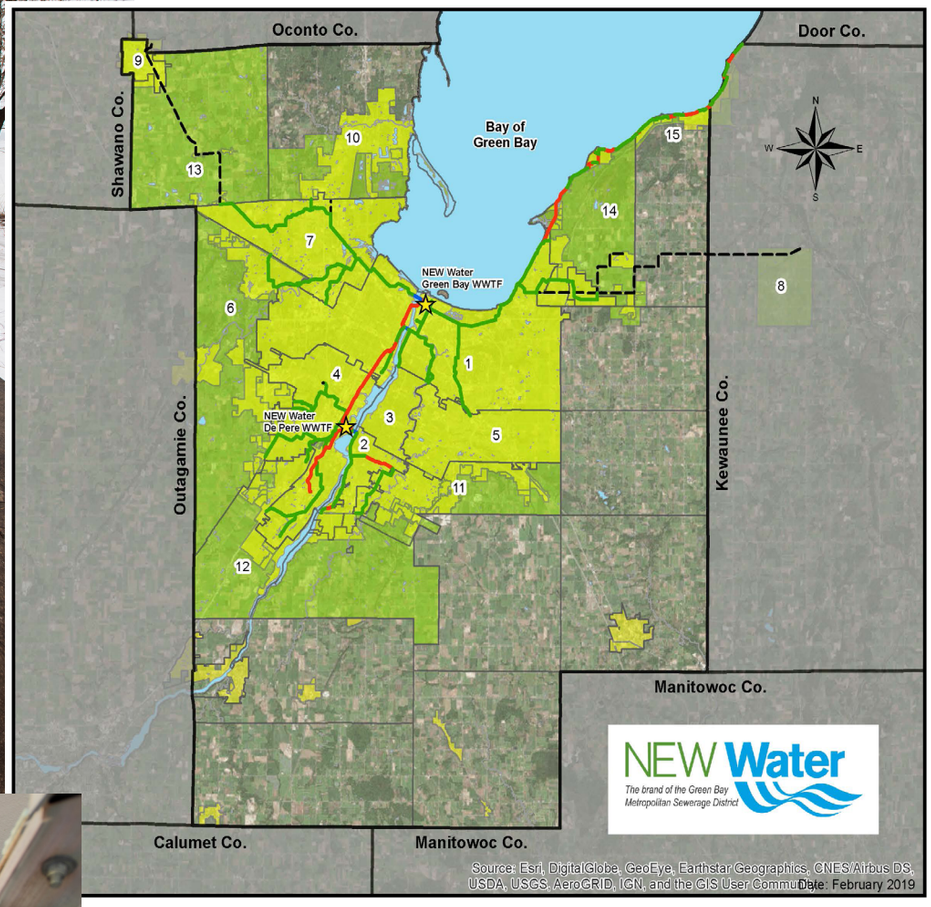
The NEW Water laboratory is certified by the State of Wisconsin and follows all guidelines set forth in the Wisconsin Laboratory Certification & Registration Program (NR 149).

In 2018, NEW Water analyzed the amount of gold that came through the facility: 2,788 troy ounces, the equivalent of $3 million at the time. While current technology does not exist to extract this in an economically feasible way, resource recovery remains on the horizon for NEW Water.

Photos clockwise from top left: Scott Dequaine (Lab Analyst I); Holly Blazer (Analytical Chemist); Ashley Clark (Lab Analyst I); Heidi Beyer (Lab Analyst II); Ben Chojnacki (Lab Analyst I); Casey Shaw (Lab Analyst II).

121,558
total analytes

Working Outside the Fence



4,694 samples collected by Field Services

4,142 Digger Hotline Locates

Service Area

1. City of Green Bay
2. City of De Pere
3. Village of Allouez
4. Village of Ashwaubenon
5. Village of Bellevue
6. Village of Hobart
7. Village of Howard
8. Village of Luxemburg
9. Village of Pulaski
10. Village of Suamico
11. Town of Ledgeview Sanitary District #2
12. Town of Lawrence - Utility District
13. Pittsfield Sanitary District No. 1
14. Scott Municipal Utility
15. Dyckesville Sanitary District

LEGEND

- Gravity Sewer
- Forcemain Sewer
- River Siphon Sewer
- Sewer By Others
- Municipal Boundaries
- Brown Co. Sewer Service Area
- NEW Water Annexed Area
- Adjacent Counties
- River/Bay

Our Service Area

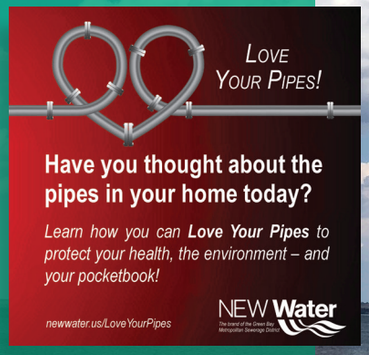
In addition to two clean water facilities in Green Bay and De Pere, NEW Water also operates 13 lift stations, 22 meter stations, 31 miles of forcemain, 79 miles of gravity interceptors, and 1,206 manhole structures. NEW Water's Field Services team ensures that these systems are working properly, so that the residents, businesses, and industries in our 285-square mile service area have nonstop service. As part of these efforts, confined space entry occurs daily with staff. Additionally, area waste from septic haulers is treated by NEW Water, to the tune of 12,396 truck-loads in 2018.

Field Service Techs in action, clockwise from top left: Chris Thompson, Kevin Schuettpelz, Duane Fish; Billie Komorowski (Pretreatment Intern).

Protecting our most valuable resource, water

With weather events happening with greater frequency and intensity, addressing infrastructure resiliency is critical for NEW Water to provide continuous service to our community.

In 2018, heavy rains resulted in excess clear water from customer communities getting into the NEW Water system, taking up capacity, threatening operations and infrastructure. These events increased water flow to NEW Water by up to four times the daily average. NEW Water studied this phenomenon, known as Inflow and Infiltration, or I&I, through an Interceptor System Master Plan, which was completed in 2018. The plan provides valuable data and insight into this challenging problem, which impacts costs, the environment, public health and safety.



"Unflushables" continued to threaten the resiliency of NEW Water's system. Wipes, dental floss, fats, oil, grease, needles and many other items commonly flushed down the toilet can cause significant damage to the infrastructure that keeps water flowing for the community. To raise public awareness, NEW Water partnered with customer communities in a campaign to "Love Your Pipes," and only flush "the 3Ps" (#1, #2, and toilet paper). Learn more www.newwater.us/loveyourpipes

Photo above: Adam Butry (Health, Safety, & Security Coordinator) and Tyler Kunze (Intern), ensure safety at NEW Water.

2018 Financial Statement

The financial statement below is for informational purposes only and is not intended to represent full financial disclosures. Complete financial statements and related notes are available on NEW Water's website at www.newwater.us or available upon request.

	2018	2017
OPERATING REVENUES		
User fees - municipal waste	$36,114,873	$34,866,447
User fees - mill waste	1,561,673	1,585,340
Capital revenue - mills	1,460,114	1,496,164
Other revenues	2,082,901	2,309,402
Total operating revenues	41,219,561	40,257,353
OPERATING EXPENSES		
Salaries and wages	7,519,016	7,204,083
Fringe benefits	3,034,509	3,113,909
Employee development	143,911	146,274
Travel and meetings	83,549	61,101
Power	2,752,002	2,444,939
Natural gas and fuel oil	1,186,645	934,380
Chemicals	843,309	609,627
Maintenance - plant	1,345,312	1,458,500
Maintenance - interceptors	1,268,993	787,254
Contracted services	3,579,734	2,437,773
Insurance	229,440	240,938
Solid waste disposal	134,043	186,079
Office related expenses	447,132	506,085
Supplementary expenses	499,651	447,920
Subtotal	23,067,245	20,578,856
Depreciation	9,672,536	7,652,471
Total operating expenses	32,739,781	28,231,333
Operating income	$8,479,780	$12,026,020

Proudly Serving Our Community Since 1931

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