DELCORA

2017 Annual Report

A Year of Progress and Promise

A Message from Robert J. Willert, Executive Director, DELCORA

Delaware County residents and businesses generate over 100 million gallons of wastewater every day. This wastewater must be safely and cost-effectively collected, conveyed, and treated to preserve our community's streams, rivers, and general water supply. DELCORA has been providing this vital function to our communities for over four decades. As a result, the people of our region enjoy clean, healthful water.

Because of our carefully planned investments, we now have an extensive infrastructure throughout Delaware County. This well-maintained system enables us to meet, and, in many cases, exceed the water discharge quality mandates set by the Pennsylvania Department of Environmental Protection and the U.S. Environmental Protection Agency. In 2017, the Authority continued to build our capacity and capabilities for the future—financially, strategically, operationally, and concretely.

Our financial performance and commitment to fiscal responsibility remained very strong, as evidenced by our financials (pages16-19). Our 2017 bond issue $32.275 million, which yielded $2.2 million in present-value savings from advance generated refunding of outstanding 2013 bonds. In association with the bond issue, Moody's affirmed our very strong "Aa3" credit rating and assigned a "Stable Outlook" for the future.

DELCORA and Covanta settled on our purchase of 10 acres on the edge of Covanta's facility adjacent to the Western Regional Treatment Plant (WRTP, page 4). Purchased at the 2014 market price of $4.5 million, the property represents a 40-percent increase in the size of our plant site, and it is ideal for our current and future needs.

The purchase enabled us to break ground on Pump Station 6, a $13.9-million replacement project (page 8). An early action item in our Long Term Control Plan (LTCP), this two-phase project will replace a pump station dating from the 1930s, which is no longer adequate to serve the combined maximum volume of influent from the City of Chester and our growing trucked waste business.

We also began a key phase of our LTCP update, which will identify other capital upgrades that are needed to improve water quality (page 12). At this point, we are well on our way to meeting the February 2019 submission deadline for the updated LTCP, which will take additional steps to reduce environmental impacts due to overflows from the combined sewer system in the City of Chester. As part of this process, we are working toward completion of a web-based public notification system that will give the community real-time information about waterways affected by rain-related overflows.

Meanwhile, two major capital upgrades will improve existing treatment processes and equipment at the WRTP (page 6). The Clarifier Tank 18 Equipment Replacement Project and the Aeration Tank Fourth Blower Installation and Aeration Panel Replacement Projects, both fundamentally important components of the secondary treatment process, were completed. The Engineering Department also completed the pilot test and purchase of grease-screening equipment for the grease acceptance plant and thickener building upgrades, which are integral to effectively treating trucked waste.

Speaking of our industrial waste business, we made additional enhancements to our trucked waste receiving area and our industrial Pretreatment Program (page 10). In the first case, we added computer kiosks to streamline the documentation and accounting process for this growing business. In the second case, our Environmental Lab kicked off our first annual Compliance Award Program for our pretreatment customers, with 14 customers earning awards for 100-percent compliance with environmental regulations.

Recognizing our leadership, past, present, and future. At DELCORA, we depend on the exemplary leadership and dedicated service of the members of our Board of Directors (page 15). In 2017, we sadly marked the death of Board Secretary David G. Gorbey, whom we honored for his 36 years of service to our Board, our customers, and the community of Delaware County. We heartily welcomed the appointments of Edward Pisani and John Lucas. Mr. Lucas brings over 15 years of municipal experience and 30 years of management. Mr. Pisani brings over 20 years of wastewater experience and 10 years of municipal experience. We also marked a smooth transition in leadership in our Engineering Department with the appointment of Charles Hurst, PE, as Director of Engineering, who succeeded Edwin G. Bothwell following his retirement after 25 years of distinguished service (page 9). Indeed, sustaining and revitalizing a strong workforce is one of our top goals.

Western Regional Treatment Plant:

DELCORA and Covanta Close on Land Purchase Adjacent to Western Regional Treatment Plant

Buyer and seller agreed on the sale at the 2014 market price thanks to their longstanding relationship; the site is ideal for the plant's needs, including Pump Station 6 (PS-6)

In November 2017, DELCORA and Covanta Delaware Valley LLP made settlement on the Authority's purchase, valued at approximately $4.5 million, of about 10 acres of property located on the edge of Covanta's Delaware Valley Resource Recovery Facility adjacent to the Western Regional Treatment Plant (WRTP). The property, which represents approximately a 40-percent increase in the size of the WRTP site, is ideally situated for the plant's current and future needs.

A long-standing relationship facilitates agreement

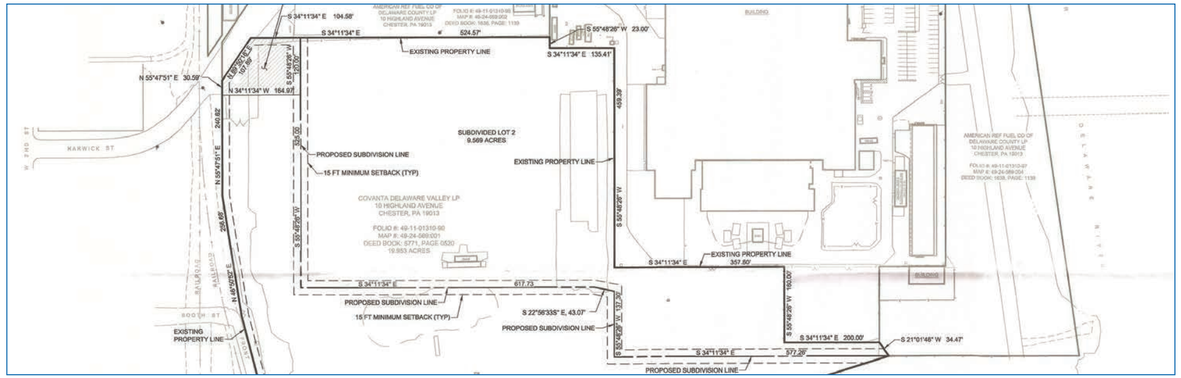
The two parties agreed to the purchase at the 2014 market price thanks to their long-standing working relationship; since 2011, DELCORA has sold treated effluent to Covanta at a very attractive price for use in its cooling towers. In addition to the sale of the land, Covanta granted permanent right-of-way to DELCORA for use of its private street along the property border, which DELCORA is using for truck and employee traffic to and from the WRTP. Use of the private street is an important part of DELCORA's commitment to reduce the impact of WRTP traffic on neighboring residential areas.

The partners share site remediation costs; DELCORA breaks ground for PS-6

Because of the property's former use by a previous owner as an aggregate recycling facility, it had been designated as a brownfield site, requiring environmental remediation as a condition of permitting for new construction. Under the agreement, Covanta and the Authority agreed to share the costs of remediation and common fencing based on the percentage of the property that each owns. The remediation was completed prior to the sale in 2017, which facilitated the groundbreaking of a major capital project—Pump Station 6 (PS-6)—the main objective of which is to reduce wet-weather impact on the Delaware River by allowing more combined sewer flow to be treated at the WRTP.

Partners and Community Benefit

Not only does the successful agreement have obvious benefits for Covanta and DELCORA, it also benefits the community of the City of Chester through the partners' remediation of a dusty brownfield site and the redirection of DELCORA's truck traffic from a public highway to a private street.



Since DELCORA's establishment in 1971, the Authority has made significant investments in capital improvements to the Western Regional Treatment Plant (WRTP) and the wastewater pumping and conveyance facilities throughout its distribution area, some of which were facilities that dated to the original construction of the WRTP in 1933.

Of special note, in 2017, DELCORA completed the multi-year, $11.4-million WRTP Incinerator Upgrade Project. This enables the Authority to fully utilize the permitted capacity and operational flexibility of its two incinerators, using less fuel to incinerate organic matter and more efficiently conveying the ash to the plant's two storage silos prior to disposal. It also enables DELCORA to meet the United States Environmental Protection Agency's current standards for final stack emissions.

Several other significant facility upgrade projects at the WRTP were begun or completed in 2017, which are described in this issue of the annual report, including:

- **Pump Station 6**: Start of construction on a $13.9-million project to replace an existing pump station, including separate wet wells to handle up to 30 million gallons per day (MGD) of wastewater from the City of Chester and over 1 MGD of trucked waste
- **Clarifier Tank-18 (T-18) Equipment Replacement Project:** Completed (page 7)
- **Aeration Tank Fourth Blower Installation and Aeration Panel Replacement Projects:** Completed (page 6) In addition, the Engineering Department completed the design, competitive bidding, and contract award for two additional projects:
- **Solids holding tank upgrade:** This project includes the rehabilitation of four concrete solids holding tanks that date to 1933.
- **Grease acceptance plant and thickener building upgrades:** In 2017, Engineering also completed the pilot test and purchase of grease-screening equipment for this project. The existing facilities were most recently upgraded in 2014. Since that time, the amount of grease received by DELCORA under its successful revenue-producing Trucked Waste program has almost tripled, and the new project will enable DELCORA to handle the increased volume and reduce facility maintenance. The project will be constructed under the same contact as the solids holding tank upgrade.

Secondary Treatment:

Aeration Tank Projects Completed, Clarifier Tank Projects Progress

New equipment enhances water quality discharge

In 2017, DELCORA completed two projects that will enhance the efficiency and effectiveness of the Western Regional Treatment Plant's (WRTP) aeration process, which reduces organic pollutants before discharge of treated water to the Delaware River.

Aeration occurs at the beginning of secondary treatment in the wastewater treatment process. It relies on the addition of live bacteria and dissolved oxygen to the combined wastewater and sludge. The blowers supply air to the aeration panels that inject oxygen into the water by supplying very fine bubbles of air, which are more effective at oxygen transfer.

The aeration tank projects involved the installation of a fourth air blower and the replacement of 1,000 older aeration panels with 3,852 new panels in the four aeration tanks. The new panels will function more efficiently under a wider range of conditions and for a longer projected operational life. Their increased efficiency also will reduce the total cost of electricity to run the blowers. The upgrade projects will reduce costs through efficiencies in the process and the use of electricity.

Aeration is a critical process in the removal of organic pollutants from treated wastewater before it is discharged to a natural water body; otherwise, these types of pollutants can significantly reduce the vital oxygen level in the water, negatively impacting aquatic life. Effective aeration is required for DELCORA to meet Pennsylvania Department of Environmental Protection regulations.

DELCORA completed the fourth blower installation project in March at a total cost of $1.2 million. The aeration panel replacement project was completed in December at a total cost of $3.5 million, and the upgrade has resulted in the higher airflows that the project was designed to achieve.

First of four secondary clarifier equipment upgrades completed

The completion of the Clarifier Tank 18 (T-18) Equipment Replacement Project marks the first in a series of projects to upgrade process equipment dating from the 1970s in DELCORA's four 130-foot-diameter secondary clarification tanks. Several new design features significantly improved the efficiency and reliability of this important step in the wastewater treatment process, and the superior corrosion resistance of new stainless steel equipment will reduce maintenance.

The secondary clarification process, which follows the biological treatment of wastewater in the aeration tanks, allows the live bacteria involved in that process to settle to the bottom of the clarifier tanks for recovery and reintroduction into the aeration tanks.

Secondary clarification tank equipment comprises a weir that controls the water level, a turning mechanism, and effluent "launders" along the perimeter, which convey the clarified water to the chlorination tanks for disinfection and dechlorination before it is discharged to the Delaware River. Each tank also has an access bridge to the center of the tank to allow observation of clarifier performance and provide maintenance access to the clarifier drive unit.

Testing shows improved clarifier performance

To improve the efficiency of the clarification process, the consultant's design changed the configuration of the equipment. As this re-configuration was a variation of existing regulatory standards in this region, DELCORA completed full-scale performance testing in December 2017. Testing demonstrated that the new configuration significantly improves the secondary clarification process by increasing tank capacity, reducing water velocities within the tank, and redirecting water flow to maximize its "residence" time in the tank. Consequently, the enhanced design will be utilized for the remaining three mechanism replacements.

The T-18 project was competed at a cost of $1,024,500. Based on the success of the T-18 project, the Authority has awarded a construction contract for the three remaining tanks using the same design and equipment specifications. The new tanks are scheduled to be completed before the summer of 2020.

Pump Stations:

PS-6 will optimize the management of influent from the City of Chester and Trucked Waste

Earthwork, electrical ductwork, and wet-well excavation were among the significant steps completed in phase one of the construction of Pump Station 6 (PS-6). The project will replace an existing pump station that was built in the 1930s, was reconditioned in the 1970s, and is no longer adequate to serve the combined maximum volume of influent from the City of Chester and DELCORA's Trucked Waste business.

The two-phase, $13.9-million capital project is an early action item in DELCORA's settlement agreement with the U.S. Environmental Protection Agency and the Pennsylvania Department of Environmental Protection to make improvements to the combined sewer system in Chester.

Advancements in process and technology

The process and technology of PS-6 are significant advancements over those of the existing pump station. The new pump station is designed for complete separation and more effective management of influent from the two sources, higher efficiency, and reduced equipment maintenance.

PS-6 comprises: two separate wastewater influent pipes; one bar screen room with three screens; two dedicated self-cleaning wet wells; and a building that will house new high-efficiency 15-kilovolt switchgear. The new switchgear will supply utility service to the Western Regional Treatment Plant's transformers, which will distribute power to all of the facilities throughout the plant. All of the new equipment will be monitored and controlled by DELCORA's supervisory control and data acquisition (SCADA) system.

The bar screen room performs preliminary wastewater treatment by screening and removing debris from the influent; one screen is dedicated to the trucked-waste channel and two to the City's sewage. The two screened wastewater streams are conveyed to separate wet wells, where one or more pumps (depending on flow volume) pump the wastewater at a controlled flow to the two grit removal tanks in Building 1. The larger size of the wet wells, combined with high-efficiency variable-speed drive pump technology, responds to daily fluctuations in flow volume to improve the efficiency of the grit removal process.

Moving toward phase-one completion in 2018

By the end of 2017, DELCORA's construction contractor completed earthwork and construction of new manholes and piping, as well as duct banks, and laid some of the non-potable water lines. The two wet wells and the bar screen room had been dug, and concrete formation had begun. Construction had also begun on the walls of the new building. All of the equipment was bid and selected, and factory-acceptance testing of the switchgear was completed. Phase one of the project is scheduled for completion in 2018.

Construction of phase two, which is scheduled to begin in 2019, will provide an equalization tank to optimize the daily flow of trucked waste into the bar screen rooms and wet wells. It will be constructed on adjacent land purchased from Covanta in 2017 [see page 4].

Two Pump Station Upgrades are Completed in Ongoing Project

In 2017, bar screen replacements were completed at two remote pump stations in central Delaware County—Muckinipates Pump Station and Darby Creek Pump Station—and begun at Central Delaware Pump Station.

The new bar screens will remove large debris from the influent to prevent pump damage, avoid the risk of an overflow and associated environmental impact, assure operational reliability, and reduce long-term maintenance costs. The upgrade will enable remote operational monitoring by the Authority's supervisory control and data acquisition (SCADA) system.

Due to the significant size and weight of the bar screens, each new unit must be disassembled on site, maneuvered through the door of the station using a crane and lift, and reassembled inside the building before installation. With two bar screens operational in the wet well at each station, the project has been planned and executed to assure continuous operation of each pump station as it undergoes construction.

Project completion is anticipated in the second quarter of 2018 at an estimated cost of $2.5 million.

DELCORA Engineering Department Completes a Smooth Transistion in Leadership

Charles Hurst, PE, succeeds Edwin G. Bothwell as DELCORA's Director of Engineering as the department continues to make a significant contribution to the Authority's mission.

Charles Hurst, PE, was named Director of Engineering for DELCORA in August 2017, succeeding Edwin G. Bothwell, who retired after 25 years of distinguished service with the Authority.

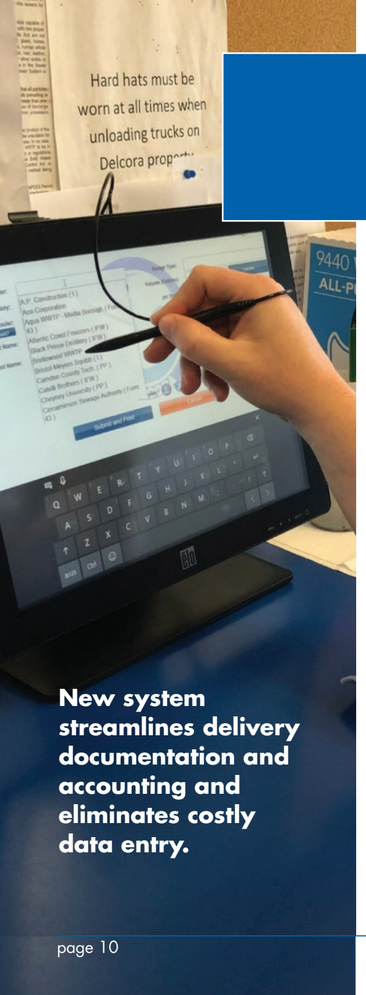
Mr. Hurst joined DELCORA in April 2016 as a senior engineer, bringing 25 years of water and wastewater engineering experience to his role. He has extensive experience in the planning, permitting, design, construction, and operation/optimization of wastewater conveyance and treatment systems.

For the first 23 years of his career, Mr. Hurst was employed by national engineering firms, including ARCADIS, AECOM, and CDM-Smith, where he worked on water and wastewater systems. He earned his bachelor's and master's degrees in civil engineering from the University of Colorado. He is a registered engineer in Pennsylvania and California and a Board Certified Environmental Engineer (BCEE). He is a member of the Water Environment Federation and the Pennsylvania Water Environment Association.

Engineering contributions to DELCORA's mission

Under Mr. Hurst's leadership, the Engineering Department continues to make a significant contribution to the fulfillment of DELCORA's mission through its roles in three major areas: regulatory compliance, including environmental laboratory operations, air and water discharge permitting and reporting to regulatory agencies; strategic planning involving the Authority's Long Term Control Plan and wastewater treatment contracts; and execution of DELCORA's capital plan.

Toward that end, the Engineering Department comprises professionals at all stages of their careers and with a wide range of experience and expertise who work together with a common commitment to excellence.



New system streamlines delivery documentation and accounting and eliminates costly data entry.

Industrial Treatment:

Trucked Waste Manifests Go Paperless on Touch-Screen Computer Kiosks

In 2017, the Authority added a major enhancement to the Trucked Waste receiving area at the Western Regional Treatment Plant (WRTP)—one that is streamlining the documentation process for drivers and the accounting process for DELCORA—thanks to the installation of three touch-screen computer kiosks in the receiving-area office.

Prior to this upgrade, the hauled waste receiving process required the driver to fill out a five-part paper manifest, including the hauler's identity, source of the waste, number of gallons, pH of the product, and date and time. The driver and the DELCORA receiving-area employee were required to sign the hard copy before the driver received a paper receipt and the manifest was filed for manual data entry into the sludge accounting system (SAS).

As the Trucked Waste program has expanded—in any given week, the WRTP receives 200-300 trucks a day, six days a week—the paperwork also expanded. Since the Authority utilizes SAS to produce monthly bills for its customers, it was critical for the manifest data to be entered accurately and quickly. This could require two people working on data entry. If the data was not entered on the same day as the waste was received, manifests could pile up—as many as 800 manifests could require entry on a single day.

Several years ago, DELCORA began to research options that would create an automated system, enabling the manifest and billing processes to go paperless. Led by an internal cross-functional team working with a consultant, the Authority developed a program to streamline the process.

Today, when the driver enters the receiving office to drop off a sample of the waste, the driver uses one of three touchscreens to input the required information. To maintain security, each driver is provided with a unique PIN to access the screen. The electronic manifest is time-stamped, enabling Trucked Waste customers to track time of delivery, and printed out as a receipt. The receipt can also be emailed to the customer.

Once the data has been entered, it is uploaded to SAS, providing immediate access to the data for the driver, the hauling company, and DELCORA.

The system went live at the end of 2017 at a cost of approximately $60,000 for computer hardware, software, and cabinetry. The new system is speeding up the delivery process for the drivers, increasing efficiency for the Authority, and providing immediate access to information for customers. It is also benefiting the environment by reducing the use of paper.

These new efficiencies will continue to provide benefits, as DELCORA set another record last year for waste revenue: $5.7 million.

Looking ahead, a major ongoing project is upgrading the rag-removal process in the grease receiving area, which is expected to be completed in 2018.

Environmental Lab has a New "CAP-stone" for Pretreatment Compliance

DELCORA recognized 14 pretreatment customers for 100-percent compliance

DELCORA's first annual Compliance Award Program (CAP) is the newest manifestation of the Authority's commitment to working with industrial customers by offering compliance resources, strategies, and solutions—not solely by issuing fines—to reduce violations of the federal wastewater pretreatment program that is administered by the Authority's Pretreatment Department.

As of 2017, the Authority annually evaluates CAP eligibility based on the following criteria:

- Be permitted and actively discharging for the entire calendar year;
- Meet all sample requirements;
- Submit all reports on time;
- Have no violations, no active administrative orders, and no significant non-compliance with the wastewater pretreatment program.

Under the tiered CAP, an award is issued based on a customer's 100-percent compliance with the pretreatment program over a period of one to 10-plus years.

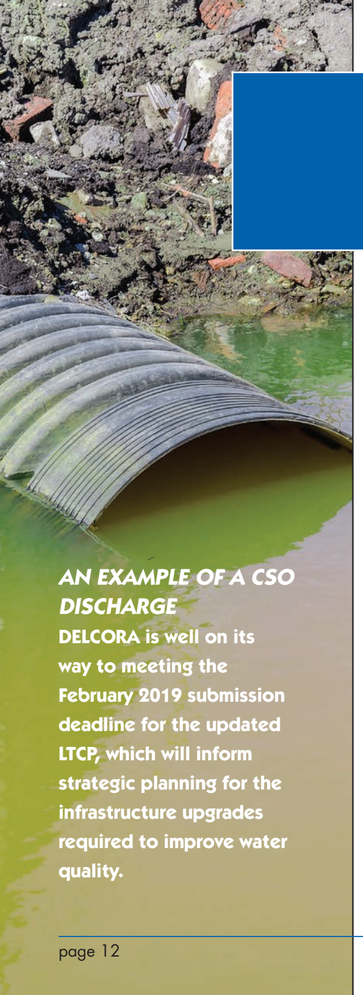
Based on the department's first CAP evaluation for 2017, DELCORA issued letters and certificates of formal recognition to 14 of the Authority's 60 permitted industrial wastewater customers for 100-percent compliance: four Gold Awards for five to nine consecutive calendar years; two Silver Awards for three to four consecutive calendar years; and eight Bronze Awards for one to two consecutive calendar years. The Platinum Award for 10-plus consecutive calendar years was not awarded in 2017.

Protecting Western Regional Treatment Plant, staff, community, environment

Industrial customers that meet certain criteria are regulated under the industrial pretreatment program that was established in accordance with the Clean Water Act. The objective of the program is to protect wastewater treatment plants like DELCORA's Western Regional Treatment Plant by preventing the introduction of pollutants that may interfere with operations and wastewater treatment.

At the same time, this program prevents exposure to pollutants that could potentially pose a risk to the staff, the local community, and the environment. In order to meet the specific limits developed by the Pretreatment Department, many permitted facilities must pretreat the industrial wastewater generated by their processes before discharging the wastewater to municipal sewer pipes or hauling it to the treatment plant. Permitted industries are typically required to test pretreated wastewater samples and report to DELCORA on a regular schedule. Additionally, DELCORA performs on-site inspections of each facility and independently collects wastewater samples with analyses performed by a third-party laboratory to ensure that those customers have met limits.

As the Pretreatment Department continues to grow and develop, the Authority is optimistic that the CAP will provide another incentive for facilitating compliance and cultivating collaboration to ensure water quality within the region.



AN EXAMPLE OF A CSO DISCHARGE

DELCORA is well on its way to meeting the February 2019 submission deadline for the updated LTCP, which will inform strategic planning for the infrastructure upgrades required to improve water quality.

LTCP:

DELCORA Advances its Work on Updating the Long Term Control Plan

In 2017, DELCORA began the alternatives analysis phase—a key step in identifying capital infrastructure upgrades

In August 2015, DELCORA announced that it had entered into a settlement agreement with the U.S. Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (DEP) to make improvements to the combined sewer system in the City of Chester to address issues related to discharges to waterways through combined sewer overflows (CSOs), which occur during rain events.

Under the agreement among DELCORA, EPA, and DEP, DELCORA has until February 2019 to update its Long Term Control Plan (LTCP) for controlling and reducing discharges from the combined sewer system in the City of Chester. The plan must be implemented by August 2035.

Over the past three years, DELCORA has been working with a team of experts to develop the updated LTCP, including an engineering firm specifically experienced in the area of LTCPs and a municipal financial service firm to develop a rate model for customers to fund the needed improvements.

Alternatives analysis: a key phase of the LTCP update

As of the end of 2017, the DELCORA team had begun the alternatives analysis phase of the process—a key step in identifying capital infrastructure improvements to reduce the amount of water that is discharged through CSOs. Through periodic reviews with federal and state regulatory agencies, the team will refine the alternatives, culminating in the final updated LTCP for submission in February 2019.

The DELCORA team continued to build upon its earlier work on the LTCP update planning process. Additional meetings have been held as part of the public participation plan. This process informs and solicits input to the Authority's updated LTCP from stakeholders, including the public, customer communities, and regulatory agencies. The team completed rainfall and water flow measurements of areas that are tributary to the wastewater collection system, the combined sewer system, and the Western Regional Treatment Plant. These field measurements were used to calibrate, or refine, and validate the hydrologic and hydraulic model that was developed in 2015.

The DELCORA team also continued with the development of the Financial Capabilities Assessment, which is an initial step toward determining the cost of the updated LTCP. The final determination of the cost of the plan will be made when the plan is completed.

As of the end of 2017, DELCORA has invested over $3 million in the development of the Authority's updated LTCP.

CSOs: DELCORA's Combined Sewer System: Past, Present, and Future

New tool will give waterways a red, yellow, or green "light"

DELCORA became responsible for the City of Chester's combined sewer system in 1971 when it took over the operations and maintenance of wastewater collection, conveyance, and treatment from the City. The system was constructed in the early 1900s and the combined sewer system—which includes one pipe that combines both sanitary sewage and stormwater—was a typical engineering practice in urban areas at that time. Heavy rainfall events may result in discharges of untreated wastewater to local waterways through combined sewer overflows (CSOs).

When DELCORA assumed control of the system, discharges were in compliance with the permits of environmental regulatory agencies, including the U.S. Environmental Protection Agency and the Pennsylvania Department of Environmental Protection. While discharges are still permitted today, regulations related to combined sewer systems have become more stringent as new technologies and practices in sanitary and stormwater treatment have developed. Wastewater treatment authorities, such as DELCORA, are required to develop plans to reduce CSOs, protect local rivers and streams, and to notify the public about the status of CSOs.

Investing in infrastructure improvements

In 1999, the Authority implemented its initial Long Term Control Plan (LTCP). Over the next 10 years, DELCORA invested $5 million in infrastructure improvements to the combined sewer system in Chester to address the issues associated with water discharges during rain events. DELCORA also paid the City of Chester $750,000 to make improvements to stormwater inlets on city streets that help reduce trash and debris from flowing into and blocking the combined sewer system.

Additionally, the Authority has worked to reduce combined wastewater flows by requiring that new projects separate sanitary sewage and stormwater by diverting stormwater to a stormwater collection system that is distinct from the combined sewer system existing throughout most of Chester.

Now, a web-based public notification system

In 2019, the public will have access to a web-based, real-time map that will give waterways affected by CSOs a red, green, or yellow "light" for recreational use.

The status of all of DELCORA's CSOs will be displayed on a public-viewable, real-time map, accessible via a link on the Authority's website. The web page will indicate the occurrence of rain events, and flashing indicators in red, yellow, or green will depict the status of the combined sewers and any possible CSOs: red will indicate an active overflow; yellow will indicate that an overflow that has occurred within the prior 24 hours; and green will indicate that no overflow has occurred in the past 24 hours. This will help the public to determine whether or not to use a particular waterway for recreational activities.

DELCORA used data from its supervisory control and data acquisition (SCADA) system to construct the map, and consultants are developing the map as it will look and function on the website. Work began in 2017 and is expected to continue throughout 2018. The projected total cost of web development is $20,500.

Updates:

Call Center Takes Customer Service to a New Level

System avoids putting customers on hold and provides more data to proactively address their needs

As part of its ongoing commitment to quality customer service, DELCORA assessed its Call Center system and determined that a more advanced, customer-friendly system was needed. The upgraded Call Center was planned in 2017, and will go live in Spring 2018.

The Authority was able to add functionality to its current system; for example, when customers call DELCORA, the upgraded system will immediately route the call to a customer service representative. If that customer service rep isn't available, it routes the call to the next available rep. This means that customers are not waiting on hold before they are connected to one of the Authority's customer service reps.

Another important new function is the ability to document the reason for a customer's call. Each call is given a particular code, such as having received a 10- or 30-day notice, or a bill inquiry. This data enables the Customer Service Department to evaluate the calls to determine, for example, if customers would benefit from additional information on the DELCORA website or detail on bills. By looking at trends in the types of phone calls, the Authority is able to address customers' needs more effectively and potentially reduce the need for customers to call.

The new system also allows Customer Service to enter information into individual accounts, enabling any DELCORA customer service rep to view prior calls regarding that account.

The customer service representatives have been an important part of the process of identifying new Call Center functionality. DELCORA's goal is to provide a more efficient experience for customers, while providing the Authority with information that will allow it to be more proactive in meeting customers' needs.

Sustaining and Revitalizing the Workforce

DELCORA retains long-term employees while planning for strategic succession

At DELCORA, sustaining a strong workforce is a top goal for the Human Resources Department. Experienced, engaged employees make DELCORA more efficient and effective, so it is critically important for the Authority to retain these valued members of the team.

Retaining good employees means providing great benefits, encouraging work-life balance, ensuring a safe work environment, and supporting ongoing engagement. While DELCORA has been committed to these ideals for many years, the Authority is also developing new ways to enhance the work experience for employees.

DELCORA supports employee health, fitness, and social engagement through a variety of programs—from an annual Wellness Day to on-site yoga classes and an exercise area containing fitness equipment. The Authority also arranges social and informal team-building functions to bring together employees from all operational areas.

Through training and technical and professional licensing programs, the Authority supports employees' professional development and opportunities for advancement. Ongoing cross-functional teams, particularly in engineering and operations, contribute both to employees' professional growth and the successful execution of the Authority's business objectives. Diversity of input in many areas of the business helps the Authority to achieve better results.

Along with retaining current experienced employees, strategic succession planning is very important for DELCORA's future. As senior employees begin to plan their retirement, the Authority's mentoring initiative encourages them to begin training their younger colleagues. This enables the Authority to promote from within when appropriate.

The Authority's ongoing training initiatives, social activities, and health and wellness opportunities, as well as strong communication, strengthen its dynamic workforce of knowledgeable, engaged people.

The DELCORA Board of Directors

DELCORA's Executive Director Robert J. Willert pictured with Senior Staff

Finance:

Financial Highlights

- **In 2017, revenue from the Trucked Waste receiving business reached $5,601,967, an increase of $1,601,967 (40%) over the 2017 budget, and an increase of $841,705 (17.7%) over the prior year.**

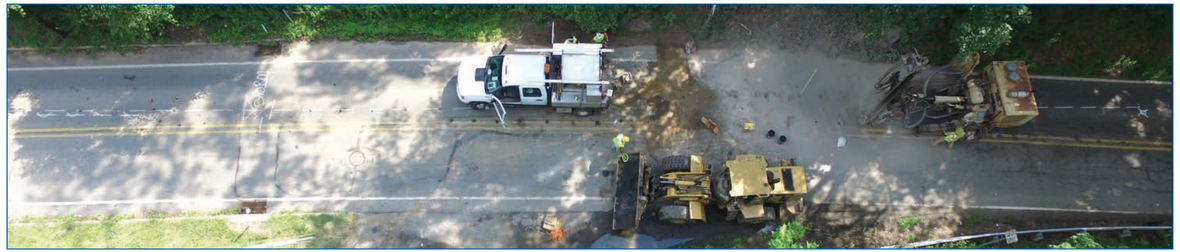
- **Revenue has consistently increased annually from a level of approximately $300,000 in 2004 to the present level. (See the chart on page 19.)**

2017 Bond Issue Generates Proceeds of $32.275 Million

Proceeds refinanced outstanding 2013 Bonds, at a present-vale savings of approximately $2.2 million; Moody's reaffirmed DELCORA's 'Aa3' credit rating

In 2017, DELCORA issued its Series of 2017 Bonds in the principal amount of $32,275,000. The 2017 Bonds were issued toward the advance refunding and defeasance of the outstanding 2013 Bonds. Present value savings from the advance refunding approximated $2.2 million. The Bonds were structured with a final maturity date of May 1, 2033 and had an overall arbitrage yield of 2.29 percent.

In association with DELCORA's 2017 Bond issue, Moody's affirmed DELCORA's very strong "Aa3" credit rating and assigned a "Stable Outlook" based on the Authority's substantial liquidity and strong financial metrics, while acknowledging the Authority's potential to incur debt associated with revision of its Long Term Control Plan.



DELCORA Drone Generates Data and Revenue

In 2017, DELCORA again utilized the capabilities of its drone to observe construction and other major projects from a new perspective.

The DELCORA drone, controlled by its FAA-certified operator, performed a flyover of a pipeline construction project for a utility company in southeastern Pennsylvania. The drone was used to monitor blasting activities from a safe distance, along with other data provided by a seismic sensor. The contract project captured still images and video.

The Authority also utilized the drone to document progress on several DELCORA projects, providing updated images for DELCORA's records. These images are stored on a secure web server and are easily accessible by authorized employees across departmental lines.

Key Rating Drivers

FLOW

DELCORA sent an average of 19.85 million gallons per day (MGD) in 2017 to the Philadelphia Water Department's Treatment Plant. Flow on DELCORA's Western Regional Treatment Plant (WRTP) was 31.83 MGD.

SERVICE AREA

The socioeconomic profile of the base customer is quite strong. According to recent U.S. Census figures, Delaware County's population is more than 564,000. Income levels in the county are well above average, and the poverty rate is significantly below the national average.

The median family income and per capita income of the county's residents are approximately 20% higher than the U.S. median. The county's size and economic diversity are a strength.

DEBT

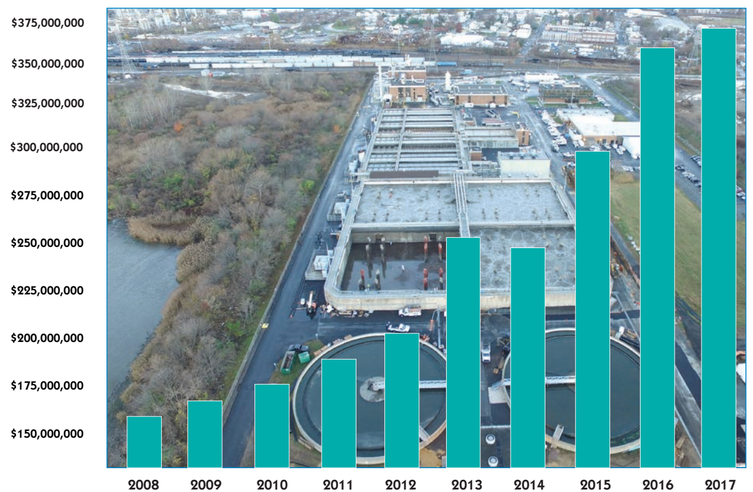
Despite continued significant costs associated with the maintenance of equipment and infrastructure at the WRTP, significant repairs made in the past several years have contributed to a reduction in 2017. Repairs and maintenance costs decreased by $710,947 (19.43%) in 2017 from 2016.

By the end of 2017, the DELCORA team had begun the alternatives analysis phase of the Long Term Control Plan (LTCP) process—a key step in identifying capital infrastructure improvements to reduce the amount of water that is discharged through combined sewer overflows (CSOs). Through periodic reviews with federal and state regulatory agencies, the team will refine the alternatives, culminating in the final updated LTCP for submission in February 2019. (See the article on page 12.)

Condensed Balance Sheet

	Year Ending 12-31-17	Year Ending 12-31-16
Current Assets	$144,106,587	$159,202,648
PP&E (net)	$209,481,334	$190,825,742
All Other Assets	$ 21,348,221	$ 17,089,296
Total Assets	$374,936,142	$367,117,686
Current Liabilities	$ 16,561,488	$ 14,903,452
Long Term Debt	$185,523,409	$186,347,553
Net Assets	$172,851,245	$165,866,681
Total Liabilities and Net Assets	$374,936,142	$367,117,686

Total Assets 2008 - 2017



Statement of Revenues, Expenses, and Changes in Retained Earnings

	Year Ending 12-31-17	Year Ending 12-31-16
Operating Revenues	$ 58,281,844	$ 55,849,791
Operating Expenses	$ 45,807,031	$ 43,534,852
Operating Income	$ 12,474,813	$ 12,314,939
Non Operating Revenue (Expenses)	$ (5,592,655)	$ (7,010,654)
Increase in Net Assets	$ 6,882,158	$ 5,304,285
Capital Contributions	$ 102,406	–
Net Assets – Beginning	$165,866,681	$160,562,396
Net Assets – Ending	$172,851,245	$165,866,681

Trucked Waste 2008 - 2017

DELCORA

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